



Stafford Western Access Route Environmental Statement Addendum

August 2015

***Stafford Western
Access Route***

***Environmental
Statement –
Addendum***

Schedule of Revisions

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Appendix 6.1 Flood Risk Assessment

Appendix 6.3 WFDa Spreadsheet and Summary Text

1 Introduction

1.1 Background

- 1.1.1 In January 2014, Staffordshire County Council (herein referred to as 'the County Council') commissioned AECOM (formerly URS) to undertake an Environmental Impact Assessment (EIA) to support the planning application for Stafford Western Access Route (herein referred to as 'the Scheme'). The air quality and noise chapters of the resulting Stafford Western Access Route Environmental Statement (URS/SCC, 2015) were produced by Atkins; the Traffic and Transport section, Vehicle Travellers and Pedestrians, Cyclists, Equestrians and Community Assets chapters were produced by the County Council.
- 1.1.2 The planning application for the Scheme was submitted on 15 June 2015 alongside a comprehensive Environmental Statement and supported by a suite of detailed and illustrative drawings and documents.

1.2 Purpose of the Addendum

- 1.2.1 Following development at the detailed design stage, it is now necessary to amend the planning application and some supporting documents. AECOM have been appointed by the County Council (July 2015) to assess the proposed changes to the Scheme and produce an Addendum to the Environmental Statement. In line with the production of the Environmental Statement, Air Quality and Noise have been assessed in this addendum by Atkins and the Traffic and Transport section, Vehicle Travellers and Pedestrians, Cyclists, Equestrians and Community Assets chapters were produced by the County Council.
- 1.2.2 The purpose of the Addendum is to identify the environmental impacts and effects of these additional works (outlined in Chapter 2) and to determine whether or not the findings and conclusions as presented in the previously prepared Environmental Statement remain valid. This Environmental Statement Addendum should be read in conjunction with the previously prepared Environmental Statement.

1.3 The Current Scheme

- 1.3.1 Stafford Western Access Route once built in its entirety, consists of a new carriageway linking A34 Foregate Street to Martin Drive via Doxey Road.
- 1.3.2 The County Council is seeking planning permission for development within the red line boundary (SWAR/PLANNING/02):
- Construction of a new highway at Greyfriars Place to Doxey Road and Doxey Road to Martin Drive;
 - Associated demolition of buildings at Saint Gobain; and
 - Associated flood compensatory storage within Doxey and Tillington Marshes Site of Special Scientific Interest (SSSI).
- 1.3.3 The highway authority is permitted to carry out improvements within or adjacent to the existing local highway and therefore does not require planning permission for the areas within the blue line boundary (SWAR PLANNING/02). This is in accordance with The Town and Country Planning (General Permitted Development) (England) Order 2015. This includes improvements and re-alignment of:

- 1.3.4 Existing Doxey Road between West Coast Main Line and Castle Street, including provision of a new service road; and
- 1.3.5 Greyfriars Place to A34 Foregate Street and along A34 Foregate Street to Browning Street.
- 1.3.6 The Environmental Statement and this addendum consider all potential impacts within both the red and blue line areas. A full scheme description and phasing details are provided in the Environmental Statement.

2 Description of Amendments

2.1 Overview

2.1.1 This section provides further information relating to the amendments that are being proposed by the County Council for consideration during the planning determination period.

2.1.2 As a result of design progress several revisions are required to be made to the Scheme design; the amendments include:

- Amendments to the planning application boundary plan;
- The viaduct over the River Sow and floodplain is to be reduced from a 15 span to a 6 span structure;
- Amendment to the signalised pedestrian crossing at Doxey Road (East) roundabout to incorporate a stagger; and
- Relocation of the main site compound area.

Planning Application Boundary Plan

2.1.3 Following submission of the planning application on 15 June 2015, the County Council became aware of an extant planning permission for 14 houses granted off Wootton Drive, Cresswell Manor Estate (App ref no: 13/19001/FUL).

2.1.4 The previous boundary plan illustrated a conflict between this planning application and the consented development at Wootton Drive. The rationale for extending the red line boundary plan beyond the boundary of Doxey and Tillington Marshes SSSI was to facilitate access to the proposed flood compensation area from Wootton Drive.

2.1.5 Following further investigation and dialogue with Staffordshire Wildlife Trust, the County Council understands that the Wildlife Trust has a right of access to the reserve from the access off Wootton Drive; the authority also understands that the developer is maintaining this access by incorporating the right of access into their plans for the residential development. Going forward, the County Council will continue to work with the developers to co-ordinate construction activities and access.

2.1.6 Therefore, the County Council has amended the red line boundary plan to that shown in drawing SWAR/PLANNING/02. Access to the proposed flood compensation area will be obtained from the existing gated access to Doxey and Tillington Marshes SSSI using the track from Wootton Drive.

Viaduct Design Amendments

2.1.7 The viaduct design submitted as part of the planning application consisted of a 15 span viaduct through Madford Retail Park between the Tenpin and Lidl buildings, passing over the River Sow to Doxey Road roundabout. The proposed change will see the viaduct shortened to a 6 span that will carry the route from the eastern river bank, over the River Sow to the boundary of the northern long stay car park and lorry parking area (see SWAR/PLANNING/05). An artist's illustration of this amendment is shown on drawing SWAR/PLANNING/28.

2.1.8 The new road either side of the viaduct will be raised on a vertically retained piled embankment. There is no change in height of the proposed road level as a result of this

amendment and the level remains as shown on drawings SWAR/PLANNING/13/1, SWAR/PLANNING/13/2 and SWAR/PLANNING/13/3.

- 2.1.9 The amendment will see the road elevated to the same level as originally planned but it will be constructed on a piled embankment rather than open viaduct. A typical cross section of the road is illustrated on the supporting drawing SWAR/PLANNING/20/2.
- 2.1.10 Within Madford Retail Park, access to the underside of the proposed viaduct was previously prevented through the installation of security fencing. The design change now removes the need for such fencing and replaces it with a vertical block wall coloured buff. Replacing the fencing with a solid wall removes the potential for debris underneath the structure while improving safety and security for adjacent land users/property owners. The road will still remain approximately 3m above existing ground level at Madford Retail Park between the Lidl and Tenpin buildings.
- 2.1.11 As outlined in the amended Flood Risk Assessment (FRA) (Appendix 6.1), this change has been developed following detailed discussions with representatives from the Environment Agency. Design development aimed to provide flood relief downstream of the new road without having an adverse effect on the extents of the flood plain upstream. The amended FRA demonstrates that there are no adverse effects on flood risk as a result of the proposed amendment.
- 2.1.12 The retaining wall to the north-west of Doxey Road roundabout has been amended from a green wall to match the proposed buff coloured blocks and tie in with the above proposal.
- 2.1.13 The landscape and visual effects of this amendment has been considered in further detail within Chapter 7 of this Environmental Statement Addendum.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 2.1.14 The revised drawings submitted as part of this amendment also illustrate a change to the footprint of the Scheme at the proposed Doxey Road roundabout. This change is as a result of incorporating a stagger within the signalised pedestrian crossing at the proposed Doxey Road roundabout on the new access road. Amending the proposals to incorporate the staggered pedestrian crossing has resulted in an increased width in the footprint of the scheme by approximately 3 metres (m). This change will affect the area of land permanently lost from Doxey and Tillington Marshes SSSI as outlined in Table 2.1

Table 2.1 Percentage land take at Doxey and Tillington Marshes SSSI.

| Area | Original Area (m ²) | Revised Area (m ²) | Change (m ²) | Percentage Change | % of SSSI |
|--|---------------------------------|--------------------------------|--------------------------|-------------------|-----------|
| Area of existing car park to be developed into wildlife site | 4,000 | 4,000 | 0 | 0.0% | N/A |
| Area of destroyed SSSI to be restored | 4,531 | 4,382 | -149 | -3.3% | 0.36 |
| Area of existing SSSI to be permanently lost | 1,698 | 1,781 | 83 | 4.9% | 0.14 |
| Area of existing SSSI to be | 4,173 | 4,130 | -43 | 1.01% | 0.34 |

| Area | Original Area (m ²) | Revised Area (m ²) | Change (m ²) | Percentage Change | % of SSSI |
|---|---------------------------------|--------------------------------|--------------------------|-------------------|-----------|
| temporarily affected | | | | | |
| Area of destroyed SSSI to be permanently lost | 6,549 | 6,657 | 108 | 1.6% | 0.52 |

2.1.15 Drawings SWAR/PLANNING/19 and SWAR/PLANNING/27 have been revised as a result of the design change to illustrate the area of existing SSSI to be temporarily affected (4130m²) during construction. The area shown illustrates a worst case scenario on which the Environmental Statement has assessed. The area of SSSI to be lost temporarily allows the realignment of Broad Meadow Drain which is currently the subject of approval and detailed design. It is anticipated that site clearance works will be restricted to a narrow corridor within the area shown to permit the diversion of Broad Meadow Drain and access for construction vehicles. Engagement with Natural England, Staffordshire Wildlife Trust, Environment Agency and the Internal Drainage Board will continue as detailed design develops.

2.1.16 Based on the above, there should be no requirement to remove all of the vegetation within the area shown just that which is needed for construction access and the permanent works.

[Construction Compound Relocation](#)

2.1.17 Subject to further dialogue and agreement, it is proposed that the main site compound area will be relocated from the proposed area at the north eastern extent of the Scheme, as shown on SWAR/PLANNING/19, to an area of land currently owned by Saint Gobain. The proposed compound is located to the west of Doxey Road. The area to be utilised is currently a flat site with drainage and utilities already present. Concrete bases will remain in-situ from the former warehouse units and provide a foundation for temporary office/welfare units and material set down. An assessment of this site has been carried out and is contained within this document.

[Planning Drawings](#)

2.1.18 Table 2.2 provides a list of drawings that have been superseded as a result of this amendment and those which remain unchanged.

Table 2.2 List of Amended Drawings

| Drawing no. | Title | Amended | Amendment | Current Version |
|------------------|---|---------|---|-----------------|
| SWAR/PLANNING/01 | Location Plan | No | | A |
| SWAR/PLANNING/02 | Red Line Boundary | Yes | Red line boundary revised to include re-located compound area within Saint Gobain site. Red line boundary for flood compensation works amended to remove conflict with consented housing development off Wootton Drive (App ref no: 13/19001/FUL) | A |
| SWAR/PLANNING/03 | Existing General Site Layout | No | | 0 |
| SWAR/PLANNING/04 | Existing Detailed Site Layout | No | | 0 |
| SWAR/PLANNING/04 | Existing Detailed Site Layout | No | | 0 |
| SWAR/PLANNING/04 | Existing Detailed Site Layout | No | | 0 |
| SWAR/PLANNING/04 | Existing Detailed Site Layout | No | | 0 |
| SWAR/PLANNING/05 | Enhanced General Arrangement | Yes | Amended to indicate staggered crossing facility across northern arm of Doxey Road West Roundabout | A |
| SWAR/PLANNING/06 | Land Requirements | No | | 0 |
| SWAR/PLANNING/07 | Phasing Plan | No | | 0 |
| SWAR/PLANNING/08 | A34 Foregate Street Browning Street Junction | No | | 0 |
| SWAR/PLANNING/09 | A34 Foregate Street Western Access Route Junction | No | | 0 |

| Drawing no. | Title | Amended | Amendment | Current Version |
|------------------|---|---------|---|-----------------|
| SWAR/PLANNING/10 | Doxey Road Western Access Route Junction (East) | Yes | Amended to indicate staggered crossing facility across northern arm of Doxey Road West Roundabout | A |
| SWAR/PLANNING/11 | Doxey Road Western Access Route Junction (West) | No | | 0 |
| SWAR/PLANNING/12 | Martin Drive Western Access Route Junction | No | | 0 |
| SWAR/PLANNING/13 | Cross Sections & Long Sections Sheet 1 of 3 | No | | 0 |
| SWAR/PLANNING/13 | Cross Sections & Long Sections Sheet 2 of 3 | No | | 0 |
| SWAR/PLANNING/13 | Cross Sections & Long Sections Sheet 3 of 3 | No | | 0 |
| SWAR/PLANNING/14 | Demolition Works | No | | 0 |
| SWAR/PLANNING/15 | Vegetation Clearance | No | | 0 |
| SWAR/PLANNING/16 | Local watercourses | No | | 0 |
| SWAR/PLANNING/17 | Existing Public Rights of Way | No | | 0 |
| SWAR/PLANNING/18 | Position of Services and Utilities | No | | 0 |
| SWAR/PLANNING/19 | Construction & Working Areas | No | | 0 |
| SWAR/PLANNING/20 | Viaduct Elevations 1 of 4 | Yes | Amended to indicate reduced length of viaduct and proposed appearance of retaining walls | A |
| SWAR/PLANNING/20 | Viaduct Elevations 2 of 4 | Yes | Amended to indicate reduced length of viaduct and proposed appearance of retaining walls | A |

| Drawing no. | Title | Amended | Amendment | Current Version |
|------------------|--|-----------|--|-----------------|
| SWAR/PLANNING/20 | Viaduct Elevations 3 of 4 | Yes | Amended to indicate reduced length of viaduct and proposed appearance of retaining walls | A |
| SWAR/PLANNING/20 | Viaduct Elevations 4 of 4 | Yes | Amended to indicate reduced length of viaduct and proposed appearance of retaining walls | A |
| SWAR/PLANNING/20 | Doxey Road Retaining Wall | Withdrawn | Drawing withdrawn as appearance of retaining wall to north-west of Doxey Road is to match remainder of structure | N/A |
| SWAR/PLANNING/20 | Sainsbury's Retaining Wall | No | | 0 |
| SWAR/PLANNING/20 | Madford Retaining Wall | No | | 0 |
| SWAR/PLANNING/21 | Pedestrian & Cycling Facilities Sheet 1 of 2 | Yes | Amended to indicate staggered crossing facility across northern arm of Doxey Road West Roundabout | A |
| SWAR/PLANNING/21 | Pedestrian & Cycling Facilities Sheet 2 of 2 | Yes | Amended to indicate staggered crossing facility across northern arm of Doxey Road West Roundabout | A |
| SWAR/PLANNING/22 | Street Lighting | No | | 0 |
| SWAR/PLANNING/23 | Drainage Proposals | No | | 0 |
| SWAR/PLANNING/24 | Flood Compensation Area | No | | 0 |
| SWAR/PLANNING/25 | Environmental Mitigation | No | | 0 |
| SWAR/PLANNING/26 | Landscape Concept | No | | 0 |
| SWAR/PLANNING/27 | SSSI Land Calculation | Yes | Areas amended to reflect increased scheme footprint due to introduction of staggered crossing | A |
| SWAR/PLANNING/28 | Artists Illustration | N/A | New drawing | 0 |
| SWAR/PLANNING/29 | Photomontage | N/A | New drawing | 0 |

3 *EIA Approach and Methodology*

- 3.1.1 This Environmental Statement Addendum has been prepared to comply with the aforementioned EIA Regulations which implement the European Council Directive 2011/92/EU (hereafter referred to 'the EIA Directive').
- 3.1.2 The environmental assessment process will, as in the previous Scheme Environmental Statement, generally follow the Design Manual for Roads and Bridges (DMRB) guidance Volume 11, and Interim Advice Note (IAN) 126/09. The approach to the assessment will be consistent with current DMRB guidance as modified by IANs.
- 3.1.3 Detailed methodologies to be employed within each of the specialist subject areas will remain as defined in the relevant specialist chapters of the SWAR Environmental Statement.
- 3.1.4 This Environmental Statement Addendum considers the following specialist environmental topics:
- Ecology and Nature Conservation;
 - Drainage and the Water Environment;
 - Landscape and Visual Assessment;
 - Cultural Heritage;
 - Noise and Vibration;
 - Geology, Soils and Contamination;
 - Pedestrians, Cyclists, Equestrians and Community Effects;
 - Vehicle Travellers; and
 - Cumulative Effect.
- 3.1.5 Atkins were responsible for the Air Quality assessment for the Scheme Environmental Statement. It has been confirmed that there is no impact on Air Quality as a result of the design changes as detailed in Section 2 and as such further assessment on air quality has been scoped out of this assessment.
- 3.1.6 Where there is no change to the baseline environment no further information is provided. Where there is no change to the conclusions stated within the Environmental Statement, a statement to such effect is provided and no further assessment has been undertaken.
- 3.1.7 An Environmental Appraisal matrix has been prepared to illustrate the conclusions of the Scheme Environmental Statement and the Environmental Statement Addendum (Chapter 14) to allow comparison between the results of the two assessments.
- 3.1.8 The columns in the matrices have been completed as follows:
- The entries have been abbreviated as much as possible and report the key issues only. (The matrix is a summary document for the comparison of the original and amended scheme design, and has been supported by more detailed assessments in the supporting text);
 - The 'Qualitative Impact Description and / or Quantitative Assessment' column includes a brief written assessment, drawing out the key issues and including any quantitative assessment made;
 - The 'Rating' column is a colour coded assessment of the option, as per Table 3.1; and
 - Separate lines are provided in the Option Comparison Matrix for the construction and operational stages for each topic.

Table 3.1 Colour coded 'Ratings'.

| | |
|-------|---|
| - - - | Major worsening on the Comparator Scheme |
| - - | Moderate worsening on the Comparator Scheme |
| - | Minor worsening on Comparator Scheme |
| o | Neutral / no change to Comparator Scheme |
| + | Minor improvement on Comparator Scheme |
| + + | Moderate improvement on Comparator Scheme |
| + + + | Major improvement on Comparator Scheme |
| N/A | Not applicable |

3.1.9 A register of superseded documents, paragraphs and sections is included in Appendix A of this report.

4 *Planning Policy*

- 4.1.1 A full review of relevant planning policy is included within Section 4 of the Environmental Statement. There have been no additional policies or policy withdrawals since publication of the Environmental Statement in June 2015. Therefore this addendum does not require any updates with regard to Planning Policy.

5 Ecology and Nature Conservation

5.1 Introduction

5.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on ecology and nature conservation. The objective of this appraisal is to identify any potential significant effects upon ecological assets that are likely to arise from the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the previously prepared Scheme Environmental Statement.

5.2 Planning Policy and Legislation

5.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the previously prepared Scheme Environmental Statement. (see Chapter 5, Section 5.2)

5.3 Assessment Methodology

5.3.1 The EIA methodology remains as detailed in the previously prepared Scheme Environmental Statement (see Chapter 5, Section 5.3).

5.4 Baseline

5.4.1 No additional baseline data is required in addition to that given in the previously prepared Scheme Environmental Statement (See Chapter 5, Section 5.4, 5.5 and 5.6)

5.5 Potential Impacts and Significant Environmental Effects

Viaduct Design Amendment

5.5.1 The assumptions regarding the construction plant to be used for the amended viaduct design are unchanged from the Scheme Environmental Statement. In order to provide clarity to the previous assessments undertaken in the Scheme Environmental Statement, however, it should be noted that the construction noise assessment as reported in Chapter 9 of the Environmental Statement only assumes one CFA piling rig in proximity to the nearest residential receptors during the works in contrast to the assessment undertaken for Ecology in Chapter 5 of the Environmental Statement, which takes into account two CFA piling rigs. This was on the basis that for the worst affected receptors at Doxey Road, the inclusion of a second piling rig at an additional 60 metres from the properties would have no influence on the predicted noise levels. For more distant receptors (e.g. around Timberfield Road), the additional increase in the time-averaged noise levels would be less than 1 dB (not significant) with two rigs in operation. The assessment of construction noise remains unchanged from the Scheme Environmental Statement therefore.

5.5.2 With regards to the movement of wildlife, it is not envisaged that there will be any additional impact from the design change. The open span areas of the viaduct will allow wildlife which is currently using green corridors to still have access.

5.5.3 It is not envisaged that there will be any additional ecological impacts or change in significance of impacts resulting from the change in the design to that given in the Scheme Environmental Statement.

Amendments to the proposed Pedestrian Crossing at Doxey Road

5.5.4 The amendment to the pedestrian crossing will result in the in the width of the footprint of the Scheme being approximately 3m wider than that which was originally proposed in the planning application. This change affects the area of land permanently lost from Doxey and Tillington SSSI as outlined in Table 2.1 but included again here in Table 5.1 for ease of reference, and illustrated on SWAR/PLANNING/27.

Table 5.1 Percentage land take at Doxey and Tillington Marshes SSSI

| Area | Original Area (m ²) | Revised Area (m ²) | Change (m ²) | Percentage Change | % of SSSI |
|--|---------------------------------|--------------------------------|--------------------------|-------------------|-----------|
| Area of existing car park to be developed into wildlife site | 4,000 | 4,000 | 0 | 0.0% | 0.32 |
| Area of destroyed SSSI to be restored | 4,531 | 4,382 | -149 | -3.3% | 0.36 |
| Area of existing SSSI to be permanently lost | 1,698 | 1,781 | 83 | 4.9% | 0.14 |
| Area of existing SSSI to be temporarily affected | 4,173 | 4,130 | -43 | 1.01% | 0.34 |
| Area of destroyed SSSI to be permanently lost | 6,549 | 6,657 | 108 | 1.6% | 0.52 |

5.5.5 As a result of the design changes for the Scheme going forward, an area of approximately 8, 438m² of the habitats within the confines of the SSSI boundary will be lost of which only 1,781m² is outside of the destroyed section and an area of approximately 4,130m² of other habitat will be disturbed as direct result of the scheme. The loss and disturbance of these habitats, amounts to approximately 1.01% of the total SSSI area (of 123.9ha). Overall the increase in area of destroyed or disturbed SSSI is 0.01% of the SSSI, which is not considered to alter the significance of the assessment made in the previously prepared Environmental Statement chapter.

5.5.6 The Environmental Statement provided area figures for loss and disturbance of Running Water/Marginal Vegetation/Ditches habitat areas within the bands of the SSSI, and in the Saint Gobain site in Section 3 and paragraph 5.8.11. The area figures for this habitat type within the SSSI and adjacent to the Saint Gobain site were incorrect and the correct area figures are shown below. This correction does not alter the conclusions of the Ecology assessment in the Environmental Statement as the correct figures are considerably smaller than those shown in Paragraph 3.8.11 of the Scheme Environmental Statement.

5.5.7 The proposed route will result in the temporary disturbance of approximately 145m² and loss of 77m² of these habitats within the bounds of the SSSI, (as illustrated on drawing SWAR/PLANNING/23), and the temporary disturbance of approximately 200m² of marginal vegetation between the existing Saint Gobain site and Martin Drive.

Construction Compound Re-location

5.5.8 The relocation of the construction compound to an area of the Saint Gobain site will result in no additional impact since the compound will be located on hardstanding and previously developed land. Surveys at the previous compound location had highlighted that invasive species (Japanese Knotweed) were present. Although there is the potential that the former compound areas may be utilised for additional storage, no invasive

species are known to be present at the new compound location. This change of location therefore represents an improvement via reduction of risk of invasive species spread during the construction phase, although this does not alter the significance of the assessment as recorded in the Scheme Environmental Statement.

5.6 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

5.6.1 Since the proposals will not result in any additional significant impacts, no further mitigation is proposed and there will be no additional residual impacts.

Amendments to the proposed Pedestrian Crossing at Doxey Road

5.6.2 Since the proposals will not result in any additional significant impacts, no further mitigation is proposed and there will be no additional residual impacts.

Construction Compound Re-location

5.6.3 Since the proposals will not result in any additional significant impacts, no further mitigation is proposed and there will be no additional residual impacts.

5.7 Conclusions

Viaduct Design Amendment

5.7.1 The Viaduct Design Amendment is not considered to result in any additional ecological impacts, or alter the significance recorded in the Scheme Environmental Statement.

Amendments to the proposed Pedestrian Crossing at Doxey Road

5.7.2 The additional pedestrian crossing will result in changes to the area of SSSI impacted by the proposals; however, the changes will result in an increase in area of SSSI impacted from 1.00% to 1.01%, which is judged not to alter the significance from that already assessed in the previously prepared Scheme Environmental Statement.

Construction Compound Re-location

5.7.3 The relocation of the construction compound is not considered to result in any additional ecological impacts, or alter the significance recorded in the Scheme Environmental Statement.

5.8 References

5.8.1 No additional references utilised – Refer to Section 5.12 of the Scheme Environmental Statement.

6 Drainage and Water Environment

6.1 Introduction

6.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on drainage and the water environment. The objective of this appraisal is to identify any potential significant effects upon hydrological assets that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

6.2 Planning Policy and Legislation

6.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the previously prepared Scheme Environmental Statement (see Chapter 6, Section 6.2).

6.3 Assessment Methodology

6.3.1 The EIA methodology remains as detailed in the previously prepared Scheme Environmental Statement (see Chapter 6, Section 6.3).

6.4 Baseline

6.4.1 No additional baseline data is required in addition to that given in the previously prepared Scheme Environmental Statement (See Chapter 6, Section 6.4).

6.5 WFDa

6.5.1 The Water Framework Directive Assessment (WFDa) evaluates biological, physico-chemical (water quality) and hydromorphological (physical) elements, for surface water and groundwater bodies at the site, and for connecting waterbodies. In keeping with the Scheme Environmental Statement, an addendum to the WFDa is provided as Appendix 6.3.

6.5.2 Appendix 6.3 is presented as a summary text and an assessment matrix of all WFDa elements for all scheme elements, for both the original and amended schemes. The matrix is colour coded according to Table 3.1 (in Section 3 above).

6.5.3 The previous WFDa concluded that, in terms of WFD objectives, and based on information and various other works in progress that have been available to date, it appears likely that the Scheme, including mitigation measures, would support WFD objectives by:

- Not causing deterioration in the ecological potential of any waterbodies;
- Not preventing the waterbodies from meeting objectives of good ecological potential;
- Not preventing or compromising WFD objectives being met in other water bodies;
- Not causing failure to meet good groundwater status, or result in a deterioration of groundwater status; and
- Not preventing the implementation of mitigation measures.

6.5.4 In brief, the conclusion of the Scheme Environmental Statement WFDa is that WFD objectives should be upheld if appropriate monitoring and mitigation measures are put in place.

6.5.5 Appendix 6.3 shows that the WFDa revised to consider the proposed design changes does not alter the conclusions as recorded in the Scheme Environmental Statement.

6.6 Hydrological Report

6.6.1 The hydrological study produced for the original scheme concluded that the piles (for a 15 span viaduct) were unlikely to act as a significant barrier to groundwater flow owing to the width and depth of the shallow aquifer. The study also said that it was unlikely that groundwater/surface water interactions except within the localised area around the piles would be affected.

6.6.2 As a result of the design changes, it is proposed that a 6 span viaduct (rather than a 15 span viaduct) is to be constructed. For the sections either side of the viaduct, the road will be supported on a vertically retained pile embankment. The depth of piles required remains the same as that for the original scheme.

6.6.3 Additionally the hydrological study produced for the original scheme concluded that any changes to the infiltration would be minimal and therefore the hydrology of the SSSI is unlikely to be impacted by the construction or operation of the road.

6.6.4 The lateral extent of embankment (including the extra width of the additional pedestrian crossing) will have a slightly larger footprint area under the updated scheme, than was the case under the original scheme.

6.6.5 The construction compound is to be relocated from a site to the north of the scheme to an area of land to the south of Doxey Road. The construction compound is on an existing industrial site with existing hard-standing and drainage. The construction compound will be located temporarily in this location.

6.6.6 The potential impacts and significant environmental effects are discussed further in Section 6.9.

6.7 Flood Risk Assessment

6.7.1 The design amendment, with the 15 span viaduct being shortened to a 6 span, was developed following extensive flood modelling; modelling compared the changes in flood response of the river to the existing situation, and with the previously published scheme. This is reported in the amended Flood Risk Assessment (FRA) presented in Appendix 6.1.

6.7.2 The effect of the viaduct and piled embankment on flood risk has been assessed through hydraulic modelling. The modelling was undertaken in order to fully understand the impacts of the structure on flood levels and extents along with the impacts on receptors.

6.7.3 In order to reduce the predicted increase in flood depths and extents upstream, a proposed compensatory storage design was modelled. The model showed that with compensatory storage, the predicted increases in flood depth upstream were reduced when compared to the 'no storage' option. With the proposed compensatory storage in place, the maximum increase in flood levels upstream (compared to the baseline) would be 0.04m for the 1 in 100 year flood event, with an allowance for climate change.

6.7.4 Flood modelling concluded that with the introduction of compensatory storage within the proposed route design, there is a small increase in predicted flood level upstream of the structure, but this is not considered to be significant as no additional properties or

infrastructure are affected. Downstream of the structure, flood risk is reduced and eleven properties are removed from the 1 in 100 year plus climate change flood extent.

- 6.7.5 The inclusion of a 6 span viaduct within the scheme would not result in any new significant effects, and it is considered to not change the conclusions within the Scheme Environmental Statement.

6.8 Drainage Assessment

- 6.8.1 The amendment from a 15 span viaduct to a 6 span viaduct would not result in any material drainage alterations to that assessed under the Scheme Environmental Statement. The vertical alignment of the proposed viaduct would remain the same, thus there would be no change with catchment areas, or outfalls.

- 6.8.2 This would not result in any new significant effects, and it is considered to not change the conclusions within the Scheme Environmental Statement.

6.9 Potential Impacts and Significant Environmental Effects

Viaduct Design Amendment

- 6.9.1 As a result of the design change it is assessed that there would be no new or change to significance of effects arising from using a 6 span viaduct supported/ embankment solution over a pile support only solution as described in the published Scheme Environmental Statement.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 6.9.2 As a result of the design change it is assessed that there would be no new or change to significance of effects arising from the scheme having a slightly larger footprint area. It is advised that run-off collection and soakaways are designed, where feasible to encourage the infiltration of water back into the ground locally.

Construction Compound Re-location

- 6.9.3 As a result of the design change it is assessed that there would be no new or change to significance of effects arising from the Scheme with the new location for the construction compound.

6.10 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

- 6.10.1 No additional mitigation is required in addition to that given in the previously prepared Scheme Environmental Statement (See Chapter 6, Section 6.6). Construction of the scheme would be carried out under the control of a Construction Environmental Management Plan (CEMP), and would therefore comply with current planning policies/regulations for the protection of water resources. The assessment indicates that the inclusion of soakaways is advisable on the embankment sections at either end of the viaduct.

- 6.10.2 The residual effects would remain neutral / no change from the original Scheme Environmental Assessment.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 6.10.3 No additional mitigation is required in addition to that given in the Scheme Environmental Statement (See Chapter 6, Section 6.6). Construction of the scheme would be carried out under the control of a Construction Environmental Management Plan (CEMP), and would therefore comply with current planning policies/regulations for the protection of water resources.
- 6.10.4 The residual effects would remain neutral / no change from the Scheme Environmental Statement.

Construction Compound Re-location

- 6.10.5 No additional mitigation is required in addition to that given in the Scheme Environmental Statement (See Chapter 6, Section 6.6). Construction of the scheme would be carried out under the control of a Construction Environmental Management Plan (CEMP), and would therefore comply with current planning policies/regulations for the protection of water resources.
- 6.10.6 The residual effects would remain neutral / no change from the Scheme Environmental Statement Assessment.

6.11 Conclusions

Viaduct Design Amendment

- 6.11.1 The viaduct design amendment would not result in any new or alter the significance of effects on the drainage and water environment of the area.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 6.11.2 The reconfigured pedestrian crossing would not result in any new or alter the significance of effects on the drainage and water environment of the area as recorded in the Scheme Environmental Statement.

Construction Compound Re-location

- 6.11.3 The construction compound re-location would not result in any new or alter the significance of effects on the drainage and water environment of the area.

6.12 References

- 6.12.1 No additional references utilised – Refer to Section 6.9 of the Scheme Environmental Statement.

7 Landscape and Visual Assessment

7.1 Introduction

7.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on landscape and visual resources. The objective of this appraisal is to identify any potential significant effects upon the landscape and visual context that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

7.2 Planning Policy and Legislation

7.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the previously prepared Scheme Environmental Statement (see Chapter 7, Section 7.2).

7.3 Assessment Methodology

7.3.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 7, Section 7.3).

7.4 Baseline

7.4.1 No additional baseline data is required in addition to that given in the Scheme Environmental Statement (See Chapter 7, Section 7.4)

7.5 Potential Impacts and Significant Environmental Effects

7.5.1 The addendum considers only those landscape/townscape character areas and representative viewpoint locations in proximity to the design changes where there is considered to be potential for modification of the landscape and visual impact assessment conclusions.

Viaduct Design Amendment

7.5.2 The Scheme designers have considered a choice of materials and colours for the vertical walls to the piled embankment. Discussions with the Landscape Architect and Principal Archaeologist of the County Council concluded that a buff coloured block would be considered in-keeping with the urban scene; this is indicated on drawings SWAR/PLANNING/20/02 and SWAR/PLANNING/29. The proposed shrub planting along some sections of the wall would assist in filtering the views of the wall while softening appearance. The establishment of the proposed alder and willow carr adjacent the road will also provide visual mitigation. The nature of the existing urban context on the edge of Stafford town centre dictates that the additional effects of this amendment are considered to be low adverse to neutral.

Landscape

TCA 3: Stafford Retail Edge

7.5.3 The Scheme would involve the construction of both viaduct and vertically retained piled embankment to accommodate the Scheme at this location. A 6 span viaduct would cross over the River Sow and extend through the existing long stay car park north of Pan's Drive. However, as no characteristic elements of the Townscape Character Areas (TCA's) would be affected, impacts would be wholly derived from temporary visibility of

construction activity, as per the original assessment. When these impacts are combined with the duration and reversibility of the construction process, the magnitude of impact on landscape character is assessed as moderate adverse and is therefore not anticipated to change as a result of the viaduct design amendment. As the low viaduct and raised vertically retained piled embankment would not be incongruous within the existing urban setting of the TCA, the proposed operational effects at years 1 and 15 would also remain unchanged.

Visual

Photoviewpoint 5

- 7.5.4 Views towards the proposed viaduct and vertically retained piled embankment would not be perceptible in the view from this location, obscured by a combination of viewing distance and intervening vegetation associated with the restored area of the SSSI temporarily affected during construction. As a consequence, the original assessment is not anticipated to change at the operational stage due to the viaduct design amendment. Given the extent of wider construction activity associated with Doxey Road Roundabout, it is not anticipated that the change will result in any change to the Scheme Environmental Statement assessment at the construction stage.

Amendments to the proposed Pedestrian Crossing at Doxey Road

Landscape

TCA 3: Stafford Retail Edge

- 7.5.5 The re-configured pedestrian crossing would not be incongruous within the existing urban setting of the TCA, as discussed above in paragraph 7.5.2. The nature of the wider construction activity within this area combined with its temporary nature would not change the conclusions of the original assessment at all stages within this TCA.

Visual

Photoviewpoint 5

- 7.5.6 Existing vegetation forming the right hand frame of the view would be cleared to reveal prominent views of construction machinery and cranes associated with construction of the Scheme and re-configured pedestrian crossing. However, effects relating to temporary views of machinery/vehicles would be reversible and would not change the conclusions of the Scheme Environmental Statement given the extent of construction activity associated with construction of the re-configured roundabout at Doxey Road. At operation, existing vegetation in the right hand frame of the view would be replaced with highway infrastructure, including the pedestrian crossing and wet woodland planting. As there would be very limited change in the existing constituents of the view, it is not anticipated that the re-configured pedestrian crossing would change the Scheme Environmental Statement assessment at the operational stage.

Construction Compound Re-location

Landscape

TCA 10: Stafford Industrial Edge

- 7.5.7 The Scheme would cross the industrial Saint Gobain Abrasives factory site as well as railway sidings. Both the main site office / welfare facilities as well as satellite welfare

and materials storage areas would also be located in this TCA. Construction activity would introduce machinery within the industrial context as well as increased vehicle movements and activity associated with the site compound and materials storage area. However, effects on landscape character would remain at moderate adverse magnitude during construction within this TCA. It is not anticipated that there would be any change to the Scheme Environmental Statement original assessment at years 1 and 15.

TCA 3: Stafford Retail Edge

- 7.5.8 Construction activity would be introduced along a short section of the currently undeveloped River Sow in order to create satellite welfare and materials storage areas within the existing car park / hardstanding setting. Given the urban context of the TCA and the nature of the activity to construct the Scheme itself, it is not anticipated however that this will change the results of the Scheme Environmental Statement assessment at the construction or operational stages.

Visual

Photoviewpoint 4

- 7.5.9 Construction of the Scheme would be openly visible as a short term reversible element in the middle-ground of the view. Demolition of the Saint Gobain factory and the construction of the satellite welfare and material storage area would be apparent in the central frame of the view. Given the visibility of machinery associated with construction of the Scheme as well the nature of the degraded urban context, it is not anticipated that the construction compound relocation would change the conclusions of the visual assessment at all stages at this location.

Photoviewpoint 10

- 7.5.10 The location of satellite welfare areas and materials storage areas to the rear of Madford Retail Park dictate that the view would be subject to increased vehicle movements / construction traffic in this location. However, the materials storage area on the north bank of the river would not be perceptible from this location due to intervening built form. The combination of these factors as well as the scale of the likely changes in the view due to the wider construction of the Scheme would result in effects on visual amenity which would remain unchanged from the Scheme Environmental Statement assessment.

Photoviewpoint 14

- 7.5.11 Views of the main site compound would be available in the middle-ground. However, these views would be obscured partially by the extent of an existing hedge which runs parallel with Doxey Road. Views towards the compound would not be incongruous though given the existing degraded urban context and no significant change in visual impact is anticipated.

Photoviewpoint 17

- 7.5.12 Views towards the Scheme, including the areas of satellite welfare and materials storage, from this location would be obscured by the extent of vegetation associated with the River Sow and Doxey and Tillington Marshes SSSI. The Scheme would run horizontally across the middle ground of the view although screened by existing vegetation. As a consequence, no changes in the assessment at all stages of the Scheme are anticipated.

7.6 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

- 7.6.1 The viaduct design amendment will not result in any new or different significant residual effects and will not change the significance of the effects reported in the Scheme Environmental Statement assessment. Due to the scale and nature of the proposals, it is not considered that additional landscape mitigation treatments are required in this location.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 7.6.2 The re-configured pedestrian crossing will not result in any new or different significant residual effects and will not change the significance of the effects reported in the original assessment. Due to the nature of the change within the proposed highway / urban context, it is not considered that landscape mitigation treatments are required to mitigate this change.

Construction Compound Re-location

- 7.6.3 The construction compound re-location will not result in any new or different significant residual effects and will not change the significance of the effects reported in the Scheme Environmental Statement. Due to the scale and temporary nature of the construction compounds, it is not considered that landscape mitigation treatments are required to mitigate the Scheme in this location.

7.7 Conclusions

Viaduct Design Amendment

- 7.7.1 The proposed Viaduct Design Amendment would not give rise to a new or different residual significant effect and will not change the level of significance of the effects reported in the Scheme Environmental Statement.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 7.7.2 The proposed amendment to the pedestrian crossing would not give rise to a new or different residual significant effect and will not change the level of significance of the effects reported in the Scheme Environmental Statement.

Construction Compound Re-location

- 7.7.3 The proposed construction compound re-location would not give rise to a new or different residual significant effect and will not change the level of significance of the effects reported in the Scheme Environmental Statement.

7.8 References

- 7.8.1 No additional references utilised – Refer to Section 7.8 of the Scheme Environmental Statement.

8 Cultural Heritage

8.1 Introduction

- 8.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on cultural heritage. The objective of this appraisal is to identify any potential significant effects upon cultural heritage assets that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

8.2 Legislation, Planning Policy and Guidance

- 8.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the Scheme Environmental Statement (see Chapter 8, Section 8.2) and accompanying cultural heritage baseline assessment (see Appendix 8.1, Section 3), apart from the following changes.

[Historic England Planning Guidance Advice Notes \(English Heritage/ Historic England 2015\)](#)

- 8.2.2 The recently published Historic England Planning Guidance Advice Notes are intended to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy within the National Planning Policy Framework (NPPF) and the related guidance given in the Planning Practice Guidance Collectively, the Planning Guidance Advice Notes replace the Planning Policy Statement 5 Practice Guide (English Heritage, March 2010) which has now been withdrawn by Government.
- 8.2.3 There are currently three published Planning Guidance Advice Notes: - 'The Historic Environment in Local Plans' (GPA1), 'Managing Significance in Decision-Taking in the Historic Environment' (GPA2) and 'The Setting of Heritage Assets' (GPA3). It should be noted that a fourth guidance document on Enabling Development is in preparation.

[The Setting of Heritage Assets \(English Heritage 2015\)](#)

- 8.2.4 The Setting of Heritage Assets (GPA3) document supersedes the Setting of Heritage Assets: English Heritage guidance (2011). The setting of an asset is an important element in its heritage value. The document states that an assessment of the impact of a proposed development should identify whether the development would be acceptable in terms of the degree of harm to an asset's setting. This document defines setting as the surroundings in which a heritage asset is experienced. Elements of a setting can make positive or negative contributions to the value of an asset and affect the ways in which it is experienced.

8.3 Assessment Methodology

- 8.3.1 The EIA methodology remains as detailed in the previously prepared Scheme Environmental Statement (see Chapter 8, Section 8.3).

8.4 Baseline

- 8.4.1 No additional baseline data is required for the change in design for the viaduct, in addition to that given in the previously prepared Scheme Environmental Statement (See Chapter 8, Section 8.4).
- 8.4.2 For the new compound area, south of Doxey Road, the following information is in addition to the previously prepared Scheme Environmental Statement.
- 8.4.3 The new compound area does not contain any designated heritage assets.
- 8.4.4 A map regression exercise has revealed that the area for the new compound was part of two fields in the Doxey and Tillington Marshes SSSI, which were adapted as an area of post-medieval water meadows (AM43). These are depicted on the earliest map of the area (See Figure 8.5 of the baseline). Once the Grand Junction Railway was constructed in 1839, Doxey Road was realigned and the two fields were amalgamated into one, surrounded by drainage ditches (see first edition Ordnance Survey (OS) map of 1881, Figure 8.9 in the cultural heritage baseline). The area remains unchanged through the later OS map series (see 1901 (Figure 8.10), 1923 (Figure 8.11) and 1938 (not illustrated)). The Universal Grinding Wheel Company Ltd's factory complex is shown on the 1960 OS map and the proposed new compound area is fully developed at this point.
- 8.4.5 The Universal Grinding Wheel Company Ltd's factory building is known to have been first constructed in 1913 to the south of Doxey Road and west of the Castle Works. Aerial photographs, held by Staffordshire County Council and the Britain from Above websites as given below reveal the extent of the factory complex in successive aerial photographs of 1934, 1938 and 1946:
- <http://staffscc.net/shoes1/?p=86>;
 - <http://www.britainfromabove.org.uk/image/epw046131?keyword=10349&ref=15>;
 - <http://www.britainfromabove.org.uk/image/epw057686?keyword=10349&ref=27>; and
 - <http://www.britainfromabove.org.uk/image/eaw000389?keyword=10349&ref=31>.
- 8.4.6 The land that is to be occupied by the proposed new compound area remained undeveloped in all of these archive photographs. The factory however, significantly expanded in 1938, with the construction of buildings to the east and south, including the modernist office block that was the headquarters of the factory complex. By the 1950s, the proposed new compound area is likely to have been developed as part of the factory complex as the area is shown as fully developed by the 1960 map. The factory at this point included laboratories and specialist facilities as well as workers housing and leisure facilities, including a cricket pitch to the east of the proposed new compound area (pitch now overgrown). The company was later renamed 'Unicorn Industries plc' and from the 1980s onwards the business was sold by successive owners, before being finally bought by Saint Gobain in 1997. In 2012, the company transferred its manufacturing site to Eccleshall, but retained the office headquarters on Doxey Road; the other parts of the factory complex were demolished to ground level in 2013, with the exception of the largest building which still remains to the rear of the office building.
- 8.4.7 The proposed new compound area includes the concrete base of the former factory buildings as well as utility connections.
- 8.4.8 It is possible that the factory base was constructed on a raft foundation that seals potential deeper alluvial deposits of the marshland and former watermeadows

8.5 Potential Impacts and Significant Environmental Effects

Viaduct Design Amendment

- 8.5.1 The change of design from a 15 span viaduct to a 6 span viaduct, with accompanying embankments, will increase the direct physical impact of highway construction on the buried peat sequences and potential organic deposits (AM75) along the scheme, between Doxey Road and the River Sow. This is due to the change in construction method from piled bridge piers to a piled embankment. The design engineers have stated the following:
- 8.5.2 'The preliminary design for the piled embankment indicates that the pile spacing and arrangement is more intensive [under the embankment] than that for the viaduct. The design indicates that 350mm square piles will be spaced on a 1.5m x 1.5m grid, in comparison to the 8no. 750mm diameter piles that are proposed at the viaduct piers (piers at 20m spacing).
- 8.5.3 This adjustment of the design, changes the impact of construction on the buried peat sequences and potential organic deposits (AM75) along the scheme, from a Minor Adverse to a Moderate Adverse. This is due to the increased number and density of the piles, the resultant damage to buried peat sequences and potential organic deposits, as well as the potential increase in the dewatering effect to surrounding deposits. The increase in the impact to this asset also alters the assessment of the significance of effect, which increases from a Slight Adverse to a Moderate Adverse.
- 8.5.4 There would be no change to the impact assessment or the significance of effects from the change of design upon historic buildings or the historic landscape character.
- 8.5.5 The operation of the Scheme would not change or alter the impact assessment or significance of effect on archaeological remains, historic buildings or the historic landscape character.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 8.5.6 There would be no additional impacts or significant effects to archaeological remains, historic buildings or the historic landscape character from the construction or operation of the re-configured pedestrian crossing at Doxey Road roundabout.

Construction Compound Re-location

- 8.5.7 The proposed main construction compound area will be relocated to the former concrete base for the c.1950s Universal Grinding Wheel Company Ltd building, west of Doxey Road. The design engineers have stated the following:
- 8.5.8 'This is a flat site with drainage and utilities already present, there are concrete bases as well from the former warehouse units that will remain as a foundation for the compound area.'
- 8.5.9 There are no anticipated temporary construction activities or long term impacts, as the concrete former factory floor will simply be reused for the main construction compound. The existing services /service ducts will be reused. There is, therefore, no change to the impact assessment or to the significance of effects for archaeological remains, historic buildings or the historic landscape character.
- 8.5.10 If the concrete floor is not usable, and a new hardstanding and utility trenches are constructed, then a Minor Adverse impact is possible on the buried peat sequences and

potential organic deposits (AM75) and the buried remains of the former post-medieval water meadows (AM82). This would result in a Slight Adverse significance of effects on both of these heritage assets.

8.6 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

8.6.1 With regards to the piled embankment, and its impact on the buried peat sequences and potential organic deposits (AM75), archaeological mitigation measures have already been proposed along the Scheme alignment, between Doxey Road and the River Sow. This takes the form of a geoarchaeological and palaeo-environmental assessment of peat sequences prior to construction, and an archaeological watching brief of areas where construction penetrates through made ground, if warranted. This approach to archaeological mitigation would apply to the area that is required for the new viaduct and embankment design.

8.6.2 The residual effect on the buried peat sequences and potential organic deposits (AM75) is assessed as Moderate Adverse, following the application of the archaeological mitigation measures.

Amendments to the proposed Pedestrian Crossing at Doxey Road

8.6.3 No mitigation measures are necessary. There would be no change to the residual effects.

Construction Compound Re-location

8.6.4 If the concrete floor and the existing utility connections are reusable, then there would be no mitigation requirements and no change to the residual effects from the siting of the main construction compound for the scheme, west of Doxey Road.

8.6.5 Were this is not the case, then an archaeological watching brief would be undertaken during ground clearance and utility connections work. The residual effect on the buried peat sequences and potential organic deposits (AM75) and the buried remains of former post-medieval water meadows (AM82) would be Slight Adverse.

8.7 Conclusions

Viaduct Design Amendment

8.7.1 There would be a change in the significance of impacts recorded in the Scheme Environmental Statement from Slight Adverse to Moderate Adverse residual effect on the buried peat sequences and potential organic deposits (AM75), of Medium heritage value, between Doxey Road and the River Sow.

Amendments to the proposed Pedestrian Crossing at Doxey Road

8.7.2 No change in the significance of impacts recorded in the Scheme Environmental Statement to archaeological remains, historic buildings or the historic landscape character following the construction and operation of the re-configured pedestrian crossing at Doxey Road.

Construction Compound Re-location

- 8.7.3 No change in the significance of impact recorded in the Scheme Environmental Statement, to archaeological remains, historic buildings or the historic landscape character following the construction of the proposed main construction compound if the existing hard standing and utility connections are reusable.
- 8.7.4 If the existing hard standing and utility connections are not reusable, then a Slight Adverse residual effect would be the result, following ground clearance and the excavation of new utility connections across the proposed compound area. The Slight Adverse residual effect would be on the buried peat sequences and potential organic deposits (AM75), of Medium heritage value, and the buried remains of former post-medieval water meadows (AM82), of Low value, located in this area.

8.8 References

Historic England, 2015 Historic England Planning Guidance Advice Notes.

Historic England, 2015 The Setting of Heritage Assets

Historic Maps

Plan of meadows and low lands on rivers Sow and Penk belonging to Sir William Jerningham, undated, SRO D641/3/F/10

Fields with pencilled notes of land use, undated, SRO D641/3/F/14

Plan of the railway through property of Lord Stafford, undated, SRO D641/3/F/13

Plan and section property of Lord Stafford's trustees required for Shropshire Union Railway, undated, SRO D641/3/F/11

Ordnance Survey 25" to 1 mile scale map 1880

Ordnance Survey 25" to 1 mile scale map 1881

Ordnance Survey 25" to 1 mile scale map 1901

Ordnance Survey 25" to 1 mile scale map 1902

Ordnance Survey 25" to 1 mile scale map 1923

Ordnance Survey 25" to 1 mile scale map 1925

Ordnance Survey 25" to 1 mile scale map 1947

Ordnance Survey 1 to 10000 scale map 1960

Aerial Photographs

Britain From The Air (BFTA) images consulted:

EPW057686

EPW046131

EAW000389

9 Noise and Vibration

9.1 Introduction

- 9.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on noise and vibration. The objective of this appraisal is to identify any potential significant effects upon noise and vibration receptors that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

9.2 Planning Policy and Legislation

- 9.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the Scheme Environmental Statement (see Chapter 9, Section 9.3).

9.3 Assessment Methodology

- 9.3.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 9, Section 9.4).

9.4 Baseline

No additional baseline data is required in addition to that given in the previously Scheme Environmental Statement (Chapter 9, Section 9.5).

9.5 Potential Impacts and Significant Environmental Effects

Viaduct Design Amendment

- 9.5.1 There is no change in the horizontal or vertical alignment of the amended viaduct design and therefore the assessments of the operational noise are unchanged from the Scheme Environmental Statement.
- 9.5.2 The assumptions regarding the construction plant to be used for the amended viaduct design are unchanged from the Scheme Environmental Statement. In order to provide clarity to the previous assessments undertaken, however, it should be noted that the construction noise assessment as reported in Chapter 9 only assumes one Continuous Flight Auger (CFA) piling rig in proximity to the nearest residential receptors during the works in contrast to the assessment undertaken for Ecology in Chapter 5, which takes into account two CFA piling rigs. This was on the basis that for the worst affected receptors at Doxey Road, the inclusion of a second piling rig at an additional 60m from the properties would have no influence on the predicted noise levels. For more distant receptors (e.g. around Timberfield Road), the additional increase in the time-averaged noise levels would be less than 1dB (not significant) with two rigs in operation. The assessment of construction noise remains unchanged from the Scheme Environmental Statement therefore.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 9.5.3 The small change in the road width due to the amendments to the pedestrian crossing has no significant influence (< 1dB) on the predicted noise levels at any noise sensitive receptors and therefore the impact assessment remains as detailed in the Scheme Environmental Statement.

Construction Compound Re-location

9.5.4 The construction compound has been re-located to an area of land within the Saint Gobain site resulting in a change to the distances between noise sensitive receptors and compound construction activities as previously presented in Table 9.9 of the Scheme Environmental Statement. A revised table is presented in Table 9.1 below.

Table 9.1 Distances between receptors and construction activities

| Receptor Location | Construction Noise Threshold of Significant Effect dB L _{Aeq,T} | Closest Distance to Construction Activity (m) | | | |
|-------------------|--|---|--------|----------------------------------|-------------------------------------|
| | | Compound Construction | Piling | Site Clearance/Road Construction | Demolition of Saint Gobain Building |
| Doxey Road | 70 | 125 | 40 | 10 | 300 |
| Spruce Way | 65 | 250 | 235 | 25 | 90 |
| Timberfield Road | 65 | 250 | 290 | 160 | 220 |
| Rosewood Gardens | 65 | 300 | 200 | 10 | 130 |
| Barker Close | 65 | 300 | 490 | 70 | 210 |
| Foregate Street | 65 | 800 | 200 | 170 | 500 |
| Mahogany Drive | 65 | 100 | 340 | 60 | 80 |

9.5.5 In addition to the receptors presented above, the re-located construction compound is around 15m closer to receptors on Campion Grove to the south. Baseline noise levels measured at Campion Grove indicate a construction noise threshold of significant effect of 65dB LAeq.

9.5.6 These revised distances, when cross-referenced against the predicted noise levels presented in Table 9.8 of the Scheme Environmental Statement, indicate compound construction activities at the nearest receptors on Campion Grove are likely to be above the threshold of significant effect when construction activities are at the closest point to the receptors. However, it should be noted that the compound site spans over 100m and therefore any significant impacts are likely to be limited to when construction activities on the compound site are at the closest point to the receptors.

9.5.7 Construction noise impacts are not expected to be significant at other receptors located at least 100m from the compound.

9.6 Proposed Mitigation and Residual Effects

9.6.1 No additional mitigation as a result of the design changes is required with regards to the viaduct design amendment or the Amendments to the proposed pedestrian crossing at Doxey Road.

9.6.2 However, with regards to the construction compound re-location, the use of temporary screening (noise barriers) along the boundary between the site compound and Campion Grove could reduce noise impacts by around 10dB if the line-of-sight between source and receptor is broken, however, residual impacts may still occur when plant is operating at the very nearest point to a receptor. Through the use of best practice working methods, it is expected that residual effects during construction works would be greatly minimised. For the construction compound this could include siting noise

generating equipment at a greater distance to the receptors and limiting the duration of particularly noisy items of plant near the boundary closest to Campion Grove.

9.7 Conclusions

Viaduct Design Amendment

9.7.1 When considering the viaduct design amendment the conclusions within Section 9.8 of the Scheme Environmental Statement are unchanged.

9.7.2 Amendments to the proposed Pedestrian Crossing at Doxey Road

9.7.3 The conclusions within Section 9.8 of the Scheme Environmental Statement are unchanged with regard to the re-configured pedestrian crossing.

Construction Compound Re-location

9.7.4 The construction compound re-location will not introduce a significant effect from construction noise at any of the receptors previously considered in the Scheme Environmental Statement. However, construction noise from the site compound is likely to cause a significant effect at the closest receptors on Campion Grove when construction activities on the compound site are located at the closest point to the receptors.

9.7.5 It is recommended that temporary screening (noise barriers) along the boundary between the site compound and Campion Grove are utilised to minimise any potential impact.

9.8 References

9.8.1 No additional references utilised – Refer to Section 9.9 of the Scheme Environmental Statement.

10 Geology, Soils and Contamination

10.1 Introduction

10.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on geology, soils and contamination. The objective of this appraisal is to identify any potential significant effects upon geology, soils and contamination assets that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the previously prepared Scheme Environmental Statement.

10.2 Planning Policy and Legislation

10.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the Scheme Environmental Statement (see Chapter 10, Section 10.2).

10.3 Assessment Methodology

10.3.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 10, Section 10.3).

10.4 Baseline

10.4.1 No additional baseline data is required in addition to that given in the Scheme Environmental Statement (See Chapter 10, Section 10.4).

10.5 Potential Impacts and Significant Environmental Effects

Viaduct Design Amendment

Construction Phase

10.5.1 No other additional impacts with respect to the viaduct amendment are anticipated in addition to that given in the Scheme Environmental Statement (see Chapter 10, Section 10.5).

Operational Phase

10.5.2 The proposed amendment is to shorten the length of the viaduct and construct the remaining part on a piled embankment. Whilst the placement of embankment fill may increase the risk of settlement of the underlying soft ground, it is considered that there will be no significant impact on the Scheme as both the viaduct and the embankment will be supported by piled foundation.

10.5.3 As a result no other additional impacts with respect to the viaduct amendment are anticipated in addition to that given in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.5).

10.5.4 There is no change to the previously identified level of significance (see Chapter 10, Section 10.5).

Amendments to the proposed Pedestrian Crossing at Doxey Road

Construction and Operation Phase

- 10.5.5 No additional impacts with respect to the re-configured pedestrian crossing are anticipated in addition to that given in the Scheme Environmental Statement (see Chapter 10, Section 10.5).
- 10.5.6 There is no change to the previously identified level of significance (see Chapter 10, Section 10.5).

Construction Compound Re-location

Construction Phase

- 10.5.7 The site compound area is proposed to be located at the former Saint Gobain site. The former concrete floor slab and other hardstanding remains at the Saint Gobain site.
- 10.5.8 The presence of hardstanding on the Saint Gobain site will limit infiltration of potentially contaminating stored materials such as fuel and oils in the event of uncontrolled release or spillage. However surface run-off from the site may penetrate the ground where there is no hardstanding, impacting the underlying soils and groundwater.
- 10.5.9 No other additional impacts with respect to the construction compound relocation are anticipated in addition to that given in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.5).
- 10.5.10 There is no change to the previously identified level of significance (see Chapter 10, Section 10.5).

Operation Phase

- 10.5.11 No impacts with respect to the construction compound relocation are anticipated during the operation phase to that given in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.5).

10.6 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

- 10.6.1 To mitigate the risk associated with ground compressibility or settlement, a detailed geotechnical assessment (which includes consolidation settlement analysis) of the ground beneath the proposed piled embankment area is being undertaken.
- 10.6.2 No other additional mitigation with respect to the viaduct amendment is required in addition to that given in the Scheme Environmental Statement (see Chapter 10, Section 10.6).
- 10.6.3 There is no change to the previously identified level of significance (see Chapter 10, Section 10.6).

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 10.6.4 No additional mitigation with respect to the additional pedestrian crossing is required in addition to that given in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.6).

- 10.6.5 There is no change to the previously identified level of significance (see Chapter 10, Section 10.6).

[Construction Compound Re-location](#)

- 10.6.6 It is considered that the proposed mitigation measures detailed in the Scheme Environmental Statement (see Chapter 10, Section 10.6) is sufficient for the impacts associated with the proposed construction compound relocation.
- 10.6.7 There is no change to the previously identified level of significance (see Chapter 10, section 10.6).

10.7 Conclusions

[Viaduct Design Amendment](#)

- 10.7.1 It is considered that the amendment to the viaduct design will give rise to no additional impacts on the Scheme to those identified in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.5). Amendments to the proposed Pedestrian Crossing at Doxey Road.
- 10.7.2 Amendments to the proposed Pedestrian Crossing at Doxey Road
- 10.7.3 It is considered that the amendments to the pedestrian crossing will give rise to no additional impacts other than that given in the previously prepared Scheme Environmental Statement (see Chapter 10, Section 10.5). Therefore no additional mitigation measure will be required.

[Construction Compound Re-location](#)

- 10.7.4 The relocation of the construction compound at the Saint Gobain site may lead to surface run-off from the site which may impact the underlying soils and groundwater in surrounding areas without hardstanding. However, it is considered that the measures already proposed in the Scheme Environmental Statement are sufficient to mitigate the impact arising from the construction compound relocation.

10.8 References

- 10.8.1 No additional references utilised – Refer to Section 10.8 of the Scheme Environmental Statement.

11 *Air Quality*

11.1 Introduction

- 11.1.1 As stated in Paragraph 3.1.6 a review of the design changes concluded that no additional assessment for Air Quality is necessary for this addendum assessment.
- 11.1.2 Chapter 11 of the Environmental Statement should be referenced for the Air Quality assessment for the development.

12 Pedestrians, Cyclists, Equestrians and Community Effects

12.1 Introduction

12.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on pedestrians, cyclists, equestrians and community assets. The objective of this appraisal is to identify any potential significant effects upon pedestrian, cyclist, equestrian and community assets that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

12.2 Planning Policy and Legislation

12.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the Scheme Environmental Statement (see Chapter 12, Section 12.2).

12.3 Assessment Methodology

12.3.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 12, Section 12.3).

12.4 Baseline

12.4.1 No additional baseline data is required in addition to that given in the Scheme Environmental Statement (See Chapter 12 Section 12.4).

12.5 Potential Impacts and Significant Environmental Effects

[Viaduct Design Amendment](#)

12.5.1 The design alteration to the span of the viaduct does not impact on the movement of pedestrians and cyclists and therefore no further assessment has been undertaken in this regard.

[Amendments to the proposed Pedestrian Crossing at Doxey Road](#)

12.5.2 Chapter 12.5 considers the impact of the proposed scheme in the absence of mitigation measures. The Environmental Statement assessed new severance on the Doxey Road between Stafford Western Access Route sections as severe with the scheme in place. This assessment remains relevant as the amendments to the proposed pedestrian crossing are considered in section 12.6 Proposed Mitigation and Residual Effects.

[Construction Compound Re-location](#)

12.5.3 Re-location of the construction compound does not impact on the movement of pedestrians and cyclists and therefore no further assessment has been undertaken in this regard.

12.6 Proposed Mitigation and Residual Effects

Viaduct Design Amendment

- 12.6.1 The design alteration to the span of the viaduct does not impact on the movement of pedestrians and cyclists and therefore no further assessment has been undertaken in this regard.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 12.6.2 The toucan crossing proposed to mitigate the impact of the Stafford Western Access Route at the new roundabout to the north of the Doxey Road and adjacent to Sainsbury's has been amended to a staggered toucan crossing. The design change does not affect the result of the Scheme Environmental Statement assessment and the residual severance at these locations remains at slight.

Construction Compound Re-location

- 12.6.3 Re-location of the construction compound does not impact on the movement of pedestrians and cyclists and therefore no further assessment has been undertaken in this regard.

12.7 Conclusions

- 12.7.1 The amendments made in this addendum do not affect the conclusions that have already been drawn.

12.8 References

- 12.8.1 No additional references utilised – Refer to Section 12.8 of the Scheme Environmental Statement.

13 Vehicle Travellers

13.1 Introduction

- 13.1.1 This section of the Environmental Statement Addendum considers the potential impacts of the design changes on vehicle travellers. The objective of this appraisal is to identify any potential significant effects upon vehicle travellers that are likely to arise from the construction and operation of the design changes and determine whether or not these works would result in an overall change to the conclusions and findings as identified within the Scheme Environmental Statement.

13.2 Planning Policy and Legislation

- 13.2.1 The impact assessment Planning Policy and Legislation remains as detailed in the Scheme Environmental Statement (see Chapter 13, Section 13.2)

13.3 Assessment Methodology

- 13.3.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 13, Section 13.3).

13.4 Baseline

No additional baseline data is required in addition to that given in the Scheme Environmental Statement (See Chapter 13 Section 13.4)

13.5 Potential Impacts and Significant Environmental Effects

[Viaduct Design Amendment](#)

- 13.5.1 Amendments to the viaduct design do not affect vehicular use of the structure once opened and therefore no further assessment has been undertaken.

[Amendments to the proposed Pedestrian Crossing at Doxey Road](#)

- 13.5.2 The design of crossing facilities do not affect the assessment of driver stress along the route and therefore no further assessment has been undertaken.

[Construction Compound Re-location](#)

- 13.5.3 Re-location of the construction compound does not affect the assessment of driver stress and views from the road and therefore no further assessment has been undertaken.

13.6 Proposed Mitigation and Residual Effects

[Viaduct Design Amendment](#)

- 13.6.1 Amendments to the viaduct design do not affect vehicular use of the structure once opened and therefore no further assessment has been undertaken.

[Additional Pedestrian Crossing](#)

- 13.6.2 The design of crossing facilities do not affect the assessment of driver stress along the route and therefore no further assessment has been undertaken.

Construction Compound Re-location

- 13.6.3 Re-location of the construction compound does not affect the assessment of driver stress and views from the road and therefore no further assessment has been undertaken.

13.7 Conclusions

- 13.7.1 The amendments made in this addendum do not affect the conclusions that have already been drawn.

13.8 References

- 13.8.1 No additional references utilised – Refer to Section 13.8 of the Scheme Environmental Statement.

14 Cumulative Effects

14.1 Introduction

- 14.1.1 This section of the Environmental Statement Addendum considers the potential cumulative impacts that could arise from the interaction between the construction and operation of the amended Scheme design and other major transport and land development projects in the area. DMRB states that during the assessment of the potential environmental implication of highways schemes, regard should be given to the possibility of cumulative effects, both beneficial and adverse.

14.2 Methodology and Significance Criteria

- 14.2.1 The EIA methodology remains as detailed in the Scheme Environmental Statement (see Chapter 14, Section 14.2).

14.3 Assumptions and Limitations

- 14.3.1 In the assessment of inter-relationships between environmental impacts considered in the Environmental Statement Addendum, it has been considered appropriate to use the study areas used in each respective chapter.
- 14.3.2 For the assessment of cumulative environmental effects of the Scheme when considered with those of other surrounding developments, the study area is defined as the proximity of the developments likely to impact on the same receptors as the Scheme.
- 14.3.3 There is a limitation in defining programmes for construction and operation of proposed developments. Proposed development programmes are often inaccurate, as they can be brought forward or delayed. It is therefore an assumption that any published proposals, including the Scheme proposals, accurately reflect the temporal proximity of the respective development.
- 14.3.4 It is not possible to envisage what schemes would be in operation over the life of the Scheme, nor any construction or decommissioning activities that would be underway. For those reasons only published scheme proposals are considered in this cumulative effects assessment, and the cumulative effect of decommissioning has not been considered.

14.4 Baseline Conditions

- 14.4.1 No additional baseline data is required in addition to that given in the Scheme Environmental Statement (See Chapter 14, Section 14.4).

14.5 Potential Cumulative Impacts

Viaduct Design Amendment

- 14.5.1 The design changes have marginally altered the footprint of the scheme and the height of the road remains the same, therefore it has been assessed that there is little change to the cumulative effects assessment for the Scheme.

Type 1 impacts

- 14.5.2 As discussed in the Cultural Heritage assessment, Section 8 the adjustment of the design changes the impact on construction on the buried peat sequences and potential organic deposits (AM75) along the scheme, from a Minor Adverse to a Moderate Adverse due to the increased number and density of piles.
- 14.5.3 The addition of the impact above to the type 1 cumulative assessment as shown in the Scheme Environmental Statement does not result in any changes to conclusions herein.

Type 2 Impacts

- 14.5.4 It is considered that there are no changes to the assessment of Type 2 Impacts. There are no additional developments in close proximity to the Scheme since the publication of the Environmental Statement.

Amendments to the proposed Pedestrian Crossing at Doxey Road

- 14.5.5 Minor amendments to the proposed pedestrian crossing at this location will not have any effect on the cumulative assessment on either Type 1 or Type 2 Impacts as shown in the Scheme Environmental Statement.

*Construction Compound Re-location**Type 1 Impacts*

- 14.5.6 The Inclusion of standard mitigation measures already put forward in this addendum and the Scheme Environmental Statement particularly in relation to noise disturbance to nearby residents will not affect the cumulative effects assessment

Type 2 Impacts

- 14.5.7 There is no change to the conclusions of the Scheme Environmental Assessment with regards to the cumulative effects as a result of the new compound location, given that there are no other development proposals in the immediate vicinity which would be affected.

15 Environmental Management Plan

- 15.1.1 The Environmental Management Plan (EMP) for the Scheme is included in Section 15 of the Environmental Statement. Table 15.1 below shows where the EMP has been updated where necessary as a result of the design changes.

Table 15.1 Environmental Statement Addendum Environmental Management Plan

| Reference (& Impact Phase | Issue | Summary of Proposed Mitigation/ Enhancement Measures | Further Assessment/Survey/Monitoring |
|---|---|---|---|
| Cultural Heritage (CH) | | | |
| CH03 Construction | Impact on Peat Deposits at Pile locations. | Geo-archaeological survey with appropriate palaeo-environmental assessment to be undertaken at detailed design stage to record and date the deposit sequences in advance of construction. A watching brief will be undertaken if warranted at areas where construction will penetrate through Made Ground Deposits. | Further assessment to be undertaken at detailed design stage. Develop and implement construction watching brief if/as required as part of the Historic Environment Management Plan (HEMP). |
| CH11 (Additional to Scheme Environmental Assessment EMP Table) | New Compound Location. Potential impact on buried deposits (buried peat sequence, potential organic deposits and the buried remains of post-medieval water meadows) if existing concrete base not used. | Contractor would need to be responsible for adequate assessment/protection should hardstanding be broken through. | Further assessment to be undertaken at detailed design stage. Develop and implement construction watching brief if/as required as part of the Historic Environment Management Plan (HEMP). |
| Noise and Vibration (NS) | | | |
| NS 03 (Additional to Scheme Environmental Statement EMP Table) | Noise impacts on residents on Campion Grove as a result of the new compound location. | Temporary Noise barriers and sighting of equipment furthest away from properties. | Contractor to put in place. |

16 *Design Comparison Matrix*

- 16.1.1 Table 16.1 compares environmental impacts from the original design included within the Scheme Environmental Statement with the design changes described in Chapter 2.

Table 16.1 Comparison Table

| Location: | | Stafford Western Access Route | | | |
|--|--|---|--------|---|------------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Ecology and Nature Conservation- Viaduct Design Change | Construction | Breeding and Wintering Birds – Disturbance due to operation of piling rigs | N/A | No predicted changes to disturbance levels. Scheme Environmental Statement Assessment unchanged | O |
| | Operation | N/A | N/A | N/A | N/A |
| Ecology and Nature Conservation- Re-configured Pedestrian Crossing | Construction | Loss of SSSI land | N/A | No predicted changes. Impact on Area of SSSI even with additional land take is not predicted to worsen | O |
| | Operation | Loss of SSSI land | N/A | No predicted changes. Impact on Area of SSSI even with additional land take is not predicted to worsen | O |
| Ecology and Nature Conservation - Construction Compound Re-location | Construction | Previous compound has Invasive Species present | N/A | Compound not known to have Invasive Species present. Removal of risk from invasive species spread through construction activities | + |
| | Operation | N/A | N/A | N/A | N/A |
| Drainage and Water Environment Viaduct Design | Construction | Potential run-off impact to SSSI and water environment | N/A | The vertical alignment of the proposed viaduct would remain the same, thus there would be no change with regards to catchment areas or outfalls. No new significant effects | O |

| Location: | | Stafford Western Access Route | | | |
|---|--|--|--------|---|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Change | Operation | Potential run-off impact to SSSI and water environment | N/A | The vertical alignment of the proposed viaduct would remain the same, thus there would be no change with regards to catchment areas or outfalls. No new significant effects | ○ |
| Drainage and Water Environment Re-configured Pedestrian Crossing | Construction | Potential run-off impact to water environment | N/A | No new significance or change to effects arising from the amended design having a slightly larger footprint area | ○ |
| | Operation | Potential run-off impact to water environment | N/A | No new significance or change to effects arising from the amended design having a slightly larger footprint area | ○ |
| Drainage and Water Environment Construction Compound re-location | Construction | Potential run-off impact to water environment | N/A | No new significance or change to effects arising from the amended design having a slightly larger footprint area | ○ |
| | Operation | N/A | N/A | N/A | N/A |
| Landscape and Visual Assessment | Construction | Impact on TCA's and Visual amenity. | N/A | No characteristic elements of the TCA would be affected nor would visual impacts worsen. Assessment unchanged. | ○ |

| Location: | | Stafford Western Access Route | | | |
|--|--|--|--------|--|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Viaduct Design Change | Operation | Impact on TCA's and visual amenity. | N/A | As the low viaduct and raised vertically retained piled embankment would not be incongruous within the existing setting of the TCA nor would the visual impacts worsen. Assessment remains unchanged. | 0 |
| Landscape and Visual Assessment Re-configured Pedestrian Crossing | Construction | Impact on TCA's and visual amenity | N/A | No changes to landscape or visual amenity | 0 |
| | Operation | Impact on TCA's and visual amenity. | N/A | No changes to landscape or visual amenity | 0 |
| Landscape and Visual Assessment Construction Compound Re-location | Construction | Impact on TCA's and visual amenity. | N/A | Effects on landscape character would remain at moderate adverse magnitude during construction within TCA 10: Stafford Industrial Edge. No change on TCA 3: Stafford Retail Edge either. No changes in any of the visual impact assessments. | 0 |
| | Operation | N/A | N/A | N/A | N/A |

| Location: | | Stafford Western Access Route | | | |
|---|--|---|--------|--|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Cultural Heritage Viaduct Design Change | Construction | Potential Impact on Peat Deposits at Pile locations | N/A | The adjustment of the design changes the impact of construction on the buried peat sequences and potential organic deposits along the scheme, from a Minor Adverse to a Moderate Adverse impact | - |
| | Operation | Impact on historic buildings/historic landscape character | N/A | No changes predicted | 0 |
| Cultural Heritage Re-configured Pedestrian Crossing | Construction | Impact on historic buildings/historic landscape character | N/A | No changes predicted | 0 |
| | Operation | Impact on archeological remains historic buildings/historic landscape character | N/A | No changes predicted | 0 |
| Cultural Heritage Construction Compound Re-location | Construction | Impact on archeological remains historic buildings/historic landscape character | N/A | Existing hardstanding (concrete bases), services and services ducts to be re-used. Therefore no change to significance of effects for archeological remains, historic buildings or the historic landscape character. | 0 |
| | Operation | Impact on archeological remains historic buildings/historic landscape character | N/A | No changes predicted | 0 |

| Location: | | Stafford Western Access Route | | | |
|---|--|--|--------|--|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Noise and Vibration Viaduct Design Change | Construction | Generation of significant levels of noise | N/A | No change to construction noise predicted | ○ |
| | Operation | Generation of significant levels of noise | N/A | No Change to horizontal or vertical alignment of the amended viaduct design and therefore the assessments of the operational noise are unchanged | ○ |
| Noise and Vibration Re-configured Pedestrian Crossing | Construction | Generation of significant levels of noise | N/A | Small change in the road width has no significant influence on the predicted noise levels at any sensitive receptors | ○ |
| | Operation | Generation of significant levels of noise. | N/A | Small change in the road width has no significant influence on the predicted noise levels at any sensitive receptors. | ○ |

| Location: | | Stafford Western Access Route | | | |
|--|--|---|--------|---|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Noise and Vibration Construction Compound Re- location | Construction | Noise impacts on receptors located in close proximity to the Compound (Campion Grove) | N/A | Compound construction activities at the nearest receptors on Campion Grove are likely to be above the threshold of significant effect when construction activities are at the closest point to the receptors. Any significant impacts are limited to when construction activities on the compound site are at the closest point to receptors. | - |
| | Operation | N/A | N/A | N/A | N/A |
| Geology, Soils and Contamination Viaduct Design Change | Construction | Compressibility and Settlement Risk | N/A | Potential compressibility and settlement risk remains unchanged to that recorded in the Scheme Environmental Statement. | 0 |

| Location: | | Stafford Western Access Route | | | |
|--|--|--|--------|--|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| | Operation | Compressibility and Settlement Risk | N/A | Potential compressibility and settlement risk remains unchanged to that recorded in the Scheme Environmental Statement. | ○ |
| Geology, Soils and Contamination | Construction | Impacts on Ground conditions and Human Health | N/A | No additional impacts as a result of design changes. | ○ |
| Re-configured Pedestrian crossing | Operation | Impacts on Ground conditions and Human Health | N/A | No additional impacts as a result of design changes. | ○ |
| Geology, Soils and Contamination Construction | Construction | Impacts on Ground conditions and Human Health | N/A | Surface run-off from the site may penetrate the ground where there is no hardstanding, impacting the underlying soils and groundwater. Mitigation already included in the Environmental Statement is sufficient that the impact of this does not worsen. | ○ |

| Location: | | Stafford Western Access Route | | | |
|---|--|--|--------|--|--------|
| Design Considered: | | Environmental Statement | | Addendum | |
| Design Description: | | Stafford Western Access Route (ES design) | | Stafford Western Access Route (Amended design) | |
| Topic | Stage: Construction or Operation | Qualitative Impact Description and / or Quantitative Assessment | Rating | Qualitative Impact Description and / or Quantitative Assessment | Rating |
| Compound Re- location | Operation | N/A | N/A | N/A | N/A |
| Air Quality | No further assessment required for Addendum report. Assessment conclusions remain the same for all design changes. | | | | |
| Pedestrians, Cyclists, Equestrians and Community Effects | No further assessment required for Addendum report. Assessment conclusions remain the same for all design changes. | | | | |
| | No further assessment required for Addendum report. Assessment conclusions remain the same for all design changes. | | | | |
| Vehicle Travellers | No further assessment required for Addendum report. Assessment conclusions remain the same for all design changes. | | | | |

17 Conclusion

17.1 Introduction

- 17.1.1 This Chapter identifies the key environmental issues that have identified as a result of the Scheme design amendments detailed in Chapter 2, and highlights the subsequent design and management measures required to avoid/minimise significant adverse effects.
- 17.1.2 The amended Scheme is likely to give rise to a very small number of moderate and slight adverse environmental impacts which would be required to be managed as the Scheme progresses into detailed design and on through construction.
- 17.1.3 A summary of the issues identified and mitigation measures proposed within the Scheme design are provided below.

17.2 Summary of Potential Effects and Mitigation

- 17.2.1 The Comparison Matrix shows that for the majority of topics, the design changes do not bring about a change in the assessment conclusions to those presented in the Scheme Environmental Statement. Three topics recorded additional or a change to the significance of effects and proposed mitigation in addition to that included in the Scheme Environmental Statement, a summary is provided below:
- **Cultural Heritage – Viaduct Design Change:** The adjustment of the design changes the impacts on the buried peat sequences and potential organic deposits along the scheme from a Minor Adverse to a moderate adverse effect with the significance of effect increasing from Slight adverse to moderate adverse. Archaeological mitigation measures have already been proposed along the Scheme alignment in the Scheme Environmental Statement, between Doxey Road and the River Sow. This takes the form of a geoarchaeological and palaeo-environmental assessment of peat sequences prior to construction, and an archaeological watching brief of areas where construction penetrates through made ground, if warranted. This approach to archaeological mitigation would apply to the area that is required for the new viaduct and embankment design.
 - **Noise and Vibration – Compound re-location:** The re-siting of the Compound construction activities at the nearest receptors on Campion Grove are likely to be above the threshold of significant effect when construction activities are at the closest point to the receptors. Any significant impacts are limited to when construction activities on the compound site are at the closest point to receptors. This could be mitigated by the use of temporary screening (noise barriers) along the boundary between the site compound and Campion Grove could reduce noise impacts by around 10dB if the line-of-sight between source and receptor is broken, however, residual impacts may still occur when plant is operating at the very nearest point to a receptor. Through the use of best practice working methods, it is expected that residual effects during construction works would be greatly minimised. For the construction compound this could include siting noise generating equipment at a greater distance to the receptors and limiting the duration of particularly noisy items of plant near the boundary closest to Campion Grove. These mitigation measures will be outlined in the Construction and Environmental Management Plan.
- 17.2.2 An Outline CEMP has been produced and provided in Appendix 1.1 of the Scheme Environmental Statement to guide the contractor in the creation of the CEMP. A

summary of the mitigation and enhancement measures, including timescales for delivery are provided in Chapter 16 of the Scheme Environmental Statement.

- 17.2.3 The additional items in the Environmental Management Plan should be added to those identified in the Scheme Environmental Statement and included in the Outline CEMP by the contractor in the creation of the CEMP.

17.3 Assessment Limitations and Assumptions

- 17.3.1 The assessment was constrained by:

- The environmental assessment is based on the Scheme design details as available at July 2015 and prior to completion of detailed design. There is potential for some changes to the design to occur, as result of the on-going detailed design process, however any developments in the detailed design must not worsen the impact presented in this report.
- The assessment takes into account mitigation that has been incorporated into the Scheme and assume that standard best practice pollution control measures, e.g. Pollution Prevention Guidance Series (PPGs) available on www.gov.uk will be implemented by the Contractor (to be detailed in the CEMP).
- Detailed construction methods for all activities were not available to use in this assessment, therefore construction noise impacts have been assessed qualitatively.
- The assessment assumes that all construction works would be undertaken within the Scheme boundary supplied and no works or temporary access routes would be required outside of this boundary.

17.4 Next Stage Approach and Assessment

- 17.4.1 The mitigation measures identified in Table 15.1 must be taken forward to ensure that all necessary mitigation is captured into the detailed Scheme designs and to ensure that the iterative Environmental Assessment process is applied throughout detailed design and construction.

18 Glossary

| | |
|------|--|
| CEMP | Construction Environmental Management Plan |
| CFA | Continuous Flight Auger |
| dB | decibels |
| DMRB | Design Manual for Roads and Bridges |
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| FRA | Flood Risk Assessment |
| IAN | Interim Advice Note |
| NPPF | National Planning Policy Framework |
| OS | Ordnance Survey |
| PPG | Pollution Prevention Guidance |
| SSSI | Site of Special Scientific Interest |
| TCA | Townscape Character Area |
| WFD | Water Framework Directive |
| WFDa | Water Framework Directive assessment |

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