

HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

Volume 2 | Community forum area report
CFA19 | Coleshill Junction

July 2015

SES and AP2 ES 3.2.1.19



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Department
for Transport

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Structure of the HS2 Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

The Supplementary Environmental Statement (SES) and Additional Provision 2 Environmental Statement (AP2 ES) comprises:

- non-technical summary (NTS). This provides a summary in non-technical language of the SES (Part 1) and AP2 ES (Part 2) and of any likely significant environmental effects, both beneficial and adverse, which are new or different to those reported in the High Speed Two (HS2) Phase One Environmental Statement (ES) submitted to Parliament in November 2013 in support of the hybrid Bill ('the Bill') for Phase One of HS2 (hereafter referred to as 'the main ES') and, where relevant, the AP ES submitted in September 2014 (hereafter referred to as 'the AP1 ES');
- Volume 1: introduction to the SES and the AP2 ES. This introduces the supplementary environmental information and design changes included within the SES and amendments which have resulted in the need to amend the Bill within the AP2 ES. It also explains any changes to the scope, methodology, assumptions and limitations required for the environmental impact assessment;
- Volume 2: community forum area (CFA) reports and map books. These describe the supplementary environmental information and design changes included within the SES (Part 1), amendments within the AP2 ES (Part 2) and report any new or different likely residual significant environmental effects arising from these changes in each CFA compared to those reported in the main ES and, where relevant, the AP1 ES. The main local alternatives that have been considered are described, where relevant;
- Volume 3: route-wide effects. This reports new or different likely residual significant route-wide effects arising from the supplementary environmental information and design changes included within the SES (Part 1) and amendments within the AP2 ES (Part 2) compared to those reported in the main ES and, where relevant, the AP1 ES;
- Volume 4: off-route effects. This reports new or different likely residual significant off-route effects arising from the amendments within the AP2 ES compared to those reported in the main ES and, where relevant, the AP1 ES;
- Volume 5: appendices and map books. This contains supporting environmental information and associated maps; and

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- glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and AP2 ES compared to those included in the main ES and AP1 ES.

Structure of this report

This volume of the SES and AP2 ES is divided into CFA reports, which are in turn divided into two parts.

Part 1 provides supplementary environmental information relating to:

- new baseline information with respect to European Protected Species surveys, and geophysical and walk-over surveys for cultural heritage, undertaken since the submission of the Bill;
- changes to the design or construction assumptions which do not require changes to the Bill; and
- corrections to the main ES.

Part 1 of each CFA report includes, where relevant:

- a description of the changes or updates within the CFA that have triggered the need for reassessment;
- an assessment of the environmental effects of the changes for relevant environmental topics considering the:
 - scope, assumptions and limitations of the SES assessment;
 - changes of relevance to the assessment;
 - environmental baseline;
 - effects arising during construction;
 - effects arising from operation; and
 - mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of the changes.

Part 2 provides environmental assessment information relating to proposed amendments to the design, which have resulted in the need to alter the powers conferred by the Bill. The following is included where relevant:

- a summary of the proposed amendments within each CFA that have triggered the need for reassessment;
- a description of each amendment;
- an assessment of the environmental effects of each amendment for relevant environmental topics considering the:
 - scope, assumptions and limitations of the AP2 ES assessment;
 - environmental baseline;

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- effects arising during construction;
- effects arising from operation; and
- mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of each proposed amendment.

1 Introduction

- 1.1.1 The Bill for High Speed Rail between London and the West Midlands was submitted to Parliament together with the main ES in November 2013. The AP1 ES, which was submitted in September 2014, contained generally minor amendments to the design of the original scheme (i.e. the scheme submitted in November 2013). The Bill and associated Additional Provisions to the Bill, if enacted by Parliament, will provide the powers to construct, operate and maintain Phase One of HS2.
- 1.1.2 Since the submission of the main ES and AP1 ES, a number of changes or updates to environmental information and scheme design or assumptions have occurred which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES (Part 1) or AP2 ES (Part 2) of this document.
- 1.1.3 The SES contains updated environmental baseline information and scheme information relating to changes that have occurred within the current limits and powers of the Bill, and therefore do not require an Additional Provision to the Bill. This includes:
- additional environmental baseline information;
 - changes to the design or construction assumptions which do not require changes to the Bill; and
 - corrections to the main ES.
- 1.1.4 The changes are described in Part 1 under a series of sub-headings and assessed on a topic by topic basis using the same approach adopted in the main ES.
- 1.1.5 The purpose of the SES is to provide an assessment of any new or different likely significant environmental effects arising from the changes described.
- 1.1.6 The AP2 ES reports the likely significant effects of amendments to the design of the scheme, which require the use of land outside the original limits of the Bill, additional access rights, or other extensions to the powers conferred by the Bill, making it necessary to submit an Additional Provision to the Bill.
- 1.1.7 The amendments assessed within AP2 ES include:
- access to agricultural land between the River Cole, the M6 and the HS2 route; and
 - revisions in the vicinity of Coleshill Manor (Coleshill Manor amendments) comprising:
 - revised alignment of Manor Drive and segregation of construction traffic;
 - realignment and provision of footpaths in the parish of Coleshill; and
 - reconfiguration of environmental mitigation and landscape planting near Coleshill Manor.

- 1.1.8 The AP2 ES assesses each amendment separately for all relevant topics. The purpose of the AP2 ES is to provide an assessment of any new or different likely significant environmental effects arising from the amendments.
- 1.1.9 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in the main ES, Volume 1, Section 9 and the draft Code of Construction Practice (CoCP) submitted in support of the Bill. Implementation of these measures has been assumed in this SES and AP2 ES.
- 1.1.10 It should be noted that, since submission of the Bill, the scheme design has been revised by SES design changes, amendments described in the AP1 ES (AP1 amendments) and amendments described in the AP2 ES (AP2 amendments).
- 1.1.11 In order to differentiate between the original proposals and subsequent changes, the following terms are used:
- 'the original scheme' - the Bill scheme submitted to Parliament in November 2013, which was assessed in the main ES;
 - 'the AP1 revised scheme' - the original scheme as amended by the AP submitted in September 2014;
 - 'the SES scheme' - the original scheme with the design changes described in the SES; and
 - 'the AP2 revised scheme' - the original scheme as amended by the SES scheme and AP2.

Part 1: Supplementary Environmental Statement

2 Summary of changes

2.1 New environmental baseline information

Cultural heritage

- 2.1.1 Geophysical surveys have been undertaken in this CFA since submission of the main ES.
- 2.1.2 Details of survey and desk-based work undertaken in this CFA since production of the main ES (September 2013) are provided in SES and AP2 ES Volume 5: Appendix CH-004-019 and Volume 5 map series CH-07; CH-09 and CH-10, where this is relevant to the assessment of a new or different significant effect.
- 2.1.3 A summary of the supplementary cultural heritage information from these sources that is relevant to the SES assessment is provided in Section 3 under 'Cultural heritage'.

Ecology

- 2.1.4 Surveys for bats have been undertaken in this area since September 2013. In addition, there is a new Local Wildlife Site at Coleshill Sewage Treatment Works which has been designated since submission of the main ES; the majority of this site is within CFA20.
- 2.1.5 Detail of all survey work and desk-study information gathered since September 2013 which is relevant to this area is provided in SES and AP2 ES Volume 5: Appendix EC-001-003 (Baseline data appendix) and Volume 5 map series EC-01; EC-04; and EC-05.
- 2.1.6 A summary of the supplementary information that is relevant to the SES assessment is included within Section 3.3 under 'Ecology'.
- 2.1.7 SES and AP2 ES Volume 5: Appendix EC-002-003 provides a summary of additional baseline survey data collected since September 2013, which has resulted in no change to the conclusions of the main ES. Volume 5: Appendix EC-003-003 identifies additional local/parish level effects which occur as a consequence of SES changes but are not significant.

2.2 Changes to the design or construction assumptions not requiring a change to the hybrid Bill

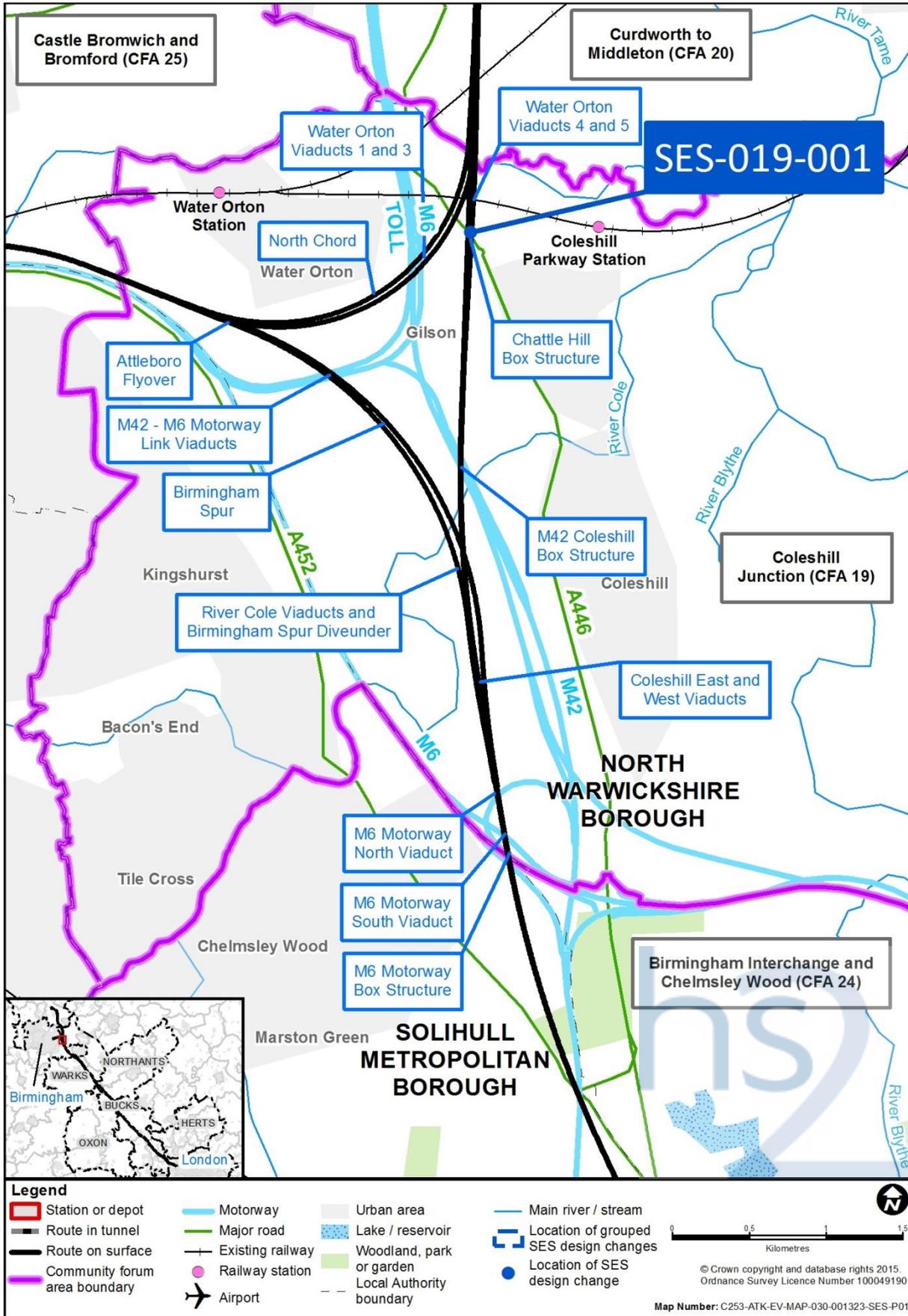
- 2.2.1 Table 1 provides a summary of the changes to the design or construction assumptions not requiring a change to the Bill which will result in new or different significant effects in the Coleshill Junction CFA, (CFA19). Figure 1 shows the locations.

Table 1: Summary of changes to the design or construction assumptions not requiring a change to the Bill in CFA19

Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
<p>Updated construction assumptions for A446 traffic assessment (SES-019-001).</p> <p>This change also affects the A446 Lichfield Road in CFA20.</p>	<p>HS2 works generating construction traffic on the A446 Lichfield Road within CFA19.</p>	<p>The amendment assesses the impact of revised, more refined construction assumptions on the volume of HS2 construction traffic and consequential effects.</p>

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Figure 1: Locations of changes to the design or construction assumptions not requiring a change to the Bill in CFA19



Description of changes to the design or construction assumptions

Updated construction assumptions for A446 traffic assessment (SES-019-001)

- 2.2.3 In considering the traffic impacts on the A446, and in particular the single carriage-way section, a more refined assessment has been developed reflecting the likely phasing of peak flows to compounds served from the A446 and the degree to which they coincide. In addition, the likely profile of worker car trips during the day has been reassessed. The SES addresses these changes and the potential impacts on traffic flows on the A446 through this CFA from the M6 Junction 4 to the crossing of the River Tame.

Changes to the design or construction assumptions in other CFAs affecting this CFA

- 2.2.4 The traffic assessment incorporates the updated construction assumptions for the A446 (SES-019-001) and includes consideration of traffic flows associated with and as a result of changes to the movement of excavated material in other CFAs. This has resulted in changes to the forecast of heavy goods vehicle (HGV) traffic flows on roads in CFA19, in comparison to those reported for the original scheme in the main ES. The assessment in relation to this is presented in Section 3 under Traffic and transport.

2.3 Corrections to the main ES

- 2.3.1 Since submission of the Bill, the need for a number of corrections in the content of the main ES has been identified. Table 2 provides a list of those instances where there has been a need to correct the Volume 2 CFA report for Coleshill Junction because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to significant effects has been identified. The table gives the location of the correction in the main ES, the reason for the correction, replicates the text from the main ES, where applicable, provides revised text, and identifies whether the correction changes a significant effect reported in the main ES. Where relevant, these corrections have been taken into account in the technical assessments contained within Section 3 of this SES

Table 2: Summary of corrections to the main ES in CFA19

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Sound, noise and vibration CFA19, Volume 2, Section 11, after paragraph 11.5.16	Operational airborne noise assessment locations 124210, 146917 and 146974 were omitted from the list of properties identified as qualifying for noise insulation.	Text omitted from main ES.	In this area the assessment has identified ten residential buildings; Brick Hill Farm, Stonebridge Road and Dunromin, Gilson Cottage, Haven Cottage, Lovegrove Cottage, Wayside, Fenicia, Gilson Lodge, Stonehaven and The Nortons all on Gilson Road, represented by receptors 124210, 146917 and 146974, close to the Proposed Scheme, where noise would exceed the daytime trigger threshold set in the Regulations. As the overall sound levels at these receptors are not forecast to change by 1dB or more, these buildings would be unlikely to qualify for noise insulation as a result of the noise insulation regulations for road traffic. However, as the forecast night-time noise level would exceed the World Health Organization's Interim Target of 55dB, it is estimated that these buildings will also be offered noise insulation.	Yes In addition to those identified in the main ES, ten residential buildings are identified as being subject to a significant adverse effect, and are consequently estimated to be likely to qualify for noise insulation. The mitigation measures, including noise insulation will reduce noise inside all dwellings such that it will not reach a level where it would significantly affect residents. Refer to SES and AP2 ES Map series SV01, SV02 and SV-05 (Volume 5, Sound, noise and vibration Map Book).
Traffic and transport CFA19, Volume 2, Section 12	Traffic assessments of the junctions of the A446 Lichfield/Stonebridge Road with B4118 Marsh Lane, Gorsey Lane, and Coventry Road were not undertaken for the main ES.	Assessments not undertaken and not reported in main ES.	There are three additional junctions on the A446 which were not previously assessed in the main ES. At the A446 Stonebridge Road/ B4117 Coventry Road junction there are no significant effects. At the other two junctions, based on the original scheme there would have been major adverse significant effects to report due to delay and congestion. However, with the refined SES assessment the impacts are changed and reported as: <ul style="list-style-type: none"> •A446 Lichfield Road/Gorsey Lane junction (minor adverse significant effect); and • A446 Lichfield Road / B4118 Marsh Lane (moderate adverse significant effect). 	Yes There are significant effects at the A446 junctions with Gorsey Lane and B4118 Marsh Lane. Additional measures for the A446 Lichfield Road / B4118 Marsh Lane junction will be brought forward in a subsequent AP or by agreement with the local highway authority. No further mitigation measures are required other than those set out as part of the draft CoCP (Volume 5, Appendix CT-

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
				003-000). Further details and assessment of these effects are provided in Section 3.4 Traffic and transport of this report.

2.4 Topics included in the SES assessment

- 2.4.1 The changes described above in Sections 2.1 to 2.4 result in new or different significant effects in respect of: community, cultural heritage; ecology; and traffic and transport. These are described in Section 3.

3 Assessment of changes

3.1 Community

Introduction

- 3.1.1 This section of the report describes the environmental baseline in relation to community that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes described in Section 2 compared to the original scheme. There were no AP1 amendments in this area relevant to community.

Scope, assumptions and limitations

- 3.1.2 The assessment scope, key assumptions and limitations for the community assessment are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Changes of relevance to this assessment

- 3.1.3 The following design and construction assumptions and SES changes and corrections have been assessed as they result in new or different likely residual significant effects on community:
- the assessment of congestion associated with revised construction assumptions for the combined effect of traffic to compounds and roadheads served from the A446 (SES-019-001); and
 - the assessment of congestion at road traffic junctions as part of the corrections set out in Table 2.

Environmental baseline

Existing baseline

- 3.1.4 The existing baseline for the area is described in Volume 2 of the main ES, CFA19 Report, Section 5.3.

Future baseline

Construction (2017)

- 3.1.5 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5 Appendix CT-004-000).
- 3.1.6 Since the original scheme assessment was undertaken, North Warwickshire Borough Council has granted planning permission for a change of use of an outbuilding from ancillary residential unit to separate dwelling at Gilson Cottage. The assessment of the construction of the SES scheme, therefore, takes account of this development, which introduces an additional residential receptor into the scope of the community topic assessment.

Operation (2026)

- 3.1.7 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5 Appendix CT-004-000).
- 3.1.8 The future baseline for the assessment of the SES amendment SES-019-001 also takes account of the change at Gilson Cottage, described above.

Effects arising during construction

Avoidance and mitigation measures

- 3.1.9 Measures to avoid or reduce the environmental effects that could arise during construction of the scheme are set out in the main ES, Volume 2, CFA19 report, Section 5.4.

Assessment of impacts and effects

Temporary effects

- 3.1.10 The significant congestion effects reported at the junction between the A446 Lichfield Road and the B4117 Gilson Road and the A446 Lichfield Road and the B4117 Watton Road in the main ES are now assessed as having no significant effect. However, residents of the properties that will be situated to the west of the scheme at Gilson, which represents the majority of the hamlet, are likely to still experience a number of impacts that will contribute to the isolation of the community during the construction period. The islanding of much of the hamlet by construction activities is now assessed, taking account of the SES reduction in congestion on the A446, as giving rise to a moderate adverse and significant isolation effect on the residents of approximately 43 properties at Gilson during the construction period in comparison with the major adverse significant effect of the original scheme reported in the main ES (see SES and AP2 ES Volume 5: Appendix CM-001-019 and map series CM-01-124).
- 3.1.11 The reduction in congestion impacts affecting seven residential properties on Gilson Road, Water Orton Primary School and the residents of Water Orton will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Permanent effects

- 3.1.12 The change in the assessment of congestion impacts will not give rise to a new or different significant permanent effect and will not change the level of significance of the permanent effects reported in the main ES.

Other mitigation measures

- 3.1.13 No further mitigation measures are required other than those set out as part of the draft CoCP (Volume 2, Section 6.4.1).

Cumulative effects

- 3.1.14 There are no new or different likely significant cumulative effects for community as a result of the SES changes acting in combination with other SES changes, or as a result of any relevant committed development.

Summary of likely residual significant effects

- 3.1.15 The reduction of congestion impacts has altered the assessed magnitude of the isolation effects for 43 properties at Gilson Drive, Gilson Road and Meadowbank Drive. This will change the level of the isolation related community effects reported in the main ES from major to moderate which remains significant.
- 3.1.16 The reduction of congestion impacts will, however, not change the level of significance of other isolation related community effects reported in the main ES.

Effects arising from operation

- 3.1.17 There are no new or different significant operational effects for community anticipated as a result of the new baseline information.

3.2 Cultural heritage

Introduction

- 3.2.1 This section of the report describes the environmental baseline in relation to cultural heritage that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes described in Section 2 compared to the original scheme and also compared to any relevant AP1 amendments. Consideration is given to effects upon the value of heritage assets, including through changes to their setting as a result of the additional changes.

Scope, assumptions and limitations

- 3.2.2 The assessment scope, key assumptions and limitations for cultural heritage are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Changes of relevance to this assessment

- 3.2.3 The results of geophysical surveys undertaken are relevant to this assessment.

Environmental baseline

Existing baseline

- 3.2.4 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walk-over survey, geophysical survey, remote-sensing data, and data from national and local registers. A full list of heritage assets is provided in Volume 2, Section 6.3 of the main ES. In addition, the baseline has been updated with the results of additional survey work comprising geophysical surveys for archaeology.
- 3.2.5 A summary of the baseline information relevant to the assessment of new or different effects is provided below. Further details of additional baseline information obtained since the main ES is provided in Volume 5: Appendix CH-004-019 and CH-002-019 of this document. For those assets described in the main ES, full details are provided in the baseline reports, gazetteer of heritage assets, impact assessment tables and survey reports in Volume 5 of the main ES and are shown on maps CH-01 (Heritage Assets within Study Area), CH-02 (Designated Heritage Assets) and CH-03 Archaeological Character Sub-zones.

Designated assets

- 3.2.6 No new designated assets have been identified within the study area.

Non-designated assets

- 3.2.7 Two areas of geophysical survey (Survey CNo23; WSI-CFA19-005; Volume 5: Appendix CH-004-019 of this document; Volume 5: map series CH-07-215) have been undertaken between the existing Manor Drive and the M42 to the north and south of the area surveyed for the main ES. The northern part of the area has produced a number of potential archaeological pit-like anomalies (asset reference: COL108), close to the course of the River Cole (Volume 5: map series CH-09-224, CH-10-224 and CH-01-113). These assets are of low value.
- 3.2.8 A geophysical survey has been undertaken at the cropmark enclosure (asset reference COL017) (Survey CNo21; WSI-CFA19-003; Volume 5: Appendix CH-004-019 of this document; Volume 5: map series CH-07-215). This did not identify the three enclosure ditches as defined by the cropmark. The survey did, however, identify a group of oval-shaped possible archaeological anomalies in a linear formation and ephemeral linear anomalies which could represent the partial remains of a ditch at the northern part of the survey area (Volume 5: map series CH-09-223, CH-10-223). These assets are of low value.

Future baseline

Construction (2017)

- 3.2.9 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5 Appendix CT-004-000).
- 3.2.10 None of the identified developments affect the assessment of the SES scheme's likely construction impacts on heritage assets.

Operation (2026)

- 3.2.11 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.2.12 None of the identified developments affects the assessment of the SES scheme's likely operational impacts on heritage assets.

Effects arising during construction

Avoidance and mitigation measures

- 3.2.13 The draft CoCP sets out the provisions that will be adopted to control effects on cultural heritage assets (Volume 5: Appendix CT-003-000).

Assessment of impacts and effects

Temporary effects

- 3.2.14 The updated baseline data relates to below-ground archaeological assets which are not subject to temporary construction impacts and, therefore, will not give rise to new and/or different likely significant effects.

Permanent effects

- 3.2.15 The proposed change due to the identification of a group of geophysical anomalies potentially reflecting archaeological pit-like features (asset reference COL108) will give rise to a new significant effect. This asset of low value is located within the land required for construction and will be removed; this will constitute a high adverse impact and moderate adverse effect, which is significant (refer to SES and AP2 ES Volume 5: Appendix CH-003-019).
- 3.2.16 The proposed change due to the identification of a group of geophysical anomalies potentially reflecting archaeological features, including a ditch and a linear group of possible pits at the site of a possible cropmark enclosure (asset reference COL017), will give rise to a different significant effect. The geophysical survey does not support the presence of a substantial enclosure. This will change the level of the effects reported in the main ES from major adverse to moderate adverse which remains significant (refer to SES and AP2 ES Volume 5: Appendix CH-003-019).

Other mitigation measures

- 3.2.17 No further mitigation measures are required other than those set out as part of the draft CoCP (Volume 2, Section 6.4.1).

Cumulative effects

- 3.2.18 There are no new or different likely significant cumulative effects for cultural heritage as a result of the SES changes acting in combination with other SES changes or AP1 amendments, or as a result of any relevant committed developments.

Summary of likely residual significant effects

- 3.2.19 The identification of a group of potential archaeological pit-like anomalies close to the course of the River Cole (asset reference: COL108) will give rise to a new residual significant effect. The asset is located within the land required for construction and will be removed. This is a new residual significant effect not reported in the main ES.
- 3.2.20 The identification of a linear group of potential archaeological pits and a potential ditch (asset reference COL017) will give rise to a different residual significant effect as a result of an updated baseline. This will change the level of the effects reported in the main ES from major to moderate which remains significant.

Effects arising from operation

- 3.2.21 There are no new or different significant operational effects for cultural heritage anticipated as a result of the new baseline information.

3.3 Ecology

Introduction

- 3.3.1 This section of the report describes the environmental baseline in relation to ecology that is relevant to the assessment. It then identifies any new or different likely residual significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme. There were no AP1 amendments in this area relevant to ecology.

Scope, assumptions and limitations

- 3.3.2 The assessment scope for ecology is as set out in Volume 1 of the SES and AP2 ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/01) and the SMR Addendum (Volume 5: Appendix CT-001-000/02) of the main ES.
- 3.3.3 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the SES Scheme.

Changes of relevance to this assessment

- 3.3.4 The following changes are relevant to this assessment:
- new baseline surveys relating to bats; and
 - a site designated for its nature conservation value, at Coleshill Sewage Treatment Works since publication of the main ES; the majority of the site is within CFA20.

Environmental baseline

Existing baseline

- 3.3.5 The ecological baseline for the assessment takes into account baseline information collected in support of the main ES, which included field-survey data, aerial photography and relevant existing information gathered from national organisations and from regional and local sources. A full list of data sources that informed the main ES is provided in CFA19, Volume 2, Section 7 of the main ES.
- 3.3.6 The assessment also takes into account survey information and additional desk-study information collected since September 2013. Supplementary information relevant to the assessment in this CFA includes additional survey work for bats. Further information has also been obtained from Warwickshire Biological Records Centre.
- 3.3.7 A summary of the baseline information relevant to the assessment is provided below. Further details of additional baseline information obtained since September 2013 is provided in SES and AP2 ES Volume 5: EC-001-003. For those receptors described in the main ES, further details are provided in Volume 2, CFA19, Section 7 and in Volume 5, including maps EC-01 to EC-12.

Designated sites

- 3.3.8 Coleshill Sludge Lagoons Local Wildlife Site (LWS) has been designated since the submission of the main ES. The majority of the LWS falls within CFA20 although the southern and eastern edges fall within CFA19. It consists of a series of disused sludge lagoons stretching for almost 1km alongside the River Tame within the grounds of Coleshill Sewage Treatment Works. The River Tame forms the southern boundary, with a water conduit forming the northern boundary, beyond which is the National Distribution Park at Hams Hall. The lagoons once contained a series of habitats ranging from open water and swamp through drying mud to older disused lagoons which were colonised by willow scrub. Since the lagoons became redundant approximately ten or more years ago they no longer receive liquid effluent and are drying out.
- 3.3.9 The LWS has been designated for its mosaic of habitats including swamp, bare ground, pioneer habitats, steep banks, dense and open scrub and damp areas. The site also has several county rare or notable species including blue fleabane, common cudweed and common meadow-rue. The mosaic habitat is important for breeding warblers, including willow warbler and there are two breeding birds on the Royal Society for the Protection of Birds (RSPB)/British Trust for Ornithology (BTO) Red-list of Birds of Conservation Concern¹ associated with the lagoons, including grasshopper warbler. The site also forms an important link in the chain of wetland habitats along the Tame Valley. The LWS boundary is in two parts, an eastern and western section separated by an operational area in the centre of Coleshill Sewage Works. The LWS is of county/metropolitan value.

Habitats

- 3.3.10 Extended Phase 1 habitat surveys and National Vegetation Classification (NVC) surveys were carried out at selected locations within Coleshill Sewage Treatment Works to support the main ES. The habitats within Coleshill Sewage Treatment Works were described in the main ES in CFA20 (Volume 2, Section 7) as the majority lies within CFA20. Surveys found the land to contain a mosaic of vegetation communities that have established on disused gravel settlement beds, predominantly tall ruderal vegetation and unmanaged grasslands with scattered trees and scrub, and areas of reed swamp. No Warwickshire notable plant species were identified. The grassland community surveyed was considered to be indicative of unmanaged habitats on high nutrient soils and was given local/parish value in the main ES.
- 3.3.11 Further information available on habitats within Coleshill Sewage Treatment Works, from the citation for Coleshill Sludge Lagoons LWS, indicates that the mosaic of habitats has greater than local/parish value. Based on the additional information received from Warwickshire Biological Records Centre the mosaic of habitats within Coleshill Sewage Treatment Works is of district/borough value.

¹ Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009), Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341

Protected and/or notable species

- 3.3.12 The main ES reported an assemblage of bats using roosting, foraging and commuting habitats north of Gilson Hall recorded as a receptor of local/parish value. Soprano pipistrelle was recorded within the assemblage. In addition to the species reported in the main ES, a confirmed roost used by soprano pipistrelle bats was identified in a residential building between the A446 (Lichfield Road) and the B4117 (Gilson Road) since submission of the main ES. Since the roost could be a maternity or hibernation roost, the evaluation of the assemblage has been revised from local/parish value, as stated in the main ES, to county/metropolitan value on a precautionary basis.
- 3.3.13 The citation for Coleshill Sewage Treatment Works mentions plant species recorded in 2011 including the Warwickshire notable species: blue fleabane, common cudweed and common meadow-rue. These plants, reported on the site citation and accompanying information, are noted in the east of the site, outside the land required for construction of the scheme. NVC surveys carried out in support of the main ES, within land required for construction of the scheme, did not identify these species. The populations of these species are each considered to be of no more than local/parish value.
- 3.3.14 Grasshopper warbler, a species listed on the RSPB/BTO Red-list of Birds of Conservation Concern, has bred at Coleshill Sewage Treatment Works. One other widespread nationally Red-listed breeding bird and several widespread Amber-listed species were recorded during HS2 surveys to support the main ES. The evaluation of the breeding bird assemblage within Coleshill Sewage Treatment Works, reported in the main ES as of local/parish value, has not changed.
- 3.3.15 No other protected and/or notable species have been recorded within the area in addition to those identified in the main ES.

Future baseline

Construction (2017)

- 3.3.16 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 3.3.17 None of the identified developments affect the assessment of the SES scheme's likely construction impacts on ecology.

Operation (2026)

- 3.3.18 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.3.19 None of the identified developments affect the assessment of the SES scheme's likely operational impacts on ecology.

Effects arising during construction

Avoidance and mitigation measures

- 3.3.20 The assessment assumes implementation of the measures set out within the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES), which includes translocation of protected species where appropriate.

Assessment of impacts and effects

Designated sites

- 3.3.21 There are 5.9ha of the Coleshill Sludge Lagoons LWS within the land required for construction of the scheme. This will result in a loss of approximately 27% of the total LWS area and will almost entirely remove the western part of the LWS and a wet lagoon in the eastern part of the LWS. As the retained part of the LWS will be situated almost entirely east of the scheme it is unlikely there will be impacts from fragmentation or severance of the habitats within the LWS. The changes in baseline data result in an adverse effect on the integrity of Coleshill Sludge Lagoons LWS that is significant at the county/metropolitan level. This is a new significant effect which is not reported in the main ES.

Habitats

- 3.3.22 The habitats within the Coleshill Sewage Treatment Works were not valued as a mosaic of habitats within the main ES and there was no significant effect reported on individual habitats within the works as these were valued at a local/parish level. The scheme will result in the loss of 5.9ha within Coleshill Sewage Treatment Works including: ruderals, grassland, sludge (bare ground at edges of former sludge beds), willow scrub and one of the only remaining areas of open water and reed swamp within the works. Based on the revised valuation of the mosaic of habitats within the treatment works, the SES scheme will result in an adverse effect on the mosaic of habitats that is significant at the district/borough level. This is a new significant effect which is not reported in the main ES.
- 3.3.23 It is unlikely that the SES changes will result in any other new or different effects on habitat receptors of relevance at more than the local/parish level. Additional local/parish level effects (i.e. in addition to those identified in the main ES) arising from SES changes are listed in SES and AP2 Volume 5: Appendix EC-003-003.

Protected and/or notable species

- 3.3.24 Loss of foraging and commuting habitat for the assemblage of bats using roosting, foraging and commuting habitats north of Gilson Hall was noted within the main ES but no significant effect on the assemblage was predicted. Although Gilson Hall will not be lost, it will be immediately adjacent to areas required for construction. There could be disturbance of the bat roost and disruption of flight lines to and from it during construction which may lead to its permanent abandonment. Using the precautionary approach, given the potential for the building roost identified since the main ES to be used as a maternity or hibernation roost, the abandonment of the roost has the potential to result in an adverse effect on the conservation status of the assemblage of bats concerned, which is significant at up to the county/metropolitan level. This is a new significant effect which is not reported in the main ES.

- 3.3.25 It is unlikely that the SES changes will result in any other new or different effects on species receptors of relevance at more than the local/parish level. Additional local/parish level effects (i.e. in addition to those identified in the main ES) arising from SES changes are listed in SES and AP2 ES Volume 5: Appendix EC-003-003.

Cumulative effects

- 3.3.26 There are no new or different likely significant cumulative effects for ecology as a result of the SES changes acting in combination with other SES changes or as a result of any relevant committed developments.

Other mitigation measures

- 3.3.27 No further mitigation measures (i.e. in addition to those identified in the main ES) are proposed at this stage.
- 3.3.28 The scheme already provides an area of landscape woodland creation on both sides of the route alignment close to the area assumed to be used by the assemblage of bats using roosting, foraging and commuting habitats north of Gilson Hall. As a result of the new significant effects on this assemblage, bat roosts will be provided within this woodland in accordance with the principles of ecological mitigation identified in the SMR addendum of the main ES (Volume 5: Appendix CT-000-0001/2) and no additional land is required to mitigate effects on bats. This will reduce the effect on the assemblage of bats north of Gilson Hall to a level that is not significant.
- 3.3.29 There is a requirement for additional compensation to address adverse effects on the newly designated Coleshill Sludge Lagoons LWS and associated habitats. Appropriate measures are expected to be brought forward either in a subsequent AP or by direct agreement with landowners.

Summary of likely residual significant effects

- 3.3.30 The SES scheme will result in losses within Coleshill Sludge Lagoons LWS that will result in a new adverse residual effect on site integrity that is significant at the county/metropolitan level.
- 3.3.31 The SES scheme will result in a new adverse residual effect on the conservation status mosaic of habitats within Coleshill Sewage Treatment Works that is significant at the district/borough level.
- 3.3.32 There is a requirement for additional compensation to address adverse effects on the newly designated Coleshill Sludge Lagoons LWS and associated habitats. Appropriate measures are expected to be brought forward either in a subsequent AP or by direct agreement with landowners.
- 3.3.33 There are no other changes to the likely residual significant effects reported in the main ES as a result of new baseline information.

Effects arising from operation

- 3.3.34 There are no new or different significant operational effects for ecology anticipated as a result of the new baseline information.

3.4 Traffic and transport

Introduction

- 3.4.1 This section of the report describes the environmental baseline in relation to traffic and transport that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2 compared to the original scheme.

Scope, assumptions and limitations

- 3.4.2 The assessment scope, key assumptions and limitations of the traffic and transport assessment are set out in Volume 1, the SMR (Volume 5: Appendix CT-0001-000/1) and the SMR Addendum (Volume 5: Appendix CT-0001-000/2) of the main ES.
- 3.4.3 Recognising the traffic pressures on the A446 in this CFA, a refinement of the assessment has been undertaken in this location, as described below, with regard to the phasing of works, likely times of arrival of workers and limits on the level of HGVs using the single carriageway section of the A446. This has also used the revised assumptions that consider in more detail the extent to which different traffic flows to compounds would overlap.

Changes of relevance to this assessment

- 3.4.4 The following design and construction assumptions and SES changes and corrections have been assessed as they are considered to have the potential to result in new or different likely residual significant effects on traffic and transport:
- revised construction assumptions for the combined effect of traffic to compounds and road heads served from the A446 (SES-019-001). This incorporates changes in construction traffic flows related to other CFAs; and
 - junction assessments as part of the corrections set out in Table 2.

Environmental baseline

Existing baseline

- 3.4.5 The existing baseline is described in the main ES (Volume 2, CFA19, Section 12) and in the Transport Assessment Volume 5, Part 2 to the main ES.
- 3.4.6 The section of the A446 between the M6 (J4) and the M42 (J9), in CFA 20 to the north, is largely dual carriageway, with two lanes in each direction. However, between Gorsey Lane and Faraday Avenue there is a single lane section with local widening on the approaches to some junctions.
- 3.4.7 Additional traffic surveys have been undertaken on the A446 corridor to supplement the information reported in the main ES and enable the reassessment to be completed and the junction assessments omitted from the main ES to be carried out. The additional data is contained in the Addendum to the main ES Volume 5: Appendix - Transport Assessment - TR-001-000 CFA19.

Future baseline

Construction

- 3.4.8 The future baseline for construction is largely as described in the main ES (Volume 2, CFA19, Section 12). The new survey information has been used to update this future baseline.

Operation (2026 and 2041)

- 3.4.9 The future baselines for operation in 2026 and 2041 remain largely unchanged from those identified in the main ES (Volume 2, CFA26, Section 12.3). The new survey information has been used to update these future baselines.

Effects arising during construction

Avoidance and mitigation measures

- 3.4.10 Avoidance and mitigation measures are set out in Volume 2, CFA19, Section 12 of the main ES. Changes to construction flows as a result of the SES scheme will also help to mitigate any adverse impacts on the A446.

Assessment of impacts and effects

Temporary effects

- 3.4.11 There are changes to the levels of the significance of effects due to delay and congestion, reported in the main ES, at the following junctions:
- the A446 Stoneleigh Road/Coleshill Heath Road junction (reduced from major to minor adverse significant effect);
 - the A446 Lichfield Road/B4117 Gilson Road junction (reduced from major significant effect to no significant effect); and
 - the A446 Lichfield Road/B4117 Watton Lane junction (reduced from major significant effect to no significant effect).
- 3.4.12 As a result of the refined assessment, the three junctions above will improve with respect to delay and congestion compared to the reporting in the main ES.
- 3.4.13 There are three additional junctions on the A446 which were not previously assessed in the main ES. At the A446 Stonebridge Road/ B4117 Coventry Road junction there are no significant effects. At the other two junctions, based on the original scheme there would have been major adverse significant effects to report due to delay and congestion. However, with the refined SES assessment the impacts are changed and reported as:
- A446 Lichfield Road/Gorse Lane junction (minor adverse significant effect); and
 - A446 Lichfield Road/B4118 Marsh Lane (moderate adverse significant effect).
- 3.4.14 The major adverse significant effects reported in the main ES do not change at the A446 Stonebridge Road/B4114 Birmingham Road junction.

- 3.4.15 Within the main ES it was reported that along the A446 between M6 Junction 4 and M42 Junction 9 there would be a major adverse effect due to traffic-related severance². In this SES assessment the level of the significance of the traffic-related severance effects are reduced from major to moderate adverse along the A446 between Coleshill Heath Road and B4118 Marsh Lane as a result of the reduction in HGV flows, particularly on the single carriageway section of the A446. On the section of the A446 south of Coleshill Heath Road, within this CFA, the level of significance reported in the main ES for traffic related severance effects will not change.

Permanent effects

- 3.4.16 Permanent effects of construction on traffic and transport are reported under 'Effects arising from operation'.

Other mitigation measures

- 3.4.17 Additional measures to mitigate adverse impacts of HS2 during construction at the junctions of the A446/B4118 Marsh Lane and the A446/B4114 Birmingham Road³ are proposed. These measures are expected to be brought forward, either in a subsequent AP or by agreement with the local highway authority.

Cumulative effects

- 3.4.18 As reported in Volume 2, CFA19, Section 12 of the main ES, the assessment includes the cumulative effects of planned development during construction and operation by taking account of background traffic growth. The assessment also includes in-combination effects by taking into account traffic and transport impacts of works being undertaken in other areas. The above assessment has taken account of these cumulative effects.

Summary of likely residual significant effects

- 3.4.19 There are changes to the residual significant effects as reported in the main ES. The adverse significant residual effect in relation to delay and congestion at the A446 Stoneleigh Road / Coleshill Heath Road junction will be reduced from a major to a minor adverse significant residual effect.
- 3.4.20 At the A446 Lichfield Road / B4117 Gilson Road junction and the A446 Lichfield Road / B4117 Watton Lane junction, the reduction in flows results in no significant effects at these junctions, thereby removing the major adverse residual significant effect in relation to delay and congestion reported in the main ES.
- 3.4.21 At the additional three junctions assessed there are no significant effects at the A446 / B4117 Coventry Road junction; there are, however, new significant residual effects in relation to delays and congestion at the A446 Lichfield Road / Gorsey Lane junction (minor adverse effect) and at the A446 Lichfield Road / B4118 Marsh Lane (moderate adverse effect).

² In the context of traffic and transport, severance is used to relate to a change in ease of non-motorised users due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for non-motorised users to cross. A reference to severance does not imply a route is closed to access.

³ The A446/B4114 Birmingham Road junction was reported in the main ES as a major significant adverse residual effect and this remains unchanged by the SES scheme.

- 3.4.22 On the A446 between Coleshill Heath Road and B4118 Marsh Lane, the effects due to traffic-related severance would reduce from major adverse to moderate adverse, particularly on the single carriageway section.
- 3.4.23 The significant effects that result from construction of the Scheme are shown on Map Series SES and AP2 TR-03-104 (Volume 5, Traffic and Transport Map Book).

Effects arising from operation

- 3.4.24 The SES scheme results in no changes to operation and consequently there will be no new or different significant operational effects and the level of significance of the effects reported in the main ES will not change.

Part 2: Additional Provision 2 Environmental Statement

4 Summary of amendments

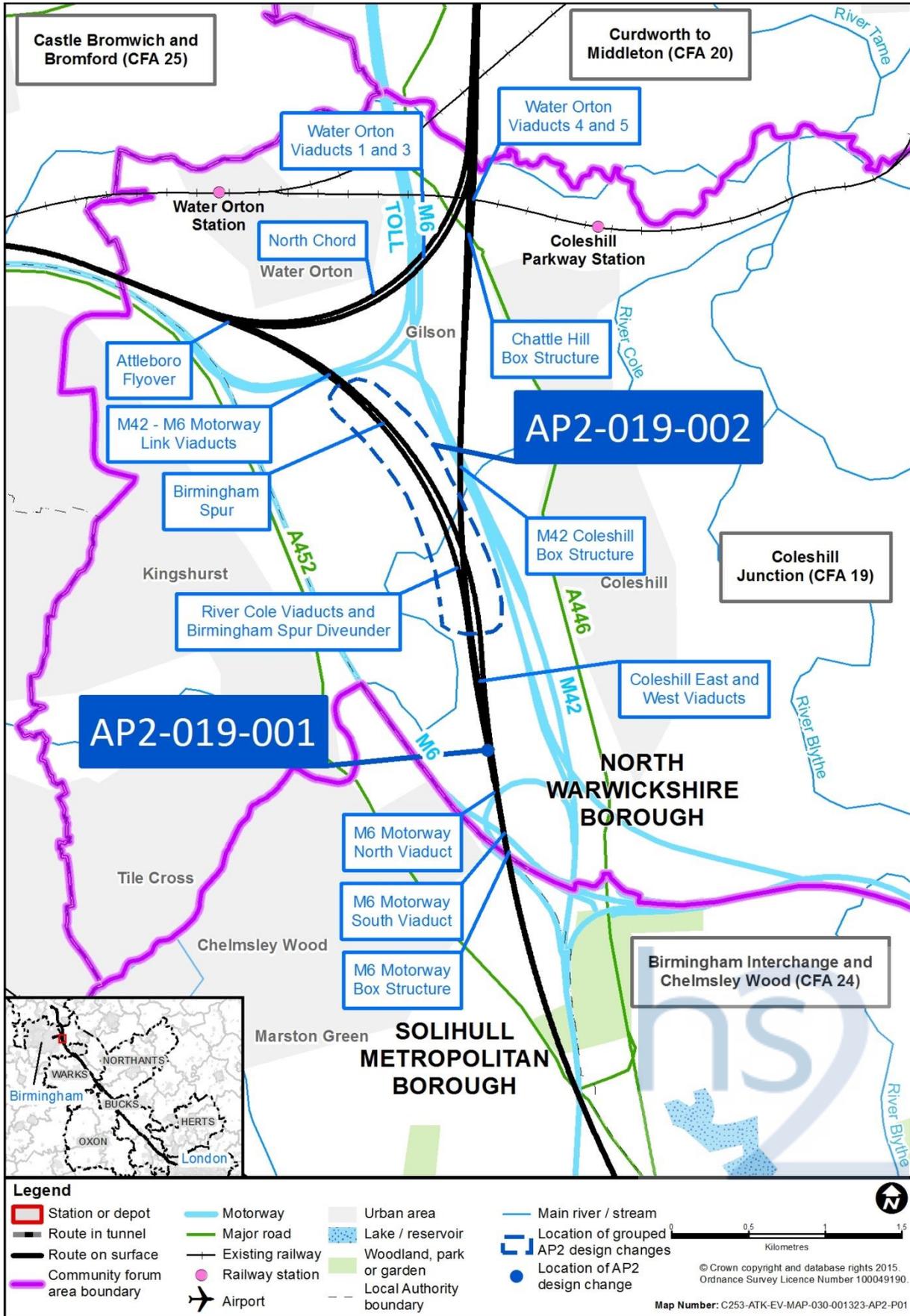
- 4.1.1 Table 3 provides a summary of the amendments in the Coleshill Junction community forum area (CFA19) and Figure 2 shows the locations.

Table 3: Summary of amendments in CFA19

Name of amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Access to agricultural land between The River Cole, M6 and the HS2 route AP2-019-001</p>	<p>Access track between the River Cole, M6 and the HS2 route provides the route for the realigned Footpath M77/M72 under the new viaducts, as well as the access to M77 Package sub-station, maintenance access points and a balancing pond.</p>	<p>Extension of the access track to provide access to land at Wheeley Moor Farm. Additional provision will be required in the Bill.</p>
<p>Coleshill Manor Amendments AP2-019-002:</p>		<p>The Coleshill Manor amendments are shown in SES and AP2 ES Volume 2: CFA19 Map Book, maps CT-06-109, 110 and 133 and CT-05-109, 110 and 133). Collectively the amendments require 2.1ha additional land.</p>
<p>Revised alignment of Manor Drive and segregation of construction traffic.</p>	<p>From a T junction with the B4114 Birmingham Road, Manor Drive is diverted to closely follow the toe of the embankment to the Birmingham Spur and crosses over the re-aligned River Cole on a new bridge (see main ES CFA 19 map book CT-06-109-E7 to A8).</p> <p>Temporary access arrangements will need to be provided during the diversion of the River Cole.</p> <p>Landscape planting would be provided on the west side of the road.</p> <p>The existing roundabout between the B4114 Birmingham Road and Manor Drive is left in place for access to farmland and for HS2 maintenance (see main ES CFA 19 map book CT-06-109 D4).</p> <p>A roadhead and several satellite construction compounds are accessed from Manor Drive; construction traffic would share the use of Manor Drive with the private users.</p> <p>A haul road is located between Manor Drive and the HS2 railway earthworks; haul road traffic would join Manor Drive to use the common bridge over the River Cole.</p> <p>Manor Drive/River Cole west viaducts satellite compound was located to the west of the Birmingham Spur north of the river Cole and accessed via M42 Coleshill Box Structure Satellite Compound (see Main ES CFA 19 map book CT-05-110 I8).</p> <p>Footpath M58 is diverted onto Manor Drive.</p>	<p>Alignment of Manor Drive is revised to retain more open views on the approach to the Coleshill Manor office campus and to segregate campus traffic from HS2 construction traffic.</p> <p>From a new roundabout with the B4114 Birmingham Road, Manor Drive is diverted to follow the HS2 earthworks and landscape planting is positioned between the drive and the earthworks.</p> <p>A bridge will carry the diverted Manor Drive over the River Cole diversion at a location where this will also cross the existing River Cole, avoiding the need for further temporary arrangements.</p> <p>The existing roundabout between the B4114 Birmingham Road and Manor Drive will be removed and replaced with a priority junction for access to farmland and for HS2 maintenance (see AP2 ES and SES CFA 19 map book CT-06-109 D4).</p> <p>Access on the existing Manor Drive to the construction compounds and roadhead will generally only be permitted once the new Manor Drive is constructed and brought into use.</p> <p>A haul road is provided on the east side of the HS2 route and a temporary bridge will be provided to cross the River Cole.</p> <p>Manor Drive satellite construction compound will be located to the west of the existing Manor Drive for the construction of the new drive and is accessed from the B4114 Birmingham Road. (See AP2 ES/SES CFA 19 map book CT-05-109 D6).</p> <p>Footpath M58 is diverted onto Manor Drive.</p>

Name of amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Realignment and provision of footpaths in the parish of Coleshill</p>	<p>New length of footpath to join the M54/M57 footpaths to the north with Footpath M58 to the south. (See main ES CFA 19 CT-06-110 I9 to CT-06-133 D6).</p>	<p>New length of footpath to join the M54/M57 footpaths to the north with Footpath M58 to the south is relocated to avoid any interference with the office campus. It is routed under the River Cole Viaduct, alongside the east side of the Birmingham Spur up to Gilson Drive, then follows the drive until it meets Footpath M54 (see SES and AP2 ES Volume 2: CFA19 Map Book map CT-06-110 I8 to F7).</p>
<p>Reconfiguration of environmental mitigation and landscape planting near Coleshill Manor</p>	<p>Planting on both sides of the Birmingham Spur to provide visual screening and to tie into the area of woodland known as 'The Belt', which will be crossed by the route of the Proposed Scheme, and other existing planting around Coleshill Manor Office Campus, including another woodland known as 'The Catmore'. (see main ES CFA 19 CT-06-110 and CT-06-133).</p>	<p>Woodland planting on the west side of the Birmingham Spur is relocated north of 'The Belt' to address potential conflict between original scheme planting and extant planning consent for expansion of the Coleshill Manor Office Campus (see SES and AP2 ES Volume 2: CFA19 Map Book CT-06-133 C7).</p>

Figure 2: Locations of amendments in CFA19



5 Assessment of amendments

5.1 Access to agricultural land between the River Cole, the M6 and the Proposed Scheme (AP2-019-001)

- 5.1.1 The Bill provides for the routeing of HS2 across land at Wheeley Moor Farm. Access to a triangular-shaped area of agricultural land that is bounded by the River Cole and the M6 (shown on CFA19, map CT-05-108, within grid ref. ABC, 6789, within the main ES) is currently provided from the east using the access bridge over the M42/M6 Toll. The present access crosses an area of land required for the HS2 route and a proposed embankment (Colehill No2 embankment).
- 5.1.2 The Bill provides for the modification of this access for use by HS2, rerouteing it under the Colehill East and West viaducts (see maps CT-05-109 and CT-06-109, Volume 2 CFA19 Map Book, in the main ES) to access a balancing pond, the M77 Package Substation, HS2 track maintenance access points and to accommodate a diverted PRoW (M77/M72).
- 5.1.3 Since submission of the Bill, a design change has been prompted by the need for permanent access to the farmland severed by the HS2 route. It is proposed that shared usage is provided along the modified access and that it is extended by approximately 70m to the boundary of the severed area of land (see map CT-06-108 and CT-06-109 in the SES and AP2 ES Volume 2 CFA 19 Map Book). As the access is designed to service HS2 infrastructure it will also be suitable for farm use.
- 5.1.4 The proposed access track will be extended to the south-east to connect to the farm field boundary, close to the current farm access route. By diverting the current farm access onto the new access route, this relocates the current access away from the footprint of the Colehill No 2 embankment, facilitating its construction and ensuring that access is maintained throughout the works. An additional provision to the Bill is required to provide the access track.
- 5.1.5 The extended access is not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to any environmental topics.

5.2 Colehill Manor amendments (AP2-019-002)

- 5.2.1 Colehill Manor office campus is accessed by a private road off the B4114 Birmingham Road called Manor Drive which runs through approximately 1km of open countryside with views of the Manor on the approach. HS2 will bisect the drive, which as a result must be diverted to connect back to the B4114 Birmingham Road. The campus sits within extensively landscaped grounds with several PRoW (Footpaths M54, M57 and M58) passing nearby. The amendments at Colehill Manor are set out below and shown in the SES and AP2 ES Volume 2: CFA19 Map Book, maps CT-06-109,110 and 133 and CT-05-109,110 and 133. The amendments involve 2.1ha of additional land outside the original limits of the Bill.

Revised alignment of Manor Drive and segregation of construction traffic

- 5.2.2 The Bill provides for diversion of Manor Drive to skirt the west side of the HS2 route (the main line and then the Birmingham spur), to join the B4114 Birmingham Road east of where it crosses the River Cole at a new T junction (main ES Volume 2: CFA19 Map Book, map CT-06-109, E6) , extending to a point 400m south-east of Colehill Manor office campus (main ES Volume 2: CFA19 Map Book, map CT-06-110, I9). The new road, approximately 850m long, would comprise a single carriageway 6.5m wide and Footpath M58 would be diverted along the route of the private road
- 5.2.3 The Bill also provides for the use of Manor Drive to access Birmingham Road eastbound roadhead (main ES Volume 2: CFA19 Map Book, map CT-05-109, B6 to D5) for the import of material for the embankments, as well as other general construction access. For a period, HS2 construction traffic and Colehill Manor business traffic would coincide. The existing roundabout with the B4114 Birmingham Road to the east of the original Scheme (main ES Volume 2: CFA19 Map Book, map CT-05-109, D4) was to be retained to provide access to a balancing pond and for maintenance.
- 5.2.4 Since submission of the Bill, the diversion has been reconfigured in order to retain open views towards the Manor, so as to be more consistent with existing views and to cater for segregated construction traffic.
- 5.2.5 The revised Manor Drive is shown on map CT-06-109, E6 to CT-06-110, I8 in the SES and AP2 ES Volume 2 CFA 19 Map Book. More open views are achieved by moving the road west by approximately 30m, allowing associated landscape planting to be located between the road and the toe of the Birmingham spur embankment. Realignment will also allow for the segregation of construction traffic by the bridging of the diverted Manor Drive over the River Cole diversion where the existing and diverted rivers coincide (SES and AP2 ES Volume 2: CFA 19 Map Book CT-06-109, B7), so avoiding the need for further temporary arrangements. The overall length of new road is approximately 900m.
- 5.2.6 Manor Drive will connect to the B4114 Birmingham Road at approximately the same point as proposed in the original scheme but with a roundabout to replace the T junction (SES and AP2 ES Volume 2: CFA 19 Map Book CT-06-109, E6), providing access similar to the existing. The B4114 Birmingham Road underbridge will be widened to accommodate the necessary sight lines to the new junction and the approach to the existing River Cole Bridge on the B4114 Birmingham Road will be widened on the approach to the roundabout.
- 5.2.7 The existing Manor Drive will be accessed via a new T-junction to replace the existing roundabout on the B4114 Birmingham Road (SES and AP2 ES Volume 2: CFA 19 Map Book CT-06-109, D4).
- 5.2.8 A haul route will be provided on the east side of the Birmingham spur. As the haul route has been moved from the west to the east side of the HS2 alignment, a new Bailey bridge to service the haul route will be provided across the River Cole. The revisions to Manor Drive necessitate relocation of the Manor Drive/River Cole viaducts satellite construction compound (SES and AP2 ES Volume 2: CFA 19 Map Book CT-05-109, D6 to C6). It will be moved nearer to the B4114, between the new Manor Drive and the HS2 earthworks approximately 250m north of the proposed B4114

Birmingham Road roundabout. The relocated compound will service the works in this area including the B4114 Birmingham Road bridgeworks, Manor Drive and the flood compensation works and will be accessed from the B4114 Birmingham Road to minimise construction traffic using or crossing the existing Manor Drive while it is in use.

- 5.2.9 The new Manor Drive will be opened as an access to Coleshill Manor office campus before the old Manor Drive is used as a general construction access, thereby ensuring that construction traffic is generally segregated from Coleshill Manor business traffic. The new Manor Drive is expected to be subject to limited use by construction traffic.

Realignment of footpaths in the parish of Coleshill

- 5.2.10 The Bill provides for a new length of footpath to join the M54/M57 footpaths to the north with Footpath M58 to the south on the west side of the Birmingham spur (see main ES, Volume 2: CFA19 Map Book, map CT-06-133, H6 to D5).
- 5.2.11 Since submission of the Bill the footpath design has been amended (maps CT-06-110, J8 to F7 in the SES and AP2 ES Volume 2 CFA 19 Map Book) to avoid users having to pass between the Coleshill Manor office campus and the railway. The new footpath will be diverted under the River Cole viaduct, running alongside the route up to Gilson Drive and then following the drive until it meets Footpath M54. Additional rights will be required where the footpath runs up Gilson Drive, due to its private road status, to connect to the Footpath M54 alongside the motorway bridge.
- 5.2.12 Minor amendments to Footpaths M54, M57 and M58 were assessed in the main ES but omitted from Bill plans. In order to enable these amendments, additional powers to the Bill are required, including the stopping up and realigning of Footpath M58 between the B4114 Birmingham Road and Manor Drive.

Reconfiguration of environmental mitigation and landscape planting near Coleshill Manor

- 5.2.13 The Bill provides for planting on both sides of the Birmingham spur to provide visual screening and to tie into the area of woodland known as 'The Belt', which will be crossed by the HS2 route, and other existing planting around Coleshill Manor office campus, including another woodland known as 'The Catmore'. The original scheme planting around Coleshill Manor campus is shown in map CT-06-133 (main ES Volume 2 CFA19 Map Book) in the main ES.
- 5.2.14 Since submission of the Bill, planting has been revised to avoid any potential incompatibility between the planting and an existing planning consent for expansion of the Coleshill Manor office campus. This Coleshill Manor amendment includes:
- removal of planting between the foot of the landscape earthworks on the west side of the route, east of Coleshill Manor office campus (map CT-06-133, (F6 to D6) in the SES and AP2 ES Volume 2 Map Book);
 - removal of a westward section of woodland planting, extending from the foot of the landscape earthworks on the west side of the route, immediately adjacent to The Belt, except for a section at the tip, continuing north from The Catmore to improve connectivity with The Belt (map CT-06-133, D7) in the SES and AP2 ES Volume 2 Map Book); and

- replacement of woodland planting, approximately 100m north-west of the removed section, adjacent to The Belt and extending north to Footpath M54, alongside and reinforcing woodland planting proposed in the original scheme (map CT-06-133, C7 in the SES and AP2 ES Volume 2 Map Book). This will create new woodland habitat of approximately 1.2ha to compensate for losses of LWS woodland from The Belt.

Scope of assessment

- 5.2.15 The Coleshill Manor amendments are not considered to result in changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: socio-economics. However, reassessment was considered to be required in respect of: agriculture, forestry and soils; air quality; community; cultural heritage; ecology; land quality; landscape and visual assessment; sound, noise and vibration; traffic and transport; and water resources and flood risk.

Agriculture, forestry and soils

Scope, assumptions and limitations

- 5.2.16 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.2.17 The land in the area of the Coleshill Manor amendments has soil in the Arrow, Brockhurst 1 and Fladbury 1 associations, as described in the main ES (Volume 2, CFA Report 19, Section 3). Arrow soils comprise deep permeable sandy loams variably affected by groundwater with sands and gravels at depth; they experience slight seasonal waterlogging. The Brockhurst 1 soils, developed on mudstones and glaciolacustrine deposits, tend to be medium clay loams or, sometimes, silty clay loams, but the slowly permeable clayey lower subsoils cause the dominant soils to be seasonally waterlogged. Fladbury 1 soils on the floodplain comprise mainly stoneless clays and silty clays. The quality of land around Coleshill Manor is primarily assessed as Subgrades 3a and 3b.
- 5.2.18 The Coleshill Manor amendments involve land at three agricultural holdings: Windmill Farm (CFA19/2), land around Coleshill Manor (CFA19/3) and three land parcels at Gilson (CFA19/6). Windmill Farm, primarily affected by the Manor Drive and B4114 Birmingham Road junction revisions, is a 170ha mixed arable and livestock holding with a farm shop, and is assessed as being of medium sensitivity. Holding CFA19/3, primarily affected by the relocation of planting north of the Coleshill Manor office campus, is a mainly arable enterprise of approximately 88ha, and assessed as being of medium sensitivity. The Manor Drive revisions also affect an approximately 55ha holding at Gilson, which is mainly involved with rearing livestock; it is assessed as being of medium sensitivity.

Future baseline

Construction (2017)

- 5.2.19 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.20 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on agriculture, forestry and soils.
- 5.2.21 Most existing environmental stewardship agreements will expire in 2015 and be replaced by a new environmental land management scheme (countryside stewardship) which is voluntary but competitive. It is more targeted than previous schemes, with its priorities being to protect and enhance biodiversity and water quality.
- 5.2.22 The widespread basic environmental management associated with entry level stewardship will be replaced by a new concept of greening introduced by Common Agricultural Policy reform, which will now be the main means by which farmers will provide environmental benefits in return for their direct support payments. Greening will encourage the retention of permanent grasslands, greater crop diversification and the creation of Ecological Focus Areas. These changes will affect the detailed management of individual farm holdings but are not expected to change fundamentally the baseline circumstances described.

Operation (2026)

- 5.2.23 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5 Appendix CT-004-000).
- 5.2.24 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on agriculture, forestry and soils.

Effects arising during construction

- 5.2.25 The proposed Coleshill Manor amendments require an additional 1.6ha of agricultural land in Subgrade 3a temporarily and 0.6ha of Subgrade 3a permanently above those reported in the main ES. However, these additional land requirements will not cause any materially different significant effects or change the level of significance of the effects on the best and most versatile (BMV) agricultural land reported in the main ES or the AP1 ES.
- 5.2.26 The effect of the original scheme on Windmill Farm (CFA19/2) is reported in the main ES as major/moderate adverse, due to the area of land required temporarily during construction and permanently following construction. The proposed amendments will require an additional 1.6ha of land temporarily (i.e. 0.9% of the 170.0 ha holding) and less than 0.5ha permanently (i.e. 0.3% of the 170.0 ha holding). The permanent land requirement due to the Coleshill Manor amendments will be 34.9ha, 20.5% of the holding in comparison with 34.4ha, 20% of the holding in the original scheme. This will not cause any materially different significant effects or change the level of significance of the effects reported in the main ES or the AP1 ES.

- 5.2.27 The main ES reported the effect of the original scheme on the holding (CFA19/3), land around Coleshill Manor, as major/moderate adverse, due to the area of land required temporarily during construction and permanently following construction. The revised alignment of Manor Drive and reconfigured planting amendments will result in the permanent requirement of an additional 1.7ha, located in different areas of the holding to those previously assessed in the main ES. However, the reconfiguration of planting also removes 2.3ha of the mitigation planting proposed on this holding in the original scheme. Thus, there is a net decrease in permanent land loss of 0.6ha (or 0.7% of the 88.5ha holding). The permanent land requirement due to the Coleshill Manor amendments will be 25.1ha, 28.5% of the holding in comparison with 25.7ha, 29% of the holding in the original scheme. This will not cause any materially different significant effects or change the level of significance of the effects reported in the main ES or the AP1 ES.
- 5.2.28 The main ES reported the effects of the original scheme on holding CFA19/6, three land parcels at Gilson, as major/moderate adverse, due to the area of land required temporarily during construction and permanently following construction. The proposed amendment requires additional land permanently, but the small area involved is less than 0.1ha (or 0.2% of the 55ha holding). The permanent land requirement due to the Coleshill Manor amendments will be 11.6ha, 21.1% of the holding in comparison with 11.5ha, 20.9% of the holding in the original scheme. This will not cause any materially different significant effects or change the level of significance of the effects reported in the main ES or the AP1 ES.

Effects arising from operation

- 5.2.29 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.30 The amendments will result in no change in the likely residual significant effects reported in the main ES and no further mitigation measures are required.

Cumulative effects

- 5.2.31 There are no new or different likely significant cumulative effects for agriculture, forestry and soils as a result of the proposed amendments acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Air quality

Scope, assumptions and limitations

- 5.2.32 The assessment scope, key assumptions and limitations for air quality are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES as amended by the SMR Addendum 2 (Volume 5: Appendix CT-001 -000/3).

Existing baseline

- 5.2.33 The baseline conditions with regard to air quality have not changed from those reported in the main ES.
- 5.2.34 Receptors relevant to the Coleshill Manor amendments that could potentially be affected by changes in air quality include residential properties at New Cottages, B4114 Birmingham Road, Coleshill and on Gilson Drive, Coleshill.
- 5.2.35 There are no statutory designated sites within the Coleshill Junction area that could potentially be affected by changes in air quality as a result of the amendment.
- 5.2.36 There are three non-statutory designated sites within the Coleshill Junction area that could potentially be affected by changes in air quality as a result of the amendment. These are: Coleshill Hall Farm LWS, south-east of Coleshill Hall Farm and the B4114 Birmingham Road; Wheeley Moor Farm Meadows LWS, south-west of Coleshill Hall Farm and the B4114 Birmingham Road and Coleshill Park Belt LWS, north and west of Coleshill Manor Office Campus between the M6 and the M42/M6 Toll.

Future baseline

Construction (2017)

- 5.2.37 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.38 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on air quality.

Operation (2026)

- 5.2.39 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.40 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on air quality.

Effects arising during construction

- 5.2.41 An assessment has been undertaken for receptors identified as relevant to the Coleshill Manor amendments to determine any changes to the impact of construction on air quality at these receptors.
- 5.2.42 The construction dust assessment has taken into consideration changes to the magnitude of dust emissions for the construction activities and the sensitivity of the area surrounding the Coleshill Manor amendments in terms of the receptors present and the distance of the receptors from the construction activities. The differences of relevance to air quality for the AP2 revised scheme are associated with earthworks and construction activities due to the revised alignment of Manor Drive and the junction with the B4114 Birmingham Road. The Coleshill Manor amendments do not change the magnitude of the earthworks or construction activity in terms of dust generating potential from that in the main ES nor do the Coleshill Manor amendments sufficiently change the distance of earthworks and construction activities relative to

the relevant receptors from that in the main ES, so do not result in any new or different significant effects on air quality.

- 5.2.43 With regard to construction traffic emissions, the main ES reported a slight adverse impact at New Cottages on the B4114 Birmingham Road. This was due to increases in concentrations of NO₂ as a result of additional construction traffic movements. The Coleshill Manor amendments will not change the magnitude of impact at these properties and does not result in any new or different significant effects on air quality.
- 5.2.44 The proposed amendments will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.2.45 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.46 Emissions to the atmosphere will be controlled and managed during construction through the route-wide implementation of the draft CoCP. The assessment of the Coleshill Manor amendments has assumed that the general measures detailed in Section 7 of the draft CoCP (Volume 5: Appendix CT-003-000 in the main ES) will be implemented.
- 5.2.47 No additional avoidance and mitigation measures in relation to air quality are required for the Coleshill Manor amendments during construction and, as reported in the main ES, no mitigation measures are required during operation.
- 5.2.48 The main ES reported no residual significant effects on air quality during construction and operation and there is no change from the main ES for the Coleshill Manor amendments.

Cumulative effects

- 5.2.49 There are no new or different likely significant cumulative effects for air quality as a result of the amendments acting in combination with another amendment in AP2 or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Community

Scope, assumptions and limitations

- 5.2.50 The assessment scope, key assumptions and limitations for the community are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (see Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.2.51 The existing baseline for the Coleshill Junction area is described in the main ES, Volume 2, CFA19 report, Section 5.3 and Volume 5, CFA19 Technical Appendices, Community data (CM-001-019).

5.2.52 The main ES has identified the following community receptors in the vicinity of Coleshill Manor where the proposed changes are located:

- residents of the hamlet of Gilson; and in particular
- 10 residential properties along Gilson Drive.

Future baseline

Construction (2017)

5.2.53 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

5.2.54 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on community.

Operation (2026)

5.2.55 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

5.2.56 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on community.

Effects arising during construction

5.2.57 The proposed Coleshill Manor amendments will not give rise to new or different significant effects for community receptors and will not change the level of significance of the effects reported in the main ES and AP1 ES.

Effects arising from operation

5.2.58 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

5.2.59 The main ES did not propose any further mitigation measures to address the significant community effects during operation as noise and visual effects were already mitigated within each discipline where possible.

5.2.60 The Coleshill Manor amendments will result in no change in the likely residual significant effects reported in the main ES.

5.2.61 No further mitigation measures are required other than those set out as part of the draft CoCP (Volume 5, Appendix CT-003-000).

Cumulative effects

5.2.62 There are no new or different likely significant cumulative effects for community as a result of the proposed amendments acting in combination with another amendment

in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Cultural heritage

Scope, assumptions and limitations

- 5.2.63 The assessment scope, key assumptions and limitations for cultural heritage are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000) and the SMR Addendum (Volume 5: Appendix CT-001-000) of the main ES.

Existing baseline

- 5.2.64 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walk-over survey, geophysical survey, remote-sensing data, and data from national and local registers. A full list of data sources is provided in Volume 2, Section 6.3 of the main ES. In addition, the baseline has been updated with the results of additional survey work comprising geophysical surveys for archaeology.
- 5.2.65 Details of survey and desk-based work undertaken in this CFA since September 2013 are provided in Volume 5: Appendix CH-004-019 and Volume 5: map series CH-07; CH-09 and CH-10, where this is relevant to the assessment of a new or different significant effect.

Future baseline

Construction (2017)

- 5.2.66 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.67 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on cultural heritage.

Operation (2026)

- 5.2.68 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.69 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on cultural heritage.

Effects arising during construction

- 5.2.70 Of the Coleshill Manor amendments, relocated woodland planting will physically impinge upon the site of a former building north-west of the Coleshill Park boundary (asset reference: COL025). The amendment will change the effects reported in the main ES from neutral to minor adverse, however this is not significant.
- 5.2.71 The other amendments at Coleshill Manor, comprising a westward movement of the new Manor Drive, junction revisions, minor alterations to bridges and relocation of footpaths and a temporary construction compound will collectively alter the

relationship of these works to a number of identified heritage assets in the area, including the Moat and Former Hall at Coleshill Hall Farm (asset reference: COLo14); Coleshill Hall Farmhouse and outbuildings (asset reference: COLo51); the Old Barn (asset reference: COLo81); the former Coleshill Deer Park including boundary features (asset reference: COLo15); the former Coleshill Hall, hospital and attached coach house and stable block (asset reference: COLo52-now Coleshill Manor Office Campus); cropmarks east of Coleshill Manor (asset reference: COLo22); Capitol Joinery and former buildings (asset reference COLo11); and the site of a cropmark enclosure, possible pits and ditch (asset reference: COLo17).

- 5.2.72 However, the AP2 scheme alterations are small in comparison with the impacts from demolitions, major earthworks and structures arising from the original scheme affecting these heritage assets and accordingly will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.2.73 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.74 The draft CoCP sets out the provisions that will be adopted to control effects on cultural heritage assets. The amendments will result in no change in the likely residual significant effects reported in the main ES.

Cumulative effects

- 5.2.75 The additional land required for the alternative alignment of Manor Drive would combine with the proposed AP1 revised scheme additional land for winching and fibre optic cable diversion near the M42 (AP1- 019-032) and the original scheme as reported in the main ES (Volume 5: Appendix CH-003-019), adding to the adverse effect upon the former Coleshill Deer Park (asset reference: COLo15) during construction. This will result in a different likely significant cumulative effect but will not alter the permanent high adverse impact and major adverse significant effect upon this asset.

Ecology

Scope, assumptions and limitations

- 5.2.76 The assessment scope for ecology is as set out in Volume 1 of the SES and AP2 ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/01) and the SMR Addendum (Volume 5: Appendix CT-001-000/02) of the main ES.
- 5.2.77 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP2 revised scheme.

Existing baseline

- 5.2.78 The ecological baseline of the land required for the amendments has been based on field data collected for the main ES, aerial photography and relevant existing information gathered from national organisations and from regional and local sources including Warwickshire Biological Records Centre.
- 5.2.79 For those receptors described in the main ES, further details are provided in Volume 2, CFA19, Section 7 and in Volume 5, including maps EC-01 to EC-12.

Designated sites

- 5.2.80 There are no statutory designated sites within 500m of the land required for the revised alignment of Manor Drive and segregation of construction traffic.
- 5.2.81 Coleshill Park Belt LWS is adjacent to the relocated planting in areas adjacent to Coleshill Manor and is relevant to the revision of public rights of way at Coleshill Manor. Coleshill Park Belt LWS comprises a 1km long belt of semi-natural woodland plus a smaller section of mixed plantation. The northern part is known as The Belt and the far southern end of the western belt is known as The Catmore. The woodlands are not on the ancient woodland inventory. Coleshill Park Belt LWS is of county/metropolitan value.

Habitats

- 5.2.82 The land required for the revised alignment of Manor Drive and segregation of construction traffic contains arable land, improved grassland, amenity grassland and bare ground. All are of negligible or local/parish value.
- 5.2.83 Land required for the realignment of public rights of way at Coleshill Manor, along Gilson Drive, comprises hard standing of negligible value.
- 5.2.84 Land required as a result of reconfigured planting in areas adjacent to Coleshill Manor contains arable land of negligible value and species-poor hedgerows of local/parish value. The land is adjacent to three contiguous woodlands that form Coleshill Park Belt LWS: The Catmore, woodland along Green Lane and The Belt, containing lowland mixed deciduous woodland, a habitat of principal importance identified in Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). These habitats are collectively of county/metropolitan value.

Protected and/or notable species

- 5.2.85 There are no records of protected or notable species within or adjacent to the land required for the revised alignment of Manor Drive and segregation of construction traffic or for the realignment of public rights of way at Coleshill Manor.
- 5.2.86 The new land required as a result of reconfigured planting in areas adjacent to Coleshill Manor is within 100m of three water bodies which each support a small population size class of great crested newt. These ponds are within assumed metapopulation AMP 22 north of the Coleshill Manor office campus centred on Coleshill Park Belt LWS between the M6 and the M42/M6 Toll. It is assumed that AMP22 could support a cumulative medium population size class of great crested newt. AMP 22 is reported in the main ES as being of county/metropolitan value.

- 5.2.87 Badgers also utilise habitats in the vicinity forming part of larger social groups which have local/parish value. There are no other records of protected or notable species relevant to the assessment.

Future baseline

Construction (2017)

- 5.2.88 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.89 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on ecology.

Operation (2026)

- 5.2.90 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.91 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on ecology.

Effects arising during construction

Avoidance and mitigation measures

- 5.2.92 The assessment assumes implementation of the measures set out within the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES), which includes translocation of protected species where appropriate.

Designated sites

- 5.2.93 There are no new or different significant effects on designated sites as a result of the revised alignment of Manor Drive and segregation of construction traffic or from the revision of public rights of way at Coleshill Manor.
- 5.2.94 The main ES reported that approximately 2.7ha of broadleaved semi-natural woodland will be lost from Coleshill Park Belt LWS (almost 30% of the 9.6ha LWS) as a result of construction of the original scheme. The original scheme would also fragment the retained sections of the LWS into three separate parts, with the remaining fragments of the LWS more vulnerable to edge effects such as wind throw and with reduced connectivity through the landscape. These impacts were reported as having a permanent adverse effect on site integrity that would be significant at a county/metropolitan level. The amendment will not result in any additional losses to the LWS and no new or different significant effects are anticipated on the LWS.

Habitats

- 5.2.95 The planting in areas adjacent to Coleshill Manor in the original scheme would have resulted in the loss of arable land and amenity grassland of negligible value. Land required as a result of reconfigured planting will result in the loss of arable land of negligible value. Land required as a result of reconfigured planting also contains species-poor hedgerows of local/parish value, which would be integrated into the

planting where possible. No new or different significant effects are anticipated as a result of the amendment on these habitats.

- 5.2.96 The main ES reported approximately 2.7ha of broadleaved semi-natural woodland loss from The Belt, The Catmore and the adjoining woodland along Green Lane. This was reported in the main ES as having a permanent adverse effect on the conservation status of woodland habitat that will be significant at a county/metropolitan level. The amendments will not result in any additional losses of woodland from The Catmore, woodland along Green Lane and The Belt and no new or different significant effects are anticipated on woodland habitat as a result of the amendments.

Protected and/or notable species

- 5.2.97 The main ES reported that the original scheme would result in no loss of water bodies from AMP22. However, the original scheme would result in loss of approximately half the available terrestrial habitat affecting grazed pasture, woodland and hedgerows, which are likely to be used for foraging, refuge and/or hibernating. These impacts would result in permanent adverse effects on the conservation status of the great crested newt populations within AMP22 that would be significant at the district/borough level.
- 5.2.98 The amendments, and in particular the reconfigured planting, will not affect any ponds used by breeding amphibians. The amendments do not change the amount of grazed pasture, woodland and hedgerows lost within the boundary of AMP22; there would only be additional loss of arable land which is considered suboptimal for use by amphibians. Therefore, overall the amendments will not change the significance of effects on the great crested newt population within AMP 22 reported in the main ES.
- 5.2.99 It is unlikely that the amendments will result in any additional effects on species or habitats of relevance at more than the local/parish level. Additional local/parish level (i.e. in addition to those identified in the main ES or SES) are listed in SES and AP2 ES Volume 5: Appendix EC-003-003.

Cumulative effects

- 5.2.100 There are no new or different likely cumulative effects for ecology as a result of the proposed Coleshill Manor amendments acting in combination with another amendment in AP2, or in AP1.

Mitigation and residual effects

Other mitigation measures

- 5.2.101 Woodland planting near Coleshill Manor was included in the original scheme as part of the compensation for the loss of woodland habitats within Coleshill Park Belt LWS and therefore woodland habitats within the Belt, the Catmore and the woodland along Green Lane. The compensation in the original scheme included 7.5ha of new woodland created close to the retained section of Coleshill Park Belt LWS to the east and west of the HS2 route, between Gilson Drive and the M42/M6 link.
- 5.2.102 The reconfigured woodland planting results in woodland still being provided adjacent to the Coleshill Park Belt LWS and therefore to the habitats within the Belt, the

Catmore and the woodland along Green Lane. The relocated woodland planting would still form connectivity with the woodland along Green Lane, although there is a reduction of approximately 1.6ha in the amount of woodland habitat creation adjacent to the LWS compared to the original scheme. In addition to the compensatory woodland described above, the scheme in this CFA will contain approximately 44.7ha of landscape woodland and scrub planting. This planting will include a diverse native mix of woodland and scrub species. The amount of woodland and scrub habitat created will exceed the amount of woodland removed for construction of the scheme in this area. Following establishment and maturity of the compensatory woodland habitats (assumed to be 50 years), it is expected that any adverse impacts will be reduced to a level which will not result in any significant effect on the conservation status of woodland habitats.

Summary of likely residual effects

- 5.2.103 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Effects arising from operation

- 5.2.104 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Land quality

Scope, assumptions and limitations

- 5.2.105 The assessment scope, key assumptions and limitations for land quality are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.2.106 The existing and future baseline land quality information for the area is as described in the main ES (Volume 2, CFA 19 Section 8).
- 5.2.107 The bedrock geology underlying most of the route of the original scheme through this area is the Mercia Mudstone, including the Arden Sandstone that outcrops towards the south of the study area. The Mercia Mudstone is classified by the Environment Agency as a Secondary B aquifer whilst the Arden Sandstone is classified as a Secondary A aquifer.
- 5.2.108 Superficial Deposits intermittently underlie the areas traversed by the North Chord and Birmingham Spur lines, as well as the main line of the HS2 route. The route will pass through Glaciolfluvial Deposits and River Terrace Deposits (classified by the Environment Agency as a Secondary A aquifer), Glaciolacustine Deposits (classified as unproductive strata), Alluvium comprising clay, silt, sand and gravel (classified by the Environment Agency as a Secondary A aquifer) and Head Deposits comprising clay, silt and gravel (classified by the Environment Agency as a Secondary (undifferentiated) aquifer).

- 5.2.109 The presence of made ground is not indicated on British Geological Survey (BGS) mapping, but there is likely to be made ground associated with the existing highways and railway lines that will be crossed by the HS2 route and various small areas of infilling, including the infilled pits, infilled ponds and infilled domestic water wells scattered throughout the study area.

Future baseline

Construction (2017)

- 5.2.110 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5 Appendix CT-004-000).
- 5.2.111 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on land quality.

Operation (2026)

- 5.2.112 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those reported in the main ES (Volume 5 Appendix CT-004-000).
- 5.2.113 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on land quality.

Effects arising during construction

- 5.2.114 The proposed roundabout at the B4114 Birmingham Road-Manor Drive junction encroaches on a timber yard located on the HS2 route (Main ES LQ-01-054, B5). It was assumed in the main ES that the timber yard would be demolished as part of the construction phase; this would have a negligible effect with respect to land contamination but would give rise to a minor adverse effect (not significant) to groundwater. This is not anticipated to change as a result of the junction amendment.
- 5.2.115 The former Coleshill Hall hospital (LQ-01-066, H8), an electricity substation (LQ-01-066, H7) and an infilled pit are located in the area of the reconfigured planting. Ground disturbance associated with planting was assumed in the main ES to be minimal and negligible effects were anticipated in the locations of these features. This is not anticipated to change with the proposed amendments.
- 5.2.116 In summary, the proposed Coleshill Manor amendments will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.2.117 The proposed Coleshill Manor amendments will not give rise to new or different significant operational effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.118 The assessment assumes the implementation of the principles and management processes set out in the draft CoCP, as described in main ES Volume 2, CFA19. No

additional mitigation is considered necessary as a result of the proposed amendments.

- 5.2.119 There are no new or different residual construction land quality effects as a result of the proposed amendment, in comparison with the main ES.

Cumulative effects

- 5.2.120 There are no new or different likely significant cumulative effects for land quality as a result of the amendments acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Landscape and visual assessment

Scope, assumptions and limitations

- 5.2.121 The assessment scope, key assumptions and limitations of the landscape and visual assessment are set out in Volume 1, the SMR (Volume 5: Appendix CT-0001-000/1) and the SMR Addendum (Volume 5: Appendix CT-0001-000/2), and Volume 2: (CFA19 Section 9) Coleshill Junction of the main ES. An update to the methodology for the landscape and visual assessment is also described in Volume 1 of the AP1 ES.

Existing baseline

- 5.2.122 The area of land required for the amendment is located within the Cole Valley LCA as described in the main ES (Volume 2, CFA19, Section 9).
- 5.2.123 Views south-east from Coleshill Manor Office Campus (viewpoint 311.6.008) and east from PRoW (Footpath) M58 (viewpoint 309.3.005) are close to the area and are described in the main ES (Volume 5, Appendix LV -001-019 Part 2).

Future baseline

Construction (2017)

- 5.2.124 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.125 None of the identified developments affect the assessment of the scheme's likely construction impacts on landscape character and views.

Operation (2026)

- 5.2.126 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.127 None of the identified developments affect the assessment of the scheme's likely operational impacts on landscape character and views.

Effects arising during construction

Landscape assessment

- 5.2.128 The Colehill Manor amendments occur solely within the Cole Valley LCA. The Cole Valley LCA is predominantly rural and within designated green belt, with a historic former parkland fragmented by subsequent development; therefore it is considered to be of medium sensitivity to change. The main ES reported a moderate adverse effect during construction due to the formation of large scale embankments and structures, the partial loss of characteristic landscape features such as hedgerows, woodland, riverside vegetation and demolitions including Colehill Manor office Phase 2 building.
- 5.2.129 The Colehill Manor amendments will require different areas for the same construction activities in the area, due to the realignment of Manor Drive, the new junction design, and the reduction and relocation of woodland planting areas. However, the required construction activities in the LCA will remain the same, including formation of large scale embankments and structures and the partial loss of characteristic landscape features such as hedgerows, woodland and riverside vegetation.
- 5.2.130 The proposed amendments will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Visual assessment

- 5.2.131 Viewpoints 311.6.008 and 309.3.005 were assessed as being affected by the original scheme and will be affected by the amendments. The main ES reported moderate adverse effects on views from viewpoints 311.6.008 and 309.3.005 due to construction work on embankments, viaducts, the removal of trees and vegetation, increased activity and introduction of satellite construction compounds.
- 5.2.132 The minor differences to the areas of construction due to the Colehill Manor amendments, however, will not result in materially different effects or change the level of significance of the construction effects reported in the main ES.

Effects arising from operation

Landscape assessment

- 5.2.133 The main ES reported a moderate adverse effect on the Cole Valley LCA during year 1 of operation due to introduction of large-scale infrastructure, realignments of the River Cole and existing infrastructure including Manor Drive, and partial loss of characteristic landscape features. By year 15, planting will have established and matured sufficiently to aid integration of the new elements and further reflect the existing landscape character, reducing the effects to be non-significant.
- 5.2.134 The Colehill Manor amendments will alter the arrangement of landscape elements, however, this will not give rise to a new or different significant landscape effect and will not change the level of significance of the effects reported in the main ES.

Visual assessment

- 5.2.135 Viewpoint 311.6.008: view south-east from Coleshill Manor Office Campus, was assessed as being affected by the original scheme and will be affected by these amendments. The main ES reported a moderate adverse effect in years 1, 15 and 60 of operation, due to the Green Lane embankment and open views of the scheme.
- 5.2.136 The Coleshill Manor amendments will alter views of the scheme from viewpoint 311.6.008 due to the different arrangement of the elements of the scheme visible. The marginal improvements in this view over the original scheme, however, will not be sufficient to change the level of significance of the effects reported in the main ES.
- 5.2.137 Viewpoint 309.3.005: View east from PRoW (Footpath) M58, was assessed as being affected by the original scheme and will be affected by these amendments. The main ES reported a moderate adverse effect in year 1 of operation, arising from the infrastructure and planting introduced into the view. This was reported as reducing to non-significant by year 15 due to vegetation filtering views.
- 5.2.138 The Coleshill Manor amendments will alter views of the scheme from viewpoint 309.3.005 due to the different arrangement of the elements of the scheme visible. The marginal improvements in this view over the original scheme, however, will not be sufficient to change the level of significance of the effects reported in the main ES.

Mitigation and residual effects

- 5.2.139 There are no new residual construction or operational significant effects for landscape character or views, as a result of the Coleshill Manor amendments in comparison with the main ES, the SES and the AP1 ES. The Coleshill Manor amendments comprise elements which offer marginal improvements over the original scheme but are not sufficient to change the level of significance of the effects reported in the main ES and the AP1 ES.

Cumulative effects

- 5.2.140 There are no new or different likely significant cumulative effects on landscape character and views as a result of the Coleshill Manor amendments acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed developments.

Sound, noise and vibration

Scope, assumptions and limitations

- 5.2.141 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.2.142 Local assumptions and limitations for sound, noise and vibration are set out in Volume 2 CFA report 19 of the main ES.

Existing baseline

- 5.2.143 The baseline sound, noise and vibration information for the area is described in the main ES (Volume 5: Appendix SV-002-019). Baseline noise levels representative of the

assessment locations affected by the SES changes have been used in the construction and operational assessments.

Future baseline

Construction (2017)

- 5.2.144 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.145 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on sound, noise and vibration.

Operation (2026)

- 5.2.146 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.147 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on sound, noise and vibration.

Effects arising during construction

- 5.2.148 No construction noise or vibration significant effects in the vicinity of the Coleshill Manor amendments were reported in the main ES.
- 5.2.149 In this area there are three properties within 300m of the Coleshill Manor amendments (ID 126717), the main element of which (the revised new Manor Drive) is located 200m from these receptors and behind the main construction works for the proposed scheme. As a consequence, although there are a number of minor differences associated with the revised scheme in comparison with the original scheme, including relocation of the satellite construction compound, the construction activities from these amendments, their duration and the intervening distance to receptors, does not represent a substantive change to that detailed in the main ES.
- 5.2.150 The proposed amendments, when considered in the context of the magnitude of change brought about by the HS2 scheme, would therefore not lead to a change in the impacts reported. As a consequence the proposed amendments will not give rise to new or different significant effects from those reported in the main ES.

Effects arising from operation

- 5.2.151 There are no new or different significant operational effects for sound, noise and vibration as a result of the proposed amendment, in comparison with the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.152 The construction assessment assumes the implementation of the principles and management processes set out in the draft CoCP, as described in Main ES Volume 2, CFA19. No additional mitigation is considered necessary as a result of the proposed amendments.

- 5.2.153 There are no new or different significant construction effects for sound, noise and vibration as a result of the proposed amendment, in comparison with the main ES and AP1 ES.

Cumulative effects

- 5.2.154 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the amendment acting in combination with another amendment in AP2 or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Traffic and transport

Scope, assumptions and limitations

- 5.2.155 The assessment scope, key assumptions and limitations of the traffic and transport assessment are as set out in Volume 1, the SMR (Volume 5: Appendix CT-0001-000/1) and the SMR Addendum (Volume 5: Appendix CT-0001-000/2) of the main ES.

Existing baseline

- 5.2.156 The existing baseline is described in the main ES (Volume 2, CFA19, Section 12). There is no change to the existing baseline as reported in the main ES.
- 5.2.157 Baseline traffic surveys of the B4114 Birmingham Road and the relevant PRoW were undertaken as part of the main ES. Non-motorised user surveys showed that Footpaths M54, M57 and M58 are either not utilised (Footpath M54) or lightly utilised (Footpaths M57 and M58) with only 3 pedestrians per day.
- 5.2.158 Manor Drive is a private road, which connects to the B4114 Birmingham Road.

Future baseline

Construction

- 5.2.159 The future baseline for traffic and transport is as described in the main ES (Volume 2 CFA19, Section 12). There is no change to the future baseline for construction as reported in the main ES.

Operation (2026 and 2041)

- 5.2.160 The future baselines for traffic and transport are set out in Volume 2, CFA19 (Section 12) of the main ES. There is no change to the future baselines for operation as reported in the main ES.

Effects arising during construction

- 5.2.161 The new Manor Drive will be opened as an access to Coleshill Manor before the old Manor Drive is used as a construction access, thereby ensuring that construction traffic is segregated from Coleshill Manor business traffic. There were no significant effects reported in the main ES and this is unchanged with the AP2 revised scheme.

Effects arising from operation

- 5.2.162 The AP2 revised scheme roundabout at the junction of Manor Drive with the B4114 Birmingham Road has been provided to reflect the current provision and to safeguard

future expansion of the Coleshill Manor office campus and will operate within capacity. In terms of traffic, no significant effects were reported in the main ES and there are no changes to this.

- 5.2.163 The AP2 revised scheme involves the realignment of Footpaths M54, M57 and M58 and a new footpath proposed within the original scheme. The original scheme proposed the provision of a new footpath linking Footpath M58 to M54 and the AP2 revised scheme retains this link but reroutes it. The AP2 revised scheme maintains the connections of the original scheme and opens up new connections to Gilson Drive. A minor significant beneficial effect from the new footpath was reported in the main ES. The change to the route of this new footpath does not alter this effect.

Mitigation and residual effects

- 5.2.164 Avoidance and mitigation measures, together with other mitigation measures, are set out in Volume 2, CFA19, Section 12 of the main ES. No further traffic and transport avoidance or mitigation measures are required in construction or operation.
- 5.2.165 The amendments will result in no change in the likely residual significant effects reported in the main ES.

Cumulative effects

- 5.2.166 Cumulative effects are reported in Section 12, Volume 2, CFA19 of the main ES. The above assessment has taken into account these cumulative effects, including planned development by taking account of background traffic growth, as well as traffic and transport impacts of works being undertaken in other areas.

Water resources and flood risk assessment

Scope, assumptions and limitations

- 5.2.167 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.2.168 The water resources and flood risk baseline for the assessment takes into account baseline information collected in support of the main ES, which included field-survey data, aerial photography and relevant existing information gathered from national organisations and from regional and local sources. A full list of data sources is provided in CFA19, Volume 2, Section 13 of the main ES.
- 5.2.169 Updated national baseline data from the Environment Agency relating to surface water flooding has been used to assess this amendment. The description of the surface water flood risk in Volume 5 of the main ES remains broadly consistent with the new data sets. The surface water flood risk in the area affected by the amendment is classified as low risk (each year this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%)).
- 5.2.170 The updated surface water flooding data does not alter the overall importance or significance of effects in this area. Associated with flood risk, the land is classified as less vulnerable, and therefore is a moderate value receptor as reported in the main ES.

Future baseline

Construction (2017)

- 5.2.171 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.172 None of the identified developments affect the assessment of the AP2 scheme's likely construction impacts on water resources and flood risk assessment.

Operation (2026)

- 5.2.173 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those reported in the main ES (Volume 5: Appendix CT-004-000).
- 5.2.174 None of the identified developments affect the assessment of the AP2 scheme's likely operational impacts on water resources and flood risk assessment.

Effects arising during construction

- 5.2.175 The principal impacts of concern to water resource and flood risk in respect of the Coleshill Manor amendments are associated with the revisions to Manor Drive, specifically the widening of the existing River Cole bridge on the B4114 Birmingham Road within the floodplain.
- 5.2.176 Temporary construction works will be in line with the draft CoCP (Section 16.3 of the draft CoCP) and therefore will consider river flood risk. The proposed widening of the B4114 Birmingham Road bridge will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.
- 5.2.177 A permanent impact from widening of the B4114 Birmingham Road bridge over the River Cole, occurring during construction, will be to increase the footprint of the structure on the right bank of the River Cole. In addition, the increase in the length of the structure has the potential to affect its flow capacity and available storage in the floodplain.
- 5.2.178 The extended flood arches will be designed to ensure that there is no reduction in flow capacity for the bridge structure as a whole.
- 5.2.179 Given the relatively small size of the works and their location within the floodplain, the impact will be negligible. Therefore, the effect of the amendment on flood risk is neutral.
- 5.2.180 The proposed widening of the B4114 Birmingham Road bridge will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.2.181 The proposed Coleshill Manor amendments will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES and the AP1 ES.

Mitigation and residual effects

- 5.2.182 No additional mitigation measures in addition to those identified in the main ES are required.

Cumulative effects

- 5.2.183 There are no new or different likely significant cumulative effects for water resources and flood risk as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

5.3 Summary of new or different likely residual significant effects as a result of the amendment

- 5.3.1 The use of additional land and Bill powers for the Coleshill Manor amendments, including the revised alignment of Manor Drive and segregation of construction traffic, realignment of footpaths and reconfiguration of environmental mitigation and landscape planting will not result in a new or different significant effect at Coleshill Manor in comparison with the original scheme.
- 5.3.2 However, the additional land required for the alternative alignment of Manor Drive would combine with the proposed AP1 revised scheme additional land for winching and fibre optic cable diversion near the M42 (AP1-019-032) and the original scheme as reported in the main ES (Volume 5: Appendix CH-003-019), adding to the adverse effect upon the former Coleshill Deer Park (asset reference: COL015) during construction. This will result in a different likely significant cumulative effect but will not alter the level of significance of the permanent high adverse impact and major adverse significant effect upon this asset.

6 Combined effects of amendments in this CFA due to changes in traffic flows

- 6.1.1 All of the effects of changes proposed in this CFA have been described above and there are no further combined effects to report.

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