

High Speed Rail (West Midlands - Crewe)

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Non-technical summary

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1. Introduction to the Supplementary Environmental Statement 2 and the Additional Provision 2 Environmental Statement

1.1 Purpose of this Non-technical summary

This document is the Non-technical summary (NTS) of the Supplementary Environmental Statement 2 (SES2) and the Additional Provision 2 Environmental Statement (AP2 ES), which the Government has submitted to Parliament in support of the High Speed Rail (West Midlands – Crewe) Bill ('the Bill'). Its main purpose is to provide a summary, in non-technical language, of any new or different likely residual significant environmental effects arising from the updates and changes reported in the SES2 and the amendments reported in the AP2 ES. These effects are compared to those contained within the Environmental Statement which accompanied the Bill submitted to Parliament in July 2017 ('the main ES'), as updated by the Supplementary Environmental Statement (SES), taking into account the relevant amendments in the Additional Provision (AP), introduced in March 2018. The document submitted in 2018 was titled the SES and AP ES. For clarity, the terms SES1 and AP1 ES are used in this non-technical summary.

1.2 Background to High Speed Two

High Speed Two (HS2) is a new high speed railway proposed by the Government to connect major cities in Britain. It will be built in phases. Phase One comprises the first section of the HS2 rail network between London and the West Midlands. Works for Phase One are now proceeding in accordance with the High Speed Rail (London – West Midlands) Act 2017.

Phase Two of HS2 will extend the line to the north-west and north-east: to Manchester with connections to the West Coast Main Line (WCML) at Crewe and Bamfurlong (south of Wigan); and to Leeds with a connection to the East Coast Main Line approaching York.

Phase Two will be constructed in two phases:

- Phase 2a: the western section of Phase Two between the West Midlands and Crewe, comprising approximately 36 miles (58km) of HS2 main line and two spurs (approximately 4 miles (6km)) south of Crewe that will allow trains to transfer between the HS2 main line and the existing WCML.

Construction is planned to commence in 2020 ahead of the rest of Phase Two, with operation planned to start in 2027; and

- Phase 2b: comprising the remainder of Phase Two, between Crewe (where it would connect with Phase 2a south of Crewe Station) and Manchester, and between the West Midlands and Leeds, with connections onto the WCML and the ECML. It would also connect with, and include electrification of, a section of the Midland Main Line. Phase 2b will be the subject of a separate hybrid Bill with construction expected to commence in 2023 and operation planned to start in 2033.

The Bill was introduced into Parliament together with the main ES in July 2017. If enacted by Parliament, the Bill will provide the powers to construct, operate and maintain Phase 2a of HS2.

The main ES presented the findings of the environmental impact assessment (EIA) for the scheme proposed at the time of deposit of the Bill, outlining the assessment scope and methodology, identifying likely significant

environmental effects, mitigation measures to avoid, prevent or reduce likely significant environmental effects, and any residual significant environmental effects that remain after all mitigation has been put in place.

1.3 Supplementary Environmental Statements and amendments to the Bill

Following the deposit of the Bill in July 2017, the need for a number of changes and amendments to the design and construction assumptions was identified. New environmental baseline information had also become available since the submission of the main ES and the need for a number of corrections to the main ES was identified. These were all assessed and any new or different likely significant environmental effects compared to the main ES were reported in the SES₁ and AP₁ ES, submitted in March 2018.

Since the publication of the SES₁ and AP₁ ES, the need for a number of amendments has been identified as a result of the Select Committee process, ongoing discussions with petitioners and stakeholders and as a result of design

refinements. New environmental baseline information has also become available.

Any new or different significant effects that are likely to result from changes to the design and construction assumptions within the existing Bill powers and limits, and as a result of the new environmental baseline information and corrections, are reported in the SES₂.

Changes to the Bill are needed in order to make amendments to the original proposals, where these include requirements for the acquisition or use of land outside the existing powers of the Bill, additional access rights or other extensions of the powers conferred by the Bill. A second Additional Provision ('AP₂') seeks powers to make these amendments.

The AP₂ ES reports any likely significant environmental effects of these amendments having taken into account the environmental information in the main ES as updated by SES₁ and SES₂, where appropriate.

The SES₂ and the AP₂ ES are separate environmental statements, but have been produced as combined volumes. Both the SES₂ and AP₂ ES provide an update to the main ES

and SES₁ and AP₁ ES, and should be read in conjunction with them. The SES₂ is presented first, and the AP₂ ES follows. The AP₂ ES bases its comparison upon effects reported in the main ES, as amended by the SES₁ and the SES₂, taking into account the AP₁ ES, as appropriate.

The SES₂ and the AP₂ ES will each be the subject of a public consultation in accordance with Parliamentary procedure.

1.4 Terminology used to describe the Phase 2a scheme

The following terms are used to differentiate between changes included in the SES₂ and those included in the AP₂ ES:

- 'SES₂ design changes' – changes to the scheme design reported in the SES₂ that do not require additional powers;
- 'SES₂ changes' – all changes reported in the SES₂ that do not require additional powers. These may include new baseline information, changes to the design and construction assumptions, and corrections; and

- 'AP2 amendments' – amendments to the scheme reported in the AP2 ES that include requirements for additional powers in the Bill.

In addition, the following terms are also used in the SES2 and AP2 ES, where relevant:

- 'SES1 design changes' - changes to the scheme design reported in the SES1 that do not require additional powers;
- 'SES1 changes' – all changes reported in the SES1 that do not require additional powers. These may include new baseline information, changes to the design and construction assumptions, and corrections; and
- 'AP1 amendments' – amendments to the scheme reported in the AP1 ES that include requirements for additional powers in the Bill.

In order to differentiate between the original scheme and the subsequent changes, the following terms are used:

- 'original scheme' - the Bill scheme submitted to Parliament in July 2017, which was assessed in the main ES;

- 'SES1 scheme' - the original scheme with the changes described in the SES1 submitted in March 2018;
- 'AP1 revised scheme' - the SES1 scheme as amended by the AP1 submitted in March 2018';
- 'SES2 scheme' - the SES1 scheme with the changes described in the SES2; and
- 'AP2 revised scheme' - the SES2 scheme as amended by the AP2.

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

The SES2 and the AP2 ES are separate documents. However, they are bound together and presented in a number of volumes. Each volume generally contains an introduction and separate SES2 and AP2 ES sections, presented as Part 1 and Part 2, respectively. The introductory sections in each volume apply to both the SES2 (Part 1) and the AP2 ES (Part 2) sections.

The SES2 and the AP2 ES comprise:

- This Non-technical summary (NTS). This provides a summary in non-technical language of the SES2 and the AP2 ES. It presents a summary of any likely residual significant environmental effects, which are new or different to those reported in the main ES, as amended by SES1 and, where relevant, AP1;
- Glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used in the SES2 and the AP2 ES, which are not already explained in the main ES or the SES1 and AP1 ES;
- Volume 1: Introduction to the SES2 and the AP2 ES. This introduces the supplementary environmental information and changes to the design and construction assumptions included within the SES2 and amendments within the AP2 ES. The report explains the environmental impact assessment (EIA) process that has been applied;
- Volume 2: Community area reports and map books. These report the supplementary environmental information and changes to the design and construction assumptions included within the SES2, amendments within the AP2

ES and any new or different likely significant environmental effects arising from these changes and amendments in each community area (as shown in Figure 1). These effects are compared to those reported in the main ES, as amended by the SES₁, and by SES₂ for the AP₂ amendments. The AP₁ amendments are also taken into account where relevant. The maps relevant to each community area are provided in separate Volume 2 map books;

- Volume 3: Route-wide effects. This describes any new or different likely significant environmental effects arising at a route-wide level from the supplementary environmental information and changes to the design and construction assumptions included within the SES₂ and the amendments within the AP₂ ES compared to those reported in the main ES, as amended by SES₁, and by SES₂ for the AP₂ amendments. The AP₁ amendments are also taken into account where relevant;
- Volume 5: Appendices and map books. These contain supporting environmental information and associated maps.

A Volume 4: Off-route effects report was produced as part of the main ES. This assessed the likely significant effects of the scheme at

locations beyond the Phase 2a route corridor and its immediate environment. A separate Volume 4 has not been produced as part of the SES₂ and AP₂ ES. Any new or different significant off-route effects arising from the AP₂ amendments are reported in the most relevant Volume 2 community area report.

Background information and data

Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES₂ and AP₂ ES. These documents are available at www.gov.uk/hs2. The BID documents and maps present background survey information and other relevant background material.

1.6 Approach to mitigation

The measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of this phase of the railway are described in the main ES and the SES₁ and AP₁ ES. This includes the draft Code of Construction Practice (CoCP), which sets out measures to manage and control the effects of construction. The draft CoCP was submitted with the Bill. The same general mitigation measures

described in the main ES still apply to the SES₂ and the AP₂ ES. Other specific mitigation measures that are proposed are described within Volumes 2 and 3 of the SES₂ and the AP₂ ES.

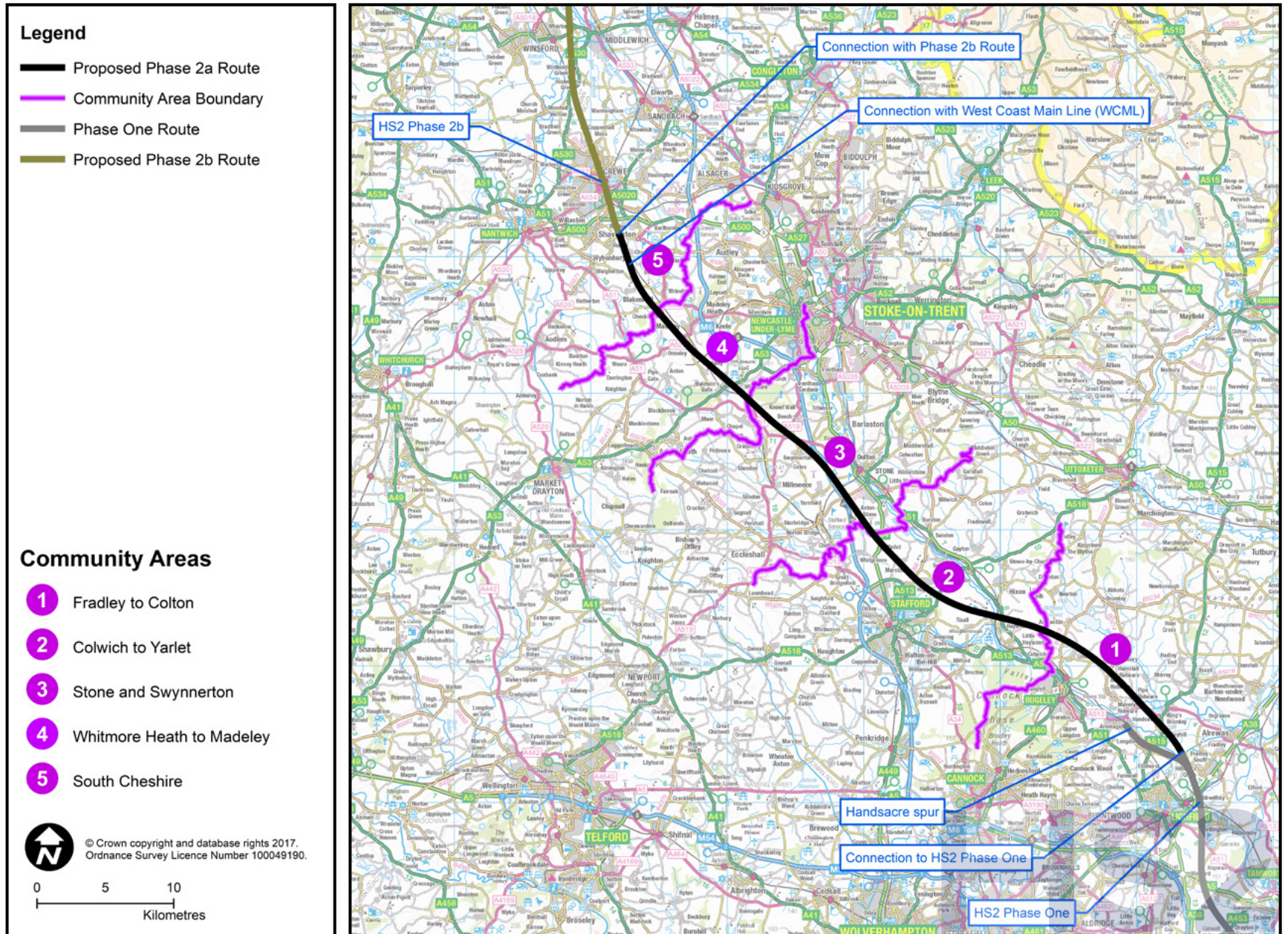
1.7 Approach to monitoring

The draft CoCP includes commitments to monitoring significant effects during construction. In addition, general monitoring measures to be implemented during construction and operation for each environmental topic are described in the main ES and the SES₁ and AP₁ ES. The same approach to monitoring measures described in the draft CoCP and main ES, as updated by the SES₁ and AP₁ ES, still applies to the SES₂ and the AP₂ ES.

1.8 Consultation

A formal public consultation is required by Parliament on both the SES₂ and the AP₂ ES. Members of the public will have a period of at least 42 days to make representations following the deposit of the SES₂ and AP₂ ES in Parliament. Parliamentary officials have appointed an independent assessor who will summarise the issues raised in representations received from members of the public and

Figure 1: Phase 2a route showing community areas



provide a report to Parliament before the Third Reading of the Bill.

There will also be a separate petitioning period. Within this period, persons whose property or interests are specially and/or directly affected by the amendments to the Bill for which powers are sought under AP2 have the right to petition against AP2.

More information on who may petition against the AP2, and how to do so, is available on Parliament's website www.parliament.uk.

1.9 Assessment approach

Scope of the assessment

A scoping exercise has been undertaken by environmental technical specialists to determine whether or not the SES2 changes and the AP2 amendments have the potential to give rise to any new or different likely significant environmental effects compared with those reported in the main ES as amended by the SES1, and in the SES2 for the AP2 amendments, taking into account any relevant AP1 amendments.

The scoping exercise considered the construction and operational effects of the SES2 changes and AP2 amendments for the following environmental topics:

- agriculture, forestry and soils;
- air quality;
- climate (assessed at a route-wide level, rather than at the local community area level);
- community;
- cultural heritage;
- ecology and biodiversity;
- electromagnetic interference;
- health;
- land quality;
- landscape and visual;
- major accidents and natural disasters (assessed at a route-wide level, rather than at the local community area level);
- socio-economics;
- sound, noise and vibration;
- traffic and transport;

- waste and material resources (assessed at a route-wide level, rather than at the local community area level); and
- water resources and flood risk.

Those SES2 changes and AP2 amendments identified as having the potential to result in new or different likely significant environmental effects were then subject to further assessment.

1.10 Assessment methodology

The EIA process for the SES2 and the AP2 ES has followed that used for the main ES, as described in the Scope and Methodology Report (SMR) and the SMR Addendum, both in Volume 5 of the main ES. A further SMR Addendum (SMR Addendum 2) has been prepared, which is in Volume 5 of the SES2 and AP2 ES. This includes minor amendments to reflect changes to legislation or industry best practice guidance and refinement of the methodology in the course of preparation of the SES2 and AP2 ES.

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Part 1: Supplementary Environmental Statement 2

2. Introduction to the Supplementary Environmental Statement 2

2.1 Introduction

This part of the NTS relates to the SES2. It reports whether the updates, changes to the design and construction assumptions, or corrections (the 'SES2 changes'), would result in any new or different likely residual significant environmental effects from those reported in the main ES, as amended by the SES1 (and by SES2 for the AP2 amendments). The AP1 amendments are also taken into account where relevant.

The SES2 provides additional information to that provided in the NTSs for the main ES and the SES1 and AP1 ES.

The SES2 is summarised on a community area basis in this NTS. For each community area the following information is included:

- new baseline information where it is relevant to the reporting of likely significant residual environmental effects that are new or different to those reported in the main ES, as amended by the SES1.

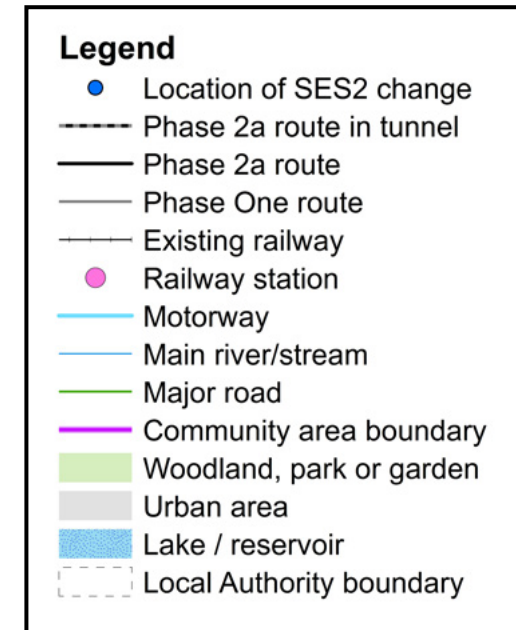
This includes additional information concerning the environmental conditions for the following environmental topics:

- air quality;
- cultural heritage;
- ecology and biodiversity; and
- traffic and transport.
- a summary list of design changes and changes to construction assumptions that are being made within the existing powers of the Bill;
- corrections to the main ES and SES1; and
- details of any new or different likely residual significant effects from those reported in the main ES, as amended by the SES1, which are a result of the SES2 changes. AP1 amendments are also taken into account where relevant.

The SES2 changes are not considered to result in any new or different likely residual significant route-wide effects from those presented in Volume 3 of the main ES, as amended by the SES1.

Figure 2 to Figure 8 show the approximate location of the SES2 changes within each of the community areas.

The legend below is common to each figure in this section.



2.2 Summary of the main changes included in SES2

The main SES2 changes to the design and construction assumptions include:

- a review of the earthworks and movement of materials, taking into account changes in design and opportunities to reduce the overall surplus of excavated materials that would need to be transported by road. This has resulted in changes across the whole route, which include identifying 17 sites for the local placement of surplus excavated material on land already required for construction;
 - changes to assumed borrow pit depths based on additional historical information relating to likely ground conditions and changes to the design of a number of borrow pits relating to the recharge of groundwater; diversion of watercourses; and/or the reduction in the area of borrow pits to allow for utility works. In addition, hydrogeological models have been developed for the relevant borrow pits;
 - changes to the construction programme. These take account of refinements to construction methods and changes to earthworks and the movement of materials;
 - changes to a number of railway systems compounds required for the installation of a slab track formation relating to operational characteristics such as construction duration, worker numbers and traffic movements; and
 - additional utility works and the provision of associated construction compounds.
- Other changes that can be made within the existing powers of the Bill and are reported in the SES2, include:
- lowering of Kings Bromley viaduct, Bourne embankment and River Trent viaduct;
 - relocation of a balancing pond;
 - extension of a noise fence barrier;
 - landscape earthworks in the vicinity of the Stone Infrastructure Maintenance Base-Rail (IMB-R);
 - increase in length and changes to the design of the M6 Meaford Viaduct;
 - reconfiguration of the existing West Coast Main Line (WCML) tracks between the A500 Shavington Bypass and Madeley Bridleway 2;
 - new construction traffic routes and new permanent farm access routes; and
 - changes to environmental mitigation.

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3. Fradley to Colton, Community Area 1

3.1 New environmental baseline information

Since the production of the SES₁ and AP₁ ES, additional baseline information has become available that relates to the following environmental topics in the Fradley to Colton area:

- Air quality. Measurements for the baseline year of 2016 and updated tools for undertaking air quality assessments produced by the Department for Environment, Food and Rural Affairs (Defra) have become available.
- Cultural heritage. Additional geophysical and heritage walkover surveys have been undertaken.
- Ecology and biodiversity. Additional Phase 1 habitat surveys have been completed and new baseline data relating to the designation of nature conservation sites has been provided by Staffordshire Wildlife Trust.
- Traffic and transport. Additional information on existing traffic flows has been collected.

3.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the SES₁ and AP₁ ES, changes to the construction programme, railway systems compounds, borrow pits and SES₂ engineering design changes in the Fradley to Colton area have been identified.

Table 1 and Table 2 present a summary of the changes to the construction assumptions and engineering design within the Fradley to Colton area. They provide a description of the SES₁ scheme and the changes proposed in the SES₂ scheme.

Figure 2 shows the approximate location of SES₂ design changes within the Fradley to Colton area. The SES₂ reference numbers shown on Figure 2 are cross-referenced in the text, where appropriate.

Table 1: Summary of changes to the construction assumptions within the existing powers of the Bill in the Fradley to Colton area

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
Change to the operational duration for the Pyford North embankment satellite compound	SES1 reported that this compound would be operational for a total of five years and three months, commencing during 2021. Civil engineering works would be managed from this compound for a period of three years and nine months commencing during 2021, followed by railway installation works for a period of one year and six months, commencing during 2024.	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>The railway installation works will be undertaken for a period of one year and three months, commencing during 2024. The compound will be operational for a total of five years, a decrease in three months from that reported in SES1.</p>
Change to the railway systems worker numbers and railway systems HGV trips for the Pipe Ridware embankment satellite compound	<p>The main ES reported that the compound would support an average of 30 civil engineering workers per day (45 workers at peak times) and an average of 30 railway systems workers per day (45 workers at peak times).</p> <p>The main ES further reported that the compound would generate 96-122 civil engineering HGV trips per day and up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 45 railway systems workers per day (70 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 159-162 trips per day during the busy periods and within the peak month of activity.</p>
Change to the operational duration for the Stockwell Heath cutting satellite compound	SES1 reported that this compound would be operational for a total of five years and six months, commencing during 2021. Civil engineering works would be managed from this compound for a period of four years and three months, followed by railway installation works for a period of one year and three months, commencing during 2025.	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>The railway installation works will be undertaken for a period of one year, commencing during 2025. The compound will be operational for a total of five years and three months, a decrease in three months from that reported in SES1.</p>

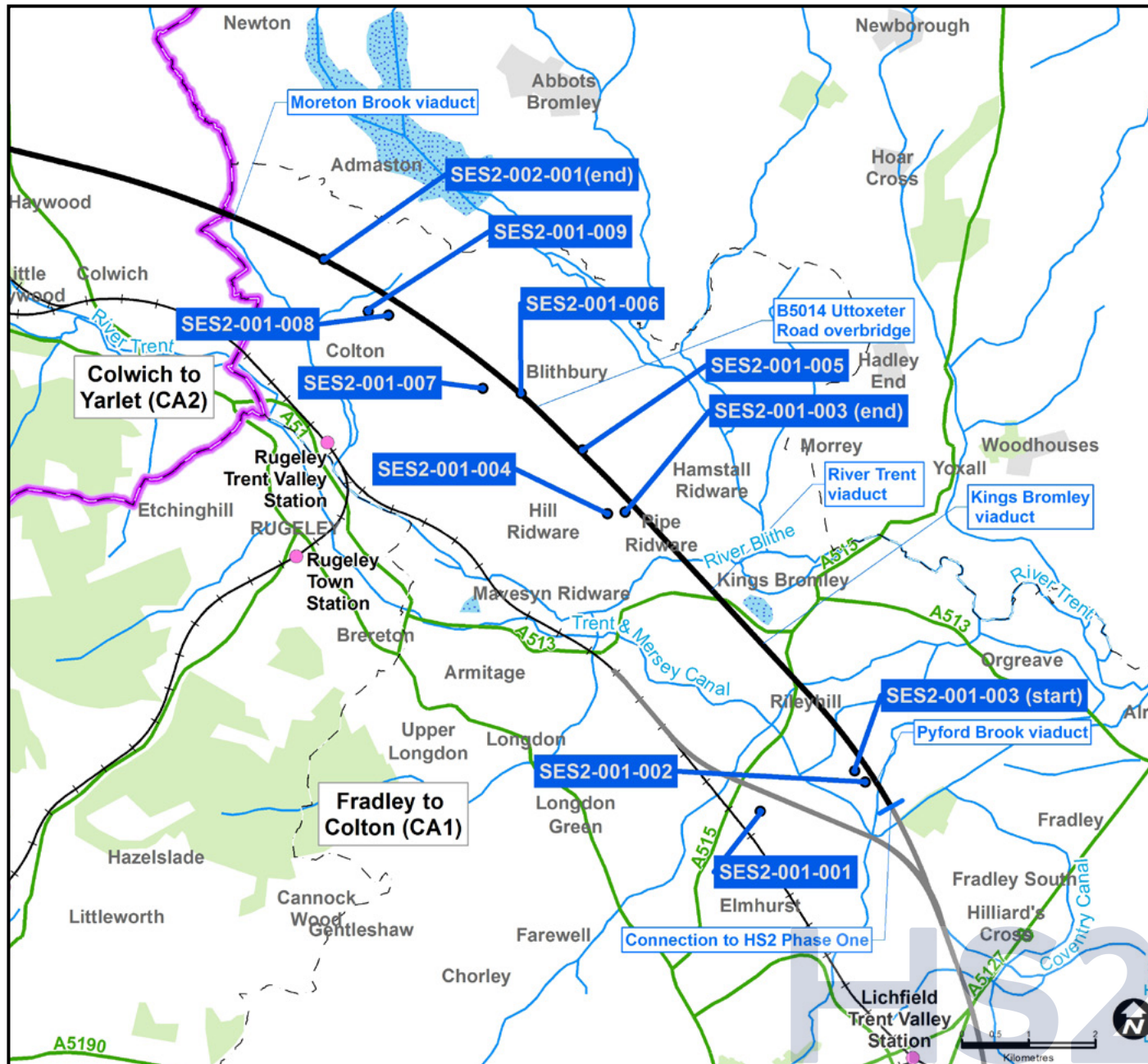
Table 2: Summary of changes to the engineering design not requiring a change to the Bill powers in the Fradley to Colton area

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>A new construction traffic route along Wood End Lane</p> <p>SES2-001-001</p>	<p>Construction traffic from the Fradley to Colton and Colwich to Yarlet areas would use various roads, including the A515 Lichfield Road south of Kings Bromley and the B5013 Colton Road to join the strategic road network at the A51 Stafford Road, before travelling along the A5192 Eastern Avenue/Cappers Lane around Lichfield, to connect to the A38 Rykneld Street.</p>	<p>A new construction traffic route will be provided along Wood End Lane to route construction traffic from the A515 Lichfield Road, south-east towards the A38 Rykneld Street, to reduce the amount of additional traffic travelling along the A5192 Eastern Avenue/Cappers Lane around Lichfield during construction.</p>
<p>New temporary utility compound for the British Pipeline Agency (BPA) fuel pipeline diversion, north of Pyford Brook</p> <p>SES2-001-002</p>	<p>Land would be required permanently for the diversion of an underground BPA 10-inch diameter fuel pipeline, which would cross beneath the HS2 route at Pyford North embankment.</p> <p>The AP1 revised scheme (amendment AP1-001-001: Additional land required for a temporary laydown area and a change to Bill powers at Pyford North embankment) would require 0.5ha of additional land for a temporary laydown area during construction, and a change to Bill powers for the extension of the BPA 10-inch diameter pipeline diversion on both sides of the HS2 route.</p>	<p>A new utility compound, the Pyford Brook utility compound, will be provided for the management of the BPA 10-inch diameter fuel pipeline diversion works. It will be provided within land permanently required for Pyford North embankment in the original scheme.</p>
<p>Lowering of Kings Bromley viaduct, Bourne embankment and River Trent viaduct</p> <p>SES2-001-003</p>	<p>Kings Bromley viaduct, up to 15.5m in height and 980m in length, would cross over Bourne Brook, the realigned A515 Lichfield Road and the realigned Shaw Lane. An accommodation access between the viaduct piers would provide access to agricultural land at Common Lane Farm to the south of the HS2 route.</p> <p>River Trent viaduct, up to 15m in height and 1.9km in length, would pass over the A513 Rugeley Road and Pipe Lane.</p> <p>Bourne embankment, up to 16m in height and 505m in length, would be located between the two viaducts.</p> <p>Pyford North embankment, up to 9m in height and 1km in length, would be located to the south of Kings Bromley viaduct.</p>	<p>This section of route will be lowered by up to 3.5m. The length of all features will be unchanged from the original scheme. Kings Bromley viaduct will be up to 13.7m in height at its highest point, River Trent viaduct will be up to 14m in height and Bourne embankment will be up to 11.9m in height.</p> <p>All crossings beneath the viaducts will be maintained at their existing crossing locations, as provided in the original scheme. Mitigation earthworks will be reduced to reflect the lower height of Bourne embankment, whilst maintaining the same slope gradient.</p> <p>Pyford North embankment will be lowered by up to 0.7m at the bridge abutment as it ties into the Kings Bromley viaduct. The height and length of the rest of this embankment will be unchanged. There will be no change to Pipe Ridware embankment.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Local placement of surplus excavated material to the south of Pipe Ridware embankment</p> <p>SES2-001-004</p>	<p>Two temporary material stockpiles would be located on the south of the Pipe Ridware embankment, on the east and western sides of the stopped-up section of Pipe Lane. Pipe Lane would be stopped-up on the north side of its junction with Quintons Orchard.</p> <p>Existing hedgerow would be adjacent to the stopped-up section of Pipe Lane.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently on the south side of Pipe Ridware embankment, extending east and west across the stopped-up section of Pipe Lane, north-east of Quintons Orchard, and a retained section of Pipe Lane.</p> <p>Existing hedgerow, adjacent to the stopped-up section of Pipe Lane, will be lost as a result of the placement of surplus excavated material; this will be re-provided along its existing alignment.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>
<p>Provision of a noise bund near Woodhouse Farm</p> <p>SES2-001-005</p>	<p>Pipe Ridware embankment would be located 100m south-west of nine residential properties at Woodhouse Farm.</p>	<p>A noise bund will be provided within land between Pipe Ridware embankment and Pipe Lane, up to 9.5m in height from ground level. This bund will provide noise attenuation during operation of the HS2 route for nine residential properties at Woodhouse Farm.</p>
<p>Relocation of a balancing pond associated with the B5014 Uttoxeter Road realignment at Blithbury Reindeer Lodge</p> <p>SES2-001-006</p>	<p>The realignment of the B5014 Uttoxeter Road would result in the permanent requirement for land from Blithbury Reindeer Lodge. This land would be required for a balancing pond for highway drainage and its associated turning head, a new access road to Dimble Cottage and agricultural land, and ecological mitigation planting.</p>	<p>A balancing pond for highway drainage and its turning head will be relocated from an area of land associated with Blithbury Reindeer Lodge to an area of land, included in the Bill, identified as an ecological mitigation pond. The new location of the balancing pond will be between the existing section and the realigned section of the B5014 Uttoxeter Road, to the north of the HS2 route. The ecological mitigation pond will be relocated to an area of grassland habitat creation, included in the original scheme, at Manor Farm.</p>
<p>Local placement of surplus excavated material to the south-east of Newlands Lane auto-transformer feeder station</p> <p>SES2-001-007</p>	<p>Two temporary material stockpiles would be located on the north and south side of Blithbury South and Blithbury North cuttings, to the south-east of the Newlands Lane auto-transformer feeder station.</p> <p>Blithbury North cutting satellite compound would be located adjacent to Blithbury North cutting, south of the Newlands Lane auto-transformer station.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the north and south sides of Blithbury South and Blithbury North cuttings. One area for the placement of surplus excavated material will be located to the south-east of the Newlands Lane auto-transformer feeder station to the north of the HS2 route, and two areas will be located to the south-east and south-west of the Newlands Lane auto-transformer feeder station to the south of the HS2 route.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Local placement of surplus excavated material to the south of Moreton South embankment</p> <p>SES2-001-008</p>	<p>Three temporary material stockpiles would be located to the south of Moreton South embankment, adjacent to Jonghams Lane and the HS2 route. Existing hedgerow field boundaries separate the temporary material stockpiles.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the south of Moreton South embankment, north of Jonghams Lane.</p> <p>Existing hedgerow, which separates the temporary stockpiles, will be lost as a result of the placement of surplus excavated material. The hedgerow will be re-provided along its existing alignment.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>
<p>New utility compound for the Western Power Distribution power line diversion works, south-west of Jonghams Lane</p> <p>SES2-001-009</p>	<p>Land would be required permanently for the underground diversion of a Western Power Distribution 132kV overhead power line, which would cross beneath the HS2 route at Moreton Brook viaduct.</p>	<p>A new utility compound, the Jonghams Lane utility compound, will be provided for the management of the Western Power Distribution overhead power line diversion works. It will be provided within land required permanently in the original scheme, for the construction of the HS2 route south-west of Jonghams Lane.</p>
<p>Extension of a noise fence barrier from Moreton South North embankment to Moreton North South embankment</p> <p>SES2-002-001</p>	<p>Noise fence barriers, 1km in length and up to 3m in height, would be located along the southern and northern sides of Moreton North embankment, continuing on to Moreton cutting. The barrier on the southern side would provide acoustic screening for properties at Moreton Grange Farm and the barrier on the northern side would provide acoustic screening for properties at Moreton Farm.</p>	<p>The noise fence barrier on the southern side of the Moreton North embankment will be extended to the east by approximately 1km, at a height of up to 3m. The noise fence barrier will provide acoustic screening for properties at Moreton Grange Farm and Upper Moreton Farm.</p> <p>Note that part of this SES2 design change lies within the Colwich to Yarlet area (CA2).</p>

Figure 2: Locations of SES2 engineering design changes not requiring a change to the Bill powers in the Fradley to Colton area



3.3 Corrections to the main ES

Since the production of the main ES and SES₁, the need for a number of corrections to their contents has been identified. This includes instances where there has been a need to correct information in the Volume 2 community area report for the Fradley to Colton area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to a significant effect that has been identified.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES, as amended by the SES₁. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES₂.

3.4 Summary of significant residual environmental effects for Supplementary Environmental Statement 2 changes

The additional baseline information, changes to the design and construction assumptions and corrections have been reviewed. Those that give

rise to new or different likely significant residual environment effects within the Fradley to Colton area are reported in the following paragraphs.

Agriculture, forestry and soils

Effects arising during construction

The main ES reported that the original scheme required 0.9ha of land permanently from the Blithbury Reindeer Lodge, resulting in a permanent moderate adverse effect. Following engagement with the landowner, an opportunity to relocate a balancing pond (SES₂-001-006) away from Blithbury Reindeer Lodge has reduced the area of land permanently required to 0.1ha. This will remove the permanent moderate adverse significant effect reported in the main ES.

Community

Effects arising during construction

The main ES reported that properties on Blithbury Road would experience significant visual effects due to construction works, and seven of these would also experience significant noise and HGV effects. Changes to the construction programme will result in a different

temporary significant effect due to an increase in the number of properties subject to noise, HGV and visual effects from seven properties to eight properties. However, this will not change the level of significance of the effect (major adverse) reported in the main ES.

The main ES reported that the Four Seasons Nature Study Centre would experience significant visual, noise and HGV effects, resulting in a temporary major adverse significant effect for approximately four years. The change to lower the height of the Kings Bromley viaduct, Bourne embankment and River Trent viaduct (SES₂-001-003) and changes to the construction programme will increase the duration of the in-combination effect on the facility to four years and seven months. This will result in a different significant effect but will not change the level of significance (major adverse) reported in the main ES.

The main ES reported that south facing residential properties in Stockwell Heath would experience significant visual effects, and six of these would also experience significant noise and HGV effects. Changes to the construction programme and changes to construction traffic flows on site haul routes will increase the

significant noise effect from six to 10 properties (three additional existing properties and a new proposed dwelling). In combination with the significant visual and HGV effects reported in the main ES, this will increase the number of properties subject to the in-combination effect in Stockwell Heath to 12 properties. However, this will not change the level of significance of the effect (major adverse) reported in the main ES.

Cultural heritage

Effects arising during construction

The main ES did not report that a Second World War pillbox at Fradley, an asset of low value, will be demolished during construction of the Trent and Mersey Canal Viaduct. This will result in a moderate adverse permanent significant effect.

The main ES reported that there would be no effect on any deeply buried archaeology below the cropmarks at Bourne Brook and south of Ashby Sitch and Kings Bromley. Additional historical information relating to the likely ground conditions in the vicinity of borrow pits at Kings Bromley South and Kings Bromley North has indicated that useful material may

be present to a maximum depth greater than originally estimated. The change in maximum extraction depth would, on a precautionary basis, result in a new permanent major adverse effect on deeply buried archaeology that may be present, which is significant.

The main ES reported a permanent moderate adverse significant effect on the setting of Woodhouse Farm, a Grade II listed building. The provision of a noise bund near Woodhouse Farm (SES2-001-005) will further affect the setting of the building. This will result in a different permanent significant effect on Woodhouse Farm by changing the visual impact on the setting of the building, but will not change the level of significance of the effect reported in the main ES.

Landscape and visual

Effects arising from operation

The main ES incorrectly reported a significant effect on the view north-east from Colton Footpath 57 at year 15 and year 60. A minor adverse (non-significant) effect should have been reported rather than a moderate adverse (significant) effect.

The SES1 reported a moderate adverse significant effect on the view south-west from Woodhouse Farm at year 15 and year 60. The provision of a noise bund near Woodhouse Farm (SES2-001-005) and associated woodland mitigation planting near Woodhouse Farm will remove the moderate adverse significant effect reported in SES1 at year 15 and year 60 as the effect reduces to minor adverse which is not significant.

The main ES reported a moderate adverse significant effect on views from Quintons Orchard Farm and views north-east from Mavesyn Ridware Footpath 38 at year 15. The provision of a noise bund near Woodhouse Farm (SES2-001-005) and associated woodland mitigation planting will result in a different significant effect but will not change the level of significance of the effect reported in the main ES.

The main ES reported a moderate adverse significant effect on views north-east from Colton Bridleway 58 at year 15. The extension of a noise fence barrier from Moreton North embankment to Moreton South embankment (SES2-002-001) will result in a different

significant effect. However, this will not change the level of significance of effect reported in the main ES.

Sound, noise and vibration

Effects arising during construction

The main ES did not report significant noise effects on the Rugeley Rescue Centre: Border Collie Trust. Changes to the construction programme and traffic flows will result in a new temporary adverse construction noise effect on the Rugeley Rescue Centre, which is significant. HS2 Ltd will continue to engage with the stakeholders to seek reasonably practicable measures to further reduce or avoid this significant effect.

Water resources and flood risk

Effects arising during construction

The impacts on watercourses have been reassessed to take into account the increased depths to which the borrow pits will potentially be excavated. The new modelling identifies the potential maximum extent to which

groundwater levels could be temporarily lowered as a result of the dewatering of the borrow pits. This has resulted in different significant temporary effects from those reported in the main ES.

The level of significance of the effects reported in the main ES for the River Trent and Bourne Brook has changed from moderate to major.

There are also new or different temporary adverse effects, which are significant, on the following watercourses:

- a major adverse effect on the River Trent;
- a major adverse effect on Bourne Brook;
- a major adverse effect on Pyford Brook;
- a moderate adverse effect on Crawley Brook;
- a moderate adverse effects on the unnamed tributary of the River Trent 1 and the unnamed tributary of the River Trent 2;
- a moderate adverse effect on the Trent and Mersey Canal; and
- a moderate adverse effects on potential spring features, including one near Shaw Lane.

If further modelling following ground investigations confirms the potential impacts on the canal and watercourses, additional mitigation measures will be included in the design.

4. Colwich to Yarlet, Community Area 2

4.1 New environmental baseline information

Since the production of the SES₁ and AP₁ ES, additional baseline information has become available that relates to the following environmental topics in the Colwich to Yarlet area:

- Air quality. Measurements for the baseline year of 2016 and updated tools for undertaking air quality assessments produced by Defra have become available.
- Cultural heritage. Additional geophysical surveys have been undertaken.
- Ecology and biodiversity. Additional Phase 1 habitat surveys have been completed.
- Traffic and transport. Additional information on traffic flows has been collected and a non-motorised user survey of one footpath in the area has been undertaken.

4.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the SES₁ and AP₁ ES, changes to the construction programme, railway systems compounds, SES₂ engineering design changes and SES₂ minor utility design changes in the Colwich to Yarlet area have been identified.

Table 3 and Table 4 present a summary of the changes to the construction assumptions, engineering design and minor utilities within the Colwich to Yarlet area. They provide a description of the SES₁ scheme and the changes proposed in the SES₂ scheme.

Figure 2 and Figure 3 show the approximate location of SES₂ design changes and a minor utility within the Colwich to Yarlet area. The SES₂ reference numbers shown on Figures 2 and 3 are cross-referenced in the text, where appropriate.

Table 3: Summary of changes to the construction assumptions within the existing powers of the Bill in the Colwich to Yarlet area

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
<p>Provision of a new railway systems compound at Trent South embankment main compound</p> <p>SES2-002-004</p>	<p>Provision of a civil engineering compound only.</p> <p>The main ES reported that this compound would be operational for a total of six years, commencing during 2021, and would be used to manage the civil engineering works only.</p> <p>The main ES reported that this compound would support an average of 250 civil engineering workers per day (350 workers at peak times).</p> <p>The main ES reported that this compound would generate 204-279 civil engineering HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for the Trent South embankment main compound related to civil engineering works.</p> <p>A new railway systems compound will be provided within the footprint of the Trent South embankment main compound, included in the original scheme for civil engineering works. This railway systems compound will:</p> <ul style="list-style-type: none"> • be operational for nine months, commencing during 2025; • support an average of 25 railway system workers per day (40 workers at peak times); • be accessed via the A51 Lichfield Road; • generate 158-160 railway systems HGV trips per day during the busy periods and within the peak month of activity; • generate 37-51 railway systems car/LGV trips per day during busy periods and within the peak month of activity; • be managed from the Stone railhead main compound (in the Stone and Swynnerton area); and • support the installation of track works.

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
<p>Provision of a new railway systems compound at Brancote South cutting satellite compound</p> <p>SES2-002-006</p>	<p>Provision of a civil engineering compound only.</p> <p>The main ES reported that this compound would be operational for a total of four years and three months, commencing during 2021, and would be used to manage the civil engineering works only.</p> <p>The main ES reported that this compound would support an average of 25 civil engineering workers per day (35 workers at peak times).</p> <p>The main ES reported that this compound would generate 80-90 civil engineering HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for the Brancote South cutting satellite compound related to civil engineering works.</p> <p>A new railway systems compound will be provided within the footprint of the Brancote South cutting satellite compound, included in the original scheme for civil engineering works. This railway systems compound will:</p> <ul style="list-style-type: none"> • be operational for nine months, commencing during 2024; • support an average of 25 railway system workers per day (40 workers at peak times); • be accessed via a site haul route connecting to the A518 Weston Road; • generate 158-160 railway systems HGV trips per day during the busy periods and within the peak month of activity; • generate 37-51 railway systems car/LGV trips per day during busy periods and within the peak month of activity; • be managed from the Stone railhead main compound (in the Stone and Swynnerton area); and • support the installation of track works.
<p>Change to the operational duration for the Sandon Road auto-transformer station satellite compound</p>	<p>SES1 reported that this compound would be operational for a total of one year and six months, commencing during 2024.</p>	<p>The compound will be operational for a total of one year and nine months, an increase in duration of three months from that reported in SES1.</p>

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
<p>Provision of a new railway systems compound at Marston North embankment satellite compound</p> <p>SES2-002-009</p>	<p>Provision of a civil engineering compound only.</p> <p>The main ES reported that this compound would be operational for a total of three years and six months, commencing during 2021, and would be used to manage the civil engineering works only.</p> <p>The main ES reported that this compound would support an average of 10 civil engineering workers per day (15 workers at peak times).</p> <p>The main ES reported that this compound would generate 108-144 civil engineering HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for the Marston North embankment satellite compound related to civil engineering works.</p> <p>A new railway systems compound will be provided within the footprint of the Marston North embankment satellite compound, included in the original scheme for civil engineering works. This railway systems compound will:</p> <ul style="list-style-type: none"> • be operational for nine months, commencing during 2025; • support an average of 25 railway system workers per day (40 workers at peak times); • be accessed via the A34 Stone Road; • generate 158-160 railway systems HGV trips per day during the busy periods and within the peak month of activity; • generate 37-51 railway systems car/LGV trips per day during busy periods and within the peak month of activity; • be managed from the Stone railhead main compound (in the Stone and Swynnerton area); and • support the installation of track works.

Table 4: Summary of changes to the engineering or minor utility design not requiring a change to the Bill powers in the Colwich to Yarlet area

Name of SES2 engineering or minor utility design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Extension of a noise fence barrier from Moreton North embankment to Moreton South embankment</p> <p>SES2-002-001</p>	<p>Noise fence barriers, 1km in length and up to 3m in height, would be located along the southern and northern sides of Moreton North embankment, continuing on to Moreton cutting. The barrier on the southern side would provide acoustic screening for properties at Moreton Grange Farm and the barrier on the northern side would provide acoustic screening for properties at Moreton Farm.</p>	<p>The noise fence barrier on the southern side of the Moreton North embankment will be extended to the east by approximately 1km, at a height of up to 3m. The noise fence barrier will provide acoustic screening for Upper Moreton Farm. Note that part of this SES2 design change lies within the Fradley to Colton area (CA1).</p>
<p>Local placement of surplus excavated material to the south of Moreton cutting</p> <p>SES2-002-002</p>	<p>A temporary material stockpile would be located to the south of Moreton cutting, immediately south-west of Colwich Bridleway 23 accommodation green overbridge.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the south of Moreton cutting, immediately south-west of Colwich Bridleway 23 accommodation green overbridge.</p> <p>The material will be graded so that the land can be returned to agricultural use.</p>
<p>Local placement of surplus excavated material to the north of Moreton cutting</p> <p>SES2-002-003</p>	<p>A temporary material stockpile would be located to the north of Moreton cutting, immediately north of Colwich Bridleway 35 accommodation overbridge.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the north of Moreton cutting, immediately north of Colwich Bridleway 35 accommodation overbridge.</p> <p>The material will be graded so that the land can be returned to agricultural use.</p>
<p>Three new working areas and a new utility compound for the British Pipeline Agency (BPA) diversion works at Trent North embankment and Brancote South cutting</p> <p>SES2-002-005</p>	<p>Land would be required permanently for the diversion of an underground BPA 10-inch diameter fuel pipeline, which would cross beneath the HS2 route at Trent North embankment.</p>	<p>Three new temporary working areas for the construction of a BPA 10-inch diameter fuel pipeline diversion, adjacent to Trent North embankment and Brancote South cutting.</p> <p>A new temporary utility compound will be provided for the management of the BPA fuel pipeline diversion works. It will be provided within land required permanently for Trent North embankment.</p>

Name of SES2 engineering or minor utility design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Local placement of surplus excavated material to the south of Brancote North cutting</p> <p>SES2-002-007</p>	<p>Two temporary material stockpiles would be located to the south of Brancote North cutting, west of Tixall Bridleway o.1628 accommodation overbridge and east of Trent Walk underbridge.</p> <p>Existing hedgerow field boundaries separate the temporary material stockpiles.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the south of Brancote North cutting, west of Tixall Bridleway o.1628 accommodation overbridge and east of Trent Walk underbridge.</p> <p>Existing hedgerow, which separate the temporary material stockpiles, will be lost as a result of the placement of surplus excavated material; this will be re-provided along its existing alignment.</p> <p>The material will be graded so that the land can be returned to agricultural use.</p>
<p>Local placement of surplus excavated material to the north of Marston North embankment</p> <p>SES2-002-008</p>	<p>Four temporary material stockpiles would be located to the north of Marston North embankment, north-east of Park Farm, Marston.</p> <p>Existing hedgerow field boundaries and a redundant field access track separate the temporary material stockpiles.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be permanently placed to the north of Marston North embankment, north-east of Park Farm, Marston.</p> <p>Existing hedgerow, which separates the temporary material stockpiles, will be lost as a result of the placement of surplus excavated material. This will be re-provided along its existing alignment.</p> <p>The material will be graded so that the land can be returned to agricultural use.</p>
<p>New construction traffic route along the A51 from Stone to Weston via Sandon</p> <p>SES2-002-010</p>	<p>Construction traffic would enter onto the A34 Stone Road at Yarlet and travel south to the A513 Beaconside before crossing to the north of the HS2 route along the A518 Weston Road/Weston Bank/Strafford Road, and joining the A51 London Road at Weston.</p>	<p>A new construction traffic route will be provided for HGVs entering onto the A34 Stone Road at Yarlet then north towards Stone via the A34 and then via the A51 to Weston via Sandon. This route will improve the distribution of construction traffic within the existing road network.</p>
<p>Provision of a new underground Openreach telecommunications cable to the Sandon Road auto-transformer satellite compound</p> <p>SES2-002-101</p>	<p>No provision was made for a temporary telecommunications cable to the Sandon Road auto-transformer satellite compound.</p>	<p>Provision of a new temporary underground Openreach telecommunication cable, 145m in length, to Sandon Road auto-transformer satellite compound.</p>

Figure 3: Locations of SES2 engineering design changes not requiring a change to the Bill powers in the Colwich to Yarlet area

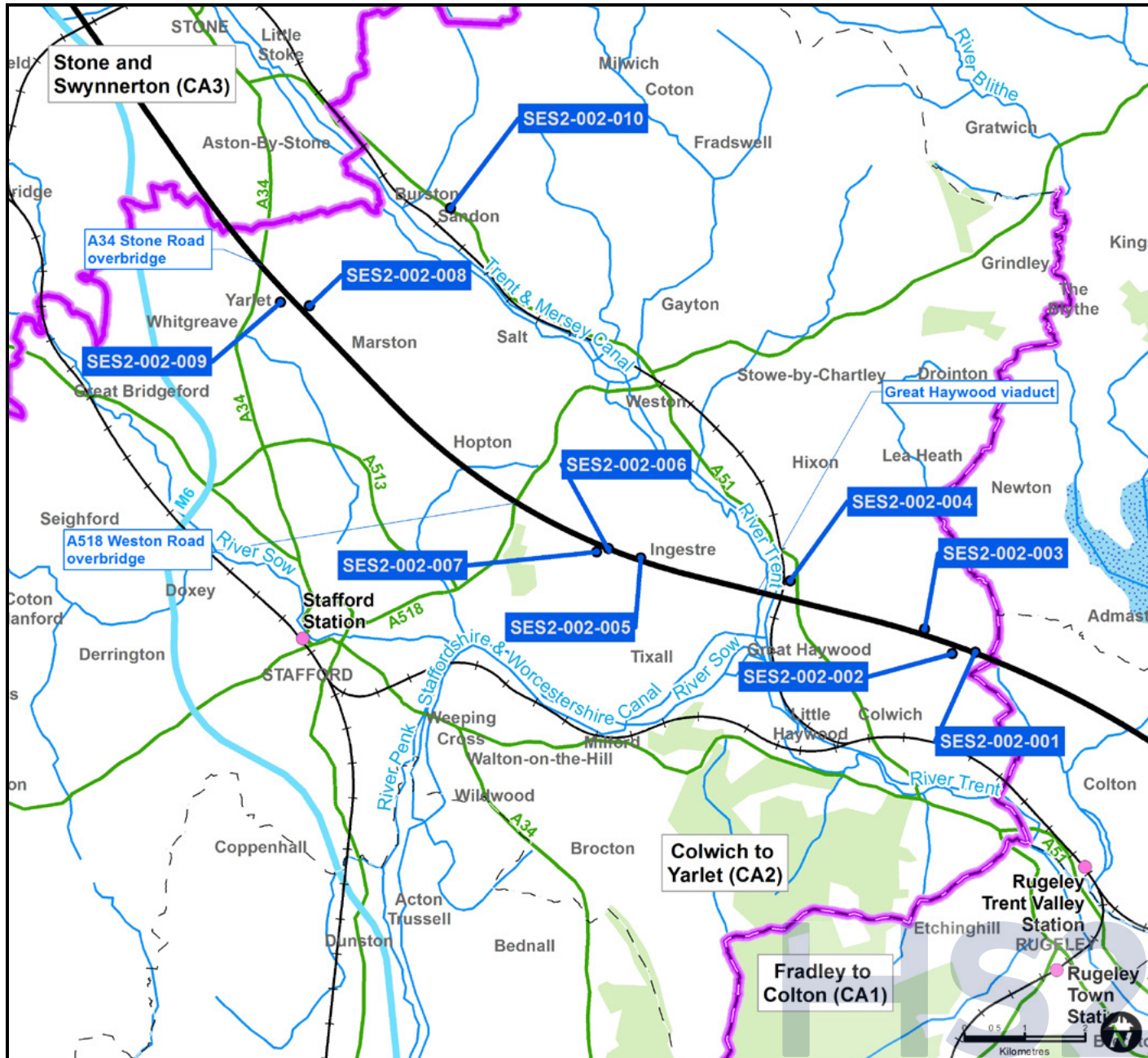
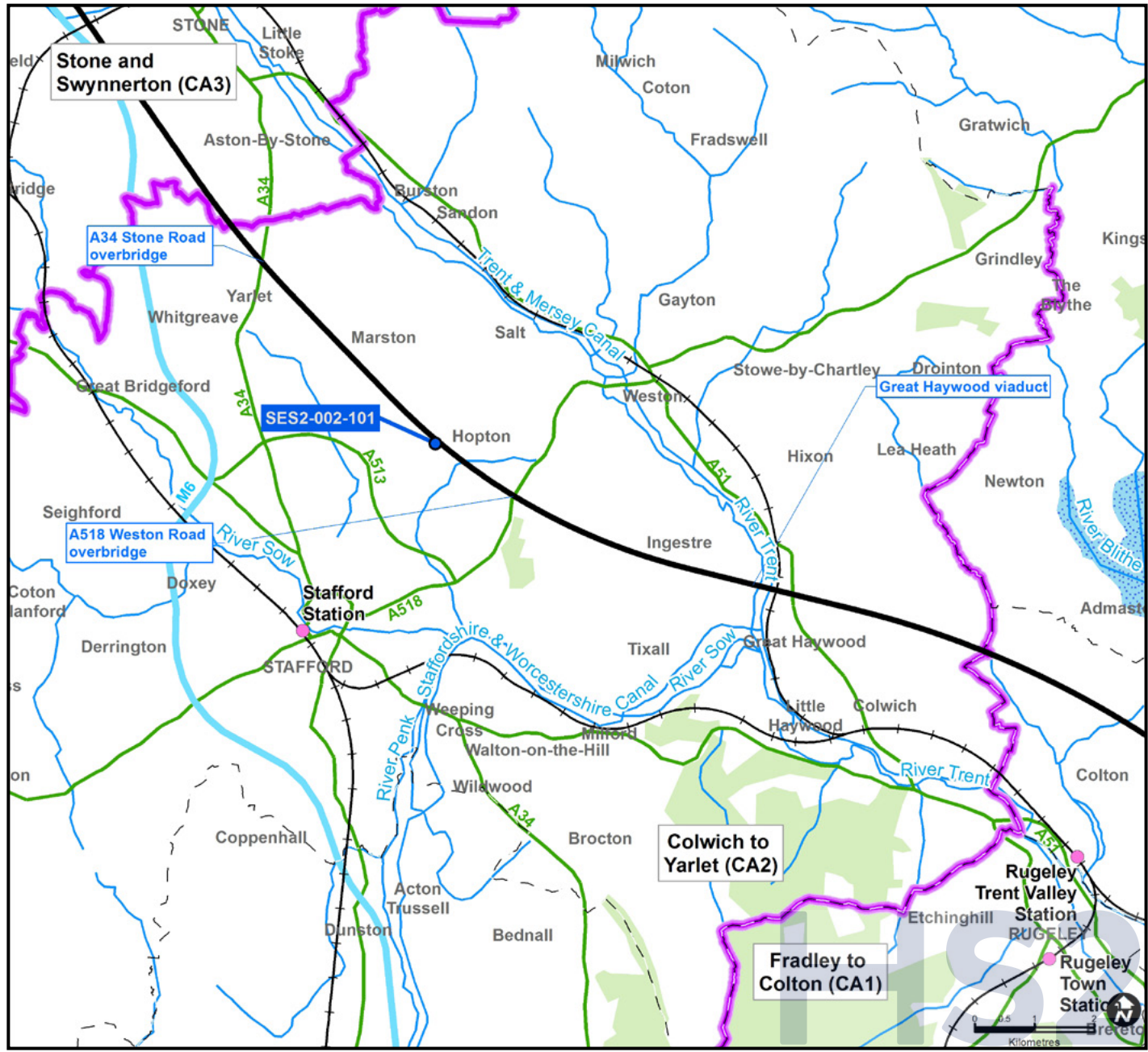


Figure 4: Location of SES2 minor utility change not requiring a change to the Bill powers in the Colwich to Yarlet area



4.3 Corrections to the main ES and SES1

Since the production of the main ES and SES1, the need for a number of corrections to their contents has been identified. This includes instances where there has been a need to correct information in the Volume 2 community area report for the Colwich to Yarlet area because of the potential to alter the significant environmental effects reported in the main ES or the SES1 or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES and SES1 and AP1 ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES, as amended by the SES1. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES2.

4.4 Summary of significant residual environmental effects for Supplementary Environmental Statement 2 changes

The additional baseline information, changes to the design and construction assumptions and corrections have been reviewed. Those that give rise to new or different likely significant residual environmental effects within the Colwich to Yarlet area are reported in the following paragraphs.

Community

Effects arising during construction

SES1 reported that approximately 16 residential properties in Hopton would experience a temporary major adverse effect due to in-combination noise, visual and HGV effects for up to one year. Changes to the construction programme and to construction traffic flows on the site haul road, and the provision of a new temporary telecommunications cable to the Sandon Road auto-transformer satellite compound (SES2-002-101) will result in an increase in the number of properties in Hopton experiencing in-combination effects from

16 properties to 23 properties. Additionally, the duration of construction noise effects on these properties will increase to up to one year and nine months. These changes will result in different in-combination effects at these properties but will not change the level of significance of the effect reported in SES1.

The main ES did not report any significant in-combination effects on Yarlet School as a result of the original scheme. Changes to the construction programme will result in a new significant noise effect on the school for six months. In combination with HGV and visual effects, this will result in a new temporary major adverse significant effect on Yarlet School for up to six months. HS2 Ltd will continue ongoing engagement with the stakeholders to seek reasonably practicable measures to further reduce or avoid this significant effect.

Effects arising from operation

The main ES reported that visitors to Upper Moreton Farm would experience significant visual and noise effects during operation. The extension of a noise fence barrier from Moreton North embankment to Moreton South

embankment (SES2-002-001) will remove the significant in-combination effect at Upper Moreton Farm reported in the main ES.

Landscape and visual

Effects arising from operation

The main ES reported a moderate adverse effect at year 15 on the view north from Upper Moreton Farm. The extension of a noise fence barrier from Moreton North embankment to Moreton South embankment (SES2-002-001) will result in a different significant effect but will not change the level of significance of effect reported in the main ES.

The main ES reported a major adverse effect on the view south from Moreton Lane and Colwich Bridleway 23 at year 15 and year 60. Since the production of the main ES, a requirement to permanently place surplus excavated material to the south of Moreton cutting (SES2-002-002) has been identified. This will result in a different visual effect due to the presence of a noticeable area of slightly elevated ground but will not change the level of significance of the effect reported in the main ES.

Sound, noise and vibration

Effects arising during construction

The main ES, as amended by SES1, identified a significant construction noise effect on a community basis at approximately 20 residential properties at Hopton. Changes to the construction programme, a requirement for a telecommunications cable at Sandon Road (SES2-002-101) and changes to construction traffic flows have resulted in an increase in the number of properties subject to a significant construction noise effect from approximately 20 to approximately 25. The duration of construction activities will also increase from one year to one year and nine months. This will result in a different significant noise effect.

The main ES did not report significant construction noise effects at Yarlet School. Changes to the construction programme will result in a temporary noise effect at Yarlet School for approximately six months, which is significant. HS2 Ltd will continue ongoing engagement with the stakeholders to seek reasonably practicable measures to further reduce or avoid this significant effect.

Effects arising from operation

The main ES reported a significant adverse effect on Upper Moreton Farm. The extension to the noise fence barrier from Moreton North embankment to Moreton South embankment (SES2-002-001) will remove the significant operational airborne noise effect reported in the main ES at Upper Moreton Farm.

Traffic and transport

Effects arising during construction

The main ES did not report the need to temporarily restrict access into and out of Yarlet Lane to left-in and left-out only during the temporary diversion of the A34 Stone Road. This restriction on access will result in a moderate adverse traffic effect with regard to traffic flows and delays for vehicle occupants.

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5. Stone and Swynnerton, Community Area 3

5.1 New environmental baseline information

Since the production of the SES₁ and AP₁ ES, additional baseline information has become available that relates to the following environmental topics in the Stone and Swynnerton area:

- Air quality. Measurements for the baseline year of 2016 and updated tools for undertaking air quality assessments produced by Defra have become available.
- Cultural heritage. Additional geophysical and heritage walkover surveys have been completed.
- Ecology and biodiversity. Additional Phase 1 habitat surveys have been completed and new baseline data relating to the designation of nature conservation sites has been provided by the Staffordshire Wildlife Trust.
- Traffic and transport. Additional information on traffic flows has been collected.

5.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the SES₁ and AP₁ ES, changes to the construction programme, railway systems compounds, and SES₂ engineering design changes affecting the Stone and Swynnerton area have been identified.

Table 5 and Table 6 present a summary of the changes to the construction assumptions and engineering design within the Stone and Swynnerton area. They provide a description of the SES₁ scheme and the changes proposed in the SES₂ scheme.

Figure 5 shows the approximate location of SES₂ design changes within the Stone and Swynnerton area. The SES₂ reference numbers shown on Figure 5 are cross-referenced in the text, where appropriate.

Table 5: Summary of changes to the construction assumptions within the existing powers of the Bill in the Stone and Swynnerton area

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
Change to the railway systems worker numbers and railway systems HGV trips for the Swynnerton embankment satellite compound	<p>The main ES, as corrected by SES1, reported that the compound would support an average of 15 civil engineering workers per day (25 workers at peak times) and an average of 30 railway systems workers per day (40 workers at peak times).</p> <p>The main ES further reported that the compound would generate 71-84 civil engineering HGV trips per day and up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for the Swynnerton embankment satellite compound related to civil engineering works.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 45 railway systems workers per day (70 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 160-162 trips per day during the busy periods and within the peak month of activity.</p>

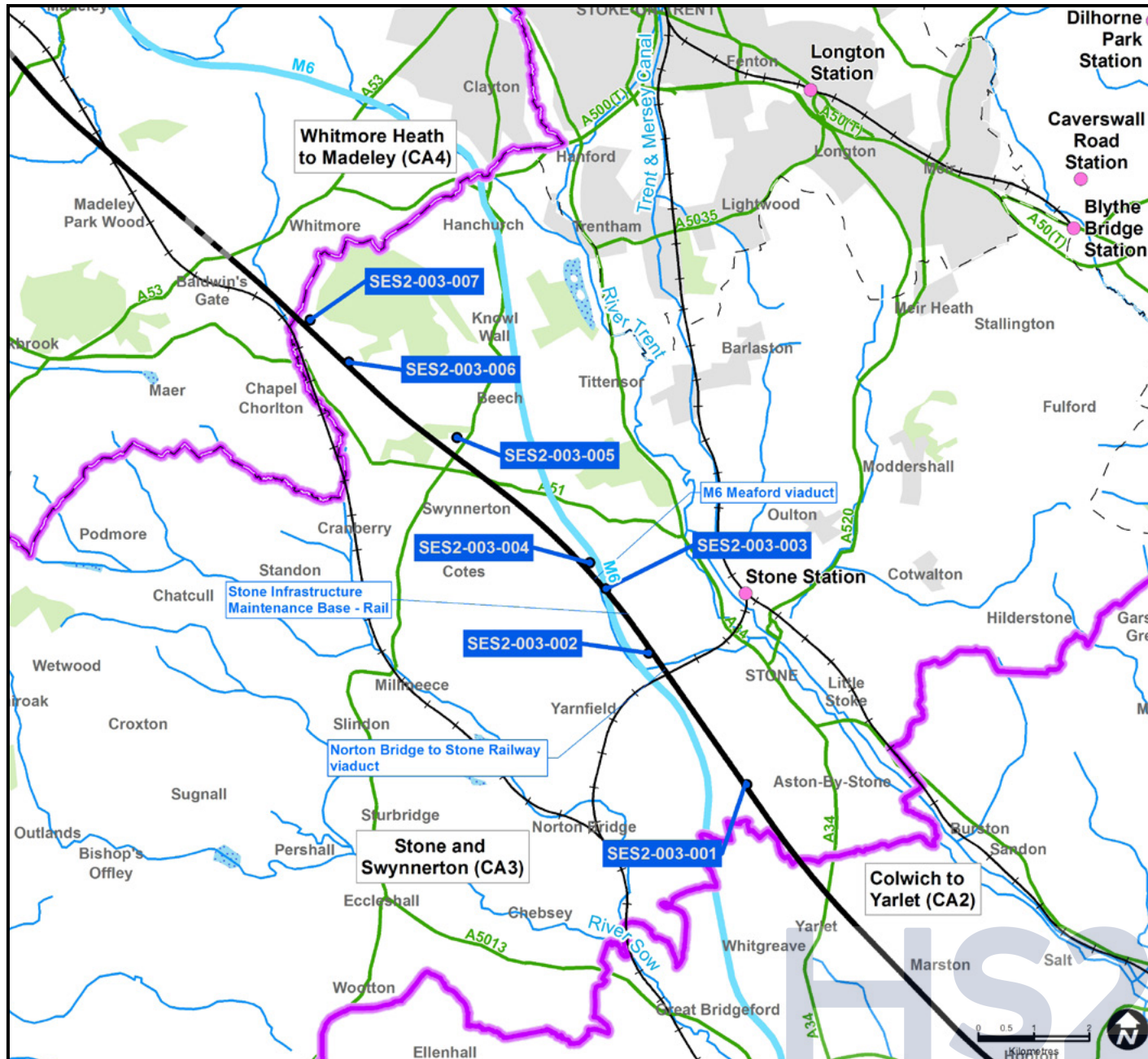
Table 6: Summary of changes to the engineering design not requiring a change to the Bill powers in the Stone and Swynnerton area

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
Local placement of surplus excavated material to the south of Yarlet embankment SES2-003-001	<p>A temporary material stockpile would be located to the south of Yarlet embankment, east of the Stone Rural Bridleway 0.1135.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the south of Yarlet embankment, east of Stone Rural Bridleway 0.1135.</p> <p>The material will be graded so that the placement area can be returned to agricultural use.</p>
Landscape earthworks in the vicinity of the Stone Infrastructure Maintenance Base-Rail (IMB-R) SES2-003-002	<p>Stone IMB-R would be provided as a permanent maintenance facility, covering 40ha of land and extending 1.6km along the HS2 main line from the Norton Bridge to Stone Railway. During construction, the area required permanently for the Stone IMB-R would be used as the Stone railhead main compound.</p> <p>The AP1 revised scheme (AP1-003-001: Additional land permanently required and a change in the powers of the Bill for the viaduct crossing of the Norton Bridge to Stone Railway and track crossovers along the HS2 route) made provision for changes to the HS2 main line alignment in this area and for the Norton Bridge to Stone Railway viaduct and removed the proposed Filly Brook viaduct.</p>	<p>Five permanent landscape earthworks to the south of the Stone IMB-R and three permanent landscape earthworks within the Stone IMB-R site will be created. Where landscape earthworks will be located within areas of environmental mitigation planting, the planting will remain at the same location and be planted on top of the earthwork. A small area of grassland mitigation will no longer be provided and there will be a small increase in landscape mitigation planting at the northern end of the Yarnfield South embankment.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Increase in length and change to design of the M6 Meaford viaduct</p> <p>SES2-003-003</p>	<p>The original scheme provided for the M6 Meaford viaduct, 174m in length, to carry the HS2 route across the M6. The viaduct would be a four-span structure with piers in the central reservation of the M6. The southbound lanes of the M6 would be realigned for 1.1km as a result of the need for the central reservation to be widened to accommodate the viaduct piers. Consequently, the existing M6 underpass, 150m south-west of the HS2 main line, would be extended by 3.5m, maintaining access for the realigned Stone Rural Footpath 33 under the M6. Drainage and hedgerow planting would be provided along the eastern side of the M6 realignment, north of the HS2 route.</p> <p>The AP1 revised scheme (AP1-003-001: Additional land permanently required and a change in the powers of the Bill for the viaduct crossing of the Norton Bridge to Stone Railway and track crossovers along the HS2 route) provided for the horizontal realignment of the M6 Meaford viaduct by 13.5m in a north-easterly direction. The length of the M6 Meaford viaduct was slightly extended by 2m to 176m, the Meaford South embankment was extended from 343m to 382m and the Meaford North embankment was reduced in length from 928m to 910m.</p>	<p>The length of the M6 Meaford viaduct will be increased to a total length of 208m and be constructed as a three-span structure. The central span of the viaduct will be 130m in length with a tied arch structural form, up to 20m above rail level and up to 36m above existing ground level, removing the requirement for a pier in the central reservation of the motorway. A realignment of the southbound lanes of the M6, and extension in the length of the existing M6 underpass, will therefore no longer be required.</p> <p>As a result of the increased length of the M6 Meaford viaduct, the total length of the Meaford South embankment will be 379m and the Meaford North embankment will be 881m.</p> <p>Drainage and hedgerow planting along the eastern side of the M6 realignment will no longer be required.</p>
<p>Two new utility compounds for the diversion of a Western Power Distribution 33kV overhead line and a Scottish Power Energy Networks 132kV overhead line, north-east of Swynnerton Footpath 27 accommodation underbridge</p> <p>SES2-003-004</p>	<p>Two overhead power lines, one Western Power Distribution 33kV overhead line and one Scottish Power Energy Networks 132kV overhead line, would be diverted over a length of 1.2km. The power lines, which share a series of pylons, would be diverted underground for 500m along their existing alignments, passing under the HS2 route and the M6 in a north-east to south-west direction, 100m south of the Swynnerton Footpath 27 accommodation underbridge. The diversion would be managed and constructed from Meaford North embankment satellite compound.</p>	<p>Two new utility compounds will be provided to manage the utility diversion works. Swynnerton Utility compound (North) and Swynnerton Utility compound (South) will be located adjacent to the utility diversion, to the north-east and south-west of the M6. Meaford North embankment satellite compound will no longer be required to be used for these utility works. There is no change to the diversions themselves.</p>
<p>Local placement of surplus excavated material to the north of Swynnerton North cutting</p> <p>SES2-003-005</p>	<p>A temporary material stockpile would be located to the north of Swynnerton North cutting, north-west of the A519 Newcastle Road/A51 Stone Road roundabout.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the north of Swynnerton North cutting, north-west of the A519 Newcastle Road/A51 Stone Road roundabout.</p> <p>The material will be graded so that the placement area can be returned to agricultural use.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Local placement of surplus excavated material to the north and south of Hatton South cutting</p> <p>SES2-003-006</p>	<p>Two temporary material stockpiles would be located adjacent to the Hatton South cutting, 200m north-west of the Swynnerton Footpath 15 green overbridge.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently on the northern and southern sides of the Hatton South cutting, 200m north-west of Swynnerton Footpath 15 green overbridge.</p> <p>The material will be graded so that the placement area can be returned to agricultural use.</p>
<p>Change to the diversion of a Scottish Power Energy Networks 132kV overhead power line and a new utility compound, south-east of Swynnerton Footpath 10 Accommodation underbridge</p> <p>SES2-003-007</p>	<p>Diversion of a Scottish Power Energy Networks 132kV overhead power line for 870m, of which 250m would be diverted underground to cross under the HS2 route in a north-east to south-west direction, 100m to the south-east of the Swynnerton Footpath 10 underbridge.</p> <p>A small area of grassland habitat creation would be provided between the landscape mitigation planting to the north-east of the HS2 route on Stableford South embankment.</p> <p>The diversion would be managed from the Hatton North cutting satellite compound.</p>	<p>The diversion route for the Scottish Power Energy Networks 132kV overhead power line to the south-east of Swynnerton Footpath 10 accommodation underbridge will be amended.</p> <p>The diversion will start and finish at the same points as proposed in the original scheme, and the underground route will increase in length from 250m to 400m and will be diverted along an accommodation access and public highways. A strip of grassland habitat creation provided for easement in the original scheme will be replaced with landscape mitigation planting.</p> <p>A new utility compound (Bent Lane utility compound) will be provided to manage the installation of the Scottish Power Energy Networks 132kV overhead power line. It will be provided within land required for the original scheme, 250m south of Swynnerton Footpath 10 accommodation underbridge.</p>

Figure 5: Locations of SES2 engineering design changes not requiring a change to the Bill powers in the Stone and Swynnerton area



5.3 Corrections to the main ES and the SES₁

Since the production of the main ES and SES₁, the need for a number of corrections to their contents has been identified. This includes instances where there has been a need to correct information in the Volume 2 community area report for the Stone and Swynnerton area because of the potential to alter the significant environmental effects reported in the main ES or the SES₁, or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES and SES₁ and AP₁ ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES, as amended by the SES₁. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES₂.

5.4 Summary of significant residual environmental effects for Supplementary Environmental Statement 2 changes

The additional baseline information, changes to the design and construction assumptions and corrections have been reviewed. Those that give rise to new or different likely significant residual environmental effects within the Stone and Swynnerton area are reported in the following paragraphs.

Cultural heritage

Effects arising during construction

The main ES did not report the impact on a milepost at Walton Heath, an asset of low value, which will be removed during works on the B5026 Eccleshall Road. This will result in a permanent moderate adverse significant effect.

New baseline information has provided further information about the extent of the late prehistoric or Romano-British settlement site, south of Dog Lane. This will result in a different permanent major adverse significant effect as part of this asset will be removed during construction.

Ecology and biodiversity

Effects arising during construction

The main ES reported a permanent adverse effect at the local/parish level, which is not significant, due to the combined loss of 0.8ha of plantation woodland through the Stone and Swynnerton area. Approximately 200m² of this loss is from an area that is now understood to comprise traditional orchard, located to the north-east of the junction of the A519 Newcastle Road and A51 Stone Road. Since the production of SES₁, Swynnerton Heath Farm (east of) has been designated as a Biodiversity Alert Site (BAS) and this unmanaged orchard forms part of the designation. The loss of 200m² of traditional orchard habitat represents a new permanent adverse effect on this habitat that is significant at the district/borough level. In consultation with relevant stakeholders and local landowners, suitable alternative compensatory measures are being sought to reduce this permanent adverse effect to a level that is no longer significant.

Landscape and visual

Effects arising from operation

The main ES reported a moderate adverse effect on the Yarnfield Settled Farmlands Landscape Character Area at year 15. Additional landscape earthworks and associated woodland mitigation planting have been incorporated into the design to integrate the Stone Infrastructure Maintenance Base-Rail into the surrounding landscape (SES2-003-002). This will result in a different significant effect on the landscape character, but will not change the level of significance reported in the main ES.

6. Whitmore Heath to Madeley, Community Area 4

6.1 New environmental baseline information

Since the production of the SES₁ and AP₁ ES, additional baseline information has become available that relates to the following environmental topics in the Whitmore Heath to Madeley area:

- Air quality. Measurements for the baseline year of 2016 and updated tools for undertaking air quality assessments produced by Defra have become available.
- Cultural heritage. Additional geophysical and heritage walkover surveys have been undertaken.
- Ecology and biodiversity. Additional Phase 1 habitat surveys have been completed and new baseline data relating to the designation of nature conservation sites has been provided by the Staffordshire Wildlife Trust.
- Traffic and transport. Additional non-motorised user surveys of two footpaths have been undertaken.

6.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the SES₁ and AP₁ ES, changes to the construction programme, railway systems compounds and SES₂ engineering design changes in the Whitmore Heath to Madeley area have been identified.

Table 7 and Table 8 present a summary of the changes to the construction assumptions and engineering design within the Whitmore Heath to Madeley area. They provide a description of the SES₁ scheme and the changes proposed in the SES₂ scheme.

Figure 6 shows the approximate location of SES₂ design changes within the Whitmore Heath to Madeley area. The SES₂ reference numbers shown on Figure 6 are cross-referenced in the text where appropriate.

Table 7: Summary of changes to the construction assumptions within the existing powers of the Bill in the Whitmore Heath to Madeley area

Details of changes to construction assumptions	Description of the SES1 scheme	Description of the SES2 scheme
Change to the operational duration, railway systems worker numbers and railway systems HGV trips for the Whitmore Heath tunnel south portal satellite compound	<p>The main ES reported that this compound would be operational for one year, commencing during 2025.</p> <p>The main ES further reported that the compound would support an average of 10 railway systems workers per day (15 workers at peak times).</p> <p>The main ES further reported that the compound would generate up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>The railway installation works will be undertaken for a period of nine months, commencing during 2025.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 30 railway systems workers per day (50 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 110-152 trips per day during the busy periods and within the peak month of activity.</p>
Change to the operational duration, railway systems worker numbers and railway systems HGV trips for the Madeley tunnel (south) satellite compound	<p>The main ES reported that this compound would be operational for a total of five years, commencing during 2020. Civil engineering works would be managed from this compound for a period of four years and three months, followed by railway installation works for a period of nine months.</p> <p>The main ES further reported that the compound would support an average of 45 civil engineering workers per day (150 workers at peak times) and an average of 10 railway systems workers per day (15 workers at peak times).</p> <p>The main ES further reported that the compound would generate 64-81 civil engineering HGV trips per day and up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for the Madeley tunnel (south) satellite compound related to civil engineering works.</p> <p>The railway installation works will be undertaken for a period of six months, commencing during 2025. The compound will be operational for a total of five years and three months, an increase in three months from that stated in the main ES.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 20 railway systems workers per day (30 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 79-81 trips per day during the busy periods and within the peak month of activity.</p>
Change to the railway systems worker numbers and railway systems HGV trips for the Madeley tunnel north portal satellite compound	<p>The main ES reported that the compound would support an average of 45 railway systems workers per day (85 workers at peak times).</p> <p>The main ES further reported that the compound would generate 18-26 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There will be a decrease in the number of railway systems workers supported by this compound with an average of 30 railway systems workers per day (65 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 90-98 trips per day during the busy periods and within the peak month of activity.</p>

Table 8: Summary of changes to the engineering design not requiring a change to the Bill powers in the Whitmore Heath to Madeley area

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Local placement of surplus excavated material to the north of Whitmore South cutting</p> <p>SES2-004-001</p>	<p>Two temporary material stockpiles and the A53 Newcastle Road transfer node would be located on the northern side of Whitmore South cutting, to the southern side of the A53 Newcastle Road, which would be realigned to cross the HS2 route via the A53 Newcastle Road overbridge.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently on the northern side of Whitmore South cutting, to the southern side of the A53 Newcastle Road on land proposed in the original scheme for the two temporary material stockpiles and the A53 Newcastle Road transfer node.</p> <p>The material will be graded so that the land can be returned to agricultural use.</p> <p>This SES2 design change is dependent on the AP2 revised scheme (AP2-004-002) being enacted, as the northern part of the local placement area makes use of land that was included in the original scheme for the realignment of the A53 Newcastle Road and a balancing pond for highway drainage, which will be removed as a result of that amendment.</p>
<p>Increase in average mineral excavation depth for the borrow pit west of Netherset Hey Farm</p> <p>SES2-004-002</p>	<p>A borrow pit, west of Netherset Hey Farm, would be provided for the extraction of sand and gravel for construction of the scheme. The borrow pit would be excavated to an assumed average depth of 4.5m, comprising 1m of topsoil and subsoil and 3.5m of sand and gravel extraction, and up to a maximum extraction depth of 17m. Based on the assumed average depth, the borrow pit would be excavated across an area of up to 28ha. Topsoils and subsoils would be stored and used in restoration of the borrow pit.</p>	<p>For the purpose of assessment, the average excavation depth at the borrow pit, west of Netherset Hey Farm, will be increased from 4.5m to 8m, comprising 1.2m of topsoil and subsoil and an average mineral extraction depth of 6.8m of sand and gravel for construction. The maximum extraction depth will remain at up to 17m.</p> <p>The additional material will be required to reduce the amount of sand and gravel imported for construction.</p>
<p>Reconfiguration of the existing West Coast Main Line tracks between the A500 Shavington Bypass and Madeley Bridleway 2 and provision of a new railway systems compound</p> <p>SES2-005-001</p>	<p>Railway systems modifications would be required to the existing conventional rail infrastructure in the South Cheshire area (CA5) and Whitmore Heath to Madeley area to connect the HS2 spurs to the West Coast Main Line (WCML).</p> <p>A new section of the WCML, 4.2km in length, would be located to the west of the existing WCML between Blakenhall Bridleway 8 accommodation overbridge and Crewe South portal retained cutting.</p>	<p>The connection between the HS2 spurs and the WCML will be modified to connect the HS2 main line into the central lines of the WCML. There will be associated railway systems modifications between the Madeley Bridleway 2 in the south and the A500 Shavington Bypass in the north.</p> <p>The modifications will take place in the Whitmore Heath to Madeley area and in the South Cheshire area (CA5).</p> <p>In the Whitmore Heath to Madeley area, railway systems modifications, such as signalling, overhead lines, cable routes and other railway systems equipment, will be required within the existing WCML corridor north from Madeley Bridleway 2. Relocation of a railway systems signalling equipment building on the western side of the WCML, near the River Lea viaduct, will no longer be required and removes the need for the associated maintenance access road off Manor Road to the east of the HS2 route and Hey House.</p>

6.3 Corrections to the main ES

Since the production of the main ES and SES₁, the need for a number of corrections to their contents has been identified. This includes instances where there has been a need to correct the information in the Volume 2 community area report for the Whitmore Heath to Madeley area because of the potential to alter the significant environmental effects reported in the main ES, or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES, as amended by the SES₁. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES₂.

6.4 Summary of significant residual environmental effects for Supplementary Environmental Statement 2 changes

The additional baseline information, changes to the design and construction assumptions and corrections have been reviewed. Those that give rise to new or different likely significant residual environment effects within the Whitmore Heath to Madeley area are reported in the following paragraph.

Cultural heritage

Effects arising during construction

New baseline information has identified a possible Bronze Age burial mound to the west of Madeley. This will result in a new permanent moderate adverse significant effect as this asset will be removed during construction.

7. South Cheshire, Community Area 5

7.1 New environmental baseline information

Since the production of the SES₁ and AP₁ ES, additional baseline information has become available that relates to the following environmental topics in the South Cheshire area:

- Air quality. Measurements for the baseline year of 2016 and updated tools for undertaking air quality assessments produced by Defra have become available.
- Ecology and biodiversity. Additional Phase 1 habitat surveys have been completed and new baseline data relating to the designation of nature conservation sites has been provided by the Cheshire Wildlife Trust.
- Traffic and transport. Additional information on traffic flows has been collected and a non-motorised user survey of one footpath has been undertaken.

7.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the SES₁ and AP₁ ES, changes to the construction programme, and SES₂ engineering design changes affecting the South Cheshire area have been identified.

Table 9 presents a summary of the changes to the design and construction assumptions within the South Cheshire area. It provides a description of the SES₁ scheme and changes proposed in the SES₂ scheme.

Figure 7 shows the approximate location of SES₂ design changes within the Whitmore Heath to Madeley area. The SES₂ reference numbers shown on Figure 7 are cross-referenced in the text where appropriate.

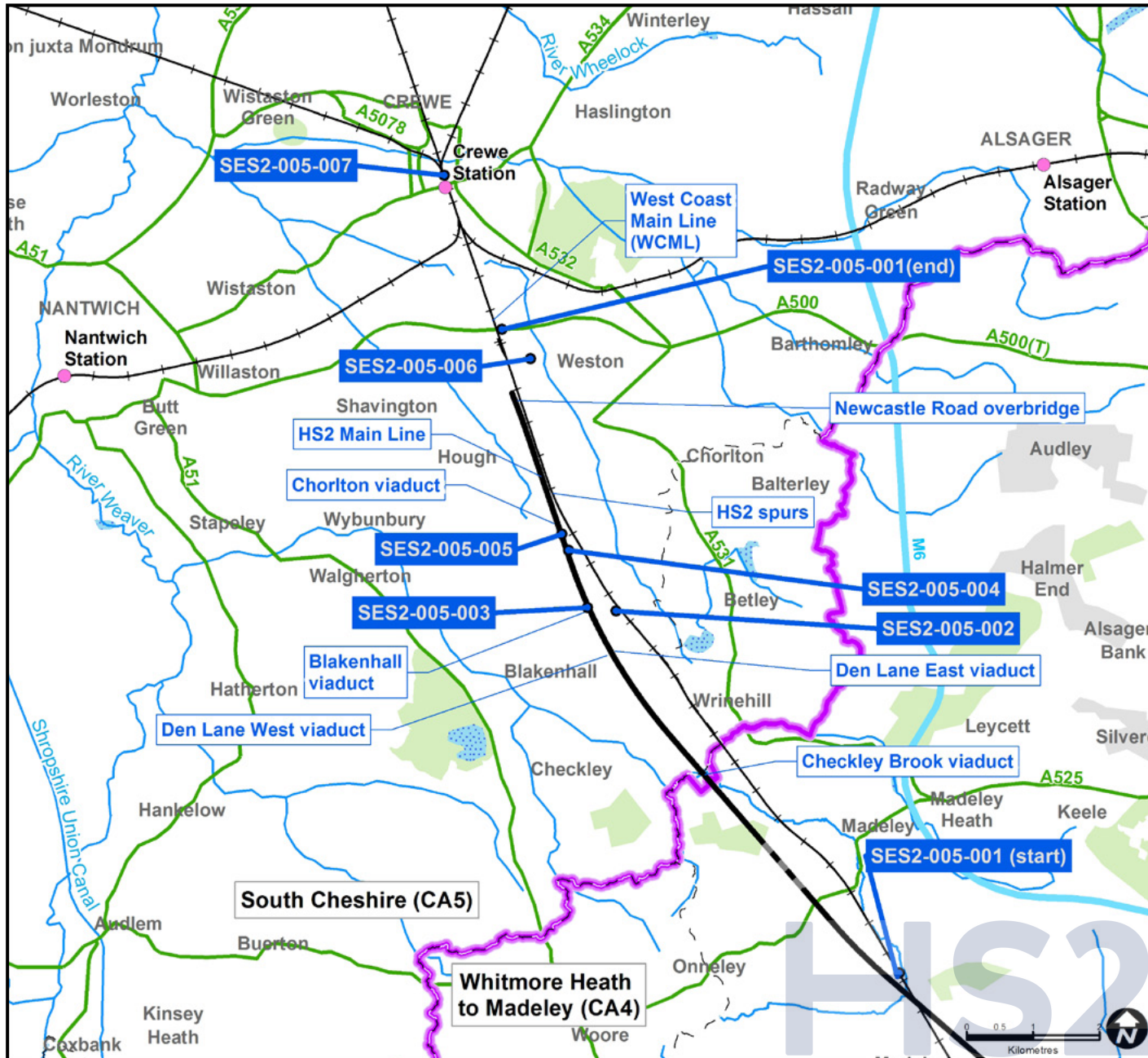
Table 9: Summary of changes to the construction assumptions and engineering design not requiring a change to Bill powers within the South Cheshire area

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Reconfiguration of the existing West Coast Main Line tracks between the A500 Shavington Bypass and Madeley Bridleway 2 and provision of a new railway systems compound</p> <p>SES2-005-001</p>	<p>Railway systems modifications would be required to the existing conventional rail infrastructure in the South Cheshire area (CA5) and Whitmore Heath to Madeley area (CA4) to connect the HS2 spurs to the West Coast Main Line (WCML).</p> <p>A new section of the WCML, 4.2km in length, would be located to the west of the existing WCML between Blakenhall Bridleway 8 accommodation overbridge and Crewe South portal retained cutting.</p>	<p>The connection between the HS2 spurs and the WCML will be modified to connect the HS2 main line into the central lines of the WCML. There will be associated rail systems modifications between the Madeley Bridleway 2 in the south and A500 Shavington Bypass in the north.</p> <p>Note that part of this SES2 design change lies within the Whitmore Heath to Madeley area (CA4).</p>
<p>Amendment to the environmental mitigation around Half Moon inverted siphon</p> <p>SES2-005-002</p>	<p>Half Moon inverted siphon would be provided for the diversion of a tributary of Swill Brook underneath the HS2 route, 100m north-west of the Blakenhall Bridleway 12 West accommodation overbridge.</p> <p>To the east of the inverted siphon, a maintenance access road and area of grassland habitat creation would be provided between the West Coast Main Line (WCML) and the HS2 route.</p> <p>Woodland habitat creation and landscape mitigation would be provided to the north-west of the Blakenhall Bridleway 12 West accommodation overbridge.</p>	<p>Additional mitigation will be provided, including enhancement of Swill Brook, the creation of a new ditch, six ecological mitigation ponds, new grassland habitat creation and new woodland habitat creation.</p>
<p>Local placement of surplus excavated material to the south-west of Blakenhall cutting</p> <p>SES2-005-003</p>	<p>Land would be temporarily required for the storage of surplus excavated material to the south-west of the Blakenhall cutting, between the Blakenhall southbound spur embankment and the Blakenhall New Bridleway.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Land will be permanently required for the storage of surplus excavated material to the south-west of the Blakenhall cutting, between the Blakenhall southbound spur embankment and the Blakenhall New Bridleway.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Relocation of the South Crewe auto-transformer station</p> <p>SES2-005-004</p>	<p>Land would be provided for the South Crewe mid-point auto-transformer station on the HS2 mainline, approximately 200m north of Gonsley Green Farm.</p> <p>Access would be provided via an access road from the diverted Chorlton Lane to the north-west.</p> <p>Two landscape bunds, with mitigation planting in the form of woodland, would be provided adjacent to the South Crewe mid-point auto-transformer station, to the west of the HS2 main line.</p>	<p>The South Crewe mid-point auto-transformer station will be relocated 115m north of its location in the original scheme and will be renamed the South Crewe auto-transformer station.</p> <p>The access layout will be reconfigured to accommodate the relocation of the compound and will include a new turning head to accommodate HS2 maintenance vehicles.</p> <p>The two landscape bunds will be combined to form a single bund, with mitigation planting, and will be reshaped to accommodate the relocated compound.</p>
<p>Local placement of surplus excavated material to the north and south of Chorlton Footpath 3</p> <p>SES2-005-005</p>	<p>Two areas of land would be temporarily required for the storage of surplus excavated material adjacent to Chorlton Footpath 3, between Waybutt Lane and the existing WCML, to the east of the HS2 route.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently to the north and south of Chorlton Footpath 3, between Waybutt Lane and the WCML, to the east of the HS2 route.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>
<p>Local placement of surplus excavated material to the east of the Casey Lane diversion</p> <p>SES2-005-006</p>	<p>Land would be temporarily required for the storage of surplus excavated material 200m to the north-east of the WCML between the HS2 spur (northbound) connection to the WCML and Footpath 3, and adjacent to Casey Lane diversion.</p> <p>Following construction, the land would be returned to agricultural use.</p>	<p>Surplus excavated material will be placed permanently 200m east of the HS2 route between the HS2 spur (northbound) connection to the WCML and Footpath 3, and adjacent to Casey Lane diversion.</p> <p>The material will be graded so that it can be returned to agricultural use.</p>

Name of SES2 engineering design change	Description of the SES1 scheme (and AP1 revised scheme where relevant)	Description of the SES2 scheme
<p>Railway modifications at Crewe Station including the extension of Platform 5 and 6 to enable splitting and joining of HS2 trains</p> <p>SES2-005-007</p>	<p>To facilitate the connection of the HS2 route to the existing WCML, modifications would be required to the existing conventional rail infrastructure in the South Cheshire area.</p> <p>A new island platform would be provided at Crewe Station to accommodate services diverted via the Manchester Independent Lines tunnel at Crewe. Minor works, new signage, and information systems would also be included.</p>	<p>Platform 5 will be extended in order to accommodate the splitting and joining of the longer HS2 trains. Platform 5 and 6 will require alterations to accommodate two Secondary Means of Escape (SME) footbridges, lift shafts and passenger evacuation routes.</p> <p>Track modifications, signalling work and other associated rail systems modifications will be required to the West Coast Main Line (WCML) tracks from the south side of Crewe Station to the A500 Shavington Bypass, as well as Platform 5, 6 and 12 within Crewe Station. The relocation and modification of existing rail systems assets and new assets within the railway corridor will also be required.</p>

Figure 7: Locations of SES2 engineering design changes not requiring a change to the Bill powers in the South Cheshire Area



7.3 Corrections to the main ES

Since the production of the main ES and SES₁, the need for a number of corrections to their contents has been identified. This includes instances where there has been a need to correct the Volume 2 community area report for the South Cheshire area because of the potential to alter the significant environmental effects reported in the main ES or the SES₁, or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES and SES₁ and AP₁ ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES, as amended by the SES₁. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES₂.

7.4 Summary of significant residual environmental effects for Supplementary Environmental Statement 2 changes

The additional baseline information and changes to the design and construction assumptions have been reviewed. Those that give rise to new or different likely significant residual environment effects within the South Cheshire area are reported in the following paragraphs.

Community

Effects arising during construction

The main ES reported a temporary major adverse in-combination effect at seven residential properties on Checkley Lane due to significant HGV, visual and noise effects. Changes to the construction programme will increase the overall duration of the in-combination effect by one month to one year and nine months at four of these properties.

This will result in a different temporary in-combination effect for these four properties, but will not change the level of significance of the effect reported in the main ES.

Effects arising from operation

The main ES reported that approximately 38 residential properties in Wychwood Park and Chorlton would experience permanent adverse visual and noise effects, resulting in a major adverse in-combination effect. Changes to the design of the existing West Coast Main Line (WCML) tracks between the A500 Shavington Bypass and Madeley Bridleway 2 and the provision of a new railway systems compound (SES₂-005-001), will result in 23 fewer properties being subject to significant noise effects. This will reduce the number of properties subject to a significant in-combination effect from 38 properties, reported in the main ES, to 15 but will not change the level of significance of the effect reported in the main ES.

Landscape and visual

Effects arising from operation

The main ES reported a moderate adverse significant effect at year 15 and year 60 on the view north-east from Gonsley Green Farm. A design change has relocated the South Crewe auto-transformer station to a new location approximately 115m further away from the proposed position in the original scheme and realigned and added woodland mitigation planting to the landscape earthworks (SES2-005-004). This will result in a different significant visual effect from this viewpoint, but will not change the level of significance of effect reported in the main ES.

Sound, noise and vibration

Effects arising from operation

The main ES reported significant airborne noise effects at 45 residential properties at Wychwood Park/Chorlton. Changes to the design of the existing WCML tracks (SES2-005-001) will

now relocate the tracks further away from this community and this will result in a different significant noise effect on residential properties due to the reduction on ambient noise levels, reducing the number of properties subject to significant noise effects to approximately 20.

Traffic and transport

Effects arising during construction

The main ES incorrectly reported a permanent minor adverse significant effect as a result of an increase in travel distance of up to 400m of the Checkley cum Wrinehill Footpath 8 diversion. No effect was reported during construction.

Checkley cum Wrinehill Footpath 8 will be diverted during construction and this will increase the travel distance for non-motorised users by up to 450m. This will result in a temporary minor adverse significant severance effect for non-motorised users of the Checkley cum Wrinehill Footpath 8 during construction.

Part 2: Additional Provision 2 Environmental Statement

8. Additional Provision 2 Environmental Statement

8.1 Introduction

Since the production of the SES₁ and AP₁ ES in March 2018, proposals for a number of further amendments to the scheme have been made. These amendments include requirements to use land outside the existing powers of the Bill and to the rights required for certain land already included in the Bill. These amendments to the Bill are now being sought under AP₂.

Part 2 of this NTS is presented on a community area basis, in sections 9 to 13. For each community area the following information is included for each amendment requiring a second additional provision to be included within the Bill:

- a summary list of all engineering amendments, including major utility amendments;

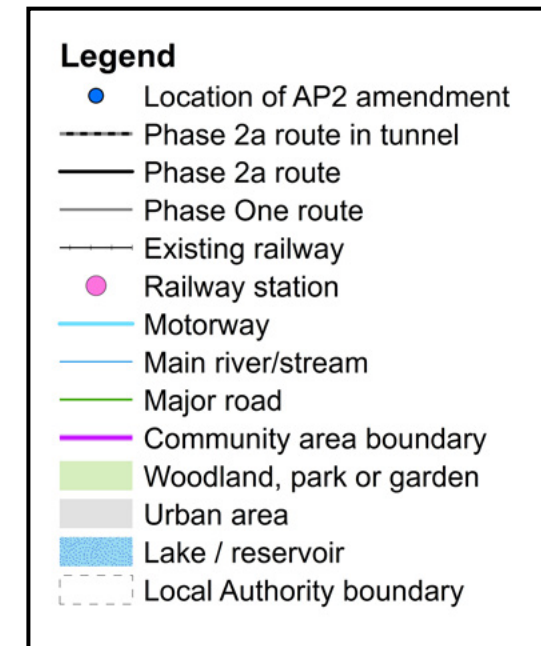
- a summary list of minor utility amendments; and
- a summary of significant residual environmental effects as a result of the amendments.

The need for other amendments to the Bill plans and Schedule 8 of the Bill ('Lands where powers of acquisition are limited to acquisition of rights or impositions of restrictive covenants') has also been identified since submission of the Bill and AP₁.

New or different likely residual significant route-wide effects resulting from the AP₂ amendments are reported in section 14.

Figure 9 to Figure 18 show the approximate location of the AP₂ amendments within each of the community areas.

The legend below is common to each figure in this section.



8.2 Summary of the main changes included in AP2

The main changes introduced through the AP2 amendments include:

- Traction power supply. The Bill provides for a connection from the substation at the former Rugeley Power Station to provide traction power supply for HS2 Phase 2a, via the Newlands Lane auto-transformer feeder station (ATFS) on the northern side of railway. Since submission of the Bill, the development of the traction power design has identified that, in order to enable National Grid to meet HS2's power supply requirements for Phase 2a whilst maintaining resilience in overall supply to the local area, additional infrastructure would have been needed from the south to serve the substation at the site of the Rugeley Power Station. It is now understood that meeting both HS2 and National Grid's requirements would not be achievable under the original scheme and the connection to Rugeley Power Station, provided in the original scheme, will be removed from the AP2 revised scheme. Further studies have identified a preferred option that provides a 7.7km route corridor for a new grid connection

between Parkgate, on the B5234, 1.5km west of Newborough, and the Newlands Lane ATFS. The AP2 amendment provides for 132kV overhead lines carried on two parallel lines of steel pylons, similar to those shown in Figure 8. A sensitivity assessment

has considered potential variations in pylon positions and any new or different significant environmental effects arising from this are reported. Overhead line construction will be undertaken in accordance with National Grid's standard approach to construction



Figure 8: An indicative example of two parallel lines of pylons.

of overhead lines which involves: building a pylon; wiring/stringing; and reinstatement of land required temporarily for construction.

- Power supply for the tunnels. Power connections will be required to operate the tunnel boring machine (TBM) for the construction of the Whitmore Heath and Madeley tunnels. The power connections will be retained permanently to be used for the operation of the tunnel, including lighting and ventilation systems. The total length of the Whitmore Heath and Madeley underground 33kV cable power supply routes are approximately 14.5km and 11.5km respectively. The majority of works will take place within the existing highway.
- Whitmore Heath tunnel. Amendments to provide for the southern extension of the Whitmore Heath Tunnel include:
 - change to the vertical alignment of the HS2 route from the Hatton South cutting to the River Lea viaduct;
 - change to the horizontal alignment of HS2 from the southern extent of Stableford North embankment to Madeley Bridleway 1 accommodation green overbridge; and related changes, including utility works.
- Changes to the HS2 Phase One scheme at Handsacre. Further consideration has been given to the design of the Phase One connection between HS2 and the WCML at Handsacre. A revised engineering and construction solution that provides a connection to the WCML slow lines has been identified, that would reduce the disruption to the operation of the existing rail network during construction.
- Other AP2 amendments require additional land for:
 - a replacement residential facility for Mayfield Children's Home, currently located at Moreton House in the Colwich to Yarlet area. The replacement facility will be adjacent to Rugeley School, on the former site of the Westwood School, on the outskirts of Blithbury, in the Fradley to Colton area. Children who reside in the replacement facility will, as at present, attend Rugeley School. The requirement for a replacement facility has been agreed with the operator, the Priory Group, in order to reduce the environmental impacts and equality effects during construction and to avoid those effects that would arise during the operation of the original scheme on the existing Mayfield Children's Home.
 - the reconfiguration of Ingestre Park Golf Club to create 12 new holes on adjacent land to replace those parts of the existing golf course lost and severed by HS2. This will allow the club to continue as a community asset in the present location;
 - replacement car parking east of the Staffordshire County Showground;
 - modifications to the Yarnfield Lane M6 overbridge replacement;
 - rail modifications and civil engineering works around Crewe Station;
 - highway modifications and associated mitigation;
 - amendments to public rights of way;
 - utilities works and associated compounds;
 - relocation of balancing ponds; and
 - revisions to site haul routes and maintenance access routes.

9. Fradley to Colton, Community Area 1

9.1 Summary of engineering amendments within Additional Provision 2

Table 10 provides a summary of each engineering amendment reported within the AP2 ES, along with a description of the SES2 scheme, which is used as the baseline for the comparison of new and different significant environmental effects.

Figure 9 shows the approximate location of each AP2 engineering amendment within the Fradley to Colton area.

Table 10: Summary of the AP2 engineering amendments within the Fradley to Colton area

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
Additional land and a change to Bill powers required to make alterations to the Handsacre Junction connection into the West Coast Main Line (WCML) AP2-001-001	The HS2 Phase One scheme provided for a connection from the HS2 route to the WCML fast lines, via the Handsacre Spur, providing a connection via Stafford for up to seven trains per hour (one-way train flow).	A revised connection from the HS2 route to the WCML slow lines, via the Handsacre Spur, providing a connection via Stafford for up to seven trains per hour (one-way train flow), reducing to one train per hour following construction of Phase 2a. Works on the WCML previously proposed north of Handsacre Junction will no longer be required.
Additional land required for modifications to A515 Lichfield Road and Wood End Lane junction and widening of Wood End Lane AP2-001-002	The original scheme includes a route for construction traffic to travel along the A515 Lichfield Road to the A51. The SES2 scheme includes an additional construction traffic route along Wood End Lane (SES2-001-001: A new construction traffic route along Wood End Lane).	Additional land will be required for the permanent widening and signalisation to the A515 Lichfield Road and Wood End Lane junction. Additional land will be required for the permanent widening of Wood End Lane for 1.1km, from its junction with the A515 Lichfield Road to the end of the Wood End Lane widening works proposed as part of HS2 Phase One.
Additional land for new pipework from the Kings Bromley South borrow pit for groundwater recharge to Pyford Brook, Trent and Mersey Canal and Bourne Brook AP2-001-003	A borrow pit would be introduced at Kings Bromley South for the extraction of sand and gravel for construction. The borrow pit would be located on either side of Crawley Lane on the east side and to the south of Ashby Sitch, both sides of the HS2 route. The main ES assumed that mitigation for the management of groundwater baseflows at the River Trent and Bourne Brook would be provided during excavation and dewatering of the borrow pits. This would include the recirculation of treated water to the River Trent and Bourne Brook. Within the land required for the original scheme, a temporary pipe route, identified through further design refinement, would be provided to facilitate the pumping of water upstream to augment the low flow regimes at Bourne Brook during excavation of the Kings Bromley North (A515) borrow pit.	Three new temporary pipe routes will be provided to facilitate the pumping of water upstream to augment the low flow regimes at Pyford Brook, the Trent and Mersey Canal and Bourne Brook during excavation of the Kings Bromley South borrow pit. The temporary pipe routes will run largely within a shallow trench (approximately 1m deep), or below ground where required. A temporary access road will be provided alongside the temporary pipe route, which will be approximately 3m in width. Overall, the pipework and access tracks will be accommodated within a corridor, approximately 10m in width.
Additional land and a change to Bill powers for the realignment of HS2 maintenance access under Pyford Brook viaduct AP2-001-004	A shared HS2 maintenance and accommodation access would be provided underneath the Trent and Mersey Canal viaduct (part of the HS2 Phase One consented scheme) to a balancing pond for railway drainage and land to the west of the route, adjacent to Pyford South embankment.	Additional land and a change to Bill powers will be required for the permanent realignment of the shared HS2 maintenance and accommodation access to pass underneath the Pyford Brook viaduct for access to the balancing pond for railway drainage and to maintain accommodation access on the west side of the HS2 route.

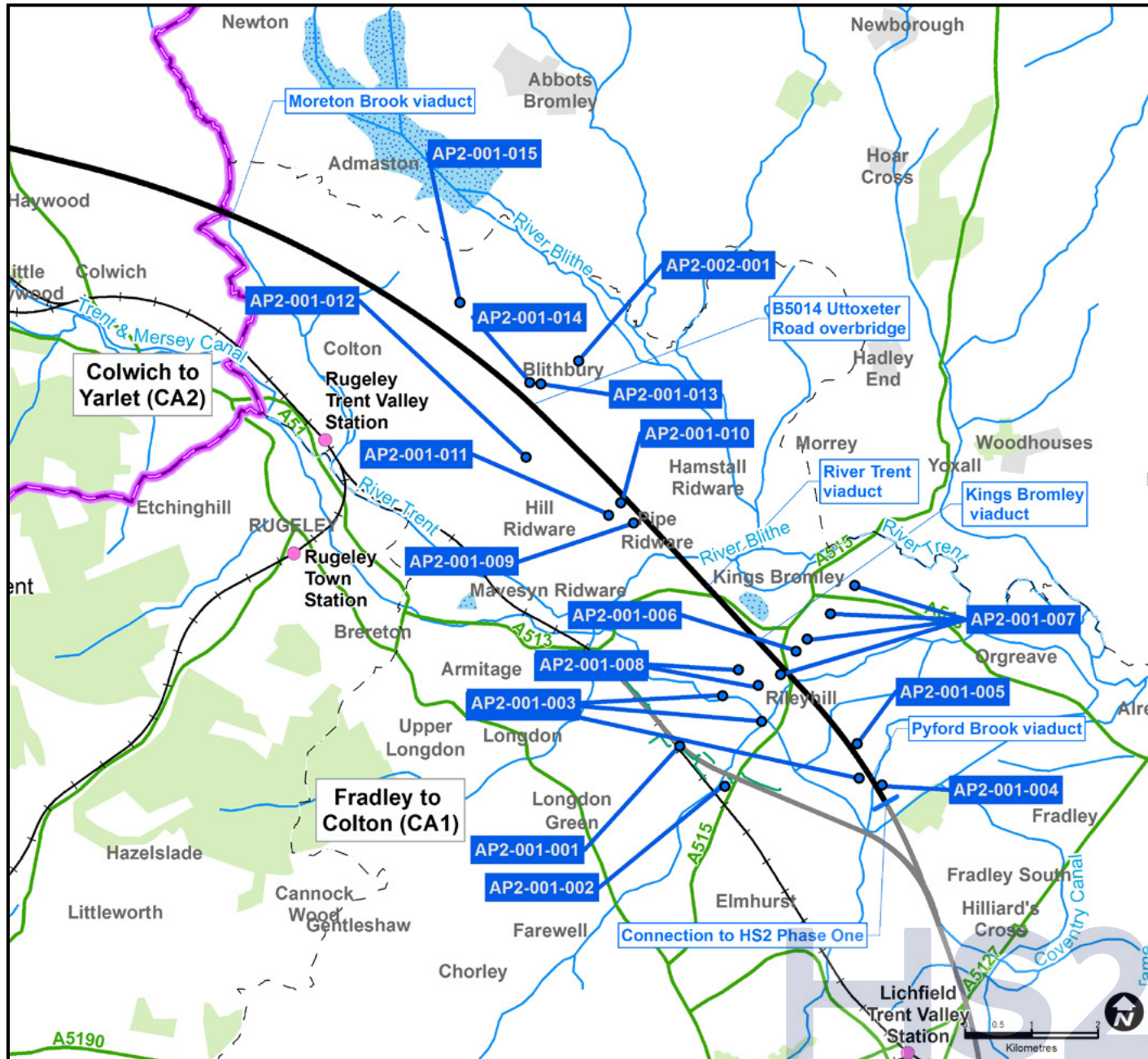
Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for the diversion of a Cadent gas pipeline and a new utility compound, north of Pyford Brook</p> <p>AP2-001-005</p>	<p>Land would be required permanently for the diversion of an underground National Grid Gas Distribution 600mm diameter high pressure gas pipeline, which would cross beneath the HS2 route at the Pyford North embankment.</p> <p>The gas pipeline diversion would pass through Kings Bromley South borrow pit.</p>	<p>Additional land will be required temporarily at each end of the pipeline diversion for works to connect the new pipeline to the existing pipeline, whilst maintaining a gas supply during construction.</p> <p>A section of Cadent 600mm diameter high pressure gas pipeline, will be realigned 15m south of its location in the original scheme.</p> <p>A 30m protection zone will be required between the diverted pipeline and excavation at Kings Bromley South borrow pit, therefore reducing the footprint of the borrow pit.</p> <p>A new temporary utility compound, the Common Lane utility compound, will be provided for the management of the Cadent 600mm diameter fuel pipeline diversion works. It will be provided within land permanently required for the original scheme for the Kings Bromley south borrow pit, east of A51 Lichfield Road.</p>
<p>Additional land and a change to Bill powers required to divert Common Lane to the A515 Lichfield Road</p> <p>AP2-001-006</p>	<p>A section of Common Lane (South) would be closed where it would be crossed by Pyford North embankment. An accommodation access would be provided from Common Lane (north-east of the HS2 route) and would follow parallel and to the north side of Pyford North embankment before turning south and passing beneath Kings Bromley viaduct.</p> <p>After passing under Kings Bromley viaduct, the accommodation access would connect to the existing A515 Lichfield Road and continue in an easterly direction and to the south side of Pyford North embankment to provide access to agricultural land. The accommodation access would provide access to agricultural land holdings.</p>	<p>A new road will be provided north-east of the HS2 route to connect Common Lane to the A515 Lichfield Road; replacing part of the access route and bridleway around Pyford North embankment provided in the original scheme; partly replacing a short length of the existing A515; and partly providing a new road.</p> <p>A new junction will be provided from the Common Lane diversion to join the access track around Pyford North embankment. A bridleway will be provided from this junction, along the south-east side of Pyford North embankment, to join the stopped-up sections of Common Lane (south).</p> <p>The access track from the A515 Lichfield Road diversion under Kings Bromley viaduct will no longer be required with the Common Lane diversion, and so the track will be removed, and replaced with a new field access off the Common Lane diversion.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for the amendment to a National Grid Electricity Transmission 400kV overhead power line and a new utility compound, near Kings Bromley viaduct</p> <p>AP2-001-007</p>	<p>Land would be required permanently for the raising of a National Grid Electricity Transmission 400kV overhead power line along its existing alignment. The power line would be raised by 14m, to cross the HS2 route at Kings Bromley viaduct.</p> <p>The pylon closest to Kings Bromley viaduct would be replaced by a new pylon, which would be 12m taller than the existing.</p> <p>Access to pylons, from both sides of Kings Bromley viaduct, would be from Crawley Lane via a temporary access through existing woodland, adjacent to Kings Bromley Footpath 11 and The Old Farmhouse. Access would be provided for earthing purposes and cable replacement works.</p>	<p>Additional land and a change to Bill powers for the relocation of a pylon to the north-east of the River Trent viaduct and additional working areas.</p> <p>Additional land will be required for the temporary access to the existing pylons near Eastfield Farm for earthing purposes and cable replacement works.</p> <p>Land required near to Woodgate Farm Cottage, adjacent to Kings Bromley Footpath 11, will be reduced. There will be a reduction in the loss of existing woodland.</p> <p>A new utility compound, Lichfield Road utility compound, will be provided for the management of the National Grid Electricity Transmission 400kV overhead power line raising works. It will be provided within land temporarily required for the original scheme, north-east of Kings Bromley viaduct.</p>
<p>Additional land required for new pipework from the Kings Bromley North (Shaw Lane) borrow pit for groundwater recharge to Bourne Brook and the Trent and Mersey Canal</p> <p>AP2-001-008</p>	<p>A borrow pit would be introduced at Kings Bromley North (Shaw Lane) for the extraction of sand and gravel for construction. The borrow pit would be located adjacent to Shaw Lane.</p> <p>The main ES assumed that mitigation for the management of groundwater baseflows at the River Trent and Bourne Brook would be provided during excavation and dewatering of the borrow pits. This would include the recirculation of treated water to the River Trent and Bourne Brook.</p> <p>Within the land required for the original scheme, a temporary pipe route, identified through further design refinement, would be provided to facilitate the pumping of water upstream to augment the low flow regimes at Bourne Brook during excavation of the Kings Bromley North (A515) borrow pit.</p>	<p>Two new temporary pipe routes will be provided to facilitate the pumping of water upstream to augment the low flow regimes at Bourne Brook and the Trent and Mersey Canal during excavation of the Kings Bromley South borrow pit.</p> <p>The temporary pipe routes will run largely within a shallow trench (approximately 1m deep), or below ground where required. A temporary access road will be provided alongside the temporary pipe route, which will be approximately 3m in width. Overall, the pipework and access tracks will be accommodated within a corridor, approximately 10m in width.</p>
<p>Additional land for new pipework from the Blithbury borrow pit for groundwater recharge to Luth Burn and River Trent</p> <p>AP2-001-009</p>	<p>A borrow pit would be introduced at Blithbury for the extraction of sand and gravel for construction. The borrow pit would be located to the north of the River Trent viaduct.</p> <p>The main ES assumed that mitigation for the management of groundwater baseflows at the River Trent and Bourne Brook would be provided during excavation and dewatering of the borrow pits. This would include the recirculation of treated water to the River Trent and Bourne Brook.</p>	<p>Two new temporary pipe routes will be provided to facilitate the pumping of water upstream to augment the low flow regimes at Luth Burn and the River Trent during excavation of the Blithbury borrow pit.</p> <p>The temporary pipe routes will run largely within a shallow trench (approximately 1m deep), or below ground where required. A temporary access road will be provided alongside the temporary pipe route, which will be approximately 3m in width. Overall, the pipework and access tracks will be accommodated within a corridor, approximately 10m in width.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for the diversion of a National Grid Gas Transmission gas pipeline and a new utility compound, north of Pipe Ridware</p> <p>AP2-001-010</p>	<p>Land would be required permanently for the diversion of an underground National Grid Gas Transmission 1,050mm diameter high pressure gas pipeline, which would cross beneath the HS2 route at the River Trent viaduct.</p>	<p>Additional land will be required at each end of the pipeline diversion for works to connect the new pipeline to the existing pipeline, whilst the gas supply is maintained during the pipeline construction.</p> <p>A new utility compound, Pipe Lane utility compound, will be provided for the management of the National Grid Gas Transmission 1,050mm diameter high pressure gas pipeline diversion works. It will be provided partly within land permanently required for the original scheme, and partly within an area of additional land.</p>
<p>Additional land and a change to Bill powers for the revised alignment of a site haul route and removal of HS2 maintenance access at Pipe Lane</p> <p>AP2-001-011</p>	<p>The original scheme included the provision of a construction traffic route along Pipe Lane, through Pipe Ridware during construction. Permanent widening of Pipe Lane would be required from the junction with Common Lane into Pipe Ridware to accommodate two-way heavy goods vehicle (HGV) traffic.</p> <p>The AP1 revised scheme (amendment AP1-001-003), included a new site haul route and HS2 maintenance access route that would connect two sections of Pipe Lane, 350m to the west of Pipe Ridware. Permanent widening of Common Lane and a section of Pipe Lane, north-west of Pipe Ridware for 200m, would be required.</p>	<p>Additional land will be required for the revised alignment of the site haul route connecting Pipe Lane to the west of Pipe Ridware.</p> <p>Permanent provision of a HS2 maintenance access through agricultural land to the west of Pipe Ridware included in the AP1 revised scheme will no longer be required. Permanent maintenance access will be provided through Pipe Ridware via Pipe Lane.</p>
<p>Additional land required for agricultural access off Stonyford Lane</p> <p>AP2-001-012</p>	<p>The B5014 Uttoxeter Road would be realigned to cross over the Blithbury Central cutting. Stonyford Lane would be realigned to the east of its existing alignment to join the realigned B5014 Uttoxeter Road.</p> <p>Existing farm accesses off the highway network would be retained, where possible.</p>	<p>Additional land will be required for the provision of two agricultural accesses off Stonyford Lane. The accesses will require 260m of existing hedgerow habitat to be relocated to comply with visibility requirements.</p>
<p>Additional land and a change to Bill powers required for HS2 maintenance access along an agricultural access track from Blithbury Road</p> <p>AP2-001-013</p>	<p>Manor Farm overbridge would provide access to agricultural land for Manor Farm across Blithbury Central cutting and 300m of agricultural track would be provided to the south-west of the HS2 route.</p>	<p>Additional land will be required and a change to Bill powers to upgrade an agricultural access track from Blithbury Road and provide permanent HS2 maintenance access to Manor Farm overbridge.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for agricultural access off Blithbury Road</p> <p>AP2-001-014</p>	<p>A section of Blithbury Road would be realigned to cross over the Blithbury Central cutting.</p> <p>Existing farm accesses off the highway network would be retained, where possible.</p>	<p>Additional land will be required for the provision of an agricultural access off Blithbury Road. The access will require 150m of existing hedgerow habitat to be relocated to comply with visibility requirements.</p>
<p>Additional land and a change in Bill powers required for a grid supply point connection to National Grid Parkgate substation</p> <p>AP2-001-015</p>	<p>A connection from a grid supply point at the former Rugeley Power Station would provide traction power supply for HS2 Phase 2a, via a three-circuit power line, 4km in length, between the National Grid Rugeley substation and Newlands Lane auto-transformer feeder station. The Newlands Lane auto-transformer feeder station would provide power to the overhead line equipment and to a number of auto-transformer stations along the HS2 route.</p> <p>The Rugeley connection route would be underground for 670m from the National Grid Rugeley substation, then above ground on three parallel lines of wooden poles for 2.3km, and underground for a further 1km before connecting to the Newlands Lane auto-transformer feeder station.</p>	<p>Replacement of the grid supply point connection at Rugeley, with a new permanent grid supply point connection between the new National Grid Parkgate substation and the Newlands Lane auto-transformer feeder station, via a three-circuit power line 7.7km in length.</p> <p>The Parkgate connection route will be all overhead, on two parallel lines of steel pylons between 23m and 38m in height, depending on the underlying topography.</p> <p>A new National Grid Newlands Lane substation will be provided adjacent to the Newlands Lane auto-transformer feeder station, and the access will be amended accordingly.</p>
<p>Additional land required for the provision of a replacement facility for Mayfield Children's Home</p> <p>AP2-002-001</p>	<p>The HS2 route would pass approximately 40m from Mayfield Children's Home, which occupies the Grade II listed Moreton House in the Colwich to Yarlet area (CA2).</p> <p>Mayfield Children's Home is a specialist residential children's home linked to an independent specialist school, Rugeley School, which is located on the outskirts of Blithbury in the Fradley to Colton area (CA1).</p>	<p>Additional land will be required for a permanent replacement facility for Mayfield Children's Home on the site of the former Westwood School, adjacent to Rugeley School, on the outskirts of Blithbury in the Fradley to Colton area.</p> <p>This amendment is relevant to both the Fradley to Colton area (CA1) and the Colwich and Yarlet area (CA2).</p>

Figure 9: Locations of the AP2 engineering amendments within the Fradley to Colton area



9.2 Assessment of engineering amendments

Agriculture, forestry and soils

Effects arising during construction

Amendment AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will require an additional 6.2ha of land temporarily, and an additional 3.6ha permanently from New Farm. The amendment will also require the demolition of polytunnels from this holding. This will change the level of significance of the temporary and permanent effects reported in the Phase One SES and AP2 ES (major/moderate) to major adverse.

The SES₁ and AP₁ ES reported a temporary moderate adverse significant effect on the farm holding Land at Luthbar. As a result of amendment AP2-001-011 (the revised alignment of a site haul road at Pipe Lane) this significant effect is removed.

Amendment AP2-001-015 (a grid supply point connection to National Grid Parkgate substation) will introduce new likely moderate or major/moderate temporary significant effects at seventeen farm holdings.

As a result of this amendment, at Holding No. 8, Old Wood Farm the significant temporary effect reported in the main ES will change from major/moderate to moderate due to the reduction in the amount of land required. At Blackflatts Farm the amendment will remove the moderate adverse significant effect reported in the main ES. The permanent effect on Hurstwood Farm will be reduced from major/moderate adverse to moderate adverse, which remains a significant effect on the holding.

This amendment also includes the removal of the Rugeley grid supply connection, which will remove the significant temporary effects reported at five farm holdings in the main ES.

Land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils, as set out in the draft CoCP.

Cultural heritage

Effects arising during construction

Amendment AP2-001-007 (amendment to an overhead power line and a temporary utility compound near Kings Bromley viaduct) requires additional land to relocate an existing pylon

which will remove further archaeology features within the cropmarks at Bourne Brook. This will result in a different significant effect but will not change the level of significance of the effect (major adverse) reported in the main ES.

Amendment AP2-001-010 (the diversion of a gas pipeline and temporary utility compound north of Pipe Ridware) will require additional land to enable the connection of the new and existing pipeline, further affecting buried archaeology north of Pipe Ridware. This will result in a change to the significance of effect reported in the main ES from moderate adverse to major adverse.

Amendment AP2-001-015 (a grid supply point connection to the National Grid Parkgate Substation) will remove the moderate adverse significant effect from buried archaeological remains associated with a rectangular enclosure of prehistoric date and cropmarks at Colton Hall Farm, as the Rugeley grid supply connection is to be removed.

This amendment will introduce noise and visual impacts on local heritage assets, which will give rise to a new temporary moderate significant effect on the Historic Landscape Character Area at Parkgate.

This amendment will also give rise to a new permanent moderate significant effect on Grade II listed buildings at Newlands Farmhouse and Bentilee Park Farmhouse and stables and former cartsheds due to changes to the historic rural setting. The amendment will also partially remove two cropmarks and an area of ridge and furrow, introducing a new permanent moderate adverse significant effect.

Amendment AP2-002-001 (additional land required for the provision of a replacement facility for Mayfield Children's Home) will give rise to a new significant permanent moderate adverse effect on Westwood School, formerly known as Pipewood Camp School in Blithbury, by removing the whole of the asset.

Ecology and biodiversity

Effects arising during construction

Amendment AP2-001-015 (a grid supply point connection to the National Grid Parkgate Substation) requires additional land, including approximately 0.2ha of potential ancient woodland at Lower Birches Plantation/Titler's Plantation for a managed vegetation corridor beneath the power lines. The works within this area would involve reducing the height of

any trees that would otherwise infringe on the minimum clearances from the temporary power line and, on a precautionary basis, will give rise to a new permanent adverse residual effect that is significant at the county level. The effect on ancient woodland will be partly compensated through a range of measures, including the planting of approximately 0.9ha of native broadleaved woodland between Lower Birches Plantation/Titler's Plantation and Birch and Roosthill Woods AWI site, south of Newborough End Farm and to the east of Chantry Farm. This planting will also help ensure that the populations of protected and notable species, including bats, are maintained.

This amendment will also result in a different significant adverse residual effect upon the hedgerow network in the Fradley to Colton area in comparison to that reported in the main ES, as amended by SES1. This is the result of the net reduction of approximately 3.7km of hedgerow within the area subject to the amendment after implementation of mitigation, in comparison to the original scheme. A permanent adverse residual effect upon the hedgerow network in the Fradley to Colton area will still occur, which remains significant at county level. As

reported in the main ES, the reinstatement of existing hedgerow within land required only for construction provides an opportunity to reduce this residual effect to a level that is not significant.

Health

Effects arising during construction

Amendment AP2-002-001 (additional land required for the provision of a replacement facility for Mayfield Children's Home) is likely to give rise to a new temporary adverse effect on the wellbeing of pupils at Rugeley School, associated with impacts from the construction activities on the former Westwood School site for a period of one year and three months.

This amendment will result in a new permanent beneficial effect on the health and wellbeing of residents of the new, purpose built residential facility, adjacent to Rugeley School.

Landscape and visual

Effects arising during construction

Amendment AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will allow Shaw Lane to be

retained as a transport route. This will result in a different significant effect on the Settled Heathlands Landscape Character Area, but will not change the level of significance of the effect (major adverse) reported in the Phase One AP2 ES.

This amendment will result in a different significant construction effect on the view north from residential properties adjoining Hanch Hall, B5014 Lichfield Road, Handsacre, due to the replacement of Harvey's Rough flyover with Harvey's Rough viaduct bringing construction activity closer to the viewpoint. This will increase the level of significance of the effect reported in the Phase One AP2 ES from moderate adverse significant to major adverse significant.

Replacement of Harvey's Rough flyover with Harvey's Rough viaduct will bring construction activity closer to Westview Cottages, Tuppenhurst Lane. This will introduce a new significant effect on the view south-west from Westview Cottages, as the level of significance of the effect in the Phase One AP2 ES will increase from minor adverse non-significant to moderate adverse significant.

This amendment will also result in different significant effects at the following viewpoints,

but will not change the level of significance reported in the Phase One AP2 ES:

- south-west from A515 Lichfield Road (major adverse);
- north-west from the Elms on Shaw Lane, close to the junction with the B5014 Lichfield Road, Handsacre (major adverse);
- south-west from Tuppenhurst Lane near Shaw Lane Farm and Shaw House (major adverse);
- south-west from Tuppenhurst Lane near Shaw House (major adverse);
- south-west from Ashton Hayes Farm/Ashton Hayes, off Tuppenhurst Lane (major adverse);
- north-east from 'Newtown' located on the B5014 Lichfield Road, Handsacre (moderate adverse); and
- south from residences on Bridge Road (major adverse).

This amendment will also remove the major adverse significant night-time effect on views north-east from 'Newtown', reported in the Phase One SES and AP2 ES.

Amendment AP2-001-002 (modifications to A515 Lichfield Road and Wood End Lane junction and widening of Wood End Lane)

will increase the extent of the Fradley Settled Heathlands Landscape Character Area affected by construction activity, notably through the removal of 1.1km of roadside vegetation along one side of Wood End Lane. This will result in a different significant effect, but will not change the level of significance of the effect (moderate adverse) reported in the main ES.

Amendment AP2-001-015 (a grid supply point connection to the National Grid Parkgate Substation) will affect the Bromley Park Plateau Farmland Landscape Character Area, which was previously unaffected by the original scheme. This is due to the construction of the National Grid Parkgate substation and other construction activity associated with two new pylon lines, temporary diversion of an existing section of overhead line and tree and hedgerow removal along the route and along access tracks. This will result in a new major adverse landscape effect, which is significant.

This amendment will also result in new significant visual effects at the following viewpoints, which were unaffected by the original scheme:

- south-east from Newlands Lane (moderate adverse);

- south-west from Blunts Hollow Road near Barn Farm (moderate adverse);
- south-west from Thorney Lanes near Noah's Ark Farm (moderate adverse); and
- from the B5234 near Parkgate (major adverse).

This amendment will also remove the significant adverse effects reported in the main ES from the viewpoint south-east from Hollow Lane (major adverse), west from Colton Footpath 12 (moderate adverse), north from Colton Footpath 4 (moderate adverse) and north-east from Blithbury Road (moderate adverse), as the proposed Rugeley grid supply point connection will no longer be required.

Effects arising from operation

Amendment AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will result in a new significant effect on the view north-west from the Elms on Shaw Lane, close to the junction with the B5014 Lichfield Road, Handsacre at year 15 and year 60. This is due to the introduction of Harvey's Rough viaduct and associated overhead line and moving trains into the view. This will change the level of significance reported in the Phase One AP2 ES from non-significant to moderate

adverse significant at years 15 and 60.

This amendment will result in a new moderate adverse significant effect at year 15 and year 60 on the view south-west from Westview Cottages, Tuppenhurst Lane due to the loss of a linear woodland belt.

This amendment will also reduce the significant effect on the view south-east from residences located along Chestnut Close. This will change the level of significance of the effect reported in the Phase One AP2 ES from major adverse significant to moderate adverse significant at year 15. At year 60, the level of significance of the effect will reduce from moderate adverse significant to minor adverse non-significant.

This amendment will result in different significant visual effects at the following viewpoints, but will not change the level of significance reported in the Phase One AP2 ES:

- south-west from Ashton Hayes Farm/Ashton Hayes, off Tuppenhurst Lane (major adverse at year 15 and moderate adverse at year 60);
- south-west from Tuppenhurst Lane near Shaw House (moderate adverse at year 15 and year 60); and

- north-east from 'Newtown' located on the B5014 Lichfield Road, Handsacre (moderate adverse at year 15 and year 60).

Amendment AP2-001-015 (a grid supply point connection to the National Grid Parkgate Substation) will introduce two new pylon lines and a new substation into an area mostly unaffected by the original scheme. This will give rise to new significant visual effects on the landscape character of the following Landscape Character Areas, which were unaffected by the original scheme:

- Blithe Alluvial Farmland Landscape Character Area (moderate adverse at year 15 and year 60);
- Bromley Settled Farmland Landscape Character Area (moderate adverse at year 15 and year 60); and
- Bromley Park Plateau Farmland Landscape Character Area (moderate adverse at year 15 and year 60).

This amendment will also result in a different significant effect on the landscape character of the Colton and Stockwell Heath Settled Farmlands Landscape Character Area but will not change the level of significance of the effect

(major adverse at year 15 and year 60), reported in the main ES.

The main ES reported a moderate adverse significant effect on views north from Colton Footpath 4 at year 15 and year 60. The removal of the proposed Rugeley grid supply point connection as part of this amendment will remove the moderate adverse significant effect reported in the main ES at year 15 and year 60.

This amendment will result in new significant visual effects at the following viewpoints:

- south-east from the Staffordshire Way near Park Barn Farm (moderate adverse significant effect at year 15 and year 60);
- south-east from Newlands Lane (moderate adverse significant effect at year 15 and year 60, which could increase to major adverse if the pylons moved closer to the viewpoint);
- east from the roadside near Lower Newlands Farm (minor significant effect at year 15 and year 60, which could increase to moderate adverse if the pylons increase in height);
- west from farmland near Poplar Farm (major adverse significant effect at year 15 and year 60);

- south-east from farmland near Hurd's Farm (moderate adverse significant effect at year 15 and year 60);
- south-east from Pinfold Lane near Hart's Farm (moderate adverse significant effect at year 15 and year 60);
- south-east from the B5234 Bromley Lane at Bromley Wood (moderate adverse significant effect at year 15 and year 60);
- south-west from Blunts Hollow Road near Barn Farm (major adverse significant effect at year 15 and year 60);
- south-west from Thorney Lanes near Noah's Ark Farm (moderate adverse significant effect at year 15 and year 60); and
- from the B5234 near Parkgate (moderate adverse significant effect at year 15 and year 60).

Sound, noise and vibration

Effects arising during construction

Amendment AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will remove the requirement to undertake works to the WCML north of

Handsacre junction and therefore remove the noise effect on a community basis at Handsacre in the vicinity of A512 New Road; Rugeley in the vicinity of Blithbury Road; and Colwich in the vicinity of Dobree Close, reported in the HS2 Phase One Volume 4: Off-route effects report.

Amendment AP2-002-001 (additional land required for the provision of a replacement facility for Mayfield Children's Home) will introduce construction noise which will result in a new temporary significant effect for a period of two months on the adjacent Rugeley School. This will affect children attending Rugeley School, including those who are residents of Mayfield Children's Home. If these works are to be undertaken by HS2 Ltd, there will be continued engagement with the Priory Group to develop mitigation measures that will reduce or avoid these impacts.

Traffic and transport

Effects arising during construction

AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will require the temporary closure of Shaw Lane for a period of up to two years and six months and

Kings Bromley Footpath 6 for a period of up to six months, both with diversions, which will increase the travel distances for non-motorised users. This will result in a new temporary minor adverse severance effect for non-motorised users using Shaw Lane, which is significant, and a new temporary minor adverse severance effect for non-motorised users of Kings Bromley Footpath 6, which is significant.

Amendment AP2-001-002 (modifications to A515 Lichfield Road and Wood End Lane junction and widening of Wood End Lane) will facilitate the safe turning of vehicles during the construction phase. However, the temporary construction works associated with the modifications and associated traffic management measures are likely to result in a new temporary minor adverse effect on traffic flows and delays for road users at the junction for six months, which is significant.

Amendment AP2-001-006 (diversion of Common Lane to the A515 Lichfield Road) requires the closure of Common Lane until construction works are completed. This will result in a new temporary minor adverse traffic delay effect on users of Common Lane due to an increase in travel distance of up to 4km, which is significant.

Amendment AP2-001-015 (a grid supply point connection to the National Grid Parkgate Substation) will require the temporary diversion of Abbots Bromley Footpath 39, increasing distances for users by up to 350m. This will result in a new temporary minor severance effect for non-motorised users, which is significant.

Effects arising from operation

AP2-001-001 (changes to the Handsacre Junction connection into the West Coast Main Line) will remove the permanent minor adverse significant effect for users of Shaw Lane reported in the Phase One SES and AP2 ES as the permanent stopping-up of Shaw Lane is no longer required.

Amendment AP2-001-002 (modifications to A515 Lichfield Road and Wood End Lane junction and widening of Wood End Lane) will be retained following construction. This will result in a new permanent minor beneficial effect, which is significant, due to improved safety.

Amendment AP2-001-006 (diversion of Common Lane to the A515 Lichfield Road) will remove the need to divert vehicles from the A515 Lichfield Road via Crawley lane, reducing the significant traffic delay for users of Common Lane. This will remove the permanent minor adverse traffic

delay effect for users of Common Lane.

Water resources and flood risk

Effects arising during construction

Amendment AP2-001-006 (diversion of Common Lane to the A515 Lichfield Road) will require the installation of a culvert on Bourne Brook. This will result in a new moderate adverse permanent effect related to the hydromorphological effects on the Bourne Brook and a different moderate adverse permanent effect on flood risk in the Bourne Brook flood plain, which are both significant. It is anticipated that means of mitigating these impacts will be developed, to ensure that there are no residual significant effects arising from construction of the amendment.

9.3 Summary of minor utility amendments within the Additional Provision 2

Table 11 provides a summary of each minor utility amendment reported within the Fradley to Colton area. Figure 10 shows the approximate location of each AP2 minor utility amendment within the Fradley to Colton area.

Table 11: Summary of the AP2 minor utility amendments within the Fradley to Colton area

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme.
<p>Additional land for the underground diversion of a Western Power Distribution 11kV underground cable north-west of Echills Farm</p> <p>AP2-001-101</p>	<p>Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV underground cable, 200m in length, from a Western Power Distribution pole 50m south-east of the Bourne embankment satellite compound, crossing under the HS2 route 50m east of Echills Farm.</p> <p>The AP1 revised scheme (AP1-001-104: Additional land for the permanent diversion of BT Openreach overhead telecommunications line along the A513 Rugeley Road and access road to Echills Farm), provides for additional land which overlaps with the land required for this amendment.</p>	<p>Additional land will be required for the diversion of a Western Power Distribution 11kV underground cable, 590m in length, along the A513 Rugeley Road and an access road under the River Trent viaduct to Echills Farm.</p> <p>This amendment is dependent on the AP1-001-104 being approved, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in the AP2 amendment</p>
<p>Additional land to extend a underground Openreach telecommunications cable to Pipe Ridware embankment satellite compound</p> <p>AP2-001-102</p>	<p>Land would be permanently required for a new temporary underground Openreach telecommunications cable, 90m in length, running along Pipe Lane diversion to the Pipe Ridware embankment satellite compound.</p>	<p>Additional land will be required to extend a temporary underground Openreach telecommunications cable, a total of 300m in length from a point 200m east of the River Trent viaduct, along Pipe Lane east of the junction with Pipe Lane diversion to the Pipe Ridware embankment satellite compound.</p>
<p>Additional land for the diversion of an existing South Staffordshire Water water mains supply along Pipe Lane diversion</p> <p>AP2-001-103</p>	<p>No provision was made for the permanent diversion of the South Staffordshire Water water mains supply along Pipe Lane diversion.</p>	<p>Additional land will be required for the permanent diversion of the South Staffordshire Water water mains supply, 1.3km in length, running from the junction with Pipe Lane to Woodhouse Farm, along the Pipe Lane diversion.</p>
<p>Additional land for the diversion of a South Staffordshire Water water mains supply to Quintons Orchard</p> <p>AP2-001-104</p>	<p>No provision was made for the permanent diversion of a South Staffordshire Water water mains supply to Quintons Orchard.</p> <p>The AP1 revised scheme (AP1-001-105: Additional land for the permanent diversion of BT Openreach overhead telecommunications line at Quintons Orchard Farm), provides for additional land which overlaps with the land required for this amendment.</p>	<p>Additional land will be required for the permanent diversion of an existing South Staffordshire Water water mains supply to Quintons Orchard, 650m in length running from Pipe Lane along the access road to Quintons Orchard.</p> <p>This amendment is dependent on AP1-001-105 being approved, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in the AP2 amendment.</p>

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme.
<p>Additional land for the diversion of an Openreach telecommunications cable to Bentley Hall Farm</p> <p>AP2-001-105</p>	<p>No provision was made for the permanent diversion of an existing underground and overhead Openreach telecommunications line to Bentley Hall Farm.</p> <p>The AP1 revised scheme (AP1-001-004: Additional land permanently required to improve the visibility at the junction of Pipe Lane and an accommodation track), provides for additional land which overlaps with the land required for this amendment.</p>	<p>Additional land will be required for a diversion of an overhead Openreach telecommunications line, 770m in length, to Bentley Hall Farm.</p> <p>This amendment is dependent on the AP1-001-004 being approved, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in the AP2 amendment.</p>
<p>Additional land for the underground diversion of a Western Power Distribution 11kV overhead line near Pipe Lane Farm</p> <p>AP2-001-106</p>	<p>Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, by 310m in length from a pole 150m west of Pipe Lane Farm, crossing the HS2 route, to a pole 230m north-west of Bentley Hall Farm.</p>	<p>Additional land will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line near Pipe Lane Farm, a total of 700m in length, from a pole 150m west of Pipe Lane Farm, crossing the HS2 route 250m further to the north-west, to a pole 230m north-west of Bentley Hall Farm.</p>
<p>Additional land for the underground diversion of Western Power Distribution 11kV overhead line from Hadley Gate Farm to near Stoneyford House</p> <p>AP2-001-107</p>	<p>Land would be permanently required for the permanent diversion of a Western Power Distribution 11kV overhead line, 300m in length, crossing the HS2 route, 220m west of Blithbury Road overbridge, running from Hadley Gate Farm to near Stoneyford House.</p>	<p>Additional land will be required for the underground diversion of a Western Power Distribution 11kV overhead line, 1.3km in length, from Hadley Gate Farm along the Hadley Gate Lane diversion, Blithbury Road realignment, Blithbury Road overbridge, parallel to the south side of the HS2 route near to Stoneyford House.</p>
<p>Additional land for the provision of a new underground Openreach telecommunications cable to Newlands Lane auto-transformer feeder station railway systems satellite compound</p> <p>AP2-001-108</p>	<p>No provision was made for a temporary telecommunications connection for the Newlands Lane ATFS railways systems satellite compound.</p>	<p>Additional land will be required for a new temporary Openreach telecommunications cable, 1.5km in length, running along Newlands Lane from Croft Cottage to Newlands Lane ATFS railway systems satellite compound.</p>

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme.
<p>Additional land for the underground diversion of a Western Power Distribution 11kV overhead line east of Newlands Lane underbridge</p> <p>AP2-001-109</p>	<p>Land would be permanently required for the permanent diversion of a Western Power Distribution 11kV overhead line, 230m in length, running from an existing Western Power Distribution pole and crossing the HS2 route, 270m west of Newlands Lane overbridge.</p>	<p>Additional land will be required for the underground diversion of a Western Power Distribution 11kV overhead line, 680m in length, from an existing pole, 150m west of Colton Footpath 34 diversion to another existing pole 250m west of the Newlands Lane overbridge.</p>
<p>Additional land and a change in Bill powers for the underground diversion of Western Power Distribution 11kV overhead lines near Stockwell Heath</p> <p>AP2-001-110</p>	<p>Land would be permanently required for the permanent underground diversion of two existing Western Power Distribution 11kV overhead lines. The first underground diversion would be 270m in length, crossing the HS2 route 160m west of Newlands Lane underbridge from Bleak Cottage to Tinkerlow Farm. The second underground diversion would be 330m in length, crossing the HS2 route 350m west of Newlands Lane underbridge from Bleak Cottage to a Western Power Distribution pole, 100m north-west of Hamley House Farm.</p>	<p>Additional land will be required for the permanent underground diversion of two Western Power Distribution 11kV overhead lines, 700m in length, from an existing Western Power Distribution pole, crossing the HS2 route 430m west of Newlands Lane underbridge, to another existing pole 5m north of the Moor Lane diversion.</p>

9.4 Assessment of minor utility amendments

Cultural heritage

Effects arising during construction

Amendment AP2-001-106 (permanent underground diversion of overhead line near Pipe Lane Farm) will require additional land. This will increase the extent of buried archaeology remains of probable Iron Age or Roman date, west of Pipe Wood Lane, Mavesyn Ridware removed during construction. This will result in a different permanent significant effect, but will not change the level of the significance of the effect (major adverse) reported in the main ES.

Amendment AP2-001-009 (permanent underground diversion of an overhead line east of Newlands Lane underbridge) will require additional land. This will increase the extent of the earthwork remains of narrow ridge and furrow removed during construction. This will result in a different permanent significant effect, however this will not change the level of significance (moderate adverse) reported in the main ES.

9.5 Assessment of combined effects of amendments within the Fradley to Colton area due to changes in construction traffic flows

This section reports the combined assessment of new or different significant construction traffic effects, as a result of changes in construction traffic flows (site haul routes and construction traffic routes). These relate to changes in traffic flows associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to an SES2 change or an AP2 amendment.

Traffic and transport

The SES2 changes and AP2 amendments will result in the following changes to the temporary congestion and delay effects, as reported in the main ES, due to changes to movement and use of surplus excavated material:

- a reduction in the level of significance of effect on users of the A5192 Eastern Avenue/A5127 Trent Valley Road roundabout from major adverse to minor adverse, which is significant;

- a reduction in the level of significance of effect on users of the A51 Stafford Road/ Breretonhill Lane junction from major adverse to minor adverse, which is significant; and
- a reduction in the level of significance of effect on users of the A5192 Eastern Avenue/ A51 Stafford Road signals from moderate adverse to minor adverse, which is significant.

The SES2 changes and AP2 amendments will also remove the temporary minor adverse significant effect on congestion and delay to vehicle users of the A515 Lichfield Road/Wood End Lane junction due to modifications to the junction and widening of Wood End Lane.

The SES2 changes and AP2 amendments will result in the following changes to the temporary traffic severance effects for non-motorised users reported in the main ES:

- a reduction in the level of significance of effect on non-motorised users of the A51 Stafford Road between A515 Featherbed Lane and the A460 Wolseley Road from major adverse to moderate adverse, which is significant. This is due to the addition of a construction traffic route along Wood End Lane;

- a reduction in the level of significance of effect on non-motorised users of the A513 Rugeley Road/Kings Bromley Lane between Shaw Lane and the B5014 Uttoxeter Road from major adverse to moderate adverse, which is significant. This is due to the addition of a construction traffic route along Wood End Lane; and
- a reduction in the level of significance of effect on non-motorised users of Hollow Lane between Blithbury Road and Colton Bridleway 33 from major adverse to moderate adverse, which is significant. This is due to a reduction in traffic flows along this section.

The SES2 changes and AP2 amendments will remove the temporary traffic severance effects reported in the main ES for non-motorised users of the A51 Stafford Road (between the A5192 Eastern Avenue and A515 Featherbed Lane), Newlands Lane (between B5014 Uttoxeter Road and the HS2 route) and Dawson Lane (between Pipe Lane and the HS2 route).

The SES2 changes and AP2 amendments will also result in the following new temporary traffic severance effects for non-motorised users:

- a minor adverse significant effect for non-motorised users of Blithbury Road between the B5103 Colton Road and Hollow Lane due to an increase in HGV traffic;
- a moderate adverse significant effect for non-motorised users of Blithbury Road between the B5014 Uttoxeter Road and the construction access to the replacement facility for Mayfield Children's Home due to an increase in HGV traffic;
- a major adverse significant effect for non-motorised users of Wood End Lane, between the A38 Rykneld Street and the A515 Lichfield Road, due to an increase in HGV traffic;
- a moderate adverse significant effect for users of the B5014 Lichfield Road between A515 Lichfield Road and Shaw Lane due to an increase in HGV traffic;
- a minor adverse significant effect for non-motorised users of Jonghams Lane due to a new utility compound to facilitate a power line diversion west of Jonghams Cottage;
- a minor adverse significant effect for non-motorised users of the B5234 Duffield Lane between the compound access

and Rangemore Hill in Needwood due to an increase in HGV traffic; and

- a minor adverse significant effect for non-motorised users of the B5017 Henhurst Hill between Rangemore Hill in Needwood and Postern Road due to an increase in HGV traffic.

The SES2 changes and AP2 amendments will remove the temporary adverse traffic severance effects for non-motorised users reported in the main ES, on:

- B5014 Uttoxeter Road between Stonyford Lane and the HS2 route;
- B5014 Uttoxeter Road between Stonyford Lane and Common Lane; and
- Pipe Lane between School Lane and Pipe Wood Lane.

Sound, noise and vibration

The SES2 changes and AP2 amendments will remove the indirect significant effect from traffic noise, reported in the main ES, at properties adjacent to Blithbury Road/Hollow Lane between Blithbury and Colton.

Community

The SES2 changes and AP2 amendments will result in different temporary significant in-combination effects on the following community resources. However, this will not change the level of significance of the effects reported in the main ES:

- eight properties around Rileyhill, due to an increase in the duration of the significant temporary major adverse in-combination effect;
- five properties south-west of Kings Bromley, due to an increase in the duration of the significant temporary major adverse in-combination effect;
- Trentside Meadows, due to an increase in the duration of the significant major adverse temporary in-combination effect;
- eight properties north and south of Blithbury Road, due to a decrease in the duration of the significant temporary major adverse in-combination effect; and
- the duck pond in Stockwell Heath, due to a decrease in the duration of the significant temporary major adverse in-combination effect.

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10. Colwich to Yarlet, Community Area 2

10.1 Summary of engineering amendments within Additional Provision 2

Table 12 provides a summary of each engineering amendment reported within the AP2 ES, along with a description of the SES2 scheme, which is used as the baseline for the comparison of new and different significant environmental effects.

Figure 11 shows the approximate location of each AP2 engineering amendment within the Colwich to Yarlet area.

Table 12: Summary of the AP2 engineering amendments within the Colwich to Yarlet area

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for the provision of a replacement facility for Mayfield Children's Home</p> <p>AP2-002-001</p>	<p>The HS2 route would pass approximately 40m from Mayfield Children's Home, which occupies the Grade II listed Moreton House. Mayfield Children's Home is a specialist residential children's home linked to an independent specialist school, Rugeley School, which is located on the outskirts of Blithbury in Lichfield in the Fradley to Colton area (CA1).</p>	<p>Additional land will be required for a permanent replacement facility for Mayfield Children's Home on the site of the former Westwood School, adjacent to Rugeley School, on the outskirts of Blithbury in the Fradley to Colton area (CA1).</p> <p>The Priory Group is also seeking planning permission for the replacement facility, which may enable the construction and transfer of residents from Moreton House to proceed earlier than if the powers in the Bill are used.</p> <p>This amendment is relevant to both the Colwich and Yarlet area (CA2) and the Fradley to Colton area (CA1).</p>
<p>Additional land and a change to Bill powers required for the removal of Moreton retaining wall and to realign the access track to Moreton House and Moreton House Farm</p> <p>AP2-002-002</p>	<p>The HS2 route would pass Moreton House and Moreton House Farm via a section of Moreton cutting, north-east of Colwich Bridleway 23 accommodation green overbridge, with Moreton retaining wall located to the north of the HS2 route to reduce the area of land required in proximity to Moreton House.</p> <p>The access track to Moreton House and Moreton House Farm would be located along the top of the retained cutting, to the north of the HS2 route.</p> <p>The AP1 revised scheme (amendment AP1-002-101) includes the permanent diversion of an Openreach overhead telecommunications cable along Moreton Lane.</p>	<p>Additional land and a change to Bill powers will be required for the removal of Moreton retaining wall and the realignment of the access track to Moreton House and Moreton House Farm.</p> <p>The removal of the retaining wall will increase the width of Moreton cutting to the north of the HS2 route, which will require additional land for the realignment of the access track.</p> <p>This amendment will require the demolition of a dwelling at Moreton House Farm.</p> <p>There will be a change to Bill powers for the realigned access track to the north-east of the access to Moreton House.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required during construction for the movement of surplus excavated material at Moreton, Ingestre, Hopton and Marston</p> <p>AP2-002-003</p>	<p>Land would be required temporarily for construction on the northern and southern side of the HS2 route, for the construction works associated with Moreton cutting, Brancote South cutting, Brancote North cutting, Hopton South cutting and Marston South embankment, including temporary material stockpiles and site haul routes.</p> <p>Land would be permanently required for the Moreton cutting, Brancote South cutting, Brancote North cutting, Hopton South cutting and Marston South embankment.</p>	<p>Four areas of additional land will be required at locations, adjacent to the HS2 route, at Moreton cutting, Brancote South cutting, Brancote North cutting, Hopton South cutting and Marston South embankment. This additional land will be used temporarily to separate public road going vehicles (e.g. heavy goods vehicles (HGVs) and light goods vehicles (LGVs)) from larger earth moving equipment (with an average capacity of 40 tonnes).</p> <p>One area is required to the south-west of the Colwich Footpath 26 diversion, on the southern side of Moreton cutting.</p> <p>A second area is required to the west of the Tixall Bridleway 0.1628 accommodation overbridge, on the northern side of the Brancote South and Brancote North cuttings, which will require the realignment of the temporary diversion of the Tixall Bridleway 0.1628 and Footpath 0.1630(b) adjacent to the HS2 route.</p> <p>A third area is required to the west of the realigned A518 Weston Road, on the southern side of Hopton South cutting.</p> <p>A fourth area is required to the west of the Marston Bridleway 8 accommodation underbridge, on the southern side of Marston South embankment.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for the diversion of a National Grid gas pipeline and a new utility compound, west of Colwich Bridleway 35 accommodation overbridge</p> <p>AP2-002-004</p>	<p>Land would be required permanently for the diversion of an underground National Grid 1,050mm diameter gas pipeline, which would cross beneath the HS2 route at Moreton North cutting, west of Colwich Bridleway 35 accommodation overbridge.</p> <p>Grassland habitat creation would be provided along the length of the diverted pipeline easement, together with three ecological mitigation ponds to the south of the HS2 route.</p> <p>A temporary material stockpile would be located at Trent South embankment (south) transfer node, immediately south of Tolldish Lane temporary diversion.</p>	<p>Additional land will be required for the permanent diversion of a section of a National Grid 1,050mm diameter gas pipeline, to the west of Colwich Bridleway 35 accommodation overbridge. The connection points to the existing utility will be repositioned.</p> <p>Additional land will be required at each end of the pipeline diversion for temporary works to connect the new pipeline to the existing pipeline, whilst maintaining a gas supply during construction.</p> <p>A new temporary utility compound will be provided for the management of the National Grid 1,050mm diameter gas pipeline diversion works. It will be provided within land permanently required for the scheme, west of Colwich Bridleway 58 accommodation underbridge.</p> <p>An area of grassland habitat creation and ecological mitigation ponds will be reconfigured to accommodate the realignment of the pipeline.</p> <p>The temporary material stockpile at Trent South embankment (south) transfer node will be repositioned to accommodate the new utility compound.</p>
<p>Additional land required for the diversion of a Cadent gas pipeline, east of Colwich Bridleway 58 accommodation overbridge</p> <p>AP2-002-005</p>	<p>Land would be required for the permanent diversion of a National Grid 12-inch diameter gas pipeline, to the east of Colwich Bridleway 58 accommodation overbridge.</p> <p>Two temporary material stockpiles would be located adjacent to the HS2 route, to the north-east and south-east of the Colwich Bridleway 58 accommodation overbridge.</p>	<p>Additional land will be required for the permanent diversion of a section of a Cadent 300mm diameter gas pipeline, to the east of the Colwich Bridleway 58 accommodation overbridge. The connection points to the existing utility will be repositioned.</p> <p>Two temporary material stockpiles, to the north-east and south-east of the Colwich Bridleway 58 accommodation overbridge, will be repositioned to accommodate the realigned pipeline.</p>
<p>Additional land and a change to Bill powers required for HS2 maintenance access to Colwich Bridleway 58 accommodation underbridge</p> <p>AP2-002-006</p>	<p>Land would be required for the permanent diversion of Colwich Bridleway 58, west of its existing alignment, passing beneath the HS2 route via Colwich Bridleway 58 accommodation underbridge.</p> <p>Land would be required for temporary access to the north of the HS2 route from Tolldish Lane, during construction.</p>	<p>Additional land and a change to Bill powers will be required to upgrade the Colwich Bridleway 58 diversion for permanent HS2 maintenance access to Colwich Bridleway 58 accommodation underbridge from Tolldish Lane.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Change to Bill powers required for the diversion of a British Pipeline Agency (BPA) fuel pipeline and a new utility compound, A51 Lichfield Road</p> <p>AP2-002-007</p>	<p>Land would be required for the permanent diversion of an underground British Pipeline Agency (BPA) 10-inch diameter fuel pipeline, which would cross beneath the A51 Lichfield Road to the south of the HS2 route.</p> <p>The AP1 revised scheme (amendment AP1-002-001) would provide 0.3ha of additional land, west of Main Road, for the realignment of a 500m section of the BPA pipeline realignment to the south of the HS2 route.</p>	<p>Change to Bill powers, from temporary to permanent, will be required for the diversion of a section of a BPA 10-inch diameter fuel pipeline, A51 Lichfield Road.</p> <p>A new temporary utility compound will be provided for the management of the BPA fuel pipeline diversion works. It will be provided within land permanently required for the utility diversion in the original scheme, south-west of the A51 Lichfield underbridge.</p> <p>This amendment will only proceed if the AP1 revised scheme is enacted, as it is dependent on the additional area of land required for the BPA pipeline realignment to the south of the HS2 route.</p>
<p>Additional land and a change to Bill powers required for construction activities at Great Haywood</p> <p>AP2-002-008</p>	<p>Land would be required for the temporary establishment of the Trent South embankment main compound and Trent North embankment satellite compound, including site haul routes and temporary roundabout at the junction of Tixall Road and Great Haywood Road.</p> <p>Land would be required permanently for the construction of the Great Haywood viaduct and Trent North embankment, together with the diversion of Hoo Mill Lane (private accommodation track).</p>	<p>Three areas of additional land will be required around Great Haywood to ensure separation of activities during construction.</p> <p>One area will be required between the Trent and Mersey Canal and Colwich to Macclesfield railway, on the northern side of the HS2 route, to enable access across, and reduce disruption to, the canal and the existing railway.</p> <p>A second area will be required between Great Haywood viaduct and Hoo Mill Lane, on the northern side of the HS2 route, to separate public road going vehicles (e.g. heavy goods vehicles (HGVs) and light goods vehicles (LGVs)) from larger earth moving equipment (with an average capacity of 40 tonnes) adjacent to Great Haywood viaduct.</p> <p>A third area will be required at the junction of Tixall Road and Great Haywood Road, on the southern side of the HS2 route, to relocate a temporary roundabout away from the piers supporting the Great Haywood viaduct.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land and a change to Bill powers required for the diversion of a National Grid gas pipeline and a new utility compound, north-west of Great Haywood Marina</p> <p>AP2-002-009</p>	<p>Land would be required for the permanent diversion of an underground National Grid 1,050mm diameter gas pipeline, which would cross beneath Hoo Mill Lane, north of Great Haywood viaduct.</p>	<p>Additional land and a change to Bill powers will be required for the permanent diversion of a section of a National Grid 1,050mm diameter gas pipeline, north of Great Haywood viaduct. The connection points to the existing utility will be repositioned.</p> <p>Additional land will be required at each end of the pipeline diversion for temporary works to connect the new pipeline to the existing pipeline, whilst maintaining a gas supply during construction.</p> <p>Additional land will be temporarily required for a new temporary utility compound for the management of the National Grid 1,050mm diameter gas pipeline diversion works.</p>
<p>Additional land required for the reconfiguration of Ingestre Park Golf Club</p> <p>AP2-002-010</p>	<p>Land would be required temporarily and permanently for the HS2 route to pass through Ingestre Park Golf Club via Trent North embankment and Brancote South cutting, and would be lost or severed from Ingestre Park Golf Club resulting in the facility being unable to function in its current arrangement.</p> <p>Areas of woodland and grassland habitat creation would provide replacement habitat and ecological connectivity between fragmented habitats on both sides of the HS2 route. Landscape earthworks on both sides of the Trent north embankment and a landscape bund on the northern side of Brancote south cutting would provide visual screening for the residents of Ingestre. The original scheme would also provide for the permanent diversion of an underground BPA 10-inch diameter fuel pipeline for approximately 1.8km.</p> <p>The AP1 revised scheme (amendment AP1-002-002), includes a temporary laydown area, required during construction of the BPA pipeline diversion. The temporary laydown area would be located immediately north of a temporary material stockpile, approximately 200m north-east of Ingestre underbridge.</p>	<p>Additional land will be required for the permanent reconfiguration of Ingestre Park Golf Club, adjacent to the north and east of the existing golf course, to the north of the HS2 route, to replace land lost and severed by the original scheme.</p> <p>The assessment assumes that if the Bill powers are to be used to provide the reconfigured golf course, construction will commence in 2021, over a period of one year and three months, to allow the reconfigured Ingestre Park golf course to be brought into use during 2023.</p>
<p>Change to Bill powers required for HS2 maintenance access to Ingestre underbridge</p> <p>AP2-002-011</p>	<p>Land would be required permanently for Ingestre underbridge, which provides access to land on the southern side of Trent North embankment.</p> <p>Land would be required for temporary access to the north of the HS2 route from Ingestre Park Road, during construction.</p>	<p>A change to Bill powers, from temporary to permanent, will be required to provide HS2 maintenance access to the Ingestre underbridge from Ingestre Park Road.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land and a change to Bill powers required for the diversion of a Cadent gas pipeline and a new utility compound, east of Ingestre green overbridge</p> <p>AP2-002-012</p>	<p>Land would be required for the permanent diversion of an underground National Grid 12-inch diameter gas pipeline, which would cross beneath the HS2 route at Brancote South cutting, east of Ingestre green overbridge.</p> <p>Grassland habitat creation would be provided along the length of the diverted pipeline easement. Two areas of woodland habitat creation and hedgerow habitat creation would be provided adjacent to the Ingestre green overbridge, to the south of the HS2 route.</p> <p>A temporary stockpile would be located to the south of Brancote South cutting, south of Tixall Bridleway 0.1628 accommodation overbridge.</p>	<p>Additional land and a change to Bill powers will be required for the permanent diversion of a section of a Cadent 300mm diameter gas pipeline, east of Ingestre green overbridge. The connection points to the existing utility will be repositioned.</p> <p>A new temporary utility compound will be provided for the management of the Cadent 300mm diameter gas pipeline diversion works. It will be provided within land permanently required for the Brancote South cutting, west of Ingestre underbridge.</p> <p>An area of grassland habitat, woodland habitat and hedgerow habitat creation will be adjusted to accommodate the realignment of the pipeline.</p> <p>The temporary material stockpile, to the south of Brancote South cutting, will be re-shaped to accommodate the realigned pipeline.</p>
<p>Additional land required for replacement car parking, east of Staffordshire County Showground</p> <p>AP2-002-013</p>	<p>Construction of the Hopton South cutting and the realignment of the A518 Weston Road would result in the loss of 800 parking spaces at Staffordshire County Showground.</p>	<p>Additional land will be required to the east of Staffordshire County Showground for permanent replacement car parking.</p>
<p>Additional land and a change to Bill powers required for the lowering of Trent Walk beneath the HS2 route via Trent Walk underbridge</p> <p>AP2-002-014</p>	<p>Trent Walk underbridge provides agricultural access for Park Farm, Stafford, as well as access for residential properties along Trent Walk. The underbridge would be located 350m south-east of the A518 Weston Road, south of Staffordshire County Showground. The Trent Walk underbridge would have a restricted height clearance of 3.1m.</p>	<p>Additional land and a change to Bill powers will be required to permanently lower Trent Walk to increase headroom at Trent Walk underbridge to 4.6m.</p>
<p>Additional land and a change to Bill powers required for HS2 maintenance access to Trent Walk underbridge</p> <p>AP2-002-015</p>	<p>Land would be required permanently for Trent Walk underbridge, providing access to agricultural land and residential properties to the north-east of the HS2 route.</p> <p>Land would be required for temporary access to the south of the HS2 route partially along Trent Walk, during construction.</p>	<p>Additional land and a change to Bill powers will be required for permanent HS2 maintenance right of access to Trent Walk underbridge from the A518 Weston Road.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for modifications to the A513 Beaconside/A518 Weston Road/Hydrant Way junction</p> <p>AP2-002-016</p>	<p>In the original scheme, construction traffic would enter onto the A518 Weston Road, close to Staffordshire County Showground, and travel south-west to join the A513 Beaconside.</p> <p>The SES2 scheme provides for a new construction traffic route (SES2-002-010) to take HS2 construction traffic from Stone to Weston via Sandon.</p>	<p>Additional land will be required to permanently widen the Hydrant Way approach to the A513 Beaconside/A518 Weston Road roundabout.</p> <p>A footpath will be realigned to accommodate the widening works.</p>
<p>Additional land required for the relocation of stockpiles and realignment of Hopton and Coton Footpath 6</p> <p>AP2-002-017</p>	<p>Temporary stockpiles for the temporary storage of excavated materials, to the south of the HS2 route and west of Hopton and Coton Footpath 24, would be required. A temporary stockpile, a transfer node and the Hopton South cutting satellite compound would be located between Hopton and Coton Footpath 24 and the A518 Weston Road.</p> <p>Hopton and Coton Footpath 6 would be permanently diverted for 710m, 440m south of its existing alignment, to cross over the HS2 route on the Hopton and Coton Footpath 24 accommodation overbridge and join Hopton and Coton Footpath 7 to the north of the HS2 route. During construction, Hopton and Coton Footpath 6 would be temporarily diverted between the proposed temporary stockpiles.</p>	<p>Additional land will be required temporarily for the relocation of two temporary stockpiles from the south of the HS2 route to the north of the HS2 route.</p> <p>The permanent diversion of Hopton and Coton Footpath 6 will be realigned to follow the southern side of Hopton South cutting. The temporary diversion of Hopton and Coton Footpath 6 to the south of the route will be along field boundaries and connect into the existing Hopton and Coton Footpaths 5 and 24. The temporary diversion to the north of the HS2 route will be diverted around the relocated temporary stockpiles.</p>
<p>Additional land required for HS2 maintenance access to Hopton and Coton Footpath 24 accommodation overbridge</p> <p>AP2-002-018</p>	<p>Land would be permanently required for the Hopton and Coton Footpath 24 accommodation overbridge, providing agricultural access across the HS2 route and HS2 maintenance access to the north of A518 Weston Road overbridge.</p> <p>Land would be temporarily required for access to the north of the HS2 route via a shared access, during construction.</p>	<p>Additional land will be required for permanent HS2 maintenance access to the Hopton and Coton Footpath 24 accommodation overbridge from the A518 Weston Road.</p>

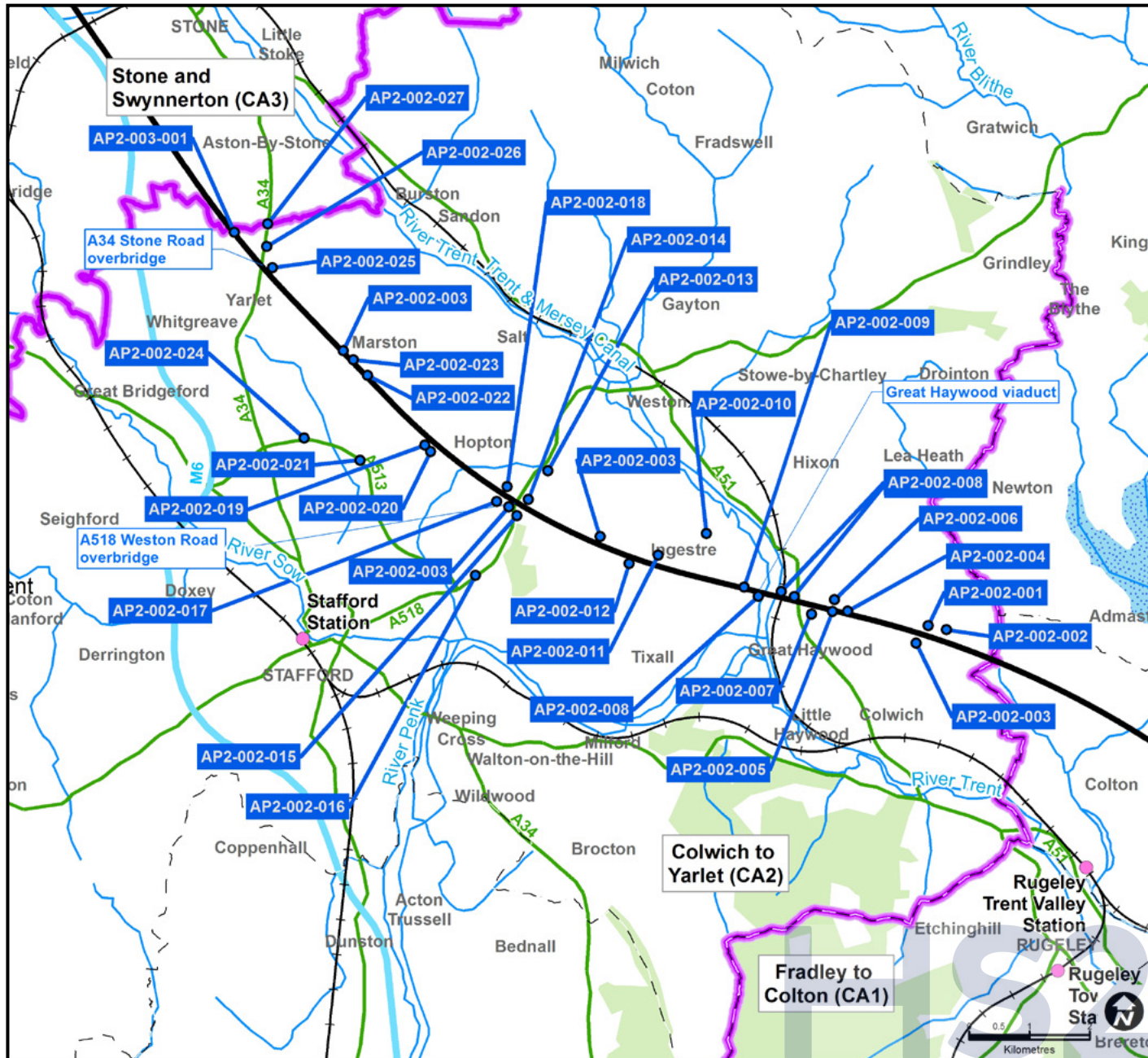
Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land and a change to Bill powers required for the realignment of the B5066 Sandon Road, diversion of Hopton Lane, extension of Hopton Lane and increased non-motorised user provision across the HS2 route between Hopton and Mount Edge</p> <p>AP2-002-019</p>	<p>Land would be required for the permanent diversion of Mount Edge, south-west of its existing alignment, the realignment of B5066 Sandon Road, west of its existing alignment, and the diversion of Hopton Lane, north of its existing alignment, to the north of the HS2 route. A retained section of Hopton Lane, to the south of the HS2 route, would be closed permanently to through-traffic and would provide access to a balancing pond.</p> <p>Pedestrian access across the HS2 route, between Mount Edge and Hopton village, would be provided via the Hopton and Coton new footpath overbridge.</p> <p>Two balancing ponds would be provided to the south of the HS2 route, one for railway drainage and one for highway drainage. To the north of the HS2 route a balancing pond would be provided for highway drainage.</p> <p>Two temporary material stockpiles and the Hopton North cutting satellite compound would be provided on land immediately west of the B5066 Sandon Road realignment.</p>	<p>Additional land and a change to Bill powers will be required for the permanent realignment of the B5066 Sandon Road.</p> <p>The Mount Edge diversion will no longer be required, and the associated hedgerow habitat creation will therefore not be implemented. A change to Bill powers will be required for the extension of Hopton Lane, south of the HS2 route, and the diversion of Hopton Lane, north of the HS2 route. This extension to the retained section of Hopton Lane will connect into the realigned B5066 Sandon Road. The diversion of Hopton Lane will join the B5066 Sandon Road 20m further north than in the original scheme, on the northern side of the HS2 route.</p> <p>There will a change to Bill powers for the increased provision of the non-motorised user route through the widening of the Hopton and Coton new footpath overbridge for equestrian and cyclist use (to become the Hopton and Coton new bridleway overbridge). Provision of a non-motorised user route along the B5066 Sandon Road will also be required as part of this amendment.</p> <p>The relocation and reconfiguration of balancing ponds, provided for in the original scheme, will accommodate the changes to the B5066 Sandon Lane realignment and the Hopton Lane extension.</p> <p>Two new balancing ponds, east of B5066 Sandon Road, to the south of the HS2 route, will provide drainage for an allocated development site, east of the realigned B5066 Sandon Road and to the south of the HS2 route.</p>
<p>Additional land required for construction activities around B5066 Sandon Road, Hopton</p> <p>AP2-002-020</p>	<p>Land would be required for the temporary establishment of Hopton North cutting satellite compound, including site haul routes.</p> <p>Land would be required permanently for the construction of the Hopton North cutting, the realignment of B5066 Sandon Road and the diversion of Mount Edge.</p>	<p>Two areas of additional land will be required around the B5066 Sandon Road, Hopton, during construction.</p> <p>One area will be required to the west of the Hopton South cutting satellite compound, on the southern side of the HS2 route, to separate public road going vehicles (e.g. heavy goods vehicles (HGVs) and light goods vehicles (LGVs)) from larger earth moving equipment (with an average capacity of 40 tonnes), adjacent to Hopton North cutting.</p> <p>A second area will be required at the southern tie-in location for the realigned B5066 Sandon Road, on the southern side of the HS2 route, to accommodate the tie-in works with the existing alignment.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for modifications to A513 Beaconside and B5066 Sandon Road junction</p> <p>AP2-002-021</p>	<p>In the original scheme, construction traffic would enter onto the B5066 Sandon Road at Hopton and travel south to join the A513 Beaconside.</p> <p>The SES2 scheme provides for a new construction traffic route (SES2-002-010) to take HS2 construction traffic from Stone to Weston via Sandon.</p>	<p>Additional land will be required for a temporary traffic island and signalisation to the A513 Beaconside and B5066 Sandon Road junction.</p>
<p>Additional land required for a British Pipeline Agency (BPA) construction working area and a new utility compound, west of B5066 Sandon Road</p> <p>AP2-002-022</p>	<p>Land would be required for the permanent diversion of an underground BPA 10-inch diameter fuel pipeline, which would cross beneath the HS2 route at the Hopton North cutting, west of the B5066 Sandon Road.</p> <p>An area of grassland habitat creation would be provided along sections of the diverted pipeline.</p>	<p>Additional land will be required at the western end of the pipeline diversion for temporary works to connect the new pipeline to the existing pipeline, whilst maintaining a gas supply during construction.</p> <p>A new temporary utility compound will be provided for the management of the BPA 10-inch diameter fuel pipeline diversion works. It will be provided within land permanently required for Hopton North cutting in the original scheme, north-west of B5066 Sandon Road.</p>
<p>Additional land and a change to Bill powers required for the diversion of a National Grid gas pipeline and a new utility compound, south-east of Marston Bridleway 8 accommodation underbridge</p> <p>AP2-002-023</p>	<p>Land would be required for the permanent diversion of an underground National Grid 1,050mm diameter high pressure gas pipeline, which would cross beneath the HS2 route at Marston South embankment, south-east of Marston Bridleway 8 accommodation underbridge.</p> <p>An area of grassland habitat creation would be provided as advanced mitigation planting along a section of the diverted pipeline, to the south of the HS2 route.</p> <p>A temporary material stockpile would be located to the north of Marston South embankment.</p>	<p>Additional land and a change to Bill powers will be required for the permanent diversion of a section of a National Grid 1,050mm diameter gas pipeline, south-east of Marston Bridleway 8 accommodation underbridge. The connection points to the existing utility will be repositioned.</p> <p>Additional land will be required at each end of the pipeline diversion for temporary works to connect the new pipeline to the existing pipeline, whilst maintaining a gas supply during construction.</p> <p>A new utility compound will be provided for the management of the National Grid 1,050mm diameter high pressure gas pipeline diversion works. It will be provided within land permanently required for Marston South embankment, east of Marston Bridleway 8.</p> <p>An area of grassland habitat creation will be provided following construction and site restoration to accommodate the realignment of the pipeline.</p> <p>A temporary material stockpile, to the north of Marston South embankment, will be re-shaped to accommodate the realigned pipeline.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for modifications to A513 Beaconside/Marston Lane junction</p> <p>AP2-002-024</p>	<p>In the original scheme, construction traffic would enter onto Marston Lane at Marston and travel south to join the A513 Beaconside.</p> <p>The SES2 scheme provides for a new construction traffic route (SES2-002-010) to take HS2 construction traffic from Stone to Weston via Sandon.</p>	<p>Additional land will be required for a permanent traffic island and signalisation to the junction of A513 Beaconside and Marston Lane, located to the south of Marston.</p> <p>The eastern side of the Marston Lane junction will be realigned, which will result in the removal and reinstatement of hedgerow 30m in length.</p>
<p>Additional land required to relocate a temporary material stockpile and for a new transfer node, east of Yarlet South cutting</p> <p>AP2-002-025</p>	<p>Land would be required during construction for the temporary storage of excavated materials, including designated transfer nodes for the storage, loading and unloading of bulk earthworks materials adjacent to the Yarlet South cutting.</p>	<p>Additional land will be required for the relocation of a temporary material stockpile and a new transfer node, located to the east of Yarlet South cutting.</p>
<p>Additional land required within the grounds of Yarlet School during construction of utility works</p> <p>AP2-002-026</p>	<p>Temporary rights of access would be required over the internal road within the grounds of Yarlet School during construction.</p> <p>The AP1 revised scheme (amendment AP1-002-106) provides a change in the Bill powers, from temporary to permanent rights, to permanently divert an existing Cadent gomm low pressure gas main along the access road to Yarlet School.</p>	<p>Additional land will be required to facilitate the construction of a gomm low pressure gas main diversion along the access road to Yarlet School off the A34 Stone Road, introduced as part of the AP1 revised scheme.</p>
<p>Additional land and a change to Bill powers required along the A34 Stone Road for the provision of a new access to Yarlet School</p> <p>AP2-002-027</p>	<p>The original scheme would include land for the temporary diversion of the A34 Stone Road for 750m, up to 100m from its existing alignment, during construction. The existing access to Yarlet School would be required for construction access to manage the temporary diversion of the A34 Stone Road.</p> <p>Following construction, the A34 Stone Road would be reinstated on its existing alignment to cross the HS2 route via the A34 Stone Road overbridge.</p> <p>The AP1 revised scheme (amendment AP1-002-106) included a change to Bill powers for the permanent diversion of Cadent gomm low pressure gas main at Yarlet along the existing school access.</p>	<p>Additional land and a change to Bill powers will be required for the permanent provision of a new junction and access road to serve Yarlet School.</p> <p>Modifications will be required to the central reservation and width of the A34 Stone Road to provide an access across the carriageway to Yarlet School.</p> <p>New areas of hedgerow habitat creation and woodland habitat creation will be provided as replacement habitat along the southbound side of the A34 Stone Road and school access.</p> <p>The majority of this amendment lies within the Colwich to Yarlet area (CA2). Part of this amendment is in the Stone and Swynnerton area (CA3).</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for a revised high pressure National Grid Gas Transmission Line diversion under Yarlet central cutting and a new temporary utility compound</p> <p>AP2-003-001</p>	<p>A 900mm diameter National Grid high pressure gas pipeline would be diverted for 330m to cross under the HS2 route 30m south-east of its existing alignment under Yarlet central cutting. An ecological mitigation pond would be provided within an area of grassland habitat creation, in proximity to the diversion adjacent to the north-east of the HS2 route.</p> <p>The works would be managed from the Yarlet embankment satellite compound.</p>	<p>Additional land will be permanently required and a change in Bill powers to modify the alignment of the diverted National Grid high pressure gas pipeline. The new diversion will be 350m in length and will cross the HS2 route 20m further south than in the original scheme and 55m south-east of its existing alignment. An ecological mitigation pond and associated grassland mitigation planting will be relocated further west to accommodate the diversion works.</p> <p>A new utility compound will be provided for the management of the high pressure gas diversion works 500m south-east of the revised location of Stone Rural Footpath 28 accommodation overbridge (provided for in amendment AP2-003-002: Additional land permanently required and a change in Bill powers for the relocation of Stone Rural Footpath 28 accommodation overbridge).</p> <p>The majority of this amendment and all relevant potential receptors lie within the Stone and Swynnerton area (CA3). Part of this amendment is in the Colwich to Yarlet area (CA2).</p>

Figure 11: Locations of the AP2 engineering amendments within the Colwich to Yarlet area



10.2 Assessment of engineering amendments

Agriculture, forestry and soils

Effects arising during construction

Amendment AP2-002-002 (removal of Moreton retaining wall and realignment of access track to Moreton House and Moreton House Farm) will require an additional 0.1ha of land permanently and the demolition of the dwelling at Moreton House Farm. The demolition of the dwelling will give rise to a different adverse permanent significant effect on Moreton House Farm, changing the level of significance reported in the main ES from moderate adverse to major/moderate adverse.

Amendment AP2-002-004 (the diversion of a gas pipeline and a new temporary utility compound west of Colwich Bridleway 35 accommodation overbridge) will require 0.5ha of land temporarily from the land at Tolldish Barn. This will result in a new temporary, moderate adverse effect, which is significant. At Farley Farm, 4.5ha of additional land will be required temporarily. This will change the level of significance reported in the main ES from moderate adverse to a major/moderate adverse effect, which is significant.

This amendment will also require an additional 13.7ha of land temporarily from Tithebarn Farm. This will result in a different significant effect, but will not change the level of the significance of the effect (major/moderate adverse) reported in the main ES.

Amendment AP2-002-008 (additional land required temporarily for construction activities at Great Haywood) will require an additional 0.4ha of land temporarily from Land at Tixall Lane. This will result in a new temporary moderate adverse effect, which is significant.

This amendment, in combination with AP2-002-009, will require 11ha of land temporarily from Hoo Mill Lane Farm. This will result in a different cumulative temporary effect, however it will not change the level of significance (moderate adverse) reported in the main ES.

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club) will require an additional 53.4ha of land temporarily and permanently from Ingestre Manor Farm. This will result in new temporary and permanent moderate adverse effects on the land holding, which are significant.

This amendment will also require the 7.6ha of

land temporarily from Tixall Manor Farm. This will result in a different significant effect but will not change the level of significance (major/moderate) reported in the main ES. The 7.6ha of land will also be required permanently from the land holding which will change the level of significance reported in the main ES from moderate adverse to major/moderate adverse.

Amendment AP2-002-013 (replacement car parking east of Staffordshire County Showground) requires an additional 8.2ha of land temporarily and permanently from Park Farm. This will result in different temporary and permanent significant effects on Park Farm. However, this will not change the level of the significance of the effects (major/moderate adverse) reported in the main ES.

Amendment AP2-002-005 (the diversion of an underground gas pipeline, east of Colwich Bridleway 58 accommodation overbridge), in combination with AP2-001-004, will require 63.3ha of land temporarily from Tithebarn Farm. This will result in a different cumulative effect but will not change the level of significance (moderate/major adverse) reported in the main ES.

The agricultural land required temporarily for each relevant amendment will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils, as set out in the draft CoCP.

Community

Effects arising during construction

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home), will reduce the duration of the temporary in-combination effects on residents of Mayfield Children's Home from up to three years, to nine months. This will result in a different significant effect but will not change the level of the significance of the effect (major adverse) reported in the main ES. If the construction of the replacement facility can take place earlier, as a result of the separate planning application, this effect may be reduced or removed.

The main ES reported that seven residential properties in Moreton would experience significant adverse visual and noise effects due to construction works. The temporary in-combination effect would result in a major

adverse significant effect on amenity of residents at the seven properties for up to nine months in total. It is assumed that once the residents of the children's home have relocated, Moreton House will become a residential property. As a result, this will increase the number of residential properties in Moreton that will be subject to a temporary in-combination effect, from seven to eight. This will give rise to a different significant effect, however this will not change the level of significance of the effect reported in the main ES.

This amendment in combination with the AP2 amendment to remove Moreton retaining wall (AP2-002-002) will result in a different significant effect by changing the number of properties in Moreton which would be subject to a significant temporary in-combination effect resulting from significant noise and visual effects. The amendment to remove Moreton retaining wall will result in the demolition of one residential property in Moreton, whilst the amendment to relocate Mayfield Children's Home will result in one additional residential property in Moreton, therefore the total number of properties subject to a significant temporary in-combination effect will therefore remain as seven. This will not

change the level of significance of the effect reported in the main ES.

Amendment AP2-002-002 (removal of Moreton retaining wall and realignment of access track to Moreton House and Moreton House Farm) will require the demolition of a residential property at Moreton House Farm and increase the loss of land from this property. This will change the duration of the effect from temporary, as reported in the main ES and AP1 ES, to permanent, but will not change the level of significance (minor adverse which is non-significant on a community basis) reported in the main ES.

This amendment in combination with amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) will change the number of residential properties in Moreton which are subject to significant temporary in-combination effects. The amendment to remove Moreton retaining wall will result in the demolition of one residential property in Moreton. It is assumed that Mayfield Children's Home will become residential, which will result in one additional residential property in Moreton. Therefore, the total number of properties subject to a

significant temporary in-combination effect will remain as seven. This will result in a different significant effect but will not change the level of the significance of the effect (major adverse) reported in the main ES.

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club), will provide additional land for the reconfiguration of the Ingestre Park Golf Club golf course to replace the land lost and severed by the HS2 route. The works to reconfigure the golf course will take one year and three months, during which it is assumed that the outdoor space, including the golf course, will be shut, but the club house will remain open. This will result in a different significant effect but will not change the level of the significance of the effect (major adverse). This amendment will also remove the permanent effect from loss of the community facility reported in the main ES.

Amendment AP2-002-013 (replacement car parking east of Staffordshire County Showground) provides equivalent car parking to replace the area of car parking used for large events that would have been lost in the original scheme. This removes the temporary and permanent moderate adverse significant effect

reported in the main ES.

Amendment AP2-002-019 (realignment of B5066 Sandon Road, diversion and extension of Hopton Lane and increased non-motorised user provision between Hopton and Mount Edge), will increase the number of properties subject to temporary in-combination effects due to significant noise, visual and HGV effects from 23 to 40 properties. This will result in a different temporary significant effect but will not change the level of significance (major adverse) reported in the main ES, as amended by SES1 and SES2.

Amendment AP2-002-027 (Additional land and a change to Bill powers required along the A34 Stone Road for the provision of a new access to Yarlet School). This amendment will give rise to a new temporary significant in-combination effect on residential properties on the A34 Stafford Road/Stone Road, due to significant visual and HGV effects. This will result in a new major adverse significant in-combination effect.

Effects arising from operation

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home), will provide replacement residential accommodation adjacent to Rugeley School,

which will remove the major adverse in-combination effect on the amenity of residents of Mayfield Children's Home reported in the main ES.

The amendment will increase the number of residential properties in Moreton which will be subject to a significant permanent major adverse in-combination effect from 12 to 13, as reported in the main ES. This will result in a different significant effect but will not change the level of significance of the effect (major adverse) reported in the main ES.

Amendment AP2-002-002 (removal of Moreton retaining wall and realignment of access track to Moreton House and Moreton House Farm), will decrease the number of residential properties in Moreton subject to significant in-combination visual and noise effects from 12 to 11 properties. This will result in a different significant effect but will not change the level of significance of the effect (major adverse) reported in the main ES as amended by SES1.

This amendment in combination with amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) will result in a different significant effect

by changing the properties in Moreton which would be subject to a significant permanent in-combination effect from significant noise and visual effects. The amendment to remove Moreton retaining wall will result in the demolition of one residential property in Moreton while the amendment to relocate Mayfield Children's Home will result in one additional residential property in Moreton, therefore the total number of properties subject to a significant permanent in-combination effect will remain as 12. This will not change the level of significance of the effect reported in the main ES, as amended by SES1.

Cultural heritage

Effects arising during construction

Amendment AP2-002-004 (the diversion of a gas pipeline and a new temporary utility compound west of Colwich Bridleway 35 accommodation overbridge) requires the removal of the full extent of the cropmark at Tolldish Lane. This will result in a new permanent moderate adverse effect, which is significant.

Amendment AP2-002-009 (diversion of a gas pipeline and a new temporary utility compound, north-west of Great Haywood Marina) will

increase the extent to which a group of cropmarks to the west of the River Trent and to the east of Ingestre Park, and cropmarks at Hoo Mill, Ingestre are removed during construction resulting in different significant effects. However, this will not change the level of the significance of the effects (major adverse) reported in the main ES.

Amendment AP2-002-009 will also increase the extent to which post-medieval water meadows in the Trent Valley, to the north of Great Haywood, are removed during construction. This will result in a different significant effect but will not change the level of significance of the effect (moderate adverse) reported in the main ES.

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club) will increase the extent of cropmark and earthwork features at Ingestre Park Golf Club to be removed during construction. This will result in a different significant effect but will not change the level of the significance of the effect (moderate adverse) reported in the main ES.

Amendment AP2-002-023 (the diversion of a gas pipeline and a new temporary utility compound, south-east of Marston Bridleway 8 accommodation underbridge), will increase the

extent to which an area of surviving ridge and furrow north of Newbuildings Farm near Hopton, will be removed during construction. This will result in a different significant effect but will not change the level of the significance of the effect (moderate adverse) reported in the main ES.

Amendment AP2-002-027 (provision of a new access to Yarlet School along the A34 Stone Road) will require the partial removal of a group of earthworks, likely to represent a medieval settlement around Yarlet Hall. This will result in a new permanent moderate adverse effect, which is significant.

Ecology and biodiversity

Effects arising during construction

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club) will result in the loss of assumed foraging habitat for wintering golden plover and lapwing within arable fields adjacent to Ingestre Manor Farm, which will give rise to a new residual permanent adverse effect upon this wintering bird assemblage that is significant at the district/borough level. However, in consultation with relevant stakeholders, suitable offsite compensatory measures will be sought in order to reduce this

permanent adverse effect to a level that is not significant.

Health

Effects arising during construction

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) is likely to give rise to a potential increase in the temporary adverse health effect on residents of Mayfield Children's Home, reported in the main ES, due to a reduction in respite from construction impacts for a period of nine months, while the new residential facility is being built, and will result in a new temporary adverse effect on the wellbeing of residents of Mayfield Children's Home caused by disruption of residents' routines associated with the phased transfer to the new facility.

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club) allows the golf course to be reinstated as an 18-hole golf course. This will result in a different residual health effect as the clubhouse will remain available during construction and members are less likely to discontinue the sport or lose social networks established through the club. This amendment also removes the permanent health effect

associated with the loss of the 18-hole golf course reported in the main ES.

Effects arising from operation

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) will provide replacement residential accommodation adjacent to Rugeley School which is away from the HS2 route. This will remove the permanent adverse health effect on residents of Mayfield Children's Home reported in the main ES.

Landscape and visual

Effects arising during construction

Amendment AP2-002-004 (the diversion of a gas pipeline and a new temporary utility compound west of Colwich Bridleway 35 accommodation overbridge) will result in different significant visual effects at the following viewpoints but will not change the level of significance reported in the main ES:

- view north-east along the A51 Lichfield Road (moderate adverse); and
- view north from Colwich Bridleway 58 (major adverse).

Amendment AP2-002-010 (the reconfiguration of Ingestre Park Golf Club) will replace mostly arable farmland with a managed golf course landscape. Mature trees and hedgerows will be retained where reasonably practicable. The amendment will add to the effects of the operational railway on the landscape character of the Ingestre Park Sandstone Estatelands Landscape Character Area. This will result in a temporary different significant effect but will not change the level of the significance (major adverse at year 15) reported in the main ES.

Amendment AP2-002-019 (realignment of B5066 Sandon Road, diversion and extension of Hopton Lane and increased non-motorised user provision between Hopton and Mount Edge), will result in a different significant effect but will not change the level of the significance of the effects reported in the main ES at the following viewpoints:

- view south from Hopton and Coton Bridleway 12 (major adverse);
- view south-west along B5066 Sandon Road (moderate adverse); and
- view north from Spode Avenue, Mount Edge (moderate adverse).

Amendment AP2-002-023 (the diversion of a gas pipeline and a new temporary utility compound, south-east of Marston Bridleway 8 accommodation underbridge), will introduce new construction activity into views west from Marston Lane Farm, Marston Lane. This will change the current rural views from these properties and result in a new temporary major adverse significant effect.

Amendment AP2-002-027 (additional land and a change to Bill powers required along the A34 Stone Road for the provision of a new access to Yarlet School) will give rise to a new temporary moderate adverse significant effect at the view south from A34 Stone Road.

Effects arising from operation

Amendment AP2-002-019 (realignment of B5066 Sandon Road, diversion and extension of Hopton Lane and increased non-motorised user provision between Hopton and Mount Edge), will result in a different significant visual effect on views north from Spode Avenue, Mount Edge, due to the replacement of the open rural views by developing mitigation woodland planting. However, this will not change the level of the

significance of the effects (major adverse at year 15 and moderate adverse at year 60) reported in the main ES.

The main ES reported major adverse significant effects on views south from Hopton and Coton Bridleway 12 at year 15, reducing to moderate adverse significant at year 60. The developing mitigation woodland planting associated with amendment AP2-002-019 will provide additional screening of the operational railway. This will reduce the major adverse significant effect reported in the main ES at year 15 from major to moderate adverse and remove the moderate adverse significant effect reported in the main ES at year 60.

Socio-economics

Effects arising during construction

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) provides replacement residential accommodation adjacent to Rugeley School and therefore there will only be a limited period of time during which the business will be operating from Mayfield House during HS2 construction.

This will remove the permanent significant effect at Mayfield Children's Home reported in the main ES.

Amendment AP2-002-013 (replacement car parking east of Staffordshire County Showground) provides equivalent car parking to replace the area of car parking used for large events that would have been lost in the original scheme. This will remove the permanent moderate adverse significant effect reported in the main ES.

Effects arising from operation

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) will provide replacement residential accommodation adjacent to Rugeley School, which will not experience adverse environmental effects as a result of the operational railway and will allow the children's home to continue to meet the needs of its users over the long term. This will remove the major adverse significant effect at Mayfield Children's Home at Moreton House reported in the main ES.

Sound, noise and vibration

Effects arising during construction

Amendment AP2-002-007 (diversion of a gas pipeline and a new temporary utility compound, north-west of Great Haywood Marina) will introduce construction noise which will result in new temporary significant effects for a period of approximately two months for approximately 30 properties on Green Lane and Nursery Lane, Great Haywood.

Amendment AP2-002-019 (realignment of B5066 Sandon Road, diversion and extension of Hopton Lane and increased non-motorised user provision between Hopton and Mount Edge), will increase the number of road works undertaken close to Mount Edge. This will result in a different significant effect at approximately 17 properties in Hopton, which will result in a significant effect on approximately 40 properties to the east and west of the HS2 route for a period of up to one year and nine months.

Effects arising from operation

Amendment AP2-002-001 (provision of a replacement facility for Mayfield Children's Home) will remove the significant operational airborne noise effect at Mayfield Children's Home reported in the main ES.

Traffic and transport

Effects arising during construction

Amendment AP2-002-016 (modifications to the A513 Beaconside/A518 Weston Road/Hydrant Way junction) and the temporary construction works associated with the modifications and associated traffic management measures, will result in a temporary reduction in capacity and some delays at the junction. This will result in a new temporary minor adverse effect for road users, which is significant, for approximately three months.

Amendment AP2-002-021 (modifications to A513 Beaconside and B5066 Sandon Road junction) and the associated traffic management measures is expected to result in a temporary

reduction in capacity and some delays at this junction for up to three months. This will result in a new temporary minor adverse effect, which is significant. On completion of construction, the existing junction arrangements will be reinstated.

Amendment AP2-002-024 (modifications to A513 Beaconside/Marston Lane junction) and the associated traffic management measures, is expected to result in a temporary reduction in capacity and some delays at the A513 Beaconside/Marston Lane/Common Road junction for up to three months. This will result in a new temporary minor adverse effect, which is significant.

Effects arising from operation

Amendment AP2-002-013 (replacement car parking east of Staffordshire County Showground) provides equivalent car parking to replace the area of car parking used for large events to be lost in the original scheme. This amendment removes the permanent major significant effect reported in the main ES.

Amendment AP2-002-016 (modifications to the A513 Beaconside/A518 Weston Road/ Hydrant Way junction) will reduce queues to the junction of A513 Beaconside/A518 Weston Road/ Hydrant Way for road users. This will result in a new permanent moderate beneficial effect for road users of this junction in 2027, which is significant, reducing to minor beneficial effect by 2041, which is significant.

Amendment AP2-002-024 (modifications to A513 Beaconside/Marston Lane junction) will facilitate turning manoeuvres under signal control for vehicles of the minor arm approaches of Marston Lane and Common Road, which will find it increasingly difficult to access the A513 Beaconside as a consequence of general traffic growth associated with development in the area. This will result in a new permanent minor beneficial effect for road users of this junction, which is significant.

Amendment AP2-002-027 (provision of a new access to Yarlet School along the A34 Stone Road) will reduce travel distances for vehicle

users by up to 3km through road improvements to facilitate right-turn manoeuvres into and out of Yarlet School. This will result in a new permanent minor beneficial significant effect on traffic flows and delays for vehicle users at Yarlet School.

Water resources and flood risk

Effects arising during construction

Amendment AP2-002-007 (diversion of a fuel pipeline and a temporary utility compound at the A51 Lichfield Road) has the potential to introduce a new temporary moderate adverse impact on flood risk associated with the construction compound adjacent to Tolldish stream, to the north-west of Great Haywood.

Amendment AP2-002-019 (realignment of B5066 Sandon Road, diversion and extension of Hopton Lane and increased non-motorised user provision between Hopton and Mount Edge), will introduce a new permanent moderate adverse effect due to the impact of two balancing ponds on flood risk to downstream agricultural land.

It is currently anticipated that a means of mitigating these impacts will be developed to ensure that there are no residual significant effects arising from construction.

10.3 Summary of minor utility amendments within the Additional Provision 2

Table 13 provides a summary of each minor utility amendment reported within the Colwich to Yarlet area. Figure 12 shows the approximate location of each AP2 minor utility amendment within the Colwich to Yarlet area.

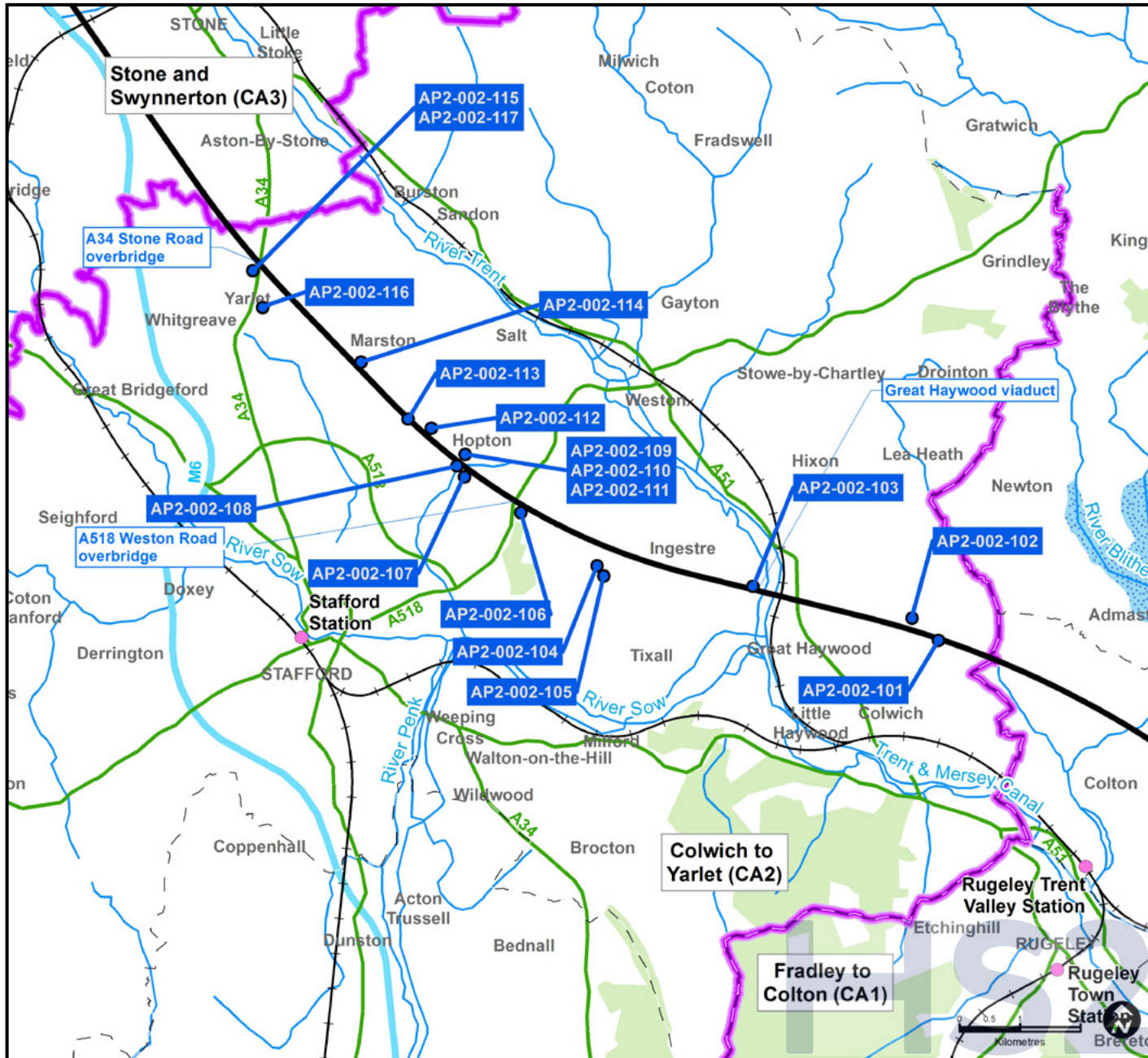
Table 13: Summary of the AP2 minor utility amendments within the Colwich to Yarlet area

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
Additional land and a change to Bill powers for the underground diversion of a Western Power Distribution 11kV overhead line near Moreton Brook AP2-002-101	Land would be required for the permanent diversion of an 11kV overhead line, 1.4km in length, across agricultural land, near Colwich Footpath 36 diversion (east), and Bishton Lane.	Additional land and a change to Bill powers will be required for the permanent diversion of an 11kV overhead line, 1.4km in length, along Colwich Footpath 36 diversion (east), Colwich Bridleway 19, and running along a HS2 access track to a balancing pond near Moreton Brook, along the southern side of the HS2 route.
Additional land and a change to Bill powers for the underground diversion of a Western Power Distribution 11kV overhead line, west of Tithebarn Farm AP2-002-102	Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 200m in length, parallel to the existing overhead line, 20m east of Tithebarn Farm.	Additional land and a change to Bill powers will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 800m in length, west of Tithebarn Farm.
Additional land and a change to Bill powers for the underground diversion of a Western Power Distribution 11kV overhead line, west of Great Haywood Marina AP2-002-103	Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 220m in length, parallel to the existing overhead line, 150m west of Great Haywood Marina.	Additional land and a change to Bill powers will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 240m in length, west of Great Haywood Marina.
Additional land for the removal of a Western Power Distribution 11kV overhead line and associated infrastructure, west of Upper Hanyards Farm AP2-002-104	Land would be required for the permanent removal of a Western Power Distribution 11kV overhead line, 350m in length, 100m west of Upper Hanyards Farm. Land would be required for permanent underground diversion of an 11kV overhead line, 200m in length, parallel to the existing overhead line, 50m north of Upper Hanyards Farm.	Additional land will be required for the permanent removal of a Western Power Distribution 11kV overhead line, 600m in length, and associated infrastructure west of Upper Hanyards Farm.
Additional land and a change to Bill powers for a new Severn Trent Water water mains supply to the Brancote South cutting satellite compound AP2-00-105	Land would be required for a new temporary 63mm diameter Severn Trent Water water mains supply, 720m in length, from Lower Hanyards Farm to the Brancote South cutting satellite compound.	Additional land and a change to Bill powers will be required for a new temporary 63mm diameter Severn Trent Water water mains supply, 1.9km in length, along Hanyards Lane to the Brancote South cutting satellite compound.
Additional land for the underground diversion of a Western Power Distribution low voltage underground cable, west of Trent Walk underbridge AP2-002-106	Land would be required for the permanent underground diversion of a Western Power Distribution low voltage underground cable, 280m in length, along Trent Walk.	Additional land will be required for the permanent underground diversion of a Western Power Distribution low voltage underground cable, 245m in length, west of Trent Walk underbridge.

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
Additional land for the diversion of two Severn Trent Water sewers, south of Hopton AP2-002-107	No provision was made for the permanent diversion of two Severn Trent Water sewers south of Hopton.	Additional land will be required for the permanent diversion of two 150mm diameter Severn Trent Water sewers, for a total of 435m in length, south of Hopton.
Additional land for the underground diversion of a Western Power Distribution 11kV overhead line, east of Mount Edge AP2-002-108	Land would be required for the permanent diversion of a Western Power Distribution 11kV overhead line, running 400m from the east of properties at Mount Edge to a farm access track 200m south of Lower House Farm.	Additional land will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 185m in length, east of Mount Edge.
Additional land and a change to Bill powers for the underground diversion of a Western Power Distribution 11kV overhead line, south-west of Hopton AP2-002-109	Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, running for 500m in length, 200m east of Ministry of Defence (MOD) Stafford to the west of properties along Wilmore Hill Lane and crossing the HS2 route, 400m south of Hopton Lane.	Additional land and a change to Bill powers will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 360m in length, south-west of Hopton.
Additional land and a change to Bill powers for the underground diversion of a Western Power Distribution low voltage overhead line crossing Hopton Lane AP2-002-110	Land would be required for the permanent overhead line diversion of a Western Power Distribution low voltage overhead line, 125m in length, crossing Hopton Lane.	Additional land and a change to Bill powers will be required for the permanent underground diversion of a Western Power Distribution low voltage overhead line, 115m in length, crossing Hopton Lane.
Additional land for the underground diversion of a Western Power Distribution 11kV overhead line to the north and west of Sandon Road auto-transformer station AP2-002-111	Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 300m in length, crossing the HS2 route at Sandon Road auto-transformer station.	Additional land will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 1km in length, following the B5066 Sandon Road diversion to the south of the HS2 route.
Additional land and a change to Bill powers for the underground diversion of Western Power Distribution 11kV overhead line, west of the B5066 Sandon Road AP2-002-112	Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 400m in length crossing the HS2 route, 140m north-west of the B5066 Sandon Road diversion.	Additional land and a change to Bill powers will be required for the permanent diversion of a Western Power Distribution 11kV overhead line, 1.2km in length, along Hopton and Coton Bridleway 12 and the B5066 Sandon Road diversion.

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Change to Bill powers for the diversion of a Cadent medium pressure gas main west of Kent's Barn Farm.</p> <p>AP2-002-113</p>	<p>Land would be required for the permanent diversion of a National Grid Gas Distribution medium pressure gas main, 140m in length, crossing the HS2 route at the Hopton and Coton bridleway 11 accommodation overbridge.</p>	<p>A change to Bill powers will be required for the permanent diversion of a Cadent medium pressure gas main, 400m in length, from 400m west of Kents Farm Barn, crossing the HS2 route 190m north-west of Hopton and Coton bridleway 11 accommodation overbridge, and running to 200m east of Newbuildings Cottage.</p>
<p>Additional land and a change to Bill powers for the underground diversion of Western Power Distribution 11kV overhead line at Marston Bridleway 8 accommodation underbridge.</p> <p>AP2-002-114</p>	<p>Land would be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 320m in length, crossing the HS2 route, 80m north-west of Marston Bridleway 8 accommodation underbridge.</p>	<p>Additional land and a change to Bill powers will be required for the permanent diversion of a Western Power Distribution 11kV overhead line, 320m in length, crossing the HS2 route at Marston Bridleway 8 accommodation underbridge and connecting into an existing overhead line.</p>
<p>Additional land for the revised Openreach telecommunications cable to Yarlet South cutting satellite compound.</p> <p>AP2-002-115</p>	<p>Land would be required for a new temporary underground Openreach telecommunications cable to Yarlet South cutting satellite compound, 80m in length, crossing farmland west of Hilltop Farm to the Yarlet South Cutting satellite compound.</p>	<p>Additional land will be required for a revised temporary Openreach telecommunications cable, 360m in length, from A34 Stone Road to Yarlet South cutting satellite compound.</p>
<p>Additional land for the underground and overhead diversion of Western Power Distribution low voltage overhead line from Grove Farm to Hilltop Farm</p> <p>AP2-002-116</p>	<p>Land would be required for the permanent underground diversion of a Western Power Distribution low voltage overhead line, 260m in length, crossing the HS2 route, within the Yarlet south cutting, 50m south-east of the A34 Stone Road overbridge.</p>	<p>Additional land will be required for the permanent underground and overhead diversion of a Western Power Distribution low voltage overhead line, 165m in length. The diversion will run from near Grove Farm, west across the A34 Stone Road, to an existing Western Power Distribution pole near Hilltop Farm. The western section of the diversion, 75m in length, will be an overhead line.</p>
<p>Additional land and a change to Bill powers for the underground and overhead diversion of Western Power Distribution 11kV overhead lines from Yarlet House to south-west of Yarlet auto-transformer station</p> <p>AP2-002-117</p>	<p>Land would be required for the permanent diversion of a Western Power Distribution 11kV overhead line, 380m in length. The northern section of the diversion, 200m in length, would cross the HS2 route 190m west of the A34 Stone Road. The southern section of the diversion, 180m in length, south of the HS2 route would be an overhead line.</p>	<p>Additional land and a change to Bill powers will be required for the permanent underground and overhead diversion of a Western Power Distribution 11kV overhead lines, 840m in length, from Yarlet House, crossing the A34 Stone Road and the HS2 route north-west of Yarlet auto-transformer station. Three sections of the diversion will be an overhead line, totalling 520m in length, and three sections of the diversion will be an underground cable, totalling 320m in length.</p>

Figure 12: Locations of the AP2 minor utility amendments within the Colwich to Yarlet area



10.4 Assessment of minor utility amendments

There are no new or different significant residual effects that will occur as a consequence of the minor utility amendments within the Colwich to Yarlet area.

10.5 Assessment of combined effects of amendments within the Colwich to Yarlet area due to changes in construction traffic flows

This section reports the combined assessment of new or different significant construction traffic effects, as a result of changes in construction traffic flows (site haul routes and construction traffic routes). These relate to changes in traffic flows associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to an SES2 change or an AP2 amendment.

Traffic and transport

The SES2 changes and AP2 amendments will result in the following changes to the temporary congestion and delay effects reported in the main ES:

- removal of the major adverse congestion and delay effects at A513 Beaconside/B5066 Sandon Road priority junction; A518 Weston Road/Blackheath Lane roundabout; and A51 Lichfield Road/Hoo Mill Lane/Church Lane junction;
 - reduction in the level of significance for users of the A513 Beaconside/B5066 Sandon Road signals from major adverse to minor adverse, which is significant, due to changes in the movement and use of surplus excavated material;
 - reduction in the level of significance for users of the A513 Beaconside/Marston Lane from major adverse to minor adverse, which is significant, due to the new construction traffic route from Stone to Weston via Sandon and changes in the movement and use of surplus excavated material;
 - reduction in the level of significance for users of the A518 Weston Road/A513 Beaconside roundabout from major adverse to minor adverse, which is significant, due to the new construction traffic route from Stone to Weston via Sandon and changes in the movement and use of surplus excavated material;
 - reduction in the level of significance for users of the A518 Stafford Road/A51 London Road signals from major adverse to minor adverse, which is significant, due to the new construction traffic route from Stone to Weston via Sandon and changes in the movement and use of surplus excavated material; and
 - reduction in the level of significance for users of the Blackheath Lane/Baswich Lane/Tixall Road signals from major adverse to minor adverse, which is significant due to the changes in the movement and use of surplus excavated material.
- The SES2 changes and AP2 amendments will result in new temporary moderate adverse significant effects on congestion and delay to users, due to the new construction traffic route from Stone to Weston via Sandon and changes in the movement and use of surplus excavated material, at the following junctions:
- A51 Lichfield Road/B5066 Sandon Road/School Lane junction;
 - A51 London Road/New Road junction; and
 - A51 Lichfield Road/Hilderstone Road junction.

The SES2 changes and AP2 amendments will remove the temporary minor traffic severance effect for non-motorised users at Bellamour Lane between the B5013 Uttoxeter Road and the A51 Main Road.

The SES2 changes and AP2 amendments will result in the following changes to the temporary traffic severance effects for non-motorised users, as reported in the main ES, due to a reduction in construction traffic flows:

- reduction in the level of significance for users of A518 Weston Road between the Hs2 route and A51 London Road from major adverse to moderate adverse;
- reduction in the level of significance for users of A518 Weston Road between the Hs2 route and A513 Beaconside from major adverse to minor adverse;
- reduction in the level of significance for users of A513 Beaconside between the A518 Weston Road and A34 Stone Road from moderate adverse to minor adverse; and
- increase in the level of significance for users of A34 Stone Road between the A513 Beaconside and Whitgreave Lane from moderate adverse to major adverse.

The SES2 changes and AP2 amendments will result in a new likely residual temporary moderate adverse effect on traffic severance for non-motorised users of the A51 between the A518 Weston Road and A34 Stone Road, which is significant. This is due to an increase in HGV traffic as a result of the new construction traffic route from Stone to Weston via Sandon and changes to the movement and use of surplus excavated material.

The SES2 changes and AP2 amendments will result in a new likely residual temporary moderate adverse effect on traffic severance for non-motorised users of Ingestre Park Road between Great Haywood Road and the access to Ingestre Park Golf Club, which is significant. This is due to an increase in HGV traffic as a result of the diversion of two gas pipelines and the construction of two associated utility compounds.

Air quality

The SES2 changes and AP2 amendments will result in one new and six different significant effects at residential receptors close to the M6 in Stafford. The AP2 revised scheme reduces HS2 construction traffic along this section of the M6,

compared to the main ES. Therefore, the new and different significant effects at this location are mainly due to changes in predicted emissions in the revised future baseline.

Sound, noise and vibration

The proposed construction traffic changes will remove the indirect significant traffic noise effect reported in the main ES at properties on or adjacent to Marston Lane, between the HS2 route and the A513 Beaconside.

Community

The SES2 changes and AP2 amendments will result in different temporary significant in-combination effects on Yarlet School, due to significant noise, visual and HGV effects. However, this will not change the level of significance of the effects reported in the main ES.

The SES2 changes and AP2 amendments will result in a new temporary major adverse in-combination effect on residential properties on the A34 Stafford Road / Stone, due to significant visual and HGV effects.

The SES2 changes and AP2 amendments will result in different likely residual temporary in-combination effect on residential properties on Tolldish Lane, by increasing the duration of the in-combination effect from up to two years and 10 months to up to four years and two months. However, this will not change the level of significance of the effects reported in the main ES.

10.6 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example to habitat creation areas; line-side equipment; railway drainage system; and utilities). In the Colwich to Yarlet area these relate to plots of land in the parish of Hopton and Colton.

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11. Stone and Swynnerton, Community Area 3

11.1 Summary of engineering amendments within Additional Provision 2

Table 14 provides a summary of each engineering amendment reported within the AP2 ES, along with a description of the SES2 scheme, which is used as the baseline for the comparison of new and different significant environmental effects.

Figure 13 shows the approximate location of each AP2 engineering amendment within the Stone and Swynnerton area.

Table 14: Summary of the AP2 engineering amendments within the Stone and Swynnerton area

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land and a change to Bill powers required along the A34 Stone Road for the provision of a new access to Yarlet School</p> <p>AP2-002-027</p>	<p>The original scheme would include land for the temporary diversion of the A34 Stone Road for 750m, up to 100m from its existing alignment, during construction. The existing access to Yarlet School would be required for construction access to manage the temporary diversion of the A34 Stone Road. Following construction, the A34 Stone Road would be reinstated on its existing alignment to cross the HS2 route via the A34 Stone Road overbridge. The AP1 revised scheme (amendment AP1-002-106) included a change to Bill powers for the permanent diversion of a Cadent gomm low pressure gas main at Yarlet along the existing school access.</p>	<p>Additional land and a change to Bill powers will be required for the permanent provision of a new junction and access road to serve Yarlet School. Modifications will be required to the central reservation and width of the A34 Stone Road to provide an access across the carriageway to Yarlet School. New areas of hedgerow habitat creation and woodland habitat creation will be provided as replacement habitat along the southbound side of the A34 Stone Road and school access.</p> <p>The majority of this amendment and all relevant potential receptors lie within the Colwich to Yarlet area (CA2). Part of this amendment lies within the Stone and Swynnerton area (CA3).</p>
<p>Additional land required for a revised high pressure National Grid Gas Transmission Line diversion under Yarlet central cutting and a new temporary utility compound</p> <p>AP2-003-001</p>	<p>A 900mm diameter National Grid high-pressure gas pipeline would be diverted for 330m to cross under the HS2 route, 30m south-east of its existing alignment under Yarlet central cutting. An ecological mitigation pond would be provided within an area of grassland habitat creation in proximity to the diversion, adjacent to the north-east of the HS2 route.</p> <p>The works would be managed from the Yarlet embankment satellite compound.</p>	<p>Additional land will be required and a change to Bill powers to permanently modify the alignment of the diverted high pressure National Grid Gas Transmission Line. The new diversion will be 350m in length and will cross the HS2 route 20m further south than in the original scheme and 55m south-east of its existing alignment. An ecological mitigation pond and associated grassland mitigation planting will be relocated further west to accommodate the diversion works.</p> <p>A new utility compound will be provided for the management of the gas transmission line diversion works 500m south-east of the revised location of Stone Rural Footpath 28 accommodation overbridge, provided for in amendment AP2-003-002: Additional land required and a change to Bill powers for the relocation of Stone Rural Footpath 28 accommodation overbridge.</p> <p>The majority of this amendment and all relevant potential receptors lie within the Stone and Swynnerton area (CA3). Part of this amendment lies within the Colwich to Yarlet area (CA2).</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required and a change to Bill powers for the relocation of Stone Rural Footpath 28 accommodation overbridge</p> <p>AP2-003-002</p>	<p>Stone Rural Footpath 28 would be permanently realigned 125m north-west of its existing alignment, to cross over the HS2 route on the Stone Rural Footpath 28 accommodation overbridge.</p> <p>During construction, Stone Rural Footpath 28 would be temporarily diverted to the south of the HS2 route.</p>	<p>Additional land will be required and a change to Bill powers for the permanent diversion of Stone Rural Footpath 28, to cross over the relocated Stone Rural Footpath 28 accommodation overbridge 330m further north-west to that provided in the original scheme, and the diversion of Whitgreave Footpath 3. A temporary diversion of Stone Rural Footpath 28 will no longer be required.</p>
<p>Additional land required for the provision of a new permanent left turn filter lane on the roundabout connecting the A51 Stone Bypass to the south-eastern arm of the A34 Stafford Road</p> <p>AP2-003-003</p>	<p>There were no changes proposed to the existing roundabout junction of the A34 Stafford Road, the A51 Stone Bypass and Brooms Road as part of the original scheme. The roundabout junction, which is situated 1.7km north-east of the HS2 route, formed part of a proposed construction traffic route, which would pass through the roundabout in both directions along the A34 Stafford Road.</p> <p>The SES2 scheme provides for an additional construction traffic route from Stone to Weston via Sandon and introduces HS2 construction traffic onto the A51 Stone Bypass through this roundabout. See SES2-002-010: New construction traffic route along the A51 from Stone to Weston via Sandon.</p>	<p>Additional land will be required to provide a permanent segregated left turn filter lane to the roundabout connecting the A51 Stone Bypass to the south-eastern arm of the A34 Stafford Road. Widening of the existing carriageways by up to 8m will be required in the vicinity of the roundabout. The existing hedgerow along the line of the left turn lane will be removed and replaced with new permanent hedgerow.</p>
<p>Additional land required for the realignment of Stone Rural Footpath 32 diversion</p> <p>AP2-003-004</p>	<p>Stone Rural Footpath 32 would be realigned 500m to the south-east of its existing alignment to cross over the HS2 route along the associated accommodation overbridge, adjacent to Walton Heath Farm and Walton House Farm, over a length of 1.4km. It would then re-join the existing footpath alignment to the south of the HS2 route.</p>	<p>Additional land will be required to permanently realign a short section of the Stone Rural Footpath 32 diversion over a distance of 450m, to be 120m further east of Walton Heath Farm. This extension will increase the overall footpath diversion length by 200m from the original scheme, to a total length of 1.6km.</p>
<p>A change to Bill powers to provide permanent accommodation access for Walton Heath Farm</p> <p>AP2-003-005</p>	<p>Stone Rural Footpath 32 would be realigned 500m south-east of its existing alignment to cross over the HS2 route on the Stone Rural Footpath 32 accommodation overbridge, close to Walton Heath Farm.</p>	<p>A change to Bill powers will be required to permanently upgrade a 140m section of the realigned Stone Rural Footpath 32, as proposed in the original scheme, to provide permanent accommodation access across the HS2 route for Walton Heath Farm, whose land is severed by the HS2 route.</p> <p>The AP2 revised scheme (amendment AP2-003-004: Additional land required for the realignment of Stone Rural Footpath 32 diversion) will divert Stone Rural Footpath 32 away from the proposed accommodation access track.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for realignment of B5026 Eccleshall Road and associated field access</p> <p>AP2-003-006</p>	<p>The B5026 Eccleshall Road would be realigned for 900m. It would cross the HS2 route via the B5026 Eccleshall Road overbridge, 25m north-west of its current alignment.</p> <p>The AP1 revised scheme (amendments AP1-003-102: Additional land for the permanent diversion of British Telecom (BT) Openreach and Zayo underground telecommunications cables along the B5026 Eccleshall Road; AP1-003-103: Additional land for the permanent diversion of an Openreach overhead telecommunications cable along the realigned B5026 Eccleshall Road; and AP1-003-104: Additional land for the permanent diversion of Western Power Distribution overhead lines parallel to the HS2 main line and connection to Micklow House Farm) provided for additional land on both sides of the realigned B5026 Eccleshall Road for the permanent diversion of overhead and underground minor utilities.</p> <p>If the AP2 amendment is enacted, the AP1 amendments AP1-003-102 and AP1-003-103 will not be required.</p>	<p>Additional land will be required for the permanent realignment of the B5026 Eccleshall Road to the north of the HS2 route, to tie into the existing B5026 Eccleshall Road south of Micklow Bungalow.</p> <p>A new permanent field access will be provided from the realigned B5026 Eccleshall Road to land owned by Walton Heath Farm.</p> <p>The amendment will result in an area of land no longer being required due to a reduced length of highway realignment.</p>
<p>Additional land required for the provision of new permanent traffic signals at the junction of Yarnfield Lane and the A34 The Fillybrooks</p> <p>AP2-003-007</p>	<p>The existing junction of Yarnfield Lane with the A34 The Fillybrooks is 1.4km to the north-east of the HS2 route, outside of the land required for the original scheme. No changes to the junction itself are proposed in the original scheme but construction traffic routes would pass through the junction along the A34 The Fillybrooks and Yarnfield Lane.</p>	<p>Additional land will be required to provide permanent traffic signals at the junction of Yarnfield Lane and the A34 The Fillybrooks, to enable safer turning manoeuvres and manage potential traffic conflicts. The amendment includes minor adjustments to existing carriageways and kerblines. Hedgerow mitigation planting will replace the loss of shrubs and trees at the boundary of a property as a result of the junction modifications.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for modifications to the Yarnfield Lane M6 overbridge replacement</p> <p>AP2-003-008</p>	<p>The original scheme included provision for the realignment of Yarnfield Lane over a distance of 1.2km, 25m north-west of its current alignment, including a replacement bridge to carry Yarnfield Lane over the M6, up to 9m in height above existing ground level.</p> <p>Permanent access would be provided to and from the Stone IMB-R from Yarnfield Lane and the M6 southbound carriageway via slip roads and a roundabout junction. Permanent maintenance and emergency access to the northbound lanes of the M6 from the realigned Yarnfield Lane would also be provided. During construction these would provide temporary access for construction traffic, which would then cross to the Stone IMB-R site via the Yarnfield Lane M6 overbridge replacement.</p> <p>Construction traffic routes for the works would be provided along Yarnfield Lane and via the site haul routes.</p>	<p>Additional land will be required to permanently provide a redesigned replacement overbridge which can be constructed earlier in the programme and without requiring substantial traffic management on the M6 motorway. This enables the replacement overbridge to be operational concurrently with the existing Yarnfield Lane overbridge during construction, thus segregating construction traffic from public traffic on Yarnfield Lane and resulting in safety improvements and reduced disruption to existing users of Yarnfield Lane. The proposed replacement overbridge will increase in length, which will allow for any future widening of the M6 motorway.</p> <p>The vertical alignment of the realigned Yarnfield Lane and replacement overbridge will increase by up to 0.6m and there will be slight modifications to the alignments of the M6 slip roads (northbound and southbound). There will be marginal reductions in areas of landscape mitigation planting and grassland habitat creation due to minor increases in the footprint of the highway earthworks.</p>
<p>Additional land required for a water treatment facility at the Severn Trent Water Limited Swynnerton Pumping Station</p> <p>AP2-003-009</p>	<p>No works were proposed at the Swynnerton Pumping Station as part of the original scheme.</p>	<p>Additional land will be required to allow for a new permanent water treatment facility at the existing Severn Trent Water Swynnerton Pumping Station. The facility is one of three existing Severn Trent Water sites that will be required to provide mitigation for the temporary loss of water supply from the Whitmore borehole abstraction during construction.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>A change to Bill powers for an amendment to the proposed Swynnerton New Bridleway</p> <p>AP2-003-010</p>	<p>A new section of bridleway, Swynnerton New Bridleway, would connect retained sections of the existing Tittensor Road to the north and south of the HS2 route, via the Swynnerton New Bridleway accommodation underbridge. A new section of bridleway to the south of the HS2 route, Swynnerton New Bridleway 2, would also connect a retained section of Stab Lane and the diverted Tittensor Road, along with a 350m section of segregated route for non-motorised users along the northern side of the A51 Stone Road to the north of the HS2 route.</p> <p>The SES1 scheme would amend the non-motorised user provision to be located along the southern side of the A51 Stone Road, between the Swynnerton Bridleway 54 and the diverted Tittensor Road, on the northern side of the HS2 route.</p>	<p>A change to Bill powers will be required for an amendment to the proposed Swynnerton New Bridleway to provide a new permanent bridleway route between the retained section of Tittensor Road, to the north of the HS2 route, to the non-motorised user provision south of the A51 Stone Road, crossing the diverted Tittensor Road. The diverted Tittensor Road and the Tittensor Road overbridge will be widened by up to 4.3m to accommodate non-motorised user provision between Swynnerton New Bridleway 2 and the A51 Stone Road diversion.</p> <p>The proposed new section of bridleway, referred to as Swynnerton New Bridleway in the original scheme, to connect retained sections of the existing Tittensor Road to the north and south of the HS2 route via the Swynnerton New Bridleway accommodation underbridge, will no longer be required. The Swynnerton New Bridleway accommodation underbridge will be renamed Swynnerton underbridge.</p>
<p>Additional land required and a change to Bill powers for a revised gas pipeline diversion under the Swynnerton Embankment and Tittensor Road diversion and a temporary utility compound to the east of the Tittensor Road diversion</p> <p>AP2-003-011</p>	<p>A 600mm diameter National Grid high-pressure gas pipeline would be diverted under the Swynnerton Embankment and Tittensor Road diversion. The diversion would be managed from the Swynnerton North cutting main compound. Four ecological mitigation ponds and associated grassland habitat creation would be provided to the north of the HS2 route and 100m east of Tittensor Road overbridge.</p>	<p>Additional land will be required and a change to Bill powers for the permanent diversion of a section of 600mm diameter Cadent high-pressure gas pipeline will be required. The new diversion is 510m in length and follows a different alignment under the Swynnerton Embankment and Tittensor Road diversion. Two ecological mitigation ponds and associated grassland habitat creation will be relocated further west to accommodate the diversion works.</p> <p>A new utility compound will be provided to manage the installation of the gas pipeline diversion to the east of the Tittensor Road diversion.</p>

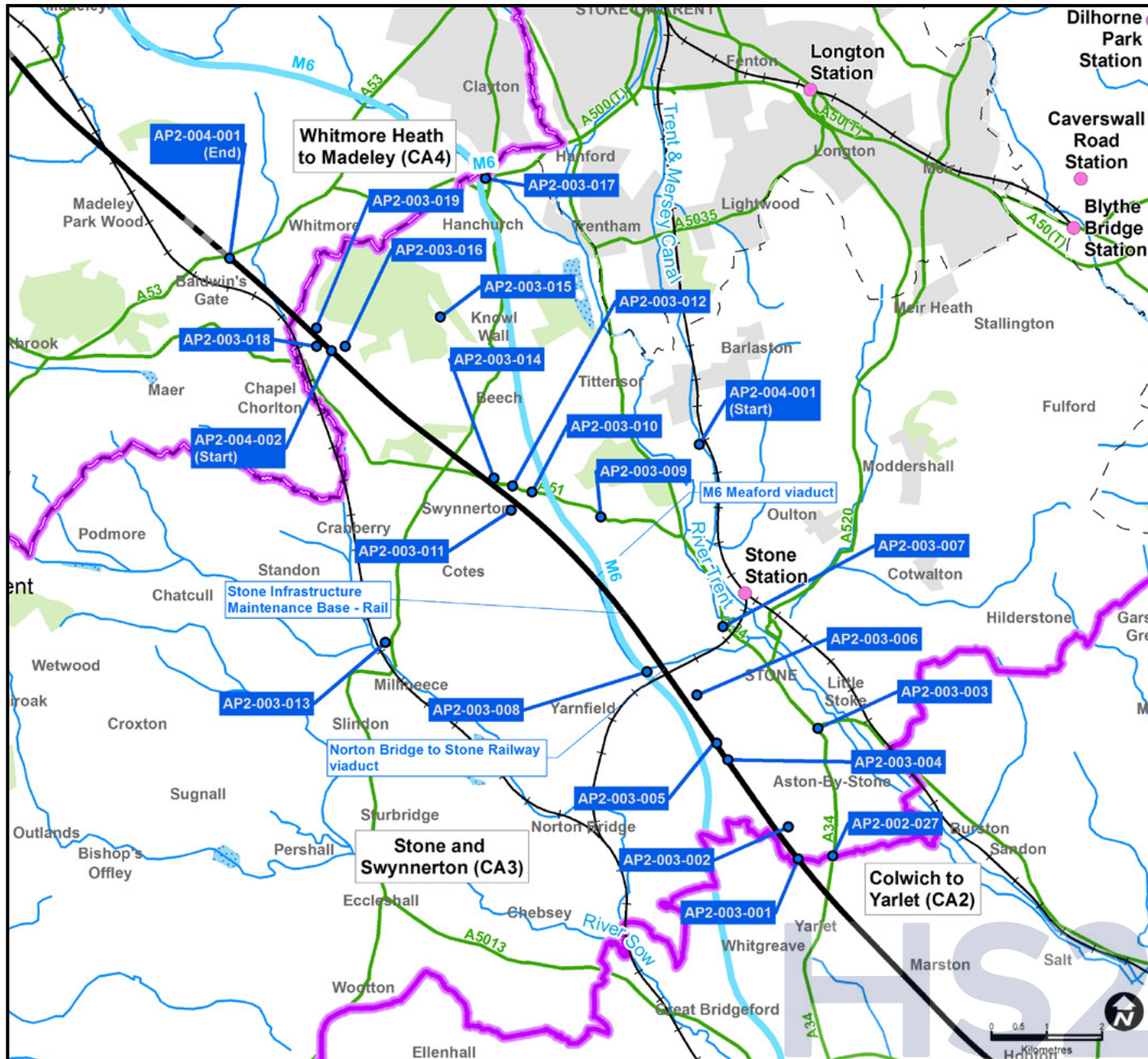
Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required and a change to Bill powers for the provision of a roundabout at the junction of the A51 Stone Road/Tittensor Road diversion</p> <p>AP2-003-012</p>	<p>Tittensor Road would be diverted 375m north-west of its existing alignment, crossing over the HS2 route via Tittensor Road overbridge. Tittensor Road diversion would connect into the A51 Stone Road, 525m west of the existing connection, via a T-junction arrangement. A segregated route for non-motorised users would be located along the northern side of the A51 Stone Road and would cross the A51 Stone Road to tie into the diverted Tittensor Road to the north of the HS2 route.</p> <p>The SES1 scheme changes the segregated route for non-motorised users to be located along the southern side of the A51 Stone Road and would tie into the diverted Tittensor Road to the north of the HS2 route.</p> <p>The AP1 revised scheme (AP1-003-004: Additional land permanently required to widen the highway verge along the A51 Stone Road) provided for additional land for the permanent widening of the highway verge along the south edge of the A51 Stone Road to the east of the proposed A51/diverted Tittensor Road junction, to improve visibility at the junction. If the AP2 amendment is enacted, the AP1 amendment will not be required.</p>	<p>Additional land will be required and a change to Bill powers for the permanent provision of a roundabout at the junction of the A51 Stone Road/Tittensor Road diversion.</p> <p>The A51 Stone Road will require additional earthworks and realignment to tie into the proposed roundabout. A retaining wall will be required adjacent to Long Compton Farm due to the increased vertical alignment of the A51 Stone Road. A new shared access will be provided to Long Compton Farm and a new highway balancing pond will be provided on the northern side of the A51 Stone Road, east of Long Compton Farm.</p> <p>Additional woodland habitat creation will be required to the east of Closepit Plantation Biodiversity Alert Site (BAS), as well as additional hedgerow and grassland habitat creation on the northern side of the A51 Stone Road, to the east of Long Compton Farm.</p>
<p>Additional land required for a water treatment facility at the Severn Trent Water Limited Mill Meece Pumping Station</p> <p>AP2-003-013</p>	<p>No works were proposed at Mill Meece Pumping Station as part of the original scheme.</p>	<p>Additional land will be required to allow for a new permanent water treatment facility at the existing Severn Trent Water Mill Meece Pumping Station. The facility is one of three existing Severn Trent Water sites that will be required to provide mitigation for the temporary loss of water supply from the Whitmore borehole abstraction during construction.</p>
<p>A change to Bill powers to move the stopping up point of Bottom Lane to the existing junction between the A519 Newcastle Road and Bottom lane, and the provision of a new permanent agricultural access from the diverted A51 Stone Road</p> <p>AP2-003-014</p>	<p>Bottom Lane would be closed to the north of the HS2 route, 275m to the north of where it currently intersects the A51 Stone Road. Users would be diverted along the A51 Stone Road, increasing the length of journey by 150m. A turning head would be provided at the point of stopping up.</p> <p>During construction, a temporary material stockpile associated with the Swynnerton North cutting main compound would be located at the point of stopping up. Following construction this area would provide permanent woodland habitat creation.</p>	<p>A change to Bill powers will be required to relocate the stopping up point of Bottom Lane to the existing junction of the A519 Newcastle Road and Bottom Lane. The A519 Newcastle Road/Bottom Lane junction is proposed to be retained as an agricultural field access point only. The turning head proposed on Bottom Lane in the original scheme is no longer required, with a resultant slight increase in the area available for the temporary material stockpile during construction, and woodland habitat creation post construction. A new agricultural access will also be provided from the diverted A51 Stone Road, which will include amendments to drainage works and hedgerow planting.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for a water treatment facility at the Severn Trent Water Limited Hanchurch Distribution and Storage Reservoir</p> <p>AP2-003-015</p>	<p>No works were proposed at the Severn Trent Water Hanchurch Distribution and Storage Reservoir as part of the original scheme.</p>	<p>Additional land will be required to allow for a new permanent water treatment facility at the existing Severn Trent Water Hanchurch Distribution and Storage Reservoir. The facility is one of three existing Severn Trent Water sites that will be required to provide mitigation for the temporary loss of water supply from the Whitmore borehole abstraction during construction.</p>
<p>Additional land required and a change to Bill powers to modify the alignment of the realigned Dog Lane and introduce new field accesses</p> <p>AP2-003-016</p>	<p>Dog Lane would be realigned over a distance of 950m, 125m north-west of its existing alignment, to cross over the HS2 route on the Dog Lane overbridge. Bent Lane would be diverted to the north of the HS2 route over a distance of 750m to create Bent Lane (North), which would run parallel to the HS2 route and pass south of Shelton under Harley before continuing into the Whitmore Heath to Madeley area (CA4).</p> <p>An area of landscape mitigation planting would be provided between the HS2 route and the Bent Lane (North) diversion, which would extend north-west towards Shelton culvert.</p> <p>During construction, temporary material stockpiles would be present on both sides of the Dog Lane realignment and on either side of the junction between the realigned Dog Lane and the diverted Bent Lane (North).</p>	<p>Additional land will be required and a change to Bill powers to permanently modify a section of the realigned Dog Lane to the north of the HS2 route and to the east of its junction with the diverted Bent Lane (North) by up to 35m in order to provide a straighter alignment and improve the forward visibility from the alignment previously proposed.</p> <p>The amendment will also introduce two new permanent field accesses, one on each side of the Dog Lane realignment.</p> <p>The amendment results in an increase in hedgerow habitat creation and a marginal increase in landscape mitigation planting.</p> <p>During construction, three material stockpiles will slightly change in shape, size and distribution on either side of Dog Lane in line with the realignment, but the total area will remain broadly the same.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for modifications to the roundabout junction of the A500 Queensway/A519 Newcastle Road/A519 Clayton Road (Hanchurch Interchange) and the signalised crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new satellite construction compound</p> <p>AP2-003-017</p>	<p>The original scheme includes temporary construction traffic routes which would pass through the A500 Queensway/A519 Newcastle Road and A519 Newcastle Road/A5182 Trentham Road junctions.</p>	<p>Additional land will be required for permanent junction improvements to the existing roundabout junction of the A500 Queensway/A519 Newcastle Road/A519 Clayton Road (Hanchurch Interchange) and the signalised crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road. A noise fence barrier and landscape mitigation planting will be provided west of the A519 Newcastle Road and an area of hedgerow habitat creation will be provided adjacent to the eastbound A500 Queensway.</p> <p>A new satellite construction compound adjacent to the west of the A519 Clayton Road will be provided for the management of these junction works.</p> <p>The majority of this amendment and all relevant potential receptors lie within the Stone and Swynnerton area (CA3). Part of this amendment lies within the Whitmore Heath to Madeley area (CA4).</p>
<p>Additional land required and a change to Bill powers for the stopping up of Bent Lane (South) 400m west of Dog Lane overbridge</p> <p>AP2-003-018</p>	<p>The existing Bent Lane would be split into the Bent Lane (North) diversion, for through traffic, and the Bent Lane (South) realignment, which would continue 350m into the Whitmore Heath to Madeley area (CA4) where it would be closed.</p> <p>Swynnerton Footpath 10 accommodation underbridge would provide non-motorised user and vehicle access to Shelton under Harley Farm by connecting the diverted Bent Lane (North) and the realigned Bent Lane (South). Bent Lane (South) would provide a connection between the existing Swynnerton Footpath 10 and the diverted Swynnerton Footpath 10 over a length of 75m.</p> <p>The AP1 revised scheme (AP1-003-006: Additional land permanently required for the provision of a roundabout at the junction of the realigned Dog Lane, the A51 The Rowe, Bent Lane and the A51 through Stableford), slightly modified the vertical and horizontal alignment of the Bent Lane (South) realignment at its southern end.</p>	<p>Additional land will be required and a change to Bill powers to permanently move the stopping up location of Bent Lane (South) south-east to a point 130m north of the junction of Bent Lane (South) and the realigned Dog Lane.</p> <p>Beyond the new turning head, Bent Lane (South) will no longer be a public road and will be retained as an HS2 maintenance access and an accommodation access. The Swynnerton Footpath 10 diversion will be extended 75m south-east along the Bent Lane (South) alignment to connect in to the existing Swynnerton Footpath 10.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>A change to Bill powers for a new permanent diversion of G2084 Shelton under Harley Lane to form a new junction with Bent Lane (North) diversion</p> <p>AP2-003-019</p>	<p>Bent Lane would be diverted to the northern side of the HS2 main line, over a distance of 750m, to create Bent Lane (North), which would run parallel to the HS2 main line, and pass south of Shelton under Harley, before continuing into the Whitmore Heath to Madeley area (CA4), with an increase in journey length of 55m. A junction between the Bent Lane (North) diversion and the existing Green Lane, G2084 Shelton under Harley Lane, would be created close to the position of the existing junction between Bent Lane and G2084 Shelton under Harley Lane.</p> <p>Hatton North cutting satellite compound, from which the works would be managed, is close to the diversion.</p>	<p>A change to the Bill powers will be required for a new permanent diversion of the G2084 Shelton under Harley Lane, approximately 130m in length, to create a new junction with the Bent Lane (North) diversion, approximately 150m south-east of the junction position in the original scheme. This revised junction arrangement would improve visibility for vehicles turning into the diverted Bent Lane (North) from the G2084 Shelton under Harley Lane. Amendments will be required to perimeter drainage, hedgerow planting and the shape of the Hatton North cutting satellite compound. Pedestrian and equestrian access will be maintained along the existing G2084 Shelton Under Harley Lane via a new bridleway.</p>
<p>Additional land required for provision of a power supply to Whitmore Heath tunnel</p> <p>AP2-004-001</p>	<p>Within the Whitmore Heath to Madeley area (CA4), power connections would be required to operate the tunnel boring machines (TBM) for the construction of the Whitmore Heath and Madeley tunnels. The power connections would be retained permanently to be used for the operation of the tunnel, including lighting and ventilation systems.</p> <p>It was originally proposed that these power supplies would be provided by the statutory electricity undertaker, but in order to provide greater certainty that the scheme can be implemented within the construction programme it has been decided to include powers within the Bill.</p>	<p>Additional land, largely in the highway, will be required for provision of a 14.5km power supply connection from Meaford Bulk Supply Point to Whitmore Heath tunnel. The power supply route originates in the Stone and Swynnerton area and ends at Whitmore tunnel south portal in the Whitmore Heath to Madeley area (CA4). This power supply will be used during construction to power the TBM and the Whitmore Heath Tunnel satellite compound, and then for the permanent non-traction power supply and tunnel operations.</p> <p>Part of this amendment and relevant potential receptors lie within the Whitmore Heath to Madeley area (CA4). Part of this amendment lies within the Stone and Swynnerton area (CA3).</p>
<p>Additional land required and change to Bill powers for changes to the vertical and horizontal alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge</p> <p>AP2-004-002</p>	<p>The Bill provides for the HS2 route within the Hatton South cutting which would continue onto the Stableford South embankment. This section of the route would be within the Stone and Swynnerton area (CA3), before proceeding into the Whitmore Heath to Madeley area (CA4), west of Shelton under Harley Farm.</p>	<p>As part of this amendment, the vertical alignment between Hatton South cutting in the Stone and Swynnerton area (CA3), and River Lea viaduct in the Whitmore Heath to Madeley area (CA4) will be amended.</p> <p>The majority of this amendment and all relevant potential receptors lie within the Whitmore Heath to Madeley area (CA4). Part of this amendment lies within the Stone and Swynnerton area (CA3).</p>

Figure 13: Locations of the AP2 engineering amendments within the Stone and Swynnerton area



11.2 Assessment of engineering amendments

Cultural heritage

Effects arising during construction

Amendment AP2-004-001 (power supply to Whitmore Heath tunnel) will require the substantial removal of a ring ditch (a possible prehistoric burial) at Sandyford. This will result in a new permanent major adverse effect, which is significant.

Amendment AP2-003-013 (a water treatment facility at the Severn Trent Water Limited Mill Meece Pumping Station) will introduce a temporary impact on the setting of the Severn Trent Water Mill Meece borehole facility, a group of Grade II* and Grade II buildings, due to the presence of construction activity. This will result in a new moderate adverse effect, which is significant.

This amendment will introduce a modern industrial structure adjacent to the Severn Trent Water Mill Meece borehole facility, a group of Grade II* and Grade II buildings, introducing a permanent moderate adverse effect, which is significant. The detailed design of the new

water treatment facility will take account of the context and setting of the existing pumping station.

Community

Effects arising during construction

Amendment AP2-003-017 (modifications to the roundabout junction of the Hanchurch Interchange and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new temporary satellite construction compound) will introduce a significant visual effect on approximately 16 properties on the A519 Newcastle Road in Hanchurch, due to the presence of construction works. Combined with significant HGV effects identified in the main ES, this will give rise to a new temporary major adverse in-combination effect on these properties, which is significant.

Ecology and biodiversity

Effects arising during construction

Amendment AP2-003-007 (new traffic signals at the junction of Yarnfield Lane and the A34 The Fillybrooks) will result in the permanent loss of up to 50 sq metres of floodplain grazing marsh

habitat at Stone Meadows Local Nature Reserve. This will result in a new permanent effect on the Local Nature Reserve, which is significant at the district/borough level. In consultation with relevant stakeholders, suitable compensatory measures are being sought to reduce the adverse effects associated with loss of this habitat.

Amendment AP2-003-008 (modifications to the Yarnfield Lane M6 overbridge replacement) will require the loss of a mature tree, which on a precautionary basis is assumed to support a barn owl roost. The loss of a barn owl roost will result in a new likely permanent adverse effect on the barn owl populations at Blakelow and Yarnfield, which is significant at the county level.

Amendment AP2-003-017 (modifications to the roundabout junction of the Hanchurch Interchange and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new temporary satellite construction compound) will result in the loss of 0.2ha of lowland meadow from Ferndown Biodiversity Alert Site/Local Nature Reserve. This will result in a new permanent adverse effect which is significant the district/borough level.

This amendment will also result in the loss of 0.6ha of lowland mixed deciduous woodland from the woodland belt along the A519 Newcastle Road, which includes 0.2ha within the Hanchurch Roundabout Biodiversity Alert Site. This will result in a new permanent adverse effect which is significant at the district/borough level.

In consultation with relevant stakeholders, suitable compensatory measures will be sought to reduce the adverse effects associated with loss of these habitats.

Landscape and visual

Effects arising during construction

Amendment AP2-003-012 (provision of a roundabout at the junction of the A51 Stone Road diversion/Tittensor Road diversion) will require the construction of a retaining wall and removal of mature vegetation from the front garden of a property along the southern side of the A51 Stone Road in an area previously unaffected by the original scheme. Construction activity will dominate existing foreground views and result in a new major adverse significant effect on views west along the A51 Stone Road near Long Compton Farm.

Amendment AP2-003-013 (a water treatment facility at the Severn Trent Water Limited Mill Meece Pumping Station) will introduce construction works into a part of the Swynnerton Village Sandstone Hills and Heaths Landscape Character Area which was unaffected by the original scheme. Noise associated with the works and views of construction activity will introduce disturbance and reduce the tranquillity currently experienced. This will result in a different significant effect but will not change the level of significance of the effect (major adverse) upon the Landscape Character Area reported in the main ES.

Amendment AP2-003-017 (modifications to the roundabout junction of the Hanchurch Interchange and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new temporary satellite construction compound) will require the removal of a belt of established woodland and a landscape mound alongside the A519 Newcastle Road, which will open up views of the haulage depot and the M6 from the view north-west from the A519 Newcastle Road. Together with the presence of construction activity and associated vehicle movements, this will result in a new major adverse significant effect.

Effects arising from operation

Amendment AP2-003-012 (provision of a roundabout at the junction of the A51 Stone Road diversion/Tittensor Road diversion) will introduce views of a new retaining wall in views west along the A51 Stone Road near Long Compton Farm. This will result in a new major adverse significant effect at year 15 and year 60.

Traffic and transport

Effects arising during construction

Amendment AP2-003-002 (relocation of Stone Rural Footpath 28 accommodation overbridge) will remove the need to temporarily divert the Stone Rural Footpath 28. This removes the minor adverse significant effect on non-motorised users reported in the main ES.

Amendment AP2-003-003 (provision of a new filter lane on the roundabout connecting the A51 Stone Bypass to the south-eastern arm of the A34 Stafford Road) is expected to take three months to complete. The associated traffic management measures will reduce capacity and cause delays at the A34 Stafford Road/A51 Stone Bypass junction during construction. This will result in a new temporary minor adverse

significant effect on traffic flows and delays for road users at the junction, over a period of three months.

Amendment AP2-003-007 (new traffic signals at the junction of Yarnfield Lane and the A34 The Fillybrooks) is expected to take six months to complete. The associated traffic management measures will reduce capacity and cause delays at the Yarnfield Lane and the A34 The Fillybrooks junction during construction. This will result in a new temporary minor adverse effect on traffic flows and delays for road users at the junction of Yarnfield Lane and the A34 The Fillybrooks, which is significant.

Amendment AP2-004-001 (a power supply to Whitmore Heath tunnel) will require the temporary closure to through traffic of Chase Lane with associated local diversions. The closure of Chase Lane will increase travel distance by less than 1km, which is not significant. Access to properties can be maintained on Chase Lane by working on short sections of the road at any given time, thereby maintaining access to properties and ensuring disruption will be for a short period of time

There will be additional delays to vehicle users of routes through Tittensor, Sandyford and Stableford. This will result in a new temporary minor adverse effect, which is significant.

Amendment AP2-003-017 (modifications to the roundabout junction of the Hanchurch Interchange and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new temporary satellite construction compound) is expected to take one year to complete. The associated traffic management measures will reduce capacity and cause delays at the junction of the A500 Queensway/A519 Newcastle Road/A519 Clayton Road and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road during construction. This will result in a new temporary moderate adverse effect on traffic flows and delays at these junctions, which is significant.

Effects arising from operation

Amendment AP2-003-002 (relocation of Stone Rural Footpath 28 accommodation overbridge) will remove the minor adverse significant severance effect on non-motorised users of

Stone Rural Footpath 28 reported in the main ES. However, as Stone Rural Footpath 28 and Whitgreave Footpath 3 are part of a continuous route, the amendment will increase the distance for users of this route by 600m and give rise to a new permanent moderate adverse severance effect on non-motorised users, which is significant.

Amendment AP2-003-003 (provision of a new filter lane on the roundabout connecting the A51 Stone Bypass to the south-eastern arm of the A34 Stafford Road) will deliver improvements to the junction operation by reducing queues and delays. This will result in a permanent moderate beneficial significant effect for road users due to improvements to the junction of the A34 Stafford Road and A51 Stone Road.

Amendment AP2-003-007 (new traffic signals at the junction of Yarnfield Lane and the A34 The Fillybrooks) will deliver improvements to the junction. This amendment will ensure turning movements are managed under signal control, improving safety. This will result in a new permanent minor beneficial effect for road users, which is significant.

Amendment AP2-003-010 (amendment to the proposed Swynnerton New Bridleway) includes the widening of the diverted Tittensor Road and Tittensor Road overbridge to accommodate non-motorised users and an alternative alignment for Swynnerton New Bridleway. This will result in a new permanent minor beneficial severance effect for equestrian users.

Amendment AP2-003-017 (modifications to the roundabout junction of the Hanchurch Interchange and the crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new temporary satellite construction compound) will reduce queues and delays by providing a permanent improvement to the road network. This will result in a major permanent beneficial significant effect on traffic flows and delays for road users at the A500 Queensway and A519 Newcastle Road roundabout in 2027. This will reduce to a moderate beneficial significant effect by 2041 due to forecast background traffic growth.

This amendment will also substantially reduce queues and delays at the A519 Newcastle Road and A5182 Trentham Road signal junction. This will result in a major beneficial traffic effect for road users at this junction in the future assessment years of 2027 and 2041, which is significant.

11.3 Summary of minor utility amendments within the Additional Provision 2

Table 15 provides a summary of each minor utility amendment reported within the Stone and Swynnerton area. Figure 14 shows the approximate location of each AP2 minor utility amendment within the Stone and Swynnerton area.

Table 15: Summary of the AP2 minor utility amendments within the Stone and Swynnerton area

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
Additional land for the permanent overhead diversion of a Western Power Distribution 11kV overhead line near Pirehill Grange Farm AP2-003-101	Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 380m in length, parallel to the existing overhead line, crossing the HS2 route 30m south-east of Pirehill culvert.	Additional land will be required for the permanent diversion of a Western Power Distribution 11kV overhead line, 800m in length, parallel to the western side of the HS2 route, 250m north of Pirehill Grange Farm.
Additional land for the permanent underground diversion of a Western Power Distribution 11kV overhead line near North Pirehill Farm AP2-003-102	Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 290m in length, parallel to the existing overhead line, 70m west of North Pirehill Farm.	Additional land will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 385m in length, crossing the HS2 route, 40m east of Pirehill Lane.
Additional land for the diversion of an underground Openreach telecommunications cable between Stafford motorway service area southbound and Pirehill Lane AP2-003-103	No provision was made for the permanent diversion of an Openreach underground telecommunications cable between Stafford motorway service area southbound and Pirehill Lane.	Additional land will be required to enable the underground diversion of an Openreach telecommunication cable, 650m in length. Additional land between Stafford motorway service area (southbound) and Pirehill Lane will be temporarily required for access, and additional land crossing the HS2 route at the Stone Rural Footpath 32 accommodation overbridge will be permanently required.
Additional land and change to Bill powers for access to enable the removal of a Western Power Distribution 11kV underground cable and switchgear at Walton House Farm AP2-003-104	Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV underground cable, 105m in length, from a pole located within Walton House Farm, to a location 40m north-east of the HS2 route.	Additional land will be required and change to Bill powers for access to enable the permanent removal of a Western Power Distribution 11kV underground electricity cable and associated infrastructure, 105m in length, from a pole located within Walton House Farm, to a location 40m north-east of the HS2 route.

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land for the permanent diversion of an underground Zayo telecommunications cable along A34 The Fillybrooks and B5026 Eccleshall Road</p> <p>AP2-003-105</p>	<p>No provision was made for the permanent diversion of an existing underground Zayo telecommunications cable between Yarnfield Lane and the B5026 Eccleshall Road.</p> <p>The AP1 revised scheme (AP1-003-105: Additional land for the permanent removal of Zayo underground telecommunications cables near Yarnfield Lane) provides for the permanent removal of an existing Zayo telecommunications cable.</p>	<p>Additional land will be required for the permanent diversion of an underground Zayo telecommunications cable, 1.4km in length, running along the A34 The Fillybrooks, from the junction with Yarnfield Lane and the B5026 Eccleshall Road to the junction with Tilling Drive.</p> <p>This amendment is dependent on the AP1 revised scheme amendment (AP1-003-105) being approved, as part of the additional land included within the AP1 revised scheme is required for the utility works described in this AP2 amendment.</p>
<p>Additional land for the permanent diversion of an underground Zayo telecommunications cable along the A34 The Fillybrooks and A51 Bury Bank</p> <p>AP2-003-106</p>	<p>No provision was made for the permanent diversion of an existing underground Zayo telecommunications cable between Yarnfield Lane and the A51 Bury Bank.</p> <p>The AP1 revised scheme (AP1-003-106: Additional land and change in Bill powers for the permanent removal of a Zayo underground telecommunications cable between Yarnfield Lane and the A51 Bury Bank) provides for the permanent removal of an existing Zayo telecommunications cable.</p>	<p>Additional land will be required for the permanent diversion of an underground Zayo telecommunications cable, 3.5km in length, running along the A34 The Fillybrooks, from the junction with Yarnfield Lane and the A51 Bury Bank to a location 60m north-west of the Severn Trent Water Swynnerton Pumping Station.</p> <p>This amendment is dependent on the AP1 revised scheme amendment (AP1-003-106) being approved, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in this AP2 amendment.</p>
<p>Additional land for the permanent diversion of an underground Zayo telecommunications cable along Yarnfield Lane</p> <p>AP2-003-107</p>	<p>No provision was made for the permanent diversion of an existing underground Zayo telecommunications cable along Yarnfield Lane.</p> <p>The AP1 revised scheme (AP1-003-105: Additional land for the permanent removal of Zayo underground telecommunications cables near Yarnfield Lane) provides for the permanent removal of an existing Zayo telecommunications cable.</p>	<p>Additional land will be required for the permanent diversion of an underground Zayo telecommunications cable, 2.2km in length, along Yarnfield Lane from the junction with the A34 The Fillybrooks, crossing the HS2 route at Yarnfield Lane underbridge, to the junction with Moss Lane.</p> <p>This amendment is dependent on amendment AP1-003-105 being approved, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in this AP2 amendment.</p>

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land for the permanent underground diversion of a Western Power Distribution 11kV overhead line near the M6 Meaford viaduct</p> <p>AP2-003-108</p>	<p>Land would be permanently required for the permanent underground diversion of a Western Power Distribution 11kV overhead line, 220m in length, from an existing Western Power Distribution pole 240m east of the M6, crossing the HS2 route 320m south of the M6 Meaford viaduct, to a Highways England electricity cabinet adjacent to the M6.</p>	<p>Additional land will be required for the permanent underground diversion of a Western Power Distribution 11kV overhead line near the M6 Meaford viaduct, 350m in length. The diversion will run from an existing Western Power Distribution pole 240m east of the M6, crossing the HS2 route 320m south of the M6 Meaford viaduct, to a Highways England electricity cabinet.</p>
<p>Additional land for the provision of a new temporary underground Openreach telecommunications cable to Meaford North embankment satellite compound</p> <p>AP2-003-109</p>	<p>Land would be permanently required for a new temporary underground Openreach telecommunications cable to Meaford North embankment satellite compound, 380m in length, from Swynnerton Footpath 27 to Meaford North embankment satellite compound.</p>	<p>Additional land will be required for a new temporary underground Openreach telecommunications cable, 600m in length, from Hall Lane to Meaford North embankment satellite compound.</p>
<p>Additional land and change to Bill powers for the permanent overhead and underground diversion of a Western Power Distribution 33kV overhead line south-west of Sandyford Farm</p> <p>AP2-003-110</p>	<p>Land would be permanently required for the permanent underground diversion of a Western Power Distribution 33kV overhead line, 1.2km in length, from an existing Western Power Distribution pole to the south-west of the HS2 route. The northern section of the diversion, 200m in length, would cross the HS2 route 190m west of the A51 Stone Road. The southern section of the diversion, 180m in length, would run as an overhead line to the south of the HS2 route.</p>	<p>Additional land will be required and change to Bill powers for the permanent underground and overhead diversion of a Western Power Distribution 33kV overhead line, 1.3km in length, crossing the HS2 route at Swynnerton Estate South underbridge, running parallel to the south-west of the HS2 route and crossing the diverted Tittensor Road. Two sections of the diversion will be an underground cable totalling 300m in length and one section of the diversion will be an overhead line, 1km in length.</p>
<p>Additional land for the permanent underground diversion of two Western Power Distribution 33kV underground electricity cables along A51 Stone Road diversion and A519 Newcastle Road</p> <p>AP2-003-111</p>	<p>Land would be permanently required for the permanent underground diversion of two Western Power Distribution 33kV underground cables, 660m in length, crossing the HS2 route, along the A51 Stone Road, from the junction with Tittensor Road diversion, to 160m west of the A51 Stone Road stopping up point.</p>	<p>Additional land will be required for the permanent underground diversion of two Western Power Distribution 33kV underground electricity cables, 1.8km in length, along the A51 Stone Road diversion, the A519 Newcastle Road and crossing the HS2 route along the A519 Newcastle Road overbridge to reconnect on the southern side of the A51/A519 roundabout.</p>
<p>Additional land for the permanent diversion of three Severn Trent Water water mains supplies near the A51 Stone Road and Stab Lane</p> <p>AP2-003-112</p>	<p>No provision was made for the permanent diversion of three Severn Trent Water water mains supplies near the A51 Stone Road and Stab Lane.</p>	<p>Additional land will be required for the permanent diversion of three Severn Trent Water water mains supplies (150mm, 300mm and 9" diameter mains), each 650m in length, from Stab Lane running parallel to the HS2 route, to the A51 Stone Road.</p>

11.4 Assessment of minor utility amendments

Cultural heritage

Effects arising during construction

The main ES reported a minor adverse temporary effect, which is not significant, on North Pirehill Farm, a courtyard farm of historic brick buildings, a non-designated asset of low value. Construction of the amendment will further affect the setting of the asset. This will give rise to a new temporary moderate adverse effect, which is significant.

11.5 Assessment of combined effects of amendments within the Stone and Swynnerton area due to changes in construction traffic flows

This section reports the combined assessment of new or different significant construction traffic effects, as a result of changes in construction traffic flows (site haul routes and construction traffic routes). These relate to changes in traffic flows associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to an SES2 change or an AP2 amendment.

Traffic and transport

The SES2 changes and AP2 amendments will result in the following changes to the temporary congestion and delay significant effects reported in the main ES:

- a reduction in the level of significance of effect on users of the B5026 Eccleshall Road/Pirehill Lane junction from major adverse to moderate adverse, due to a reduction in construction traffic flows;
- removal of the major adverse effect on users of the A34 Stafford Road/A51 Stone Bypass/Brooms Road roundabout, due to modifications to the A34 Stafford Road and A51 Stone Bypass junction (AP2-003-003);
- removal of the major adverse effect on users of the A500 Queensway/A519 Newcastle Road roundabout, due to modifications to the A500 Queensway and A519 Newcastle Road junction (AP2-003-017) and changes to the movement and use of surplus material; and
- removal of the major adverse effect on users of the A519 Newcastle Road/A5182 Trentham Road signals, due to modifications to the Newcastle Road and A5182 Trentham Road junction (AP2-003-017), and changes to the movement and use of surplus material.

The SES2 changes and AP2 amendments will also result in a new temporary moderate adverse significant effect on congestion and delay to vehicle users at the A51 Stone Bypass/Aston Bridge Lane staggered crossroad junction and the A34 Fillybrooks/Meaford Road roundabout junction. This is due to changes to the movement and use of surplus excavated material and, for users of the A51 Stone Bypass/Aston Bridge Lane, a new construction route.

The SES2 changes and AP2 amendments will result in the following changes to the temporary traffic severance significant effects for non-motorised users reported in the main ES:

- a reduction in the level of significance of the effect for non-motorised users of the A51 The Rowe between Common Lane (Swynnerton) and Dog Lane from moderate adverse to minor adverse due to a reduction in construction traffic flows;
- a different major significant effect on non-motorised users of the A519 Newcastle Road between the A51 Stone Road and the A500 Queensway, due to an increase in the duration of the busy period and total construction traffic flows;

- a reduction in the level of significance of the effect for non-motorised users of Bent Lane between the A51 The Rowe and the HS2 route from major adverse to moderate adverse due to a reduction in construction traffic flows;
- a reduction in the level of significance of the effect for non-motorised users of B5026 Eccleshall Road between the A34 Stafford Road/The Fillybrooks and Pirehill Lane from moderate adverse to minor adverse due to a reduction in traffic flows; and
- a reduction in the level of significance of the effect for non-motorised users of Yarnfield Lane between the HS2 route and the A34 Stone Road from major adverse to moderate adverse due to a reduction in construction traffic flows.

Community

The SES2 changes and AP2 amendments will result in a different temporary significant effect at three residential properties in Shelton under Harley, due to a reduction in the duration of the HGV effect and therefore a reduction in the duration of the overall in-combination effect. However, this will not change the overall significance of the effect (major adverse) reported in the main ES.

12. Whitmore Heath to Madeley, Community Area 4

12.1 Summary of engineering amendments within Additional Provision 2

Table 16 provides a summary of each engineering amendment reported within the AP2 ES, along with a description of the SES2 scheme, which is used as the baseline for the comparison of new and different significant environmental effects.

Figure 15 shows the approximate location of each AP2 engineering amendment within the Whitmore Heath to Madeley area.

Table 16: Summary of the AP2 engineering amendments within the Whitmore Heath to Madeley area

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for provision of a power supply to Whitmore Heath tunnel</p> <p>AP2-004-001</p>	<p>Power connections would be required to operate the tunnel boring machines (TBM) for the construction of the Whitmore Heath and Madeley tunnels. The power connections would be retained permanently to be used for the operation of the tunnel, including lighting and ventilation systems.</p> <p>It was originally proposed that these power supplies would be provided by the statutory electricity undertaker, but in order to provide greater certainty that the scheme can be implemented within the construction programme it has been decided to include powers within the Bill.</p>	<p>Additional land, largely in the highway, will be required for provision of a 14.5km power supply connection from Meaford Bulk Supply Point to Whitmore Heath tunnel. The power supply route originates in the Stone and Swynnerton area (CA3) and ends at Whitmore tunnel south portal in the Whitmore Heath to Madeley area. This power supply will be used during construction to power the TBM and the Whitmore Heath tunnel satellite compound, and then for the permanent non-traction power supply and tunnel operations.</p> <p>Part of this amendment and potential receptors are within the Stone and Swynnerton area (CA3).</p>
<p>Additional land required for modifications to the roundabout junction of the A500 Queensway/A519 Newcastle Road/A519 Clayton Road (Hanchurch Interchange) and the signalised crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road and a new satellite construction compound</p> <p>AP2-003-017</p>	<p>The original scheme includes temporary construction traffic routes which would pass through the A500 Queensway/A519 Newcastle Road and A519 Newcastle Road/A5182 Trentham Road junctions.</p>	<p>Additional land will be required for permanent junction improvements to the existing roundabout junction of the A500 Queensway/A519 Newcastle Road/A519 Clayton Road (Hanchurch Interchange) and the signalised crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road. A noise fence barrier and landscape mitigation planting will be provided west of the A519 Newcastle Road and an area of hedgerow habitat creation will be provided adjacent to the eastbound A500 Queensway.</p> <p>A new satellite construction compound adjacent to the west of the A519 Clayton Road will be provided within the Whitmore Heath to Madeley area for the management of these junction works.</p> <p>The junction modifications and mitigation are within the Stone and Swynnerton area (CA3).</p>
<p>Additional land required and changes to Bill powers for changes to the vertical and horizontal alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge</p> <p>AP2-004-002</p>	<p>See Parts 1 and 2 in subsequent rows.</p>	<p>See Parts 1 and 2 in subsequent rows.</p>

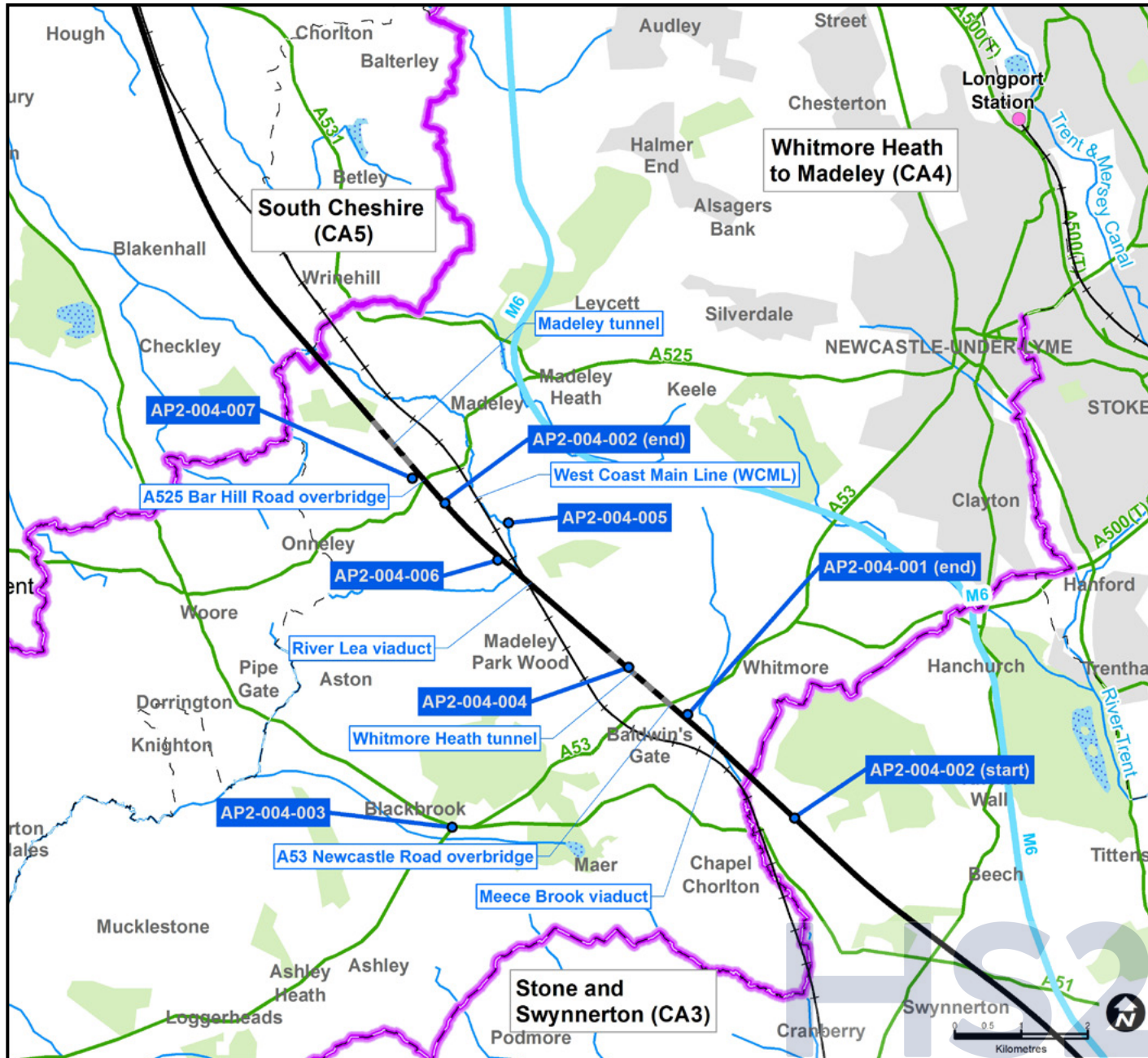
Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required and a change to Bill powers for the change to the vertical alignment of the HS2 route from the Hatton South cutting to River Lea viaduct</p> <p>Part 1 of AP2-004-002</p>	<p>The HS2 route would cross over the Meece Brook and River Lea on viaduct, and under Whitmore Heath via the Whitmore Heath tunnel.</p> <p>This section of the HS2 route would include provision for Hatton South cutting, Hatton North cutting, Stableford South embankment, Stableford North embankment, Meece Brook viaduct, Meece embankment, Whitmore South cutting, Whitmore Heath tunnel (a cut and cover section and a bored tunnel section) and two porous portals, temporary realignment and reinstatement of the A53 Newcastle Road, Whitmore North cutting and retaining wall, Lea South embankment and River Lea viaduct.</p> <p>The Bill further provides for permanent landscape mitigation planting, landscape earthworks, balancing ponds, noise fence barriers adjacent to the Whitmore Heath tunnel northern porous portal and Whitmore Wood retaining wall, and footpath diversions.</p>	<p>The vertical alignment between Hatton South cutting in the Stone and Swynnerton area (CA3) and River Lea viaduct in the Whitmore Heath to Madeley area (CA4) will be amended.</p> <p>The vertical alignment through Meece Brook viaduct, Whitmore Heath tunnel and River Lea viaduct will be lowered.</p> <p>The vertical alignment through Whitmore North cutting and Lea South embankment will be raised by up to 3m.</p> <p>The vertical alignment changes will enable the southern porous portal of Whitmore Heath tunnel to be relocated 180m south-east along the HS2 route. The cut and cover section of Whitmore Heath tunnel will be changed to twin bore for the entire length of the tunnel. The length of the tunnel (including porous portals) will increase by 180m to 1.4km.</p> <p>Whitmore Wood overbridge will be replaced with Whitmore Wood underbridge, 350m to the north-west of the position of Whitmore Wood overbridge.</p> <p>Additional land will be required to construct the relocated southern porous portal and amended tunnel. As a result of relocating the southern porous portal, the temporary realignment of the A53 Newcastle Road will no longer be required and will not be constructed. A change to Bill powers will be required for Whitmore Wood underbridge.</p> <p>There will be minor changes to the layout of landscape earthworks and landscape mitigation planting.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required and a change to Bill powers for the change to the horizontal alignment of the HS2 route from the southern extent of Stableford North embankment to Madeley Bridleway 1 accommodation green overbridge</p> <p>Part 2 of AP2-004-002</p>	<p>The HS2 route would cross over the Meece Brook and River Lea on viaduct, and under Whitmore Heath via the Whitmore Heath tunnel.</p> <p>This section of the HS2 route would include provision for Stableford North embankment, Meece Brook viaduct, Meece embankment, Whitmore South cutting, Whitmore Heath tunnel (a cut and cover section and a bored tunnel section) and two porous portals, temporary realignment and reinstatement of the A53 Newcastle Road, Whitmore North cutting and retaining wall, Lea South embankment, River Lea viaduct, Lea North embankment, Madeley cutting and Madeley Bridleway 1 accommodation green overbridge.</p> <p>The Bill further provides for: River Lea flood culvert and associated flood relief channels and a replacement floodplain storage area adjacent to the River Lea viaduct; permanent landscape mitigation planting and landscape earthworks; balancing ponds; noise fence barriers adjacent to the Whitmore Heath tunnel northern porous portal and Whitmore Wood retaining wall; and footpath realignments and diversions.</p>	<p>The horizontal alignment and track separation distance between Meece viaduct and Madeley Bridleway 1 accommodation green overbridge will be amended. The River Lea viaduct structure will be amended from two decks to a single deck supporting both HS2 tracks.</p> <p>The northern porous portal of Whitmore Heath tunnel will be relocated 10m to the south to accommodate the amendments to horizontal alignment and track separation.</p> <p>The horizontal alignment of Whitmore Wood retaining wall and Whitmore North cutting will be moved to the south-west by 10m.</p> <p>The track separation distance through Whitmore North cutting will be reduced, to allow for a reduction in the footprint of the HS2 route through Whitmore Wood ancient woodland.</p> <p>The horizontal alignment through Lea South embankment will be moved up to 9.4m to the south-west. As a result, the River Lea flood culvert, flood relief channel and replacement floodplain storage area will not need to be constructed.</p> <p>The vertical alignment of Manor Road overbridge will be increased by up to 1m to accommodate the amendments in horizontal alignment and track separation.</p> <p>Additional land will be required to accommodate the associated change to the highway earthworks. A change to Bill powers will be required for the works to Whitmore Heath tunnel northern porous portal, Whitmore North cutting, Lea South embankment and Manor Road overbridge.</p> <p>There will be minor changes to the realignments and diversions of Whitmore Footpath 6 and Madeley Footpath 14, adjacent to Whitmore North cutting and Lea South embankment, and minor changes to the layout of landscape earthworks and landscape mitigation planting.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required and a change to Bill powers for modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction</p> <p>AP2-004-003</p>	<p>Construction traffic would enter onto the A53 Newcastle Road at Baldwin's Gate and travel south to join the A51 Stone Road. The construction traffic route would not include the A53 Newcastle Road south of the junction with the A51 Stone Road.</p> <p>There were no changes proposed to the existing junction of the A51 Stone Road and the A53 Newcastle Road. The staggered crossroads junction is situated 3.5km south-west of the HS2 route.</p>	<p>Additional land and a change to Bill powers will be required for changes at two junctions located close to each other on the A53 Newcastle Road.</p> <p>Traffic signals will be installed at the eastern A53 Newcastle Road/A51 Stone Road junction.</p> <p>At the western A53 Newcastle Road/A51 Nantwich Road junction, traffic signals will be installed and the A53 Newcastle Road will be diverted. The diversion will require hedgerow habitat creation along both sides of the diverted A53 Newcastle Road.</p>
<p>Additional land required and a change to Bill powers for provision of a public right of way over Whitmore Heath tunnel north porous portal</p> <p>AP2-004-004</p>	<p>Snape Hall Road would be stopped up where it crosses the HS2 route at the Whitmore Heath tunnel north porous portal. Two turning heads would be provided for vehicle access on the retained sections of Snape Hall Road, one to the south of the HS2 route and one to the north.</p> <p>Landscape mitigation planting to the south and west of the porous portal would provide landscape integration and visual screening for residents of Whitmore Heath.</p>	<p>Snape Hall Road, on the northern side of the HS2 route, will be permanently stopped up to vehicular traffic at the junction with Dab Green Lane, but will be retained as accommodation access only.</p> <p>The turning head to the north of the HS2 route will be removed.</p> <p>A new public right of way, Whitmore New Footpath, will be provided between the turning head to the south of the HS2 route and Dab Green Lane, via the stopped up section of Snape Hall Road. The total length of Whitmore New Footpath will be approximately 670m, comprising 320m of new footpath around the portal, and 350m that follows the stopped up section of Snape Hall Road.</p>
<p>Additional land for new pipework from the borrow pit west of Netherset Hey Farm for groundwater recharge to River Lea</p> <p>AP2-004-005</p>	<p>A borrow pit to the west of Netherset Hey Farm for the extraction of sand and gravel for construction would be provided and include mitigation measures to recirculate groundwater to the River Lea, as a result of the excavation and dewatering of the borrow pit. A minor tributary of the River Lea would be temporarily diverted.</p>	<p>Additional land will be temporarily required for a new pipe route, 700m in length within a corridor 10m wide, from the borrow pit to the west of Netherset Hey Farm to the River Lea for the discharge of groundwater from excavation and dewatering of the borrow pit.</p>
<p>Change to Bill powers for HS2 maintenance access to River Lea viaduct</p> <p>AP2-004-006</p>	<p>A farm access track from Manor Road to the River Lea viaduct would be permanently upgraded to provide maintenance access to the HS2 route. An area of hedgerow habitat creation and grassland habitat creation would be provided to the north of the HS2 maintenance access.</p> <p>During construction, the area between the HS2 maintenance access and the area of habitat creation would be used as a temporary material stockpile.</p>	<p>A change to Bill powers will be required to relocate both the HS2 access route for the northern abutment of the River Lea viaduct and the junction between Manor Road and the HS2 maintenance access, approximately 350m to the north of the location in the original scheme.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
Additional land required for provision of a power supply to Madeley tunnel AP2-004-007	<p>Power connections will be required to operate the tunnel boring machine (TBM) for the construction of the Whitmore Heath and Madeley tunnels. The power connections will be retained permanently to be used for the operation of the tunnel, including lighting and ventilation systems.</p> <p>It was originally proposed that these power supplies would be provided by the statutory electricity undertaker, but in order to provide greater certainty that the scheme can be implemented within the construction programme it has been decided to include powers within the Bill.</p>	<p>Additional land, largely in the highway, will be required for provision of an 11.5km power supply connection from Newcastle Bulk Supply Point to Madeley tunnel. This power supply will be used during construction to power the TBM and the Madeley Tunnel (south) satellite compound, and then for the permanent non-traction power supply and tunnel operations.</p> <p>Madeley Footpath 33 will be temporarily closed whilst the power cable is installed below the WCML and the River Lea by directional drilling.</p>

Figure 15: Locations of the AP2 engineering amendments within the Whitmore Heath to Madeley area



12.2 Assessment of engineering amendments

Agriculture, forestry and soils

Effects arising during construction

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will remove the significant temporary and permanent moderate adverse effects on Rose Cottage, as reported in the main ES, as the land is no longer required from the holding.

Community

Effects arising during construction

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will reduce the number of residential properties subject to an in-combination effect from visual and noise from 25, reported in the main ES and SES1, to 24 properties. This will result in a different temporary in-combination effect, but will not change the level of significance (major adverse) reported in the main ES.

Cultural heritage

Effects arising during construction

Amendment AP2-004-001 (power supply to Whitmore Heath tunnel) will further affect the setting of the Whitmore Conservation Area, which was reported as subject to a temporary minor adverse effect, which is not significant, in the main ES. The conservation area derives much of its significance from the historic rural village setting. The amendment will result in a new temporary moderate adverse effect, which is significant.

Amendment AP2-004-003 (modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction) will require the removal of a Grade II listed Milepost, 2.5km west of Baldwin's Gate. This will result in a new permanent major adverse effect, which is significant.

Milestones and/or mileposts removed during construction will, wherever reasonably practicable, be returned to their original location before operation commences.

Amendment AP2-004-007 (power supply to Madeley tunnel) will introduce construction activities, which will impact on the setting of the

Madeley Conservation Area, the Grade II listed 16th century town house, Madeley; the Grade II listed Offley Almshouses and the Grade II* listed Old Hall, Madeley. This will result in new temporary moderate adverse effects, which are significant.

This amendment in combination with the new permanent Severn Trent Water water mains supply to the Madeley tunnel south portal building (AP2-004-106) and the new permanent diversion of a Severn Trent Water mains supply at the A525 Bar Hill Road (AP2-004-105) will increase the impact on the setting of the Grade II listed 16th century town house, Madeley and the Grade II listed Offley Almshouses. This will result in a new temporary moderate adverse cumulative effect, but will not change the overall significance of the effect (moderate adverse).

Ecology and biodiversity

Effects arising during construction

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will avoid the loss of four assumed veteran trees, and therefore remove the

permanent adverse significant effects reported in the main ES.

This amendment will also reduce the loss of ancient woodland from Whitmore Wood Local Wildlife Site and Ancient Woodland Inventory Site and Hey Sprink (wood south-west of) Local Wildlife Site and Ancient Woodland Inventory Site by approximately 0.6ha. This will result in a different significant effect, but will not change the level of significance of the effects (permanent adverse at the county level) reported in the main ES.

This amendment will also result in an increase in hedgerow after mitigation of approximately 1.1km. This will result in a different significant effect, but will not change the level of significance of the effect (permanent adverse at the district/borough level) reported in the main ES.

Amendment AP2-004-003 (modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction) will result in the reduction of hedgerow after mitigation of approximately 0.6km. This will result in a different significant effect, but will not change the level of significance of the effect (permanent adverse at the district/borough level) reported in the main ES as amended by SES1.

Landscape and visual

Effects arising during construction

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will relocate the southern entrance to the Whitmore Tunnel to the south and remove all construction activity associated with A53 Newcastle Road overbridge, which is no longer proposed. This will remove the major adverse significant effect on views east from the A53 Newcastle Road near The Hill reported in the main ES. The effect of night-time lighting of the tunnel boring works will also be reduced. This will remove the moderate adverse significant effect at this viewpoint.

By relocating the southern entrance to the Whitmore tunnel, the amendment will also remove the major adverse significant effect on the view south-west from Rectory Lane reported in the main ES.

This amendment will result in different significant visual effects at the following viewpoints, but will not change the level of significance reported in the main ES:

- east from farmland near Snape Hall Farm (major adverse);
- north-east from farmland east of Madeley Park farm (major adverse);
- north-east from the edge of Madeley Park Wood (major adverse); and
- south-west from Madeley Parish Cemetery (major adverse).

Amendment AP2-004-003 (modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction) will affect the views south-west of A51 Nantwich Road, which is in an area unaffected by the original scheme. This is because it introduces construction activity and a satellite compound and removes vegetation. This will result in a new moderate adverse significant effect on the view from nearby properties.

Amendment AP2-004-006 (change to HS2 maintenance access to River Lea viaduct) will require the relocation of the junction between Manor Road and the HS2 maintenance access closer to the view south-east from Manor Cottages. This will result in a different significant effect but will not change the level of significance of the effect (major adverse)

reported in the main ES.

Effects arising from operation

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will result in a different significant visual effect at the following viewpoints, but will not change the level of significance reported in the main ES:

- north-east from farmland close to the West Coast Main Line (major adverse at year 15 and year 60);
- east from farmland near Snape Hall Farm (moderate adverse at year 15);
- north-east from farmland east of Madeley Park Farm (moderate adverse at year 15);
- north-east from edge of Madeley Park Wood (moderate adverse at year 15); and
- south-west from Madeley Parish Cemetery (major adverse at year 15 and year 60).

Sound, noise and vibration

Effects arising during construction

Amendment AP2-004-007 (power supply to Madeley tunnel) will result in a new construction noise effect on a community basis for two months at approximately 15 residential properties on Station Road, Madeley, which is significant, due to the proximity to construction works.

Effects arising from operation

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will lower the original scheme alignment of the Whitmore Heath tunnel, increasing the vertical distance from the tunnel to properties on Whitmore Heath. This will remove the significant ground-borne noise effects from three residential properties in Whitmore Heath (The Brackens, West Ridge and Wyndways). This will also remove the significant ground-borne noise effects on a community basis at approximately 10 properties in Whitmore Heath, in the vicinity of Heath Road, Birch Tree Lane and Heath Rise.

Traffic and transport

Effects arising during construction

Amendment AP2-004-001 (power supply to Whitmore Heath tunnel)) will require temporary lane closures and/or full carriageway closures, including Bent Lane which will increase journey distances by up to 6.5km. This will result in a new temporary minor adverse effect on traffic flows and delays for vehicle users of Bent Lane, which is significant.

Closure or diversions will be for a short duration (no more than four weeks) and will take place on short sections of Bent Lane at any given time and will move along the road to maintain access to properties.

Amendment AP2-004-002 (changes to the alignment between Hatton South cutting and Madeley Bridleway 1 accommodation green overbridge) will remove the need to temporarily divert the A53 Newcastle Road. This will remove the temporary minor adverse significant severance effect on non-motorised users of the A53 Newcastle Road reported in the main ES.

Amendment AP2-004-003 (modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction), which is expected to take six months to complete, and the associated traffic management measures, will reduce capacity due to delays at this junction. This will result in a new temporary moderate adverse effect on road users at the road junction during this period, which is significant.

Amendment AP2-004-004 (provision of a public right of way over Whitmore Heath tunnel north porous portal) will require a temporary diversion via the existing Snape Hall Road and Heath Road with an increase in distance for non-motorised users of up to 950m. This will result in a new temporary moderate adverse severance effect, which is significant.

Amendment AP2-004-007 (power supply to Madeley tunnel) will require works in or adjacent to the carriageway for up to four weeks, resulting in additional delays to vehicle users of: the B5368 Lower Milehouse Lane and the B5368 Church Lane through Knutton; Mill Street, High Street and the B5044 Pepper Street through Silverdale; and the A525 Newcastle Road

through Madeley Heath and Madeley. This will result in a new temporary minor adverse effect to vehicle users, which is significant.

Effects arising from operation

Amendment AP2-004-003 (modifications to the A51 Stone Road/Nantwich Road/A53 Newcastle Road junction) will reduce queues and delays and improve safety for vehicles turning at the junction. This will result in a new major permanent beneficial effect for road users, which is significant.

Amendment AP2-004-004 (provision of a public right of way over Whitmore Heath tunnel north porous portal) will provide a new footpath and staircase over the HS2 route, which will reduce the diversion for non-motorised users from up to 950m to up to 190m. This will change the effect reported in the main ES from a permanent moderate adverse effect to a permanent minor adverse effect, which is significant.

12.3 Summary of minor utility amendments within the Additional Provision 2

Table 17 provides a summary of each minor utility amendment reported within the Whitmore Heath to Madeley area.

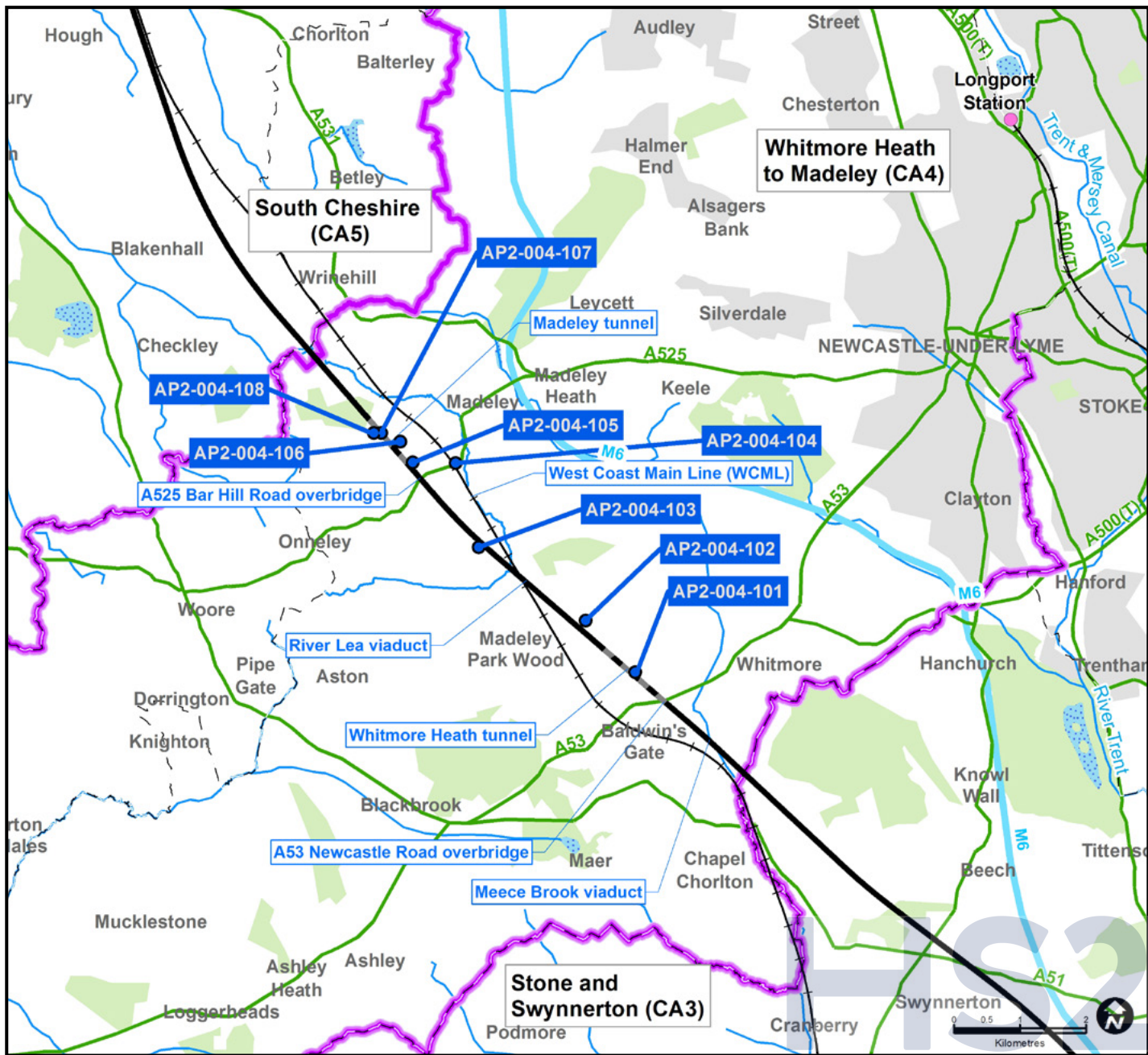
Figure 16 shows the approximate location of each AP2 minor utility amendment within the Whitmore Heath to Madeley area.

Table 17: Summary of the AP2 minor utility amendments within the Whitmore Heath to Madeley area

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land and change in Bill powers for the permanent diversion of a Cadent medium pressure gas main from Snape Hall Road to Common Lane and Heath Road</p> <p>AP2-004-101</p>	<p>No provision was made for the permanent diversion of a Cadent medium pressure gas main from Snape Hall Road to Common Lane and Heath Road.</p>	<p>Additional land and change in Bill powers will be required for the permanent diversion of a Cadent medium pressure gas main in Snape Hall Road, 1.8km in length, along Common Lane and Heath Road, crossing the HS2 route above the Whitmore Heath tunnel.</p>
<p>Additional land for a new permanent Severn Trent Water water mains supply to the Whitmore Heath tunnel north portal building</p> <p>AP2-004-102</p>	<p>Land would be permanently required for a new permanent Severn Trent Water water mains supply to the Whitmore Heath tunnel north portal building, 150m in length, from Snape Hall Road, along a proposed HS2 access track, to the Whitmore Heath tunnel north portal building.</p>	<p>Additional land will be permanently required for a new permanent Severn Trent Water water mains supply to the Whitmore Heath tunnel north portal building, 480m in length, running along Whitmore Footpath 5 and an HS2 access track to the Whitmore Heath tunnel north portal building.</p>
<p>Additional land and change in Bill powers for the permanent overhead and underground diversion of a Western Power Distribution 11kV overhead line near Manor Farm</p> <p>AP2-004-103</p>	<p>Land would be permanently required for the permanent overhead and underground diversion of a Western Power Distribution 11kV overhead line, 710m in length, from an existing Western Power Distribution pole 270m south of Hey House, crossing the HS2 route 150m south of Manor Road overbridge to an existing pole 350m east of Manor Farm. The eastern section of the diversion, 460m in length, running parallel to the HS2 route would be an overhead line. The western section of the diversion, 250m in length, crossing the HS2 route would be an underground cable.</p>	<p>Additional land and change in Bill powers will be required for the permanent overhead and underground diversion of a Western Power Distribution 11kV overhead line, 890m in length, from an existing Western Power Distribution pole 270m south of Hey House, crossing the HS2 route 170m south of the Manor Road overbridge, along an HS2 access track, and crossing the Manor Road diversion to an existing Western Power Distribution pole east of Manor Farm. The eastern section of the diversion, 460m in length, running parallel to the HS2 route will be an overhead line. The western section of the diversion, 430m in length, crossing the HS2 route will be an underground cable.</p>
<p>Additional land for a new permanent Severn Trent Water water mains supply to the Madeley tunnel north portal building</p> <p>AP2-004-104</p>	<p>Land would be permanently required for a new permanent Severn Trent Water water mains supply to the Madeley tunnel north portal building, 940m in length, from the access track to Moss Farm, along Bower End Lane, Madeley Bridleway 5 realignment and the proposed HS2 access track to the Madeley tunnel north portal building.</p>	<p>Additional land will be required for a new permanent Severn Trent Water water mains supply to the Madeley tunnel north portal building, 2.4km in length, from 320m south of Station Road, running adjacent to Station Road, along the A525 Bar Hill Road, Moss Lane and Bower End Lane, crossing the WCML, continuing along Bower End Lane, Madeley Bridleway 5 realignment and the HS2 access track to the Madeley tunnel north portal building.</p>

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land for the permanent diversion of a Severn Trent Water water mains supply at the A525 Bar Hill Road</p> <p>AP2-004-105</p>	<p>No provision was made for the permanent diversion of a Severn Trent Water water mains supply at the A525 Bar Hill Road.</p>	<p>Additional land will be required for the permanent diversion of a Severn Trent Water water mains supply at the A525 Bar Hill Road, 700m in length, crossing the HS2 route at the A525 Bar Hill overbridge.</p>
<p>Additional land for a new permanent Severn Trent Water water mains supply to the Madeley tunnel south portal building</p> <p>AP2-004-106</p>	<p>Land would be permanently required for a new permanent Severn Trent Water water mains supply to the Madeley tunnel south portal building, 300m in length, from the A525 Bar Hill Road, along a proposed HS2 access track, to the Madeley tunnel south portal building.</p>	<p>Additional land will be required for a new permanent Severn Trent Water water mains supply to the Madeley tunnel south portal building, 1.6km in length, from 320m south of Station Road, running adjacent to Station Road, along the A525 Bar Hill Road and crossing the WCML, continuing along A525 Bar Hill Road and an HS2 access track to the Madeley tunnel south portal building.</p>
<p>Additional land for the permanent removal of an overhead Openreach telecommunications line near Moor Hall</p> <p>AP2-004-107</p>	<p>No provision was made for permanent removal of an overhead Openreach telecommunications line near Moor Hall.</p>	<p>Additional land will be temporarily required for the permanent removal of an overhead Openreach telecommunications line near Moor Hall. The removal will be 680m in length, from Barr Hill Cottage, parallel to the eastern side of the HS2 route, to Bower End Lane.</p>
<p>Additional land for the permanent underground diversion of Western Power Distribution 11kV and low voltage overhead lines near Bower End Farm</p> <p>AP2-004-108</p>	<p>Land would be permanently required for the permanent underground diversion of an 11kV overhead line, 120m in length, from Bower End Farm, crossing a proposed HS2 access track to the Madeley tunnel north portal building to an existing Western Power Distribution pole, 50m west of Bower End Farm.</p> <p>A low voltage overhead line, 50m in length, 20m west of Bower End Farm would be removed.</p>	<p>Additional land will be required for the permanent underground diversion of Western Power Distribution 11kV overhead line near Bower End Farm, 170m in length, crossing an HS2 access track to the Madeley tunnel north portal building to an existing Western Power Distribution pole, 90m west of Bower End Farm.</p> <p>Additional land will also be required for the permanent underground diversion of a Western Power Distribution low voltage overhead line, 140m in length, from a pole 20m north of Bower End Farm to a location west of Bower End Farm.</p>

Figure 16: Locations of the AP2 minor utility amendments within the Whitmore Heath to Madeley area



12.4 Assessment of minor utility amendments

Cultural heritage

Effects arising during construction

Amendment AP2-004-105 (diversion of a Severn Trent water mains supply at the A525 Bar Hill Road) and amendment AP2-004-106 (new Severn Trent Water water mains supply to the Madeley tunnel south portal building) will introduce construction activities which will further affect the setting of the Grade II listed 16th century town house, Madeley and the Grade II listed Offley Almshouses. The main ES reported temporary minor adverse effects, which were not significant, however each of these amendments in isolation will result in new temporary moderate adverse effects on the assets, which are significant.

These amendments in combination with the power supply to the Madeley tunnel (AP2-004-007) will introduce construction activities which will further affect the setting of the Grade II listed 16th century town house, Madeley, and the Grade II listed Offley Almshouses. This will result in a different temporary significant effect, but will not change the overall significance of the effect (moderate adverse).

Sound, noise and vibration

Effects arising during construction

Amendment AP2-004-105 (diversion of a Severn Trent water mains supply at the A525 Bar Hill Road) will increase the number of properties experiencing significant noise effects at Bar Hill from approximately 30 to 45. This will result in a different significant effect, but will not change the level of significance reported in the main ES.

12.5 Assessment of combined effects of amendments within the Whitmore Heath to Madeley area due to changes in construction traffic flows

This section reports the combined assessment of new or different significant construction traffic effects, as a result of changes in construction traffic flows (site haul routes and construction traffic routes). These relate to changes in traffic flows associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to an SES2 change or an AP2 amendment.

Traffic and transport

The SES2 changes and AP2 amendments will remove the major adverse temporary significant effect on congestion and delay, as reported in the main ES, to vehicle users of the A51 London Road/A53 Newcastle Road staggered crossroads junction.

The SES2 changes and AP2 amendments will result in the following changes to temporary traffic severance significant effects for non-motorised users, as reported in the main ES:

- removal of the major adverse significant effect on non-motorised users of the A51 London Road between Dog Lane and the A53 Newcastle Road;
- a reduction in the level of significance of effects on non-motorised users of the A53 Newcastle Road between the HS2 route and A51 London Road from major adverse to minor adverse;
- a reduction in the level of significance of effects on non-motorised users of the A51 London Road between A53 Newcastle Road and Checkley Lane from major adverse to moderate adverse; and

- a reduction in the level of significance of the effects on non-motorised users of the A525 Bar Hill Road between the A51 London Road and HS2 route from major adverse to moderate adverse.

Air quality

The SES2 changes and AP2 amendments will result in a new likely residual significant effect at one residential property, close to the M6 in Madeley. This new significant effect is mainly due to changes in predicted emissions in the revised future baseline.

Sound, noise and vibration

The SES2 changes and AP2 amendments will remove the likely residual significant indirect effect from traffic noise reported in the main ES as amended by SES1, on approximately 10 residential properties on or adjacent to Bent Lane, approximately 25 properties on or adjacent to Snape Hall Road and approximately 40 properties on or adjacent to Bar Hill Road.

Community

The SES2 changes and AP2 amendments will remove a likely residual significant in-combination effect on 20 residential properties on Manor Road due to the removal of significant noise effects at all the properties.

The SES2 changes and AP2 amendments will result in a different temporary significant adverse effect, due to a decrease from 25 to 11 residential properties in Whitmore and Whitmore Heath subject to significant in-combination noise and visual effects. However, this will not change the level of significance (major adverse) of the effects reported in the main ES, as amended by SES1.

The SES2 changes and AP2 amendments will result in a different temporary significant adverse effect, due to a decrease from 43 to 37 residential properties on the A525 Bar Hill Road and Mallard Close subject to significant in-combination noise, HGV and visual effects. However, this will not change the level of significance (major adverse) of the effects reported in the main ES, as amended by SES1.

12.6 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example for habitat creation areas; line-side equipment; railway drainage system; and utilities). In the Whitmore Heath to Madeley area these relate to plots of land in the parishes of Whitmore and Madeley.

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13. South Cheshire, Community Area 5

13.1 Summary of engineering amendments within Additional Provision 2

Table 18 provides a summary of each engineering amendment reported within the AP2 ES, along with a description of the SES2 scheme, which is used as the baseline for the comparison of new and different significant environmental effects.

Figure 17 shows the approximate location of each AP2 engineering amendment within the South Cheshire area.

Table 18: Summary of the AP2 engineering amendments within the South Cheshire area

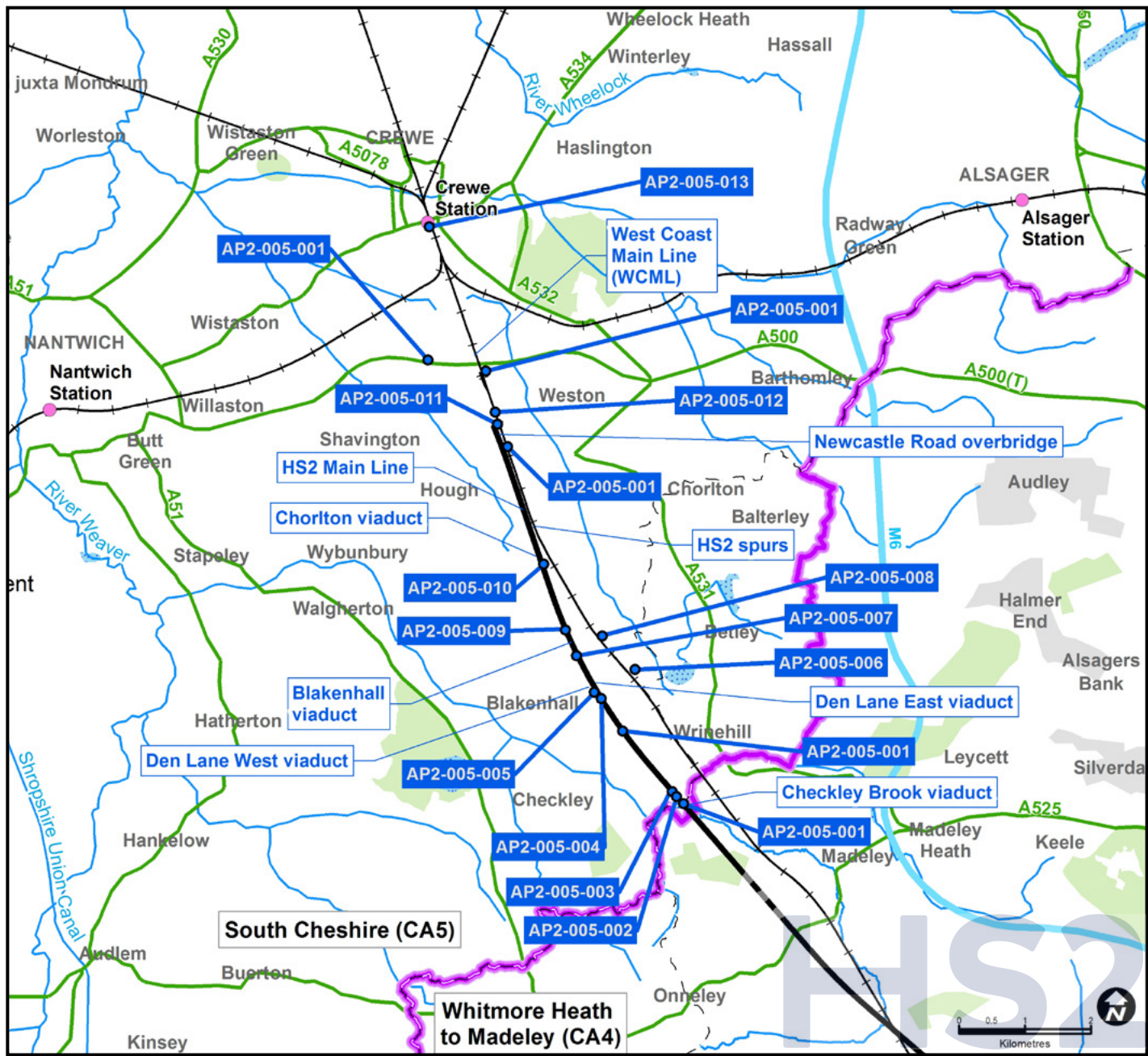
Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required for construction traffic routes at the A500 Shavington Bypass</p> <p>AP2-005-001</p>	<p>Heavy goods vehicle (HGV) construction traffic would be directed along the minor local roads of Den Lane, Wrinehill Road and Checkley Lane during construction of the original scheme.</p>	<p>Additional land will be required temporarily to provide HGV access onto the A500 Shavington Bypass, from the Basford cutting main compound, and to avoid the minor local roads of Den Lane, Wrinehill Road and Checkley Lane, and passing the Wynbunbury Delves Church of England primary school.</p> <p>Additional land will also be required to provide separation of public road-going construction traffic (e.g. HGVs and light goods vehicles (LGVs) from large earth moving equipment on site.</p>
<p>Additional land and a change to Bill powers for a fuel pipeline diversion and new utility compound at Checkley Lane</p> <p>AP2-005-002</p>	<p>No provision was made in the Bill.</p>	<p>Additional land and a change to Bill powers will be required to divert a 2.3km section of a Mainline Pipelines Ltd 12-inch diameter fuel pipeline crossing under the HS2 route, Den Lane and Blakenhall Bridleway 8. To accommodate the fuel pipeline diversion, Blakenhall Bridleway 8 will be realigned and the footprint of the borrow pit north of Checkley Lane included in the original scheme will be reduced.</p> <p>Additional land will be temporarily required for a new utility compound, Checkley Lane utility compound, adjacent to and to the north of Checkley Lane to manage the works set out in this amendment.</p>
<p>Additional land and a change to Bill powers for the underground diversion of a section of a Scottish Power Energy Networks 132kv overhead line at Checkley Lane and a utility compound</p> <p>AP2-005-003</p>	<p>An 860m section of a Scottish Power Energy Networks 132kV overhead line would be raised, to cross over the HS2 route in an east to west direction, 1km north of the Checkley Lane overbridge.</p> <p>Three temporary material stockpile areas would be provided on the south-west side of Blakenhall Northbound Spur cutting.</p> <p>The works to divert the overhead line would be managed from the Blakenhall Northbound Spur embankment satellite compound.</p>	<p>Additional land will be required, and a change in Bill powers, for a revised permanent diversion of the Scottish Power Energy Networks 132kV overhead line. Additional land will also be temporarily required during construction of the diversion.</p> <p>The overhead line will be diverted underground for a distance of 1.8km, crossing under the HS2 route to the north-west of the Checkley Lane overbridge. Four existing pylons will be removed.</p> <p>Two temporary material stockpile areas, south-west of Blakenhall Northbound Spur cutting proposed in the original scheme will be combined to form one new stockpile area, east of their previous location in the original scheme.</p> <p>A new utility compound, Den Lane utility compound A, will be provided to the south of Den Lane to manage the works set out in this amendment and the works provided for in amendment AP2-005-009.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land for the diversion of a National Grid 1050mm diameter high pressure gas pipeline and a new utility compound at Den Lane</p> <p>AP2-005-004</p>	<p>Permanent diversion of an underground National Grid 1,050mm diameter high pressure gas pipeline, would be required which would cross beneath the HS2 route at Crewe South cutting.</p>	<p>Additional land will be required for a permanent revised diversion alignment of a section of the underground National Grid 1,050mm diameter high pressure gas pipeline at Crewe Central cutting.</p> <p>The diversion will cross beneath the HS2 route at two locations at Crewe South cutting.</p> <p>An area of grassland habitat creation and ecological mitigation ponds proposed in the original scheme will be reconfigured to accommodate the revised realignment of the pipeline.</p> <p>A new utility compound, Den Lane utility compound B, will be provided to the north-west of Den Lane central underbridge to manage the works set out in this amendment and the works provided for in amendment AP2-005-005.</p>
<p>Additional land for the diversion of a National Grid 900mm diameter gas transmission pipeline at Den Lane</p> <p>AP2-005-005</p>	<p>Permanent diversion of a 900mm diameter National Grid gas transmission pipeline for 850m beneath the HS2 route, 65m north of the Den Lane central underbridge would be required.</p> <p>The works would be managed from the Blakenhall Northbound Spur embankment satellite compound.</p>	<p>Additional land will be required for a permanent revised alignment of the diversion of the 900mm diameter National Grid gas transmission pipeline, to cross under the HS2 route 175m south-east of Den Lane central underbridge. The length of the diversion will be increased by 50m to a total length of 900m.</p> <p>An amendment to the location of the Blakenhall Northbound Spur embankment satellite compound and removal of a temporary material stockpile will also be required.</p> <p>The works will be managed from the new Den Lane utility compound B.</p>
<p>Additional land and a change to Bill powers for a new access to Lower Den Farm and the relocation of Den Lane Welfare satellite compound</p> <p>AP2-005-006</p>	<p>The original scheme included the diversion of Blakenhall Bridleway 8 to cross over the West Coast Main Line (WCML), 75m north-west of its existing alignment, via Blakenhall Bridleway 8 accommodation overbridge. The existing Lower Den Farm accommodation overbridge would be demolished and access provided to Lower Den Farm via the realigned Blakenhall Bridleway 8 accommodation overbridge.</p> <p>The AP1 revised scheme included additional land for the permanent diversion of United Utilities water mains (AP1-005-102) and additional land for a new temporary Scottish Power Energy Networks power line (AP1-005-105).</p>	<p>Additional land and a change to Bill powers will be required for a new permanent agricultural access to Lower Den Farm from Den Lane and the relocation of Den Lane Welfare satellite compound.</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>A change to Bill powers for the realignment of the Blakenhall Bridleway 8 and associated accommodation overbridge</p> <p>AP2-005-007</p>	<p>Diversion of the combined accommodation access between HS2, Network Rail and the Blakenhall Bridleway would be required, 75m to the north-west of the existing alignment, crossing the existing WCML via the replacement Blakenhall Bridleway 8 accommodation overbridge, which would be relocated 63m to the west, and would lengthen the access to Lower Den Farm by 7m.</p> <p>Blakenhall New Bridleway and maintenance access road would be provided, to the south-west of the WCML, extending from Blakenhall Bridleway 8 accommodation overbridge to the Blakenhall Bridleway 12 east accommodation overbridge.</p>	<p>A change to Bill powers will be required to relocate the Blakenhall Bridleway 8 accommodation overbridge and realign the Blakenhall Bridleway 8 to avoid diverting an existing fuel pipeline below the WCML.</p> <p>Diversion of the shared accommodation access between HS2, Network Rail and Blakenhall New Bridleway will be amended to provide a diversion 61m west of the existing alignment. The Blakenhall Bridleway 8 accommodation overbridge will be relocated a further 49m to the west from the location in the original scheme, increasing journey length by 46m.</p>
<p>Additional land for material stockpile relocations at Lower Den Farm and the reorientation of Blakenhall cutting satellite compound</p> <p>AP2-005-008</p>	<p>Temporary stockpiles for the storage of surplus excavated materials, and the Blakenhall cutting satellite compound, to the east of the WCML, north-west of Lower Den Farm would be required.</p>	<p>Additional land will be required for the temporary relocation of two material stockpiles to the west of the WCML, and for the reorientation of Blakenhall cutting satellite compound to the east of the WCML.</p>
<p>Additional land and a change to Bill powers for the underground diversion of a section of a Scottish Power Energy Networks 132KV overhead line at Blakenhall</p> <p>AP2-005-009</p>	<p>A 750m section of a Scottish Power Energy Networks 132kv overhead line would be provided, to cross over the HS2 route in a south to north direction 625m north of the Den Lane Central underbridge.</p> <p>The works would be managed from the Blakenhall Northbound Spur embankment satellite compound.</p>	<p>Additional land and a change in Bill powers will be required for a revised permanent diversion of the Scottish Power Energy Networks 132kV overhead line. Additional land will also be temporarily required during construction of the diversion. The overhead line will be diverted underground for a distance of 2.3km, crossing under the HS2 route and WCML, west of Wrinehill Road and Mill Lane and reconnect to the existing overhead line to the east of the WCML. Two existing pylons will be removed.</p> <p>There will be a reduction of 530m² in the area of grassland habitat and a reduction of 55m in hedgerow habitat in comparison to the original scheme.</p> <p>The works will be managed from a new utility compound, Den Lane utility compound A, provided for in AP2-005-003 (Additional land and a change in Bill powers for the underground diversion of a section of a Scottish Power Energy Networks 132kv overhead line at Checkley Lane and a utility compound).</p>

Name of AP2 amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land required to improve visibility for traffic using the junction of Wrinehill Road and an accommodation track</p> <p>AP2-005-010</p>	<p>An accommodation access track, along which the Blakenhall Bridleway 12 would be diverted, would be provided to join Wrinehill Road to the south of the Crewe south cutting, west of Gonsley Green Farm.</p>	<p>Additional land will be required for the permanent relocation of hedgerow habitat creation, included in the original scheme, to improve visibility for traffic using the junction of Wrinehill Road and the accommodation track.</p>
<p>Additional land for two utility compounds at Newcastle Road and Chorlton Lane</p> <p>AP2-005-011</p>	<p>Permanent diversion of a National Grid 600mm diameter gas transmission pipeline by 425m, to pass under the HS2 route, 75m south of Jubilee Farm.</p>	<p>Additional land will be required for two temporary additional utility compounds to manage the diversion of the National Grid 600mm diameter gas transmission pipeline.</p>
<p>Additional land required for access to Heath Farm</p> <p>AP2-005-012</p>	<p>Access to Heath Farm would be via an existing track off the existing Newcastle Road.</p>	<p>Additional land will be required for the provision of a permanent access road to Heath Farm via the diverted Chorlton Lane.</p>
<p>Rail systems modifications and civil engineering works in and around Crewe Station; and rail systems modifications no longer required to the Crewe to Cheadle Hulme Line</p> <p>AP2-005-013</p>	<p>Modifications would be required to the existing conventional railway at Crewe Station to accommodate HS2 rail services, including reconfiguring the existing Cardiff to Manchester Piccadilly services, in order to release capacity within the station. A new island platform would be constructed at Crewe Station to accommodate the Cardiff to Manchester Piccadilly services.</p> <p>Further modifications would be required to the Crewe to Cheadle Hulme line (part of the WCML) infrastructure at Maw Green and Sandbach including new track works and crossings, raising an existing footbridge close to Sandbach Station, and modifications to the existing rail systems including signalling and overhead line equipment.</p>	<p>The track configuration and associated railway systems to the west and north of the existing Crewe Station will be modified, and the island platform proposed in the original scheme will be replaced with a single-sided platform. Services on the Crewe to Manchester Piccadilly and Cardiff to Manchester routes will be diverted to the new platform, in order to release capacity within Crewe Station to accommodate the HS2 services.</p> <p>As a result of the revised platform design to the west of Crewe Station and additional works proposed north of Crewe Station modifications to the Crewe Cheadle Hulme line (part of the WCML) infrastructure at Maw Green and Sandbach will no longer be required.</p> <p>All construction activities associated with the infrastructure and railway system modifications, in and around Crewe Station, will be managed from the Motorail Terminal main compound.</p> <p>Three railway systems compounds, reported in the off-route effects in the main ES, Volume 4, will support the construction and installation of the railway systems infrastructure. These are: Tommy's Lane Road Rail Access Point, Crewe Retail Park and Rookery Bridge Road Rail Access Point.</p>

Figure 17: Locations of the AP2 engineering amendments within the South Cheshire area



13.2 Assessment of engineering amendments

Agriculture, forestry and soils

Effects arising during construction

Amendment AP2-005-002 (fuel pipeline diversion and new utility compound at Checkley Lane) will indirectly affect seven buildings housing hens at Grange Farm. This is due to the location of the ventilation systems facing the construction compound, increasing the potential for dust to enter the buildings. This will result in a different temporary significant effect at Grange Farm due to the potential increased disruption to the farm operations, but will not change the level of significance (major adverse) reported in the main ES.

The construction compound will be designed appropriately, to minimise dust as far as reasonably practicable.

Cultural heritage

Effects arising during construction

Amendment AP2-005-001 (construction traffic route at the A500 Shavington Bypass) will increase the extent of the site of Basford Hall to be removed during construction. This will result in a different significant effect on the asset, but will not change the level of significance of the effect (major adverse) reported in the main ES.

Landscape and visual

Effects arising during construction

Amendment AP2-005-006 (new access to Lower Den Farm and the relocation of Den Lane Welfare satellite compound) will introduce new construction activity into the view south-west from the West Coast Main Line overbridge. This will result in a different significant effect from this viewpoint, but will not change the level of significance (major adverse) reported in the main ES.

Sound, noise and vibration

Effects arising during construction

Amendment AP2-005-013 (engineering works in and around Crewe Station and removal of modifications on the Crewe-Cheadle Hulme Line) requires piling works to install a new retaining wall. As this is in proximity to the existing operational railway, for safety reasons it will need to be undertaken at times when the railway is closed. It is likely that this will be during the weekend for approximately seven months, and whilst it is expected that piling works would be undertaken during the daytime, this is dependent on ground conditions. Therefore, there may be a requirement for piling works to continue into the night-time period during the closures.

On a precautionary basis, the assessment has assumed that works are required during the night-time (at weekends) throughout the construction period for this amendment. On this basis, night-time piling works will result in a new likely significant construction noise effect on a

community basis at approximately 70 residential properties in Crewe, during the weekend railway closures for a period of up to seven months. As far as reasonably practicable, significant noise effects from night-time working will be reduced or avoided.

Traffic and transport

Effects arising during construction

Amendment AP2-005-013 (engineering works in and around Crewe Station and removal of modifications on the Crewe-Cheadle Hulme Line) will remove the need to raise foot overbridge No.18 at Sandbach. This will remove the temporary minor adverse severance effect on non-motorised users reported in Volume 4 of the main ES.

13.3 Summary of minor utility amendments within the Additional Provision 2

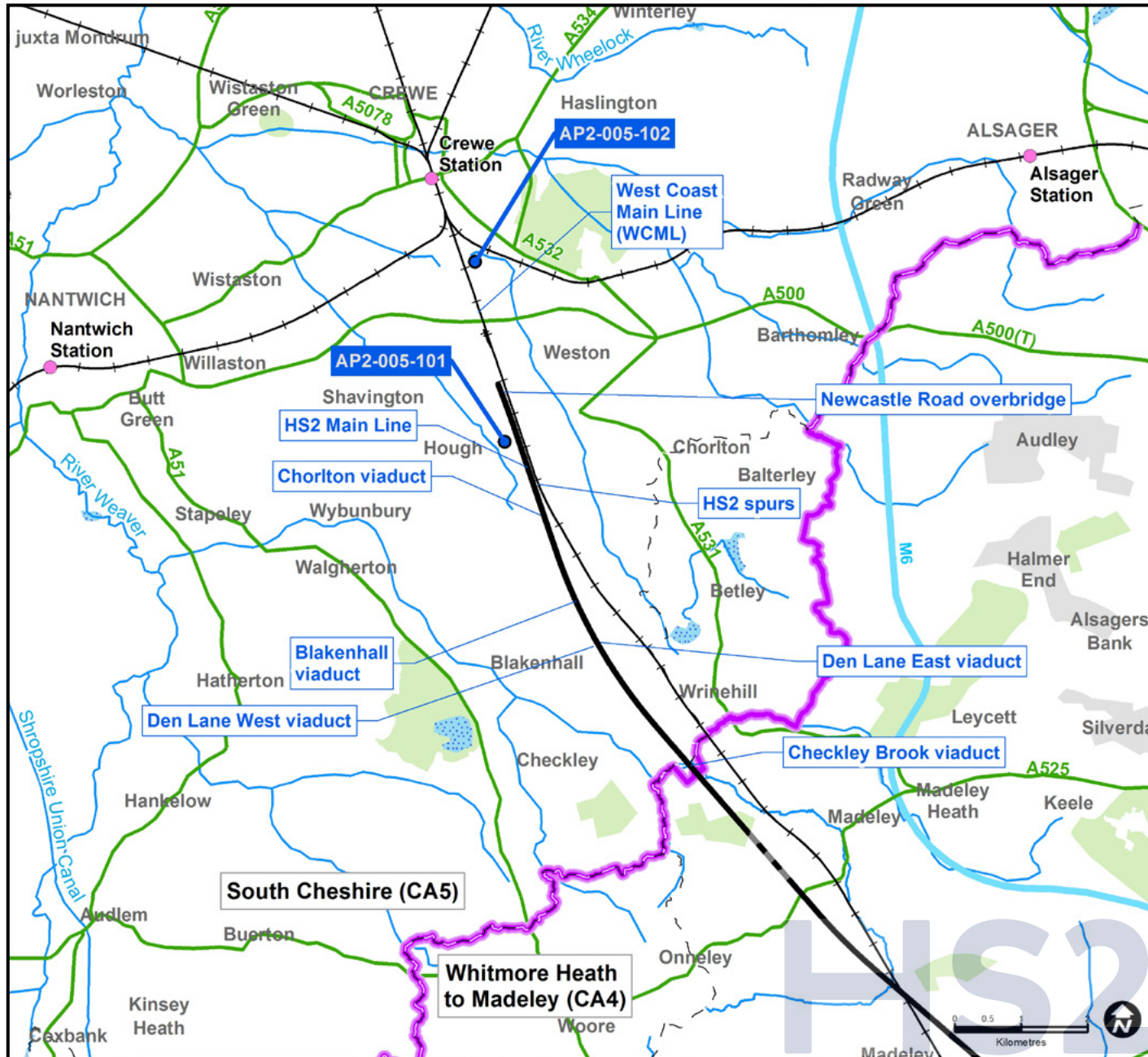
Table 19 provides a summary of each minor utility amendment reported within the South Cheshire area.

Figure 18 shows the approximate location of each AP2 minor utility amendment within the South Cheshire area.

Table 19: Summary of the AP2 minor utility amendments within the South Cheshire area

Name of the AP2 minor utility amendment	Description of the SES2 scheme (and AP1 revised scheme where relevant)	Description of the AP2 revised scheme
<p>Additional land for a new diversion of a United Utilities water mains supply north of Heath Farm</p> <p>AP2-005-101</p>	<p>No provision was made for the permanent diversion of a United Utilities water mains supply north of Heath Farm.</p> <p>The AP1 revised scheme (AP1-005-120: Additional land for new temporary Scottish Power 11kV power supply to Crewe South portal satellite compound and a new permanent Scottish Power 11kV power supply to balancing pond pump station), provides for additional land which overlaps with the land required for this amendment.</p>	<p>Additional land will be required for a new permanent diversion of a United Utilities water mains supply, 1.2km in length, running from a point 200m west of Chorlton Lane, crossing under the HS2 route and the WCML, 420m south of Newcastle Road overbridge, continuing west and north-west to the north of Heath Farm, Newcastle Road and Casey Lane, and re-connecting to the existing utility 20m east of Back Lane.</p> <p>This amendment is dependent on the AP1-005-120 (Additional land for new temporary Scottish Power 11kV power supply to Crewe South portal satellite compound and a new permanent Scottish Power 11kV power supply to balancing pond pump station) being enacted, as part of the additional land included within the AP1 revised scheme is also required for the utility works described in this amendment.</p>
<p>Additional land for a new underground Openreach telecommunications cable to Crewe South Crossovers railway systems satellite compound</p> <p>AP2-005-102</p>	<p>No provision was made for a new temporary underground Openreach telecommunications cable to Crewe South Crossovers railway systems satellite compound.</p>	<p>Additional land will be required for a new temporary underground Openreach telecommunications cable, 1.1km in length, running from an existing telecommunications cable on Savoy Road, for 540m along David Whitby Way to an existing roundabout, and continuing west to the Crewe South Crossovers railway systems satellite compound.</p>

Figure 18: Locations of the AP2 minor utility amendments within the South Cheshire area



13.4 Assessment of minor utility amendments

There are no new or different significant residual effects that will occur as a consequence of the minor utility amendments within the South Cheshire area.

13.5 Assessment of combined effects of amendments within the South Cheshire area due to changes in construction traffic flows

This section reports the combined assessment of new or different significant construction traffic effects, as a result of changes in construction traffic flows (site haul routes and construction traffic routes). These relate to changes in traffic flows associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to an SES2 change or an AP2 amendment.

Traffic and transport

The SES2 changes and AP2 amendments will result in a reduction to congestion and delay to vehicle users of the A500 Shavington Bypass/B5071 Jack Mills Way roundabout due to provision of site haul routes in the South Cheshire area (AP2-005-001), improved access

to and use of construction traffic routes, and changes to the movement and use of surplus excavated material. This will change the level of the effect reported in the main ES from major adverse to moderate adverse, which remains significant.

The SES2 changes and AP2 amendments will result in the following changes to traffic severance effects for non-motorised users, reported in the main ES, due to a reduction in construction traffic flows:

- reduction in the level of significance for users of the A51 London Road between Checkley Lane and the B5071 Wynbunbury Road from major adverse to moderate adverse;
- reduction in the level of significance for users of Checkley Lane between the A51 London Road and Hs2 route from moderate adverse to minor adverse; and
- removal of the temporary major adverse effect for users of Casey Lane between Newcastle Road and the HS2 route.

There will also be a different temporary effect for users of Wybunbury Road, between the A51 London Road and Wrinehill Road, due to a reduction in duration of the busy period and

total construction traffic flows. However, this will not change the level of significance (major adverse) reported in the main ES.

The SES2 changes and AP2 amendments will also result in a new temporary minor adverse effect on traffic severance for non-motorised users of the B5071 Link Road, between the construction access to the upgraded site haul road and the A500 Shavington Bypass, which is significant.

Air quality

The SES2 changes and AP2 amendments will result in a new residual significant effect at one residential property, close to the M6 in Cheshire East. This new significant effect is mainly due to changes in predicted emissions in the revised future baseline.

Community

The SES2 changes and AP2 amendments will decrease the number of residential properties on Checkley Lane subject to an in-combination effect from noise, visual and HGV effects from seven to five. However, this will not change the level of significance of the effects (major adverse) reported in the main ES, as amended by SES2.

14. Volume 3: Route-wide effects

14.1 Introduction

This section reports new or different likely residual significant route-wide effects. Further information is provided in Volume 3: Route-wide effects. For the AP2 amendments, new or different significant effects are only reported for ecology and biodiversity.

Ecology and biodiversity

The AP2 revised scheme will result in an increased loss of hedgerow within each community area. This represents a route-wide loss of an additional 12.3km of hedgerow which is significant. In combination with all relevant AP1 amendments, the total loss of hedgerow would be approximately 199.3km. This is an increased loss of 10.3km compared to the main ES, representing a different significant effect at the route-wide level.

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