High Speed Rail (West Midlands - Crewe)

Supplementary Environmental Statement and Additional Provision Environmental Statement

Volume 2: Community Area report

CA5: South Cheshire

March 2018

G13

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Department for Transport

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A report prepared for High Speed Two (HS2) Limited:

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

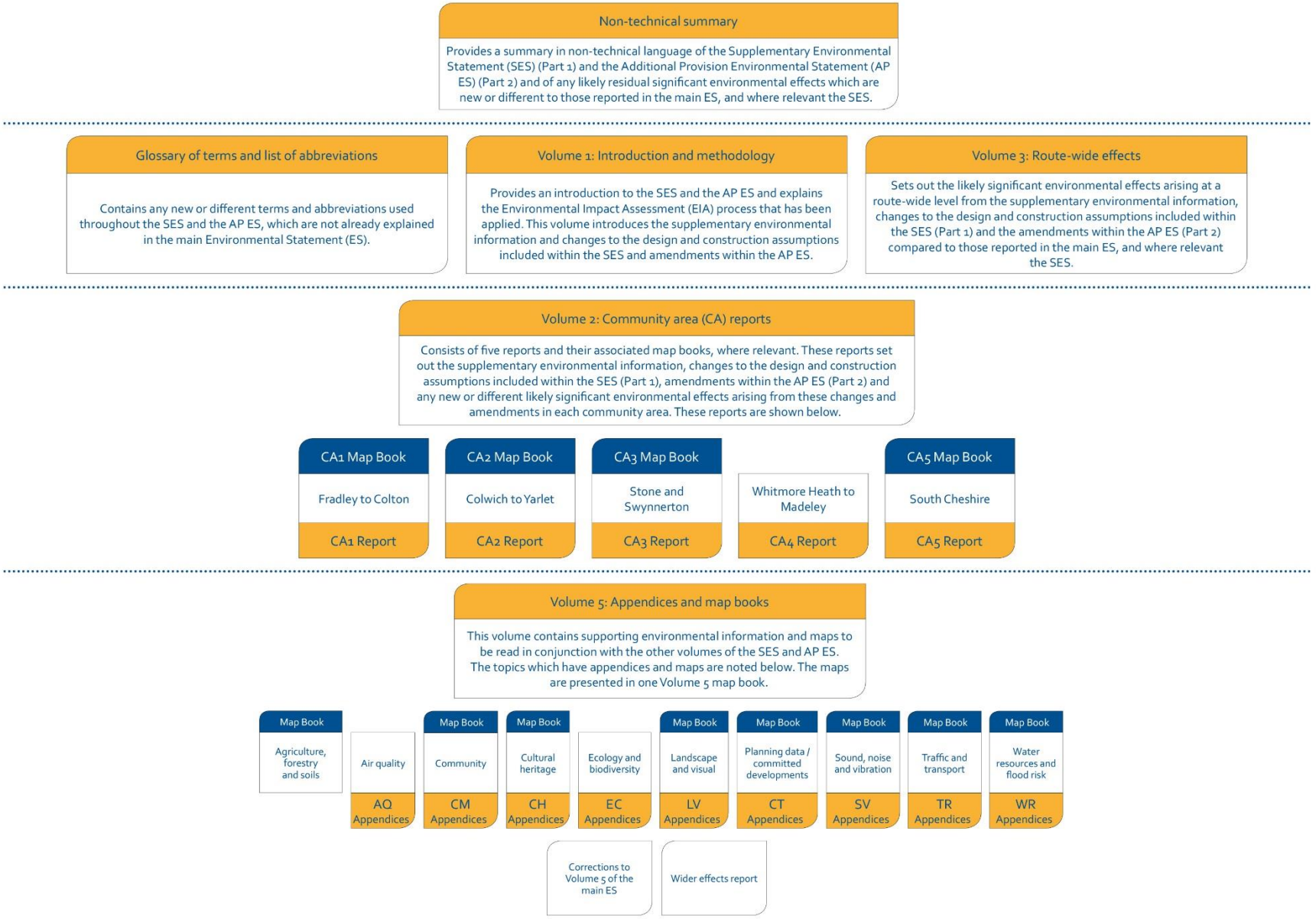
This report is part of the suite of documents that make up the Supplementary Environmental Statement (SES) and Additional Provision Environmental Statement (AP ES) for Phase 2a of the High Speed Two (HS2) rail network between the West Midlands and Crewe. The SES and the AP ES are separate documents, however, they are bound together and presented in a number of volumes as described below. The structure of the SES and AP ES is shown in Figure 1.

- Non-technical summary (NTS). This provides a summary in non-technical language of the SES (Part 1) and the AP ES (Part 2). It presents a summary of any likely residual significant environmental effects (i.e. effects which are likely to remain after mitigation measures are put in place), both beneficial and adverse, which are new or different to those reported in the Environmental Statement (ES) submitted to Parliament in July 2017 in support of the hybrid Bill for Phase 2a of HS2 ('the main ES'), and where relevant the SES;
- Glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and the AP ES which are not already explained in the main ES;
- Volume 1: Introduction to the SES and the AP ES. This introduces the supplementary environmental information, changes to the design and construction assumptions included within the SES and amendments within the AP 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 SES (Part 1), amendments within the AP ES (Part 2) and any new or different likely significant environmental effects arising from these changes and amendments in each community area. These effects are compared to those reported in the main ES, and where relevant, the SES. The maps relevant to each community area are provided in separate Volume 2 map books and should be read in conjunction with the relevant community area report;
- 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 SES (Part 1) and the amendments within the AP ES (Part 2) compared to those reported in the main ES, and where relevant the SES; and
- Volume 5: Appendices and map book. These contain supporting environmental information and associated maps.

A Volume 4: Off-route effects report was produced as part of the main ES. A separate Volume 4 has not been produced as part of the SES and AP ES as off-route effects are very limited in number and so are reported in the most relevant Volume 2 community area report.

Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES and AP ES. These documents are available on the HS2 website. The BID documents and maps present background survey information and other relevant background material.

Figure 1: Structure of the SES and AP ES



Structure of this report

This volume of the SES and AP ES is divided into five community area reports, which are in turn divided into two parts, except CA4 which has no proposed amendments to the design and therefore has no Part 2.

Part 1 for each community area provides supplementary environmental information, where relevant, relating to:

- new baseline information with respect to environmental surveys completed and additional information received since the production of the main ES;
- changes to the design and construction assumptions which do not require changes to the Bill; and
- corrections to the main ES.

Part 2 for CAs 1, 2, 3 and 5 provides environmental assessment information relating to proposed amendments to the design, which have resulted in the need to alter the powers conferred by the Bill.

Parts 1 and 2 include, where relevant:

- a description of the SES changes (Part 1) or the proposed amendments (Part 2) within the community area that have triggered the need for reassessment;
- an assessment of the environmental effects of the SES changes (Part 1) or the proposed amendments (Part 2) for relevant environmental topics considering the:
  - scope, assumptions and limitations of the assessment;
  - environmental baseline;
  - effects arising during construction;
  - effects arising from operation; and
  - mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of the SES changes (Part 1) and the proposed amendments (Part 2).

1 Introduction

1.1.1 The High Speed Rail (West Midlands - Crewe) Bill was submitted to Parliament together with an Environmental Statement (ES) in July 2017 ('the main ES'). If enacted by Parliament, the Bill will provide the powers to construct, operate and maintain Phase 2a of HS2.

1.1.2 Since the deposit of the Bill, a number of updates or changes to environmental information, the design and construction assumptions have occurred, which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES or the AP ES, which form Part 1 and Part 2 of this document respectively.

1.1.3 The SES contains updated environmental baseline information and scheme information relating to changes within the current limits and powers of the Bill, and therefore, which do not require an Additional Provision to the Bill. The SES changes within the South Cheshire area include:

- additional environmental baseline information for agriculture, forestry, and soils; and ecology and biodiversity;
- changes to the construction assumptions which do not require changes to the Bill; and
- corrections to the main ES.

1.1.4 These changes are described in Part 1 and are assessed on a topic by topic basis where relevant using the same approach adopted in the main ES.

1.1.5 The purpose of the SES is to provide an assessment of any new or different likely significant environmental effects arising from the changes described.

1.1.6 The AP ES describes the likely significant effects of amendments to the design of the scheme, which require the use of land outside the original limits of the Bill, additional access rights, or other extensions to the powers conferred by the Bill, making it necessary to submit an Additional Provision to the Bill.

1.1.7 The amendments within the South Cheshire area assessed within the AP ES include:

- additional land permanently required associated with amendment to the Network Rail access road;
- additional land required for works associated with new and existing minor utilities; and
- other changes to Bill powers to enable permanent access for maintenance over certain areas of land.

1.1.8 The AP ES reports the assessment of each amendment separately for all relevant topics. The purpose of the AP ES is to provide an assessment of any new or different likely significant environmental effects arising from the amendments.

1.1.9 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in the main ES, Volume 1, Section 9 and the draft Code of Construction Practice (CoCP)[1] submitted in support of the Bill. Implementation of these measures has been assumed in this SES and AP ES.

1.1.10 The following terms are used to differentiate between changes included in the SES and those included in the AP ES:

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

1.1.11 In order to differentiate between the original proposals assessed as part of the main ES and subsequent changes and amendments, the following terms are used throughout the SES and the AP ES to define the scheme as it relates to the HS2 Phase 2a project:

- 'the original scheme' – the Bill scheme submitted to Parliament in July 2017, which was assessed in the main ES;
- 'the SES scheme' – the original scheme with any changes described in the SES that are within the existing powers of the Bill; and
- 'the AP revised scheme' – the original scheme as amended by the SES changes and AP amendments.

[1] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

Part 1: Supplementary Environmental Statement

2 Summary of changes in the South Cheshire area

2.1 New environmental baseline information

Agriculture, forestry, and soils

2.1.1 Since the production of the main ES, additional information relating to agricultural farm holdings in the South Cheshire area has been obtained. Detail of supplementary agriculture, forestry, and soils information that is relevant to the SES assessment is provided in Section 3.

Ecology and biodiversity

2.1.2 Since the production of the main ES ecological surveys for Phase 1 habitat, hedgerow, wintering birds, bats, great crested newt, badger, otter and water vole have been completed in the South Cheshire area.

2.1.3 Details of additional ecological surveys completed in the South Cheshire area are provided in Background Information and Data (BID) documents[2] (BID-EC-004-000 and Map Series EC-02, EC-04, EC-05, EC-10, EC-11 and EC-12), which accompany the SES and AP ES.

2.1.4 SES and AP ES Volume 5: Appendix EC-002-000 provides a summary of additional ecological survey data, which has resulted in no change to the conclusions of the main ES. SES and AP ES Volume 5: Appendix EC-003-000 identifies additional local/parish level effects that are likely to occur as a consequence of SES changes and AP amendments but which will not be significant.

2.1.5 Detail of supplementary ecological information that is relevant to the SES assessment is provided in Section 3.

2.2 Changes to the construction assumptions not requiring a change to the Bill

2.2.1 Since submission of the Bill, the need to make changes to construction assumptions has been identified. These changes relate to railway systems compounds and are detailed further below. These do not require a change to the Bill.

Railway systems compounds

2.2.2 The Bill provides for land to be acquired for establishment and operation of a number of railway systems compounds from which railway installation works will be managed.

[2] HS2 Ltd (2018), High Speed Two (HS2) Phase 2a (West Midlands - Crewe), Background Information and Data, Available online at: www.gov.uk/hs2

These works include: installation of the hydraulically bound layer[3] and pre-cast slab, rails (including crossovers) and overhead line equipment, installation of auto-transformer stations and changes to the existing rail network.

2.2.3 Since the submission of the Bill further information relating to the construction methodology for the installation of a slab track formation has required a change to the operational characteristics of three railway systems compounds in the South Cheshire area. The change to these compounds relates to: a change to the operational period (duration and start/end date); a change in the number of railway system workers (peak and/or average); and a change in railway systems construction traffic numbers (heavy goods vehicles (HGV) and cars/light goods vehicles (LGV)).

2.2.4 Volume 1 of the SES and AP ES provides further detail on the approach taken to considering the potential for new or different significant effects from those reported in the main ES in relation to the changes to railway systems compounds. The changes to the existing compounds in this area do not require a change to the Bill and are not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

2.2.5 While the changes to the construction methodology for the installation of a slab track formation will increase the number of railway systems HGV movements, these will be generally later in the construction programme than civil engineering HGV movements. Any increase in traffic due to these changes will generally be relatively small in comparison to the peak level of traffic generated by the civil engineering works. As there will be no increase or only a small increase in peak traffic levels, it is not expected that there will be any new or different significant traffic effects on the road network to those reported in the main ES.

2.2.6 Table 1 provides details on the changes to the operational characteristics of the existing railway systems compounds in this area.

[3] Aggregate mixture incorporating cement, lime-based or other binders, which harden in-situ by a chemical/hydraulic reaction.

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

Details of changes to construction assumptions	Description of the original scheme	Description of the SES scheme	Change to significant effects
Change to the operational duration[4], railway systems worker numbers, and railway systems HGV trips for the Checkley Lane West satellite compound	This railway systems compound would be operational for one year and three months, commencing during 2025. This railway systems compound would support an average of 15 railway systems workers per day (30 workers at peak times). This railway systems compound would generate 19-34 railway systems HGV trips per day during busy periods[5] and within the peak month of activity. (Map CT-05-235, F7 in the main ES, Volume 2, CA5 Map Book)	Railway installation works managed from this compound will commence earlier in the construction programme and will be undertaken over a longer period of time than stated in the main ES. This compound will be operational for a total of one year and six months, commencing during 2024. There will be a decrease in the number of railway systems workers supported by this compound with an average of 10 railway systems workers per day (20 workers at peak times). There will be an increase in the number of railway systems HGV trips generated by this compound with 44-48 trips per day during the busy periods and within the peak month of activity. This compound will support the implementation of track works.	No change. The increase in duration of the compound to support the extended duration of railway systems works is relatively small in comparison to the overall duration of the compound. The decrease in railway systems worker numbers at the compound is small in comparison to the overall construction phase employment. The consequential reduction in traffic associated with the decreased worker numbers is also small in relation to the peak traffic volumes in the area which will occur during the construction phase. The increase in railways systems HGV movements will increase the total daily movements from the compound. This will not, however, materially change the overall impact of the combination of these HGV movements and those associated with other compounds in the area compared to the traffic levels assessed in the original scheme. Therefore, the level of significance reported in the main ES with regard to compound durations, worker numbers and traffic will not change.

[4] The Volume 2 scheme description of the construction phase represents the duration of works in a different way to the Volume 5 Transport Assessment. The Volume 2 scheme description is based on quarters (each representing three months), e.g. December (Quarter 4) to February (Quarter 1) is rounded to six months, whereas the Volume 5 Transport Assessment counts the absolute duration e.g. three months.
[5] The busy period is the period during which HGV traffic serving that compound will be greater than 50% of the HGV traffic in the peak month. The average daily combined two-way vehicle trips for the busy period is the lower end of the range and for the peak month is the upper end of the range.

Details of changes to construction assumptions	Description of the original scheme	Description of the SES scheme	Change to significant effects
Change to the railway systems worker numbers and railway systems HGV trips for the Checkley Lane East main compound	This compound would be operational for a total of six 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 two years[6]. The compound would support an average of 20 civil engineering workers per day (30 workers at peak times) and an average of 35 railway systems workers per day (50 workers at peak times). The compound would generate 16-34 civil engineering HGV trips per day and 16-34 railway systems HGV trips during busy periods and within the peak month of activity. (Map CT-05-235, F5 in the main ES, Volume 2, CA5 Map Book)	There are no changes to the operational characteristics for this compound related to civil engineering works. There will be a decrease in the number of railway systems workers supported by this compound with an average of 25 railway systems workers per day (30 workers at peak times). There will be an increase in the number of railway systems HGV trips generated by this compound with 44-48 trips per day during the busy periods and within the peak month of activity. This compound will support the implementation of track works.	No change. The decrease in railway systems worker numbers at the compound is small in comparison to the overall construction phase employment. The consequential reduction in traffic associated with the decreased worker numbers is also small in relation to the peak traffic volumes in the area which will occur during the construction phase. The increase in railways systems HGV movements will increase the total daily movements from the compound. This will not, however, materially change the overall impact of the combination of these HGV movements and those associated with other compounds in the area compared to the traffic levels assessed in the original scheme. Therefore, the level of significance reported in the main ES with regard to worker numbers and traffic will not change.

[6] The duration of this railway systems compound has been corrected from that which was reported in the main ES. The correction is shown in Table 2

Details of changes to construction assumptions	Description of the original scheme	Description of the SES scheme	Change to significant effects
Change to the operational duration, railway systems worker numbers, and railway systems HGV trips for the Heath Farm satellite compound	This railway systems compound would be operational for nine months, commencing during 2025. This railway systems compound would support an average of 15 railway systems workers per day (15 workers at peak times). This railway systems compound would generate 28-32 railway systems HGV trips per day during busy periods and within the peak month of activity. (Map CT-05-238, D6 in the main ES, Volume 2, CA5 Map Book)	Railway installation works managed from this compound will commence earlier in the construction programme and will be undertaken over a longer period of time than stated in the main ES. This compound will be operational for a total of one year, commencing during 2025. There will be an increase in the number of railway systems peak workers supported by this compound (30 per day). There will be no change to the average number of railway systems workers. There will be an increase in the number of railway systems HGV trips generated by this compound with 70-80 trips per day during the busy periods and within the peak month of activity. This compound will support the implementation of track works.	No change. The increase in duration of the compound to support the extended duration of railway systems works is relatively small in comparison to the overall duration of the compound. The increase in railway systems worker numbers at the compound is small in comparison to the overall construction phase employment. The consequential increase in traffic associated with the increased worker numbers is also small in relation to the peak traffic volumes in the area which will occur during the construction phase. The increase in railways systems HGV movements will increase the total daily movements from the compound. This will not, however, materially change the overall impact of the combination of these HGV movements and those associated with other compounds in the area compared to the traffic levels assessed in the original scheme. Therefore, the level of significance reported in the main ES with regard to compound durations, worker numbers and traffic will not change

2.3 Corrections to the main ES

2.3.1 Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. Table 2 provides a list of those instances where there has been a need to correct the Volume 2 community area report for the South Cheshire 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. Table 2 also clarifies elements of the scheme description reported in the main ES. The table gives the location of the text that is subject to the correction in the main ES, the reason for the correction, replicates the text from the main ES, where applicable provides revised text, and identifies whether the correction changes a significant effect reported in the main ES.

Table 2: Summary of corrections to the main ES in the South Cheshire area

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Overview of the area and description of the Proposed Scheme Paragraphs 2.3.38, 2.3.96, 2.3.135 and Figure 8, Volume 2, CA5 of the main ES	The operational durations of the railways systems work managed from the Checkley Lane East main compound, Crewe South cutting satellite compound and Crewe South portal satellite compound were incorrectly described in the scheme description. Checkley Lane East main compound and Crewe South portal satellite compound were incorrectly illustrated in Figure 8.	Paragraph 2.3.38 - first bullet (Checkley Lane East main compound): • … Civil engineering works will 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 nine months; Paragraph 2.3.96 – first bullet (Crewe South cutting satellite compound): • … After the civil engineering works are complete, this compound will continue to be used to manage railway systems works for one year; Paragraph 2.3.135 - first bullet (Crewe South portal satellite compound): • …Civil engineering works will be managed from this compound for a period of four years and three months, and the compound will then continue to be used for railway installation works for the remaining one year and nine months; Figure 8 shows that railways systems work managed from the Checkley Lane East satellite compound would be operational for one year and nine months, commencing 2025 Figure 8 shows that railways systems work managed from the Crewe South cutting satellite compound would be operational for one year and six months, commencing 2024.	Paragraph 2.3.38 - first bullet (Checkley Lane East main compound): • … Civil engineering works will be managed from this compound for a period of four years and three months, followed by railway installation works for a period of *two years*; Paragraph 2.3.96 - first bullet (Crewe South cutting satellite compound): • … After the civil engineering works are complete, this compound will continue to be used to manage railway systems works for one year *and three months*; Paragraph 2.3.135 - first bullet (Crewe South portal satellite compound): • … Civil engineering works will be managed from this compound for a period of four years and three months, and the compound will then continue to be used for railway installation works for the remaining *two years and six* months; Figure 8 should show that railways systems work managed from the Checkley Lane East satellite compound would be operational for two years, commencing 2024. Figure 8 should show that railways systems work managed from the Crewe South cutting satellite compound would be operational for one year and three months, commencing 2024.	No change. The assessment was based on the correct duration.
Traffic and transport Paragraph 14.4.6 (Table 34),	As above.	Paragraph 14.4.6 – Table 34, first entry (Checkley Lane East main compound): **Estimated duration of use (years)** – 1 year and 9 months	Paragraph 14.4.6 – Table 34, first entry (Checkley Lane East main compound): **Estimated duration of use (years)** – *2 years*	As above.

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Volume 2, CA5 of the main ES		Paragraph 14.4.6 – Table 34, ninth entry (Crewe South cutting satellite compound): **Estimated duration of use (years) –** 1 year and 6 months Paragraph 14.4.6 – Table 34, 15th entry (Crewe South portal satellite compound): **Estimated duration of use (years) –** 2 years and 9 months	Paragraph 14.4.6 – Table 34, ninth entry (Crewe South cutting satellite compound): **Estimated duration of use (years) –** 1 year and *3* months Paragraph 14.4.6 – Table 34, 15th entry (Crewe South portal satellite compound): **Estimated duration of use (years) –** 2 years and *6* months	
Overview of the area and description of the Proposed Scheme Paragraphs 2.3.65, Volume 2, CA5 of the main ES	The number of railway installation workers supported by the Den Lane West satellite compound was reported incorrectly in the scheme description as an average of 20 workers per day. This should have been reported as an average of 25 workers per day.	Paragraph 2.3.65 - second bullet: • support 20 railway systems installation workers per day (105 workers at peak times) throughout the works period;	Paragraph 2.3.65 - second bullet: • support *25* railway systems installation workers per day (105 workers at peak times) throughout the works period;	No change. The assessment was based on the correct number of workers.
Agriculture, forestry and soils Paragraph 4.4.32 (Table 15), 4.4.33, 4.4.36 and 4.4.44, Volume 2, CA5 of the main ES	Demolition of an outbuilding at Basford Hall (CA5/21) was not reported in the agriculture, forestry and soils assessment.	Paragraph 4.4.32 –Table 15, 21st entry: **Holding reference/name/sensitivity** – CA5/21, Basford Hall, Low sensitivity **Land required from holding** – oha (0%), Negligible **Severance** – Negligible **Infrastructure** – Negligible **Scale of effect** – Negligible Paragraph 4.4.33: Overall, the construction of the Proposed Scheme will affect 21 holdings in the South Cheshire area, with 13 holdings experiencing moderate, major/moderate or	Paragraph 4.4.32 –Table 15, 21st entry: **Holding reference/name/sensitivity –** CA5/21, Basford Hall, Low sensitivity **Land required from holding** – oha (0%), Negligible **Severanc**e – Negligible **Infrastructure** – *High* **Scale of effect** – *Moderate adverse due to demolition* Paragraph 4.4.33: Overall, the construction of the Proposed Scheme will affect 21 holdings in the South Cheshire area, with *14* holdings experiencing moderate, major/moderate or	Yes. A high infrastructure impact due to the demolition of a building at Basford Hall will result in a moderate adverse permanent effect on the holding, which is significant. This correction will not require a change to mitigation reported in the main ES.

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
		major adverse permanent effects, which will be significant. Paragraph 4.4.36: Other moderate adverse effects arise from a medium land requirement and severance impact on a medium sensitivity farm at The Moss (CA5/16); and low land requirements, severance or infrastructure impacts on high sensitivity farms at Grange Farm (CA5/1) and Ash Tree Farm (CA5/3). Paragraph 4.4.44: Twenty-one holdings will be affected permanently, of which 13 will experience major, major/moderate or moderate permanent effects following construction, which is significant. Of these, 12 will be likely to remain as agricultural or rural businesses and the use of compensation payments to purchase replacement land or farm buildings could reduce the effects….	major adverse permanent effects, which will be significant. Paragraph 4.4.36: Other moderate adverse effects arise from *a high infrastructure impact on a low sensitivity farm Basford Hall (CA5/21),* a medium land requirement and severance impact on a medium sensitivity farm at The Moss (CA5/16); and low land requirements, severance or infrastructure impacts on high sensitivity farms at Grange Farm (CA5/1) and Ash Tree Farm (CA5/3). Paragraph 4.4.44: Twenty-one holdings will be affected permanently, of which *14* will experience major, major/moderate or moderate permanent effects following construction, which is significant. Of these, *13* will be likely to remain as agricultural or rural businesses and the use of compensation payments to purchase replacement land or farm buildings could reduce the effects….	
Community Paragraph 6.4.8 and 6.4.24, Volume 2, CA5 of the main ES	The community assessment reported significant noise effects during construction for approximately 12 properties on Den Lane north of Wrinehill. The construction of the original scheme will result in noise effects on 11 properties.	Paragraph 6.4.8: …In total, 12 residential properties will experience significant noise effects (with five during the day as a result of construction traffic and seven from general construction works). Residents at all 12 of the properties will experience significant adverse visual effects due to views of construction works and the Blakenhall cutting satellite compound. The noise and visual effects will result in an in-combination effect on the amenity of residents at the 12 properties for up to four years and five months…. Paragraph 6.4.24 – second bullet: twelve properties on Den Lane north of Wrinehill due to the combination of noise and visual effects;	Paragraph 6.4.8: …In total, *11* residential properties will experience significant noise effects (with five during the day as a result of construction traffic and *six* from general construction works). Residents at all *11* of the properties will experience significant adverse visual effects due to views of construction works and the Blakenhall cutting satellite compound. The noise and visual effects will result in an in-combination effect on the amenity of residents at the *11* properties for up to four years and five months…. Paragraph 6.4.24 - second bullet: *eleven* properties on Den Lane north of Wrinehill due to the combination of noise and visual effects;	Yes. This correction will result in a different significant community effect due to a reduction in the number of residential properties affected by the construction of the original scheme from 12 to 11, but will not change the level of significance of the effect reported in the main ES.

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Ecology and biodiversity Paragraph 8.3.12, 8.3.13, 8.4.16, 8.4.39, and 8.4.41, Volume 2, CA5 of the main ES	Areas of grassland habitat relevant to the assessment were incorrectly reported in the ecology assessment	Paragraph 8.3.12: An area of marshy grassland, covering an area of approximately 2ha occurs to the south-east of Heath Farm within the land required for the Proposed Scheme…. Paragraph 8.3.13: The majority of the remaining grassland within the land required for the Proposed Scheme is improved grassland, with smaller scattered areas of species-poor semi-improved grassland. These grasslands are of up to local/parish value. Paragraph 8.4.16: …will result in a permanent loss of approximately 2ha of marshy grassland to the south-east of Heath Farm…. Paragraph 8.4.39: The Proposed Scheme will result in the loss of approximately 2ha of marshy grassland to the south-east of Heath Farm, which is significant at the district/borough level. Paragraph 8.4.41: …In particular this will compensate for losses of 2ha of marshy grassland to the south-east of Heath Farm.	Paragraph 8.3.12: An area of marshy grassland, covering an area of approximately *1.3ha* occurs to the south-east of Heath Farm within the land required for the Proposed Scheme…. Paragraph 8.3.13: The majority of the remaining grassland within the land required for the Proposed Scheme is improved grassland *and amenity grassland of negligible value. Areas of poor semi-improved grassland, neutral semi-improved grassland and acid grassland* are of up to local/parish value. Paragraph 8.4.16: …will result in a permanent loss of approximately *1.3ha* of marshy grassland to the south-east of Heath Farm…. Paragraph 8.4.39: The Proposed Scheme will result in the loss of approximately *1.3ha* of marshy grassland to the south-east of Heath Farm, which is significant at the district/borough level. Paragraph 8.4.41: …In particular this will compensate for losses of *1.3ha* of marshy grassland to the south-east of Heath Farm.	No change. The corrected areas will not change the level of significance of the effect reported in the main ES.
Ecology and biodiversity Paragraph 8.3.14, 8.3.15, 8.4.17, 8.4.43, and 8.4.56, Volume 2, CA5 of the main ES	The length of hedgerow within the land required for the original scheme was incorrectly reported in the ecology assessment.	Paragraph 8.3.14: There are approximately 13.1km of hedgerows within the land required…. Hedgerows within the land required for the Proposed Scheme comprise approximately: • 2.7km of native species-poor; and • 10.4km of native species-rich….	Paragraph 8.3.14: There are approximately *21.9km* of hedgerows within the land required…. Hedgerows within the land required for the Proposed Scheme comprise approximately: • *8.8km* of native species-poor; and • *13.1km* of native species-rich….	Yes. This correction will result in a different residual adverse effect that is significant at the district/borough level due to an increase in the amount of hedgerow

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
		Paragraph 8.3.15: Of the 13.1km of hedgerow a total of 8.4km has not been subject to survey…. Paragraph 8.4.17: On a precautionary basis, it is assumed that all hedgerows (approximately 13.1km) within the land required to construct the Proposed Scheme in the South Cheshire area will be permanently lost and the remaining hedgerow network fragmented…. Paragraph 8.4.43: …Approximately 17km of new hedgerows will be planted and the species composition will be characteristic of the surrounding area. This represents a net gain in hedgerow of approximately 3.9km after mitigation, which when mature represents a residual beneficial effect that is significant at the district/borough level Paragraph 8.4.56: There will be a net gain in hedgerow of approximately 3.9km after mitigation, which when mature represents a residual beneficial effect that is significant at the district/borough level.	Paragraph 8.3.15: Of the *21.9km* of hedgerow a total of 8.4km has not been subject to survey…. Paragraph 8.4.17: On a precautionary basis, it is assumed that all hedgerows (approximately *21.9km*) within the land required to construct the Proposed Scheme in the South Cheshire area will be permanently lost and the remaining hedgerow network fragmented…. Paragraph 8.4.43: …Approximately 17km of new hedgerows will be planted and the species composition will be characteristic of the surrounding area. This represents a net *loss* in hedgerow of approximately *4.9km* after mitigation, which *is a residual adverse* effect that is significant at the district/borough level…. Paragraph 8.4.56: On a precautionary basis, it is assumed that there is a net loss in hedgerow of approximately 4.9km, which will result in a permanent adverse residual effect that is significant at the district/borough level. However, restoration of land required only for the construction of the Proposed Scheme to its current use, offers potential for reinstatement of a further 10.1km of existing hedgerow. The provision of the majority of this reinstated hedgerow would reduce the residual effect to a level that is not significant.	habitat lost as a result of construction of the original scheme.

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Ecology and biodiversity Paragraph 8.4.14, Volume 2, CA5 of the main ES	Areas of woodland habitat loss were incorrectly reported in the ecology assessment, but were assessed correctly.	Paragraph 8.4.14: Construction of the Proposed Scheme…will result in the permanent loss of approximately 6.4ha of woodland at Checkley Lane/Randilow Farm, Lower Den Farm, Coppice Bank, Wychwood Park, Chorlton Lane, Burrow Coppice and Basford Hall.	Paragraph 8.4.14: Construction of the Proposed Scheme…will result in the permanent loss of approximately *9.5ha* of woodland at Checkley Lane/Randilow Farm, Lower Den Farm, Coppice Bank, Wychwood Park, Chorlton Lane, Burrow Coppice and Basford Hall.	No change. The assessment was based on the correct areas and therefore this correction will not change the level of significance of the effect reported in the ES.
Sound, noise and vibration Paragraph 13.4.12, Volume 2, CA5 of the main ES	Three properties (Basford House, Oakleigh Cottage and Casey Lane Stables) were not included in the list of residential properties forecast to experience noise above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy. The total number of properties forecast to experience noise above the eligibility criteria is nine.	Paragraph 13.4.12: …the following six residential properties are forecast to experience noise above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy….	Paragraph 13.4.12: …the following *nine* residential properties are forecast to experience noise above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy…. Insert new bullets (fifth, sixth and seventh bullet): • Basford House, Newcastle Road (assessment location ref: 15111); • Oakleigh Cottage, Newcastle Road (assessment location ref: 15112); and • Casey Lane Stables, Newcastle Road (assessment location ref: 15114).	Yes. Three additional residential buildings are identified as being subject to a significant adverse effect, and are consequently estimated to be likely to qualify for noise insulation. Further information regarding the construction sound levels are provided in SES and AP ES Volume 5: Appendix SV-002-005.

3 Assessment of changes in the South Cheshire area

3.1 Introduction

3.1.1 Section 3 reports the assessment for agriculture, forestry and soils and ecology and biodiversity as a result of the SES changes.

3.2 Agriculture, forestry and soils

Introduction

3.2.1 The environmental baseline relevant to the agriculture, forestry, and soils assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to the original scheme. Consideration is given to new baseline information received since the production of the main ES.

Scope, assumptions and limitations

3.2.2 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1, the Scope and Methodology Report (SMR)[7] and the SMR Addendum[8] of the main ES.

SES changes of relevance to this assessment

3.2.3 New baseline information relating to two agricultural farm holdings in the South Cheshire area are relevant to this assessment.

Environmental baseline

Existing baseline

3.2.4 The baseline agriculture, forestry and soils information for the South Cheshire area is as described in Volume 2, CA5, Section 4 of the main ES. New baseline information relating to two farm holdings has been obtained since the production of the main ES:

- land south of the A500 Shavington Bypass (CA5/24) is an arable field of 4ha and is of medium sensitivity to change, as detailed in the main ES. New baseline information identifies this holding as part of Forge Mill Farm, which is a beef and sheep unit of 105ha and is of medium sensitivity to change. See Map AG-01-117 in the SES and AP ES Volume 5 Map Book; and
- Shavington Lodge (CA5/25) is a beef unit of 14ha and is of medium sensitivity to change. In the main ES, the land associated with this holding was described as part of the land south of the A500 Shavington Bypass (CA5/24). New

[7] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, Environmental Impact Assessment Scope and Methodology Report (Appendix CT-001-001). Available online at https://www.gov.uk/government/publications/scope-and-methodology-report-for-hs2-phase-2a

[8] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe), Environmental Statement*, Volume 5: Technical appendices, Environmental Impact Assessment Scope and Methodology Report Addendum (Appendix CT-001-002). Available online at https://www.gov.uk/government/publications/scope-and-methodology-report-for-hs2-phase-2a

baseline information about this holding has been obtained following the production of the main ES and it is now being considered as a separate holding. See map AG-01-117 in the SES and AP ES, Volume 5 Map Book.

Future baseline

Construction (2020) and operation (2027)

3.2.5 SES and AP ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2020 and 2027 respectively, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

3.2.6 None of the identified developments affect the assessment of the SES scheme's likely construction and operation impacts on agriculture, forestry and soils.

Effects arising during construction

Avoidance and mitigation measures

3.2.7 No further measures are applicable to this assessment, above those stated in the draft Code of Construction Practice (CoCP)[9].

Assessment of impacts and effects

3.2.8 The main ES reported that the original scheme required 0.6ha of land from land south of the A500 Shavington Bypass (CA5/24) during construction, which was reported as a medium impact, and that there would be a high severance impact for the arable field identified, resulting in a major/moderate adverse construction effect, which is significant. A reassessment was undertaken as a result of the new baseline information, which identified that the 4ha field, previously described as land south of the A500 Shavington Bypass, forms part of Forge Mill Farm, which is 105ha in total area. Following reassessment, the original scheme will require 0.6ha (<1%) of land from Forge Mill Farm during construction, which will have a negligible impact on the holding, and there will be a negligible temporary severance impact on the holding as it is possible to access the land from elsewhere on the farm. Therefore, there will be an overall negligible construction effect on the holding, which is not significant. The significant effect on this holding reported in the main ES is, therefore, removed.

3.2.9 The original scheme will require less than 0.1ha (<1%) of land from Shavington Lodge (CA5/25) during construction. Due to the proportion of the total land required from the holding, the magnitude of impact and associated effect on the holding will be negligible, which is not significant. The holding will experience no other construction impacts.

Other mitigation measures

3.2.10 No other mitigation measures are required, above those reported in the main ES.

[9] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

Summary of likely residual significant effects

3.2.11 The reassessment of Forge Mill Farm (CA5/24), as a result of new baseline information, means that the temporary residual significant effect during construction reported in the main ES is removed.

Cumulative effects

3.2.12 There are no new or different likely significant cumulative effects for agriculture, forestry and soils as a result of the new baseline information acting in combination with any other SES changes.

Effects arising from operation

3.2.13 There are no new or different significant operational effects for agriculture, forestry and soils as a result of the new baseline information, in comparison with the main ES.

Volume 5 amendments

3.2.14 Table 3 sets out the changes to Table 7 in the main ES Volume 5: Appendix AG-001-005, as a result of the new baseline information and the correction to the main ES (reported in Table 2).

Table 3: Amendments to Table 7, Volume 5: Appendix AG-001-005

Holding reference, name and description	Construction effects	Residual effects post restoration of land required temporarily
CA5/21* Basford Hall 2ha grassland in equestrian use	Land required: High 0.7ha; 35% of holding required for construction. Agricultural land required from a single block north of Weston Lane for construction. Severance: Negligible Disruptive effects: High Outbuilding demolished during construction.	Land required: Negligible 0.0ha; 0% of holding required. Severance: Negligible Infrastructure: Negligible
CA5/24 Forge Mill Farm 105ha beef and sheep enterprise	Land required: Negligible 0.6ha; <1% of holding required for construction. Agricultural land required from a single block (inclusive of small severed area) between Weston Lane and the A500 Shavington Bypass for construction works. Severance: Negligible Disruptive effects: Negligible	Land required: Negligible 0.0ha; 0% of holding required. Severance: Negligible Infrastructure: Negligible
CA5/25 Shavington Lodge 14ha beef unit	Land required: Negligible <0.1ha; <1% of holding required for construction. Agricultural land required from a small corner of a single field between Weston Lane and the A500 Shavington Bypass for construction works. Severance: Negligible Disruptive effects: Negligible	Land required: Negligible 0.0ha; 0% of holding required. Severance: Negligible Infrastructure: Negligible

* No Farm Impact Assessment interview conducted; data estimated.

3.3 Ecology and biodiversity

Introduction

3.3.1 The environmental baseline relevant to the ecology and biodiversity assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to the original scheme. Consideration is given to the potential for impacts on habitats, species and sites designated on the basis of their importance for nature conservation.

Scope, assumptions and limitations

3.3.2 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1, the SMR and the SMR Addendum of the main ES.

3.3.3 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported within the SMR and SMR Addendum. This constitutes a 'reasonable worst-case' basis for the subsequent assessment.

SES changes of relevance to this assessment

3.3.4 New baseline information on habitats and great crested newt resulting from additional ecological surveys in the South Cheshire area is relevant to the assessment.

Environmental baseline

Existing baseline

3.3.5 The baseline ecology and biodiversity information for the South Cheshire area is as described in Volume 2, CA5, Section 8 of the main ES. A summary of the baseline information relevant to the assessment of the SES change is provided below.

3.3.6 Details of surveys completed since the production of the main ES are provided in the BID documents (BID-EC-004-000 and Map Series EC-02, EC-04, EC-05, EC-10, EC-11 and EC-12), which accompany the SES and AP ES.

Habitats

3.3.7 Additional surveys have identified an area of semi-improved neutral grassland, covering approximately 1.3ha, not previously reported in the main ES. The grassland is located on the east side of the West Coast Main Line (WCML) to the south of Casey Lane, partially within the land required for the original scheme. The grassland may qualify as lowland meadow, a habitat of principal importance and a conservation priority of the Cheshire Biodiversity Action Plan (local BAP)[10]. The grassland habitat is of up to district/borough value.

Species

3.3.8 The outcomes of additional ecological surveys undertaken for great crested newt have formed the basis of a review of the composition of metapopulations[11] across the South Cheshire area. This review has included a consideration of the quality and

[10] Cheshire Biodiversity Partnership. *Cheshire Biodiversity Action Plan* [online].Available at: http://www.cheshirewildlifetrust.org.uk/biodiversity
[11] A metapopulation is a group of spatially separated populations that interact.

connectivity of terrestrial habitat between ponds in order to determine the location of distinct clusters of ponds that are likely to support metapopulations of great crested newt. This review has resulted in changes to the composition of all metapopulations reported within the main ES, and in the addition of new metapopulations. Each metapopulation includes one or more ponds where the presence of great crested newt has been confirmed by survey, in addition to any ponds that are considered likely to support this species (on the basis of their habitat quality and quantity) and that are connected to the confirmed population (or populations) by suitable terrestrial habitat.

3.3.9 Many ponds described within the main ES as supporting assumed populations of great crested newt were not allocated to metapopulations due to their limited proximity to confirmed populations of great crested newt. For some of these ponds the additional surveys have confirmed the presence of great crested newt either within these ponds, or within nearby ponds connected by suitable terrestrial habitat, which has resulted in them being added to a new or revised metapopulation. Overall this means that the number of ponds associated with metapopulations, either new or revised, has increased and the number of individual assumed populations outside of metapopulations has decreased. The details of the revised composition of each metapopulation are provided within BID-EC-004-000, which accompanies the SES and AP ES. The changes to metapopulations from those described within the main ES are summarised below.

3.3.10 The main ES reported a great crested newt metapopulation in 19 ponds to the south-west of Checkley, and north and south of Checkley Lane (assumed metapopulation (AMP) 5.1). Field surveys recorded great crested newt presence within six ponds, with the largest population being of medium size class. On a precautionary basis, the presence of medium size populations of great crested newt was assumed in 13 further ponds. The metapopulation is valued at county level in the main ES.

3.3.11 Additional surveys have confirmed:

- absence of great crested newt within four ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds no longer form part of the metapopulation; and
- presence of great crested newt within two ponds that were not previously considered to form part this metapopulation. These ponds are now included in this metapopulation.

3.3.12 In addition to the confirmed great crested newt population within this metapopulation reported the main ES (six ponds) and the confirmed populations within this metapopulation identified from additional surveys (two ponds), there are 19 further ponds with known or assumed populations that are considered to form part of AMP 5.1. The revised metapopulation, therefore, includes 27 ponds with confirmed or assumed populations of great crested newt, with the largest population being of medium class size. This metapopulation occurs partially within the land required for the original scheme. The increase in the number of ponds with confirmed or assumed populations of great crested newt does not change the value of AMP 5.1, as reported in the main ES.

3.3.13 The main ES reported a great crested newt metapopulation in 23 ponds to the south of Chorlton and north of Blakenhall (AMP 5.2). Field surveys recorded a great crested newt population within one pond, comprising a population of small size class. On a precautionary basis, the presence of medium size populations of great crested newt was assumed in 22 further ponds. This metapopulation is valued at district/borough level in the main ES.

3.3.14 Additional surveys have confirmed:

- absence of great crested newt within seven ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds no longer form part of the metapopulation;
- presence of great crested newt within three ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds still form part of the metapopulation; and
- presence of great crested newt within four ponds that were not previously considered to form part of this metapopulation. These ponds are now included in this metapopulation.

3.3.15 In addition to the confirmed great crested newt population within this metapopulation reported in the main ES (one pond) and the confirmed populations within this metapopulation identified from additional surveys (seven ponds), there are 20 further ponds with known or assumed populations that are considered to form part of AMP 5.2. The revised metapopulation, therefore, includes 28 ponds with confirmed or assumed populations of great crested newt, with the largest population being of medium class size. This metapopulation occurs partially within the land required for the original scheme. The increase in the number of ponds with confirmed or assumed populations of great crested newt increases the value of AMP 5.2 to up to county level.

3.3.16 The main ES reported a great crested newt metapopulation in 21 ponds to the west and south-west of Hough to Chorlton (AMP 5.3). Field surveys recorded great crested newt presence within two ponds, with the largest population being of medium size class. On a precautionary basis, the presence of medium size populations of great crested newt was assumed in 19 further ponds. This metapopulation is valued at county level within the main ES.

3.3.17 Additional surveys have confirmed:

- absence of great crested newt within 11 ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds no longer form part of the metapopulation;
- presence of great crested newt within three ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds still form part of the metapopulation; and
- presence of great crested newt within three ponds that were not previously considered to form part of this metapopulation. These ponds are now included in this metapopulation.

3.3.18 In addition to the confirmed great crested newt populations within this metapopulation reported in the main ES (two ponds) and the confirmed populations within this metapopulation identified from additional surveys (six ponds), there are 14 further ponds with assumed populations that are considered to form part of AMP 5.3. The revised metapopulation, therefore, includes 22 ponds with confirmed or assumed populations of great crested newt, with the largest population being of medium class size. This metapopulation occurs partially within the land required for the original scheme. The increase in the number of ponds with confirmed or assumed populations of great crested newt does not change the value of AMP 5.3.

3.3.19 The main ES reported a great crested newt metapopulation in 61 ponds to the south of Crewe and north of the A500 Shavington Bypass (AMP 5.4). Field surveys recorded great crested newt presence within 15 ponds, with the largest population being of medium size class. On a precautionary basis, the presence of medium size populations of great crested newt was assumed in 46 further ponds. This metapopulation is valued at county level within the main ES.

3.3.20 Additional surveys have confirmed:

- absence of great crested newt within 13 ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds no longer form part of the metapopulation;
- presence of great crested newt within nine ponds where great crested newt populations were previously assumed to be present and form part of this metapopulation. These ponds still form part of the metapopulation; and
- presence of great crested newt within three ponds that were not previously considered to form part of this metapopulation. These ponds are now included in this metapopulation.

3.3.21 In addition to the confirmed great crested newt population within this metapopulation reported in the main ES (15 ponds) and the confirmed populations within this metapopulation identified from additional surveys (12 ponds), there are 28 further ponds with assumed populations that are considered to form part of AMP 5.4. The revised metapopulation therefore includes 55 ponds with confirmed or assumed populations of great crested newt, with the largest population being of medium class size. This metapopulation occurs partially within the land required for the original

scheme. The reduction in the number of ponds with confirmed or assumed populations of great crested newt does not change the value of AMP 5.4, as reported in the main ES.

3.3.22 In addition to the known and assumed great crested newt populations that are considered to form metapopulations, there are two additional ponds that occur within the land required for the original scheme in this area where the presence or absence of great crested newt has not been confirmed. On a precautionary basis, each of these ponds is assumed to support a medium size breeding population of great crested newt of up to county value.

Future baseline

Construction (2020) and operation (2027)

3.3.23 SES and AP ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2020 and 2027, respectively, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

3.3.24 None of the identified developments affect the assessment of the SES scheme's likely construction and operation impacts on ecology and biodiversity.

Effects arising during construction

Avoidance and mitigation measures

3.3.25 No further measures are applicable to this assessment, above those stated in the draft CoCP.

Assessment of impacts and effects

Habitats

3.3.26 Construction works associated with the realignment of Newcastle Road and Basford cutting will result in the permanent loss of 0.3ha (23%) of semi-improved neutral grassland on the east side of the WCML to the south of Casey Lane. The permanent loss of semi-improved neutral grassland will result in a new permanent adverse effect that is significant at up to district/borough level.

Species

3.3.27 The main ES reported the loss of 12 ponds associated with the great crested newt metapopulation south-west of Checkley and north and south of Checkley (AMP 5.1), comprising six ponds with a confirmed great crested newt population and six ponds assumed to support great crested newt. The main ES also reported the loss of great crested newt terrestrial habitat associated with construction. This would result in a permanent adverse effect on the great crested newt metapopulation that is significant at a county level. Following additional surveys being undertaken, the number of ponds associated with this metapopulation that will be lost as a result of the construction of the original scheme will reduce to eight. The reduction in the number of great crested newt populations to be impacted by the original scheme will result in a different significant effect to that reported in the main ES, however, this will not change the level of significance of the effect reported in the main ES.

3.3.28 The main ES reported the loss of 15 ponds associated with the great crested newt metapopulation south of Chorlton and north of Blakenhall (AMP 5.2), comprising one pond with a confirmed great crested newt population and 14 ponds assumed to support great crested newt. The main ES also reported the loss of great crested newt terrestrial habitat associated with construction. This would result in a permanent adverse effect on the great crested newt metapopulation that is significant at a county level. Following additional surveys being undertaken, the number of ponds associated with this metapopulation that will be lost as a result of the construction of the original scheme will reduce to 14. The reduction in the number of great crested newt populations to be impacted by the original scheme will result in a different significant effect to that reported in the main ES, however, this will not change the level of significance of the effect reported in the main ES.

3.3.29 The main ES reported the loss of nine ponds associated with the great crested newt metapopulation west and south-west of Hough to Chorlton (AMP 5.3), all of which were assumed to support great crested newt. The main ES also reported the loss of great crested newt terrestrial habitat associated with construction. This would result in a permanent adverse effect on the great crested newt metapopulation that is significant at a county level. Following additional surveys being undertaken, the number of ponds associated with this metapopulation that will be lost as a result of the construction of the original scheme will reduce to four. The reduction in the number of great crested newt populations to be impacted by the original scheme will result in a different significant effect to that reported in the main ES, however, this will not change the level of significance of the effect reported in the main ES.

3.3.30 The main ES did not report any significant effects upon the great crested newt metapopulation to the south of Crewe and north of the A500 Shavington Bypass (AMP 5.4). Construction of the original scheme will result in the loss of three ponds and terrestrial habitats associated with this metapopulation. This will result in a new permanent adverse effect on this metapopulation, which will be significant at a county level.

3.3.31 In summary, taking account of the baseline information from the additional surveys, there is a reduction in the number of known or assumed great crested newt ponds to be lost across the South Cheshire area as a result of the construction of the original scheme. The number of great crested newt ponds that will be lost will reduce from up to 46, as reported in the main ES, to up to 31.

Other mitigation measures

Habitats

3.3.32 Additional surveys have identified an additional area of semi-improved neutral grassland that will be lost as a result of construction of the original scheme. Grassland habitat creation as part of the original scheme includes an area of approximately 1.7ha around a large balancing pond to the south of Weston Lane, adjacent to the WCML. This habitat contributes to the route-wide compensation for loss of grassland, and due to its location it is also considered to provide sufficient compensation for the additional loss of 0.3ha of neutral semi-improved grassland on the east side of WCML to the south of Casey Lane. A temporary adverse effect upon grassland habitats within the South Cheshire area is expected until grassland creation areas have

become established, after which these measures will reduce the effect on grassland to a level that is not significant.

Species

3.3.33 The main ES reported that significant effects to the great crested newt metapopulations within the South Cheshire area would be addressed by provision of measures within the ecological habitat creation areas at Checkley Lane, Wrinehill Road/ Den Lane and Casey Lane. These measures would comprise provision of ponds, species-rich neutral grassland and broadleaved woodland that would be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newt and other amphibian species. Provision of these habitats will also contribute to compensation for route-wide losses of ponds, grassland and woodland. Following implementation, the adverse effects on the amphibian populations in the South Cheshire area would be reduced to a level that is not significant.

3.3.34 The assessment undertaken, following the consideration of additional baseline information, has concluded that the impacts of the original scheme on great crested newt will be reduced from those reported in the main ES. The provision of compensatory habitats as reported in the main ES, once established, will reduce the adverse effects on amphibian populations to a level that is not significant.

Summary of likely residual significant effects

3.3.35 There are no changes to the likely residual significant construction ecology and biodiversity effects identified in the main ES as a result of the new baseline information.

Cumulative effects

3.3.36 There are no new or different likely significant cumulative effects for ecology and biodiversity as a result of the new baseline information acting in combination with any other SES changes.

Effects arising from operation

3.3.37 There are no new or different significant operational effects for ecology and biodiversity as a result of the new baseline information, in comparison with the main ES.

Part 2: Additional Provision Environmental Statement

4 Summary of amendments in the South Cheshire area

4.1 Introduction

4.1.1 In the South Cheshire area, the following types of amendments are proposed in the AP revised scheme:

- engineering amendments;
- minor utility amendments; and
- other amendments requiring changes to Bill powers.

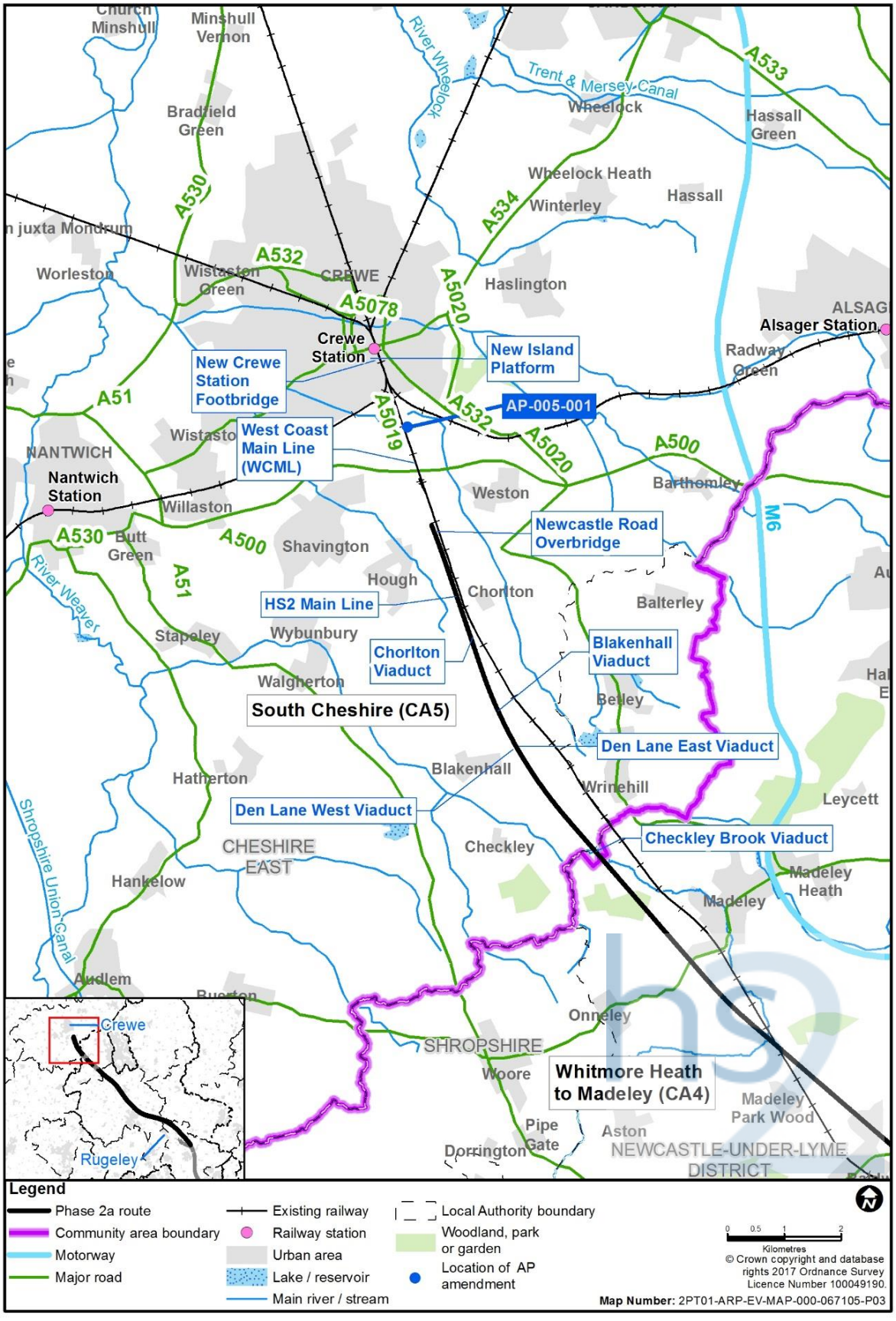
4.2 Engineering amendments

4.2.1 One engineering amendment will be required in the South Cheshire area that will result in changes to the land or Bill powers required for the original scheme. Table 4 provides a summary of the engineering amendment. Figure 2 shows the locations of the engineering amendment.

Table 4: Summary of engineering amendment in the South Cheshire area

Name of amendment	Description of the original scheme	Description of the AP revised scheme
Additional land permanently required associated with amendment to the Network Rail access road AP-005-001 Map CT-06-240, F4 to D4, in the SES and AP ES Volume 2, CA5 Map Book	Permanent acquisition of land for a Network Rail access road from the A5020 David Whitby Way to the Crewe Railway West Coast Main Line (WCML) Depot, located east of the WCML and north of the A500 Shavington Bypass.	Additional land permanently required for engineering earthworks associated with the Network Rail access road.

Figure 2: Location of engineering amendment in the South Cheshire area



4.3 Minor utility amendments

4.3.1 Amendments to minor utilities will be required in the South Cheshire area to provide connections to construction compounds and to maintain continuity of supply in the area. This will result in changes to the land or Bill powers required for the original scheme. Typically, works associated with minor utility amendments will be small in scale and similar to the types of works undertaken routinely by utility providers in the normal course of their activities. The duration of minor utility works will generally be short term in nature. Provision of access to adjacent properties will usually be maintained during the works with alternative access arrangements being made where necessary. The implementation of the works will be subject to the appropriate traffic management measures to ensure that disruption to non-motorised users and vehicular traffic is reduced insofar as reasonably practicable. Table 5 provides a summary of the minor utility amendments and the changes to land or Bill powers required. Figure 3 shows the general location of the minor utility amendments.

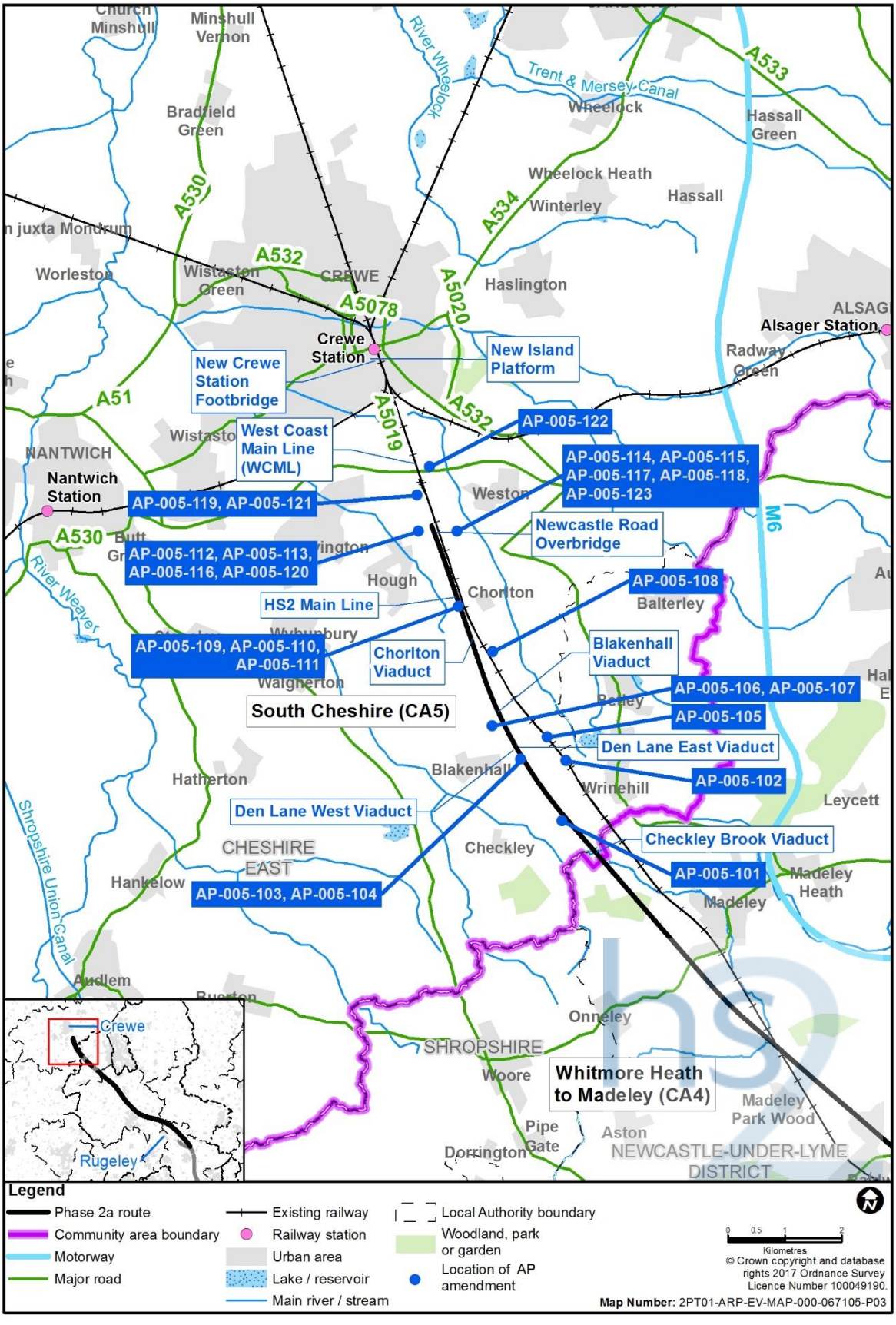
Table 5: Summary of minor utility amendments in the South Cheshire area

Utility	Description of the activities	Change to Bill powers
Scottish Power Energy Networks 11kV overhead line AP-005-101 Map CT-06-235, E9 to E10 and D9 to D7, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 850m in length, along Checkley Lane realignment.	Additional land permanently required.
United Utilities 63mm water mains AP-005-102 Map CT-06-236, E2, and Map CT-06-236-R1, H9 to E10, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 700m in length, parallel to existing utility alignment between the WCML and Den Lane.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-103 Map CT-06-236, F4 and C8 to B7, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 1.1km in length, along Mill Lane and Den Lane.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-104 Map CT-05-236, D9 to C7, in the SES and AP ES Volume 2, CA5 Map Book	New power supply to Blakenhall northbound spur embankment satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-105 Map CT-05-236, D1 to C1, in the SES and AP ES Volume 2, CA5 Map Book	New power supply to Blakenhall cutting satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-106 Map CT-06-237-L1, G2, in the SES and AP ES Volume 2, CA5 Map Book	New permanent power supply to the South Crewe mid-point auto-transformer station.	Additional land permanently required.

Utility	Description of the activities	Change to Bill powers
United Utilities water mains AP-005-107 Map CT-05-237, H10 to G10 in the SES and AP ES Volume 2, CA5 Map Book	New water mains supply to the Crewe South cutting satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-108 Map CT-05-237, D3 to A4, and Map CT-05-238, J3 to H4, in the SES and AP ES Volume 2, CA5 Map Book	New underground power line to the Waybutt Lane satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-109 Map CT-06-238, F4 to C4, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 670m in length, along Chorlton Lane.	Additional land permanently required.
Severn Trent Water 27-inch water mains AP-005-110 Map CT-06-238, F7 to E9, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 700m in length, along Chorlton Lane and crossing under the HS2 route and WCML.	Additional land permanently required.
BT Openreach overhead and underground telecommunications cable AP-005-111 Map CT-06-238, G7 to F7, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utilities, 300m in length, along Chorlton Lane connecting to Dairy Farm and properties on Chorlton Lane.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-005-112 Map CT-06-239, H6 to H7, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 250m in length, to follow the Newcastle Road realignment.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-113 Map CT-06-239, E6 to D7, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 240m in length, under the retained Casey Lane, south-west of the WCML.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-114 Map CT-06-239, E3, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 240m in length, under the diverted Casey Lane and along the Casey Lane extension, north-east of WCML.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-115 Map CT-06-239, C3 to C4, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 140m in length, along Weston Lane.	Additional land permanently required.

Utility	Description of the activities	Change to Bill powers
Scottish Power Energy Networks 11kV overhead line AP-005-116 Map CT-06-239-L1, H2 to G1, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 1.2km in length, along realigned Newcastle Road	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-117 Map CT-06-239, G2 to G3, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 340m in length, around the perimeter of Chorlton cutting satellite compound.	Additional land permanently required.
United Utilities 200mm, 300mm and 900mm sewers AP-005-118 Map CT-06-238, B1, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utilities, 1.2km in length, along Newcastle Road and the diverted Casey Lane.	Additional land permanently required.
Scottish Power Energy Networks 33kV overhead line AP-005-119 Map CT-06-239, C6 to B8, Map CT-06-240, J5 to I7 and H9 to G10, and Map CT-06-240-L1, H1 to G3, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 890m in length, to follow the alignment of site haul routes between the A500 Shavington Bypass and Weston Lane overbridge.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line and Scottish Power Energy Networks 11kV underground line AP-005-120 Map CT-05-239, H7 to G9 and G10 to F8, Map CT-05-239-L1, G2 to F1, Map CT-06-239, H7 to G9 and G10 to F8, and Map CT-06-239-L1, G2 to F1, in the SES and AP ES Volume 2, CA5 Map Book	New power supply to Crewe South portal satellite compound and a new permanent supply to HS2 pump station.	Additional land permanently required.
United Utilities water mains AP-005-121 Map CT-05-239, C8 to A9, in the SES and AP ES Volume 2, CA5 Map Book	New water mains supply to Basford cutting main compound and a batching plant.	Additional land permanently required.
United Utilities water main and Scottish Power Energy Networks power supply AP-005-122 Map CT-05-240-R1, I5 to G9, in the SES and AP ES Volume 2, CA5 Map Book	New water and power supplies to the Crewe South crossovers satellite compound.	Additional land permanently required.
Zayo underground telecommunications cable AP-005-123 Map-06-239, I3 to H4, in the SES and AP ES Volume 2, CA5 Map Book	Permanent diversion of utility, 1.5km in length, along the realigned Newcastle Road.	Additional land permanently required.

Figure 3: Locations of minor utility amendments in the South Cheshire area



4.4 Other amendments requiring changes to Bill powers

4.4.1 Since submission of the Bill, the need for 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') have been identified.

4.4.2 The amendments relate to the rights for use of certain plots of land, which have been identified on the Bill plans and in Schedule 8 of the Bill as only being required for access during the construction phase of the original scheme. However, it has been ascertained that these land plots will also be required by the nominated undertaker, Network Rail and third party utility providers during the operational phase for access for inspection and maintenance purposes.

4.4.3 Regular inspection and maintenance access will be required to assets such as the following:

- habitat creation areas;
- line-side equipment;
- railway drainage system; and
- utilities.

4.4.4 During operation vehicular access will be required and the frequency will vary depending on the asset and maintenance activities. Typically, access will be required 2-4 times per year by two light goods vehicles (LGV) (e.g., long wheel-base pick-up vehicles).

4.4.5 The use of these land plots for maintenance and operation access was considered in the preparation of the main ES. Given the limited frequency of this access, it was concluded that this would not result in any significant effects. As this access was considered in the main ES, these amendments are not considered to require further assessment of the environmental effects or mitigation additional to that set out in the main ES with respect to any environmental topics.

4.4.6 Table 6 provides a list of those instances where there has been a need to amend the Bill plans and Schedule 8 of the Bill for the South Cheshire area.

Table 6: Summary of other amendments requiring changes to Bill powers in the South Cheshire area

Name of amendment	**Description of the original scheme (Schedule 8 of the Bill)**	**Description of the AP revised scheme**
Additional access rights to land plot AP1-12 in the parish of Chorlton AP-005-201 Bill plan replacement sheet 1-60	Provision of access for construction	Provision of access for construction and maintenance
Additional access rights to land plot AP1-29 in the parish of Basford AP-005-202 Bill plan replacement sheet 1-64		
Additional access rights to land plots AP1-1, AP1-2 and AP1-3 in the town of Crewe AP-005-203 Bill plan replacement sheet 1-64 and 1-65		
Additional access rights to land plots AP1-1 and AP1-2 in the town of Sandbach AP-005-204 Bill plan replacement sheet 1-69 and 1-70		

5 Assessment of engineering amendments in the South Cheshire area

5.1 Additional land permanently required associated with amendment to the Network Rail access road (AP-005-001)

5.1.1 The Bill provides for a permanent Network Rail access road to provide access for maintenance of the West Coast Main Line (WCML) from the A5020 David Whitby Way, located east of the WCML and north of the A500 Shavington Bypass. The access road would pass over Basford Brook via the Basford Brook Bridge, located approximately 250m north of Crotia Mill Farm. A drainage ditch would pass in culvert beneath the access road, approximately 300m north-west of Crotia Mill Farm. See Map CT-06-240, G1 to D4, and Map CT-06-240-R1, G4 to D9, in the main ES Volume 2, CA5 Map Book. During construction, the access road would provide access to the Crewe South crossovers satellite compound. See Map CT-05-240, G1 to F4, and Map CT-05-240-R1, G4 to F9, in the main ES Volume 2, CA5 Map Book.

5.1.2 Since submission of the Bill, further design refinement has identified a need to change the alignment of the Network Rail access road. As a result, approximately 0.2ha of additional land will be required permanently to accommodate engineering earthworks associated with the access road. See Map CT-06-240, F4 to D4, in the SES and AP ES Volume 2, CA5 Map Book.

5.1.3 The amendment will be constructed within the period set out in the main ES.

5.1.4 The land required for the modifications to the access road will be outside the limits of the Bill. The amendment will result in the permanent requirement for approximately 0.2ha of additional land. See Map CT-06-240, F4 to D4, in the SES and AP ES Volume 2, CA5 Map Book.

Topics included in the AP assessment

5.1.5 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for ecology and biodiversity.

Ecology and biodiversity

Scope, assumptions and limitations

5.1.6 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1, the Scope and Methodology Report (SMR)[12], and the SMR Addendum[13] of the main ES.

5.1.7 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported within the SMR and the SMR Addendum. This

[12] HS2 Ltd (2017). *High Speed Rail (West Midlands – Crewe) Environmental Statement*, Volume 5: Technical appendices, Environmental Impact Assessment Scope and Methodology Report (Appendix CT-001-001). Available online at https://www.gov.uk/government/publications/scope-and-methodology-report-for-hs2-phase-2a

[13] HS2 Ltd (2017). *High Speed Rail (West Midlands – Crewe) Environmental Statement*, Volume 5: Technical appendices, Environmental Impact Assessment Scope and Methodology Report Addendum (Appendix CT-001-002). Available online at https://www.gov.uk/government/publications/scope-and-methodology-report-for-hs2-phase-2a

constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP revised scheme.

Existing environmental baseline

5.1.8 The ecological baseline of the land required for the amendment has been based on field data collated for the main ES, aerial photography, and relevant existing information from regional and local sources. In addition, the baseline has been informed by additional Phase 1 habitat, hedgerow, bats, great crested newt, badger, water vole and otter surveys, and updated information from national data sources held by Natural England.

5.1.9 A summary of the baseline information relevant to the assessment of the amendment is provided below. This takes account of any relevant new or updated baseline information provided in Background Information and Data (BID) documents[14] (BID-EC-004-000 and Map Series EC-02, EC-04, EC-05, EC-10, EC-11 and EC-12), which accompany the SES and AP ES. For those receptors described in the main ES, further details are provided in Volume 2, CA5, Section 8, and in Volume 5, including Map Series EC-01 of the main ES. Baseline ecology reports that accompanied the main ES are provided in BID-EC-002-000 to BID-EC-014-000 and Map Series EC-02 to EC-12[15].

Designated sites

5.1.10 There is one local wildlife site (LWS) of relevance to the amendment. Basford Brook and Mere Gutter LWS is a linear feature that follows Gresty Brook and Basford Brook and is of county value. The LWS is listed as one of three key sites for white-clawed crayfish within Cheshire and a local key area[16] for water vole. This LWS is located approximately 30m to the north of the land required for the amendment.

Habitats

5.1.11 Habitats within the land required for the amendment include semi-natural broadleaved woodland and arable land.

5.1.12 An area of woodland, reported in the main ES as woodland at Basford Hall, is partially located within the land required for the amendment. This habitat is likely to qualify as lowland mixed deciduous woodland, which is a habitat of principal importance listed under the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006)[17]. This woodland is of local/parish value.

Species

5.1.13 Protected and notable species that are known or assumed to occur within the land required for the amendment include bats and great crested newt.

[14] HS2 Ltd (2018). High Speed Two (HS2) Phase 2a (West Midlands - Crewe), Background Information and Data, Available online at: www.gov.uk/hs2
[15] HS2 Ltd (2017). High Speed Two (HS2) Phase 2a (West Midlands - Crewe), Background Information and Data, Available online at: www.gov.uk/hs2
[16] National Water Vole Steering Group (2013): 'Likely Key Areas to support water vole'.
[17] Natural Environment and Rural Communities Act 2006 (2006 CHAPTER 16), Her Majesty's Stationery Office, London

5.1.14 The main ES reported a bat assemblage associated with habitats around Basford/ Weston Lane. Field surveys in this area recorded non-breeding roosts of rarer species including noctule as well as day/summer roosts of noctule, common and soprano pipstrelles. Day/summer roosts were also recorded from buildings in the area for four species of bat including Natterer's, brown long-eared, common pipistrelle and soprano pipistrelle. The land required for the amendment contains potential bat roosting, foraging and commuting habitats that have the potential to be used by this bat assemblage. The bat assemblage includes several species of principal importance and other species that are conservation priorities of the Cheshire Biodiversity Action Plan (BAP)[18]. The assemblage is assessed to be of county value.

5.1.15 The main ES, as updated in the SES, reports the presence of a great crested newt breeding pond, approximately 40m to the west of the land required for the amendment, which forms part of a great crested newt metapopulation[19] (assumed metapopulation (AMP) 5.4). This metapopulation includes 55 ponds with confirmed or assumed populations of great crested newt, which are located south of Crewe and north of the A500 Shavington Bypass. Great crested newt is an Annex 2[20] species, a species of principal importance, and a conservation priority of the Cheshire BAP. The metapopulation is of county value.

Future environmental baseline

Construction (2020) and operation (2027)

5.1.16 SES and AP ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2020 and 2027 respectively, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

5.1.17 None of the identified developments affect the assessment of the AP revised scheme's likely construction and operation impacts on ecology and biodiversity.

Effects arising during construction

Avoidance and mitigation measures

5.1.18 No further measures are applicable to this assessment, above those stated in the draft Code of Construction Practice (CoCP)[21].

Assessment of impacts and effects

Designated sites

5.1.19 The amendment will not give rise to new or different significant effects on designated sites and will not change the level of significance of the effects reported in the main ES.

[18] Cheshire Biodiversity Partnership. *Cheshire Biodiversity Action Plan* [online].Available at: http://www.cheshirewildlifetrust.org.uk/biodiversity
[19] A metapopulation is a group of spatially separated populations which interact. Metapopulations are described in BID-EC-007-000 (which accompanied the main ES) and BID-EC-004-000 (which accompanies the SES and AP ES).
[20] Annex 2 of the EU's Habitats Directive (1992) lists priority species whose conservation requires the designation of Special Areas of Conservation.
[21] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

Habitats

5.1.20 The main ES reported the loss and fragmentation of lowland deciduous woodland at Basford Hall, which is a permanent adverse effect that is significant at the local/parish level. An additional 0.1ha of woodland will be required as part of the amendment, this additional loss will not give rise to any new or different significant effects on the woodland habitat and will, therefore, not change the level of significance of the effect reported in the main ES.

5.1.21 It is not likely that any other effects on habitats of relevance at more than the local/parish level will occur as a result of the amendment. Additional local/parish level effects arising from the AP revised scheme are listed in SES and AP ES, Volume 5: Appendix EC-003-000.

Species

5.1.22 The main ES reported a direct loss of bat roosts and a loss and fragmentation of foraging and commuting habitat used by the assemblage of bats in the Basford/ Weston Lane area. This was reported as a permanent adverse effect that is significant at county level. The amendment will result in the loss of an additional 0.1ha of woodland that is assumed to be utilised as a foraging and roosting resource by the bat assemblage. The assumed loss of additional roosts will result in a different significant effect on the Basford/ Weston Lane bat assemblage to that reported in the main ES, however, this will not change the level of significance of the effect reported in the main ES.

5.1.23 The SES reports an adverse effect upon the great crested newt metapopulation (AMP5.4) to the south of Crewe and north of the A500 Shavington Bypass, which is significant at county level. The amendment will result in the loss of an additional 0.1ha of woodland that has the potential to be utilised as terrestrial habitat by great crested newt. Due to the distance from the closest breeding pond and the low importance of this resource for the metapopulation, this would result in a negligible impact on the conservation status of the great crested newt metapopulation. The amendment will not give rise to any new or different significant effects on great crested newt, and will not change the level of significance of the effect reported in the SES.

5.1.24 It is not likely that any other effects on species of relevance at more than the local/parish level will occur as a result of the amendment. Additional local/parish level effects arising from the AP revised scheme are listed in SES and AP ES, Volume 5: Appendix EC-003-000.

Mitigation and residual effects

Other mitigation measures

5.1.25 The main ES reported that habitat creation measures in the South Cheshire area include woodland habitat creation of approximately 9.9ha to compensate for woodland loss. Additional replacement bat roosts will be provided within these habitats to compensate for any additional roost loss that may arise from the amendment.

Summary of likely residual effects

5.1.26 There are no changes to the likely residual significant construction ecology and biodiversity effects identified in the main ES as a result of the amendment.

Cumulative effects

5.1.27 There are no new or different likely significant cumulative effects for ecology and biodiversity as a result of the amendment acting in combination with any other amendments.

Effects arising from operation

Avoidance and mitigation measures

5.1.28 No avoidance or mitigation measures, additional to those reported in the main ES, are required.

Assessment of impacts and effects

5.1.29 There are no new or different significant operational effects for ecology and biodiversity as a result of the amendment, in comparison with the main ES.

Mitigation and residual effects

Other mitigation measures

5.1.30 No other mitigation measures are required above the measures reported in the main ES.

Summary of likely residual effects

5.1.31 There are no changes to the likely residual significant operational ecology and biodiversity effects identified in the main ES as a result of the amendment.

Cumulative effects

5.1.32 There are no new or different likely significant cumulative effects for ecology and biodiversity as a result of the amendment acting in combination with any other amendments.

Monitoring

5.1.33 Volume 1, Section 9 of the main ES sets out the general approach to environmental monitoring during operation of the original scheme.

5.1.34 There are no changes to the monitoring requirements identified in the main ES for ecology and biodiversity as a result of the amendment.

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

5.1.35 The use of additional land to accommodate engineering earthworks associated with the Network Rail access road will not give rise to any new or different likely residual significant effects or change the likely residual significance of the environmental effects as set out in the main ES.

6 Assessment of minor utility amendments in the South Cheshire area

6.1 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead lines along Checkley Lane realignment (AP-005-101)

6.1.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert existing Scottish Power Energy Networks 11kV overhead lines. This will include an underground diversion of the existing overhead line. The diversion of the utilities will be 850m in length, along the Checkley Lane realignment and crossing the HS2 route within the Checkley Lane overbridge. A section of the existing overhead lines will be removed between Checkley Lane and Grange Farm. See Map CT-06-235, F3 to D10, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.5ha of additional land will be permanently required (see Map CT-06-235, E9 to E10 and D9 to D7, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.1.2 The activities will require the removal of existing utilities infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utilities. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utilities are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.1.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.2 Additional land for the permanent diversion of United Utilities 63mm water mains between the WCML and Den Lane (AP-005-102)

6.2.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing United Utilities 63mm water main. The diversion of the utility will be 700m in length, extending from Den Lane on the west side of the West Coast Main Line (WCML), crossing under the WCML and passing around the perimeter of the Den Lane East satellite compound, parallel to Den Lane. See Map CT-06-236, F1 to E2, and Map CT-06-236-R1, H9 to E10, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 1.3ha of additional land will be permanently required (see Map CT-06-236, E2, and Map CT-06-236-R1, H9 to E10, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.2.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing), the removal of existing utility infrastructure (where necessary) and installation of the utility. As required and

where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.2.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.3 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead lines along Mill Lane and Den Lane (AP-005-103)

6.3.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert existing Scottish Power Energy Networks 11kV overhead lines. This will include an underground diversion of the existing overhead lines. The diversion of the utility will be 1.1km in length, running along Mill Lane and Den Lane. See Map CT-06-236, F4 to B8, in the SES and AP ES Volume 2, CA5 Map Book. A section of the existing utility will be removed where it would cross the HS2 route. Approximately 0.3ha of additional land will be permanently required (see Map CT-06-236, F4 and C8 to B7, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.3.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.3.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.4 Additional land for a new temporary Scottish Power Energy Networks power supply to Blakenhall Northbound Spur embankment satellite compound (AP-005-104)

6.4.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary Scottish Power Energy Networks 11kV power supply to Blakenhall northbound spur embankment satellite compound. The new underground cable will be 140m in length running along Mill Lane, with a connection from an existing overhead line located on Mill Lane. See Map CT-05-236, D9 to C7, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.3ha of additional land will be permanently required (see Map CT-05-236, D9 to C7, in the SES and AP ES Volume 2, CA5 Map Book). The additional permanent land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.4.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new power supply are currently planned to be carried out in 2020-2021 and are expected to take approximately 12 months to complete.

6.4.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for cultural heritage.

Cultural heritage

6.4.4 The main ES reported a temporary negligible adverse effect, which is not significant, on Mill Lane (SCH100), a sunken country lane of low value. The amendment will extend the land required for the AP revised scheme and increase the extent of the impact on Mill Lane. This will result in a different effect that will change the level of the effect reported in the main ES to temporary minor adverse, which is not significant.

6.4.5 In addition, the main ES reported a permanent minor adverse effect on Mill Lane. While the amendment will extend the land required for the AP revised scheme, the scale of effect will remain as permanent minor adverse, which is not significant. This will not change the level of significance as reported in the main ES.

6.5 Additional land for a new temporary Scottish Power Energy Networks power line to Blakenhall cutting satellite compound (AP-005-105)

6.5.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary Scottish Power Energy Networks 11kV power supply to Blakenhall cutting satellite compound. The new underground cable will be 360m in length, with a connection from an existing overhead line adjacent to Lower Den Farm. See Map CT-05-236, D1 to C1, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.1ha of additional land will be permanently required (see Map CT-05-236, D1 to C1, in the SES and AP ES Volume 2, CA5 Map Book). The additional permanent land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.5.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new power supply are currently planned to be carried out in 2020-2021 and are expected to take approximately 12 months to complete.

6.5.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for sound, noise and vibration and community.

Sound, noise and vibration

6.5.4 The main ES reported a likely significant construction airborne noise effect on the community at Wrinehill for a duration of up to one year and seven months. The community of Wrinehill includes Lower Den Farm (assessment location ref.: 15036). As a result of the amendment, when considered in combination with the works identified in the main ES, Lower Den Farm is forecast to experience construction noise levels above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy[22]. The mitigation measures reported in the draft Code of Construction Practice (CoCP)[23], including noise insulation, will reduce noise inside the dwelling such that it does not reach a level where it will significantly affect residents. This will not change the level of significance as reported in the main ES.

Community

6.5.5 The amendment will result in additional land for the construction of the AP revised scheme, which will be within the boundary of a residential property. The impact of the utility diversion at this property will be small in scale and of short duration (up to three months), resulting in a minor adverse effect, which is not significant. A description of the affected property is included in SES and AP ES Volume 5: Appendix CM-001-000.

6.6 Additional land for a new permanent Scottish Power Energy Networks power supply to the South Crewe mid-point auto-transformer station (AP-005-106)

6.6.1 Since submission of the Bill, a requirement has been identified for additional land for a new permanent Scottish Power Energy Networks 11kV power supply to the South Crewe mid-point auto-transformer station. The new underground cable will be 900m in length, with a connection from an existing overhead line to the west of Den Lane, running along the Blakenhall Bridleway 12 diversion route. See Map CT-06-237, G10 to E6, and Map CT-06-237-L1, G2 to F1, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.2ha of additional land will be permanently required (see Map CT-06-237-L1, G2, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.6.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new power supply are currently planned to be carried out in 2023 and are expected to take approximately six months to complete.

6.6.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

[22] Further information is provided in the HS2 Phase 2a Information Paper E13: Control of construction noise and vibration.
[23] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

6.7 Additional land for a new temporary United Utilities water mains supply to the Crewe South cutting satellite compound (AP-005-107)

6.7.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary United Utilities water main supply to the Crewe South cutting satellite compound. The new underground water main supply will be 800m in length, running along the Blakenhall Bridleway 12 diversion route. See Map CT-05-237, H10 to E7, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.2ha of additional land will be permanently required (see Map CT-05-237, H10 to G10, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.7.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new water main supply are currently planned to be carried out in 2020-2021 and are expected to take approximately 12 months to complete.

6.7.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.8 Additional land for a new temporary Scottish Power Energy Networks power line to Waybutt Lane satellite compound (AP-005-108)

6.8.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary Scottish Power Energy Networks 11kV power supply to Waybutt Lane satellite compound. The new underground cable will be 800m in length running along Waybutt Lane, with a connection from an existing overhead line east of Waybutt Lane satellite compound. See Map CT-05-237, E4 to A3, and Map CT-05-238, J3 to H4, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.4ha of additional land will be permanently required (see Map CT-05-237, D3 to A4, and Map CT-05-238, J3 to H4, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.8.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new power supply are currently planned to be carried out in 2025 and are expected to take approximately three months to complete.

6.8.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for sound, noise and vibration, and community.

Sound, noise and vibration

6.8.4 The main ES reported a likely significant construction airborne noise effect on the community at Wychwood Park/Chorlton (ref.: CSV05-C04) for a duration of up to one year and four months. This includes approximately 35 residential properties[24] on Freshwater Drive, St Clements Court, Henley Road and Chiltern Close. As a result of the amendment, when considered in combination with the works identified in the main ES, a new construction noise impact is identified at an additional four residential properties on Hampstead Drive and Ferndown Way, Chorlton (represented by assessment location ref.: 15049) for a duration of up to one month. This will result in a different significant effect for approximately 40 properties at Wychwood Park/Chorlton for a duration of up to one year and four months. No additional mitigation has been identified compared to that defined in the draft Code of Construction Practice (CoCP)[25].

6.8.5 The combination of this amendment and the permanent diversion of a Scottish Power Energy Networks 11kV overhead line along Chorlton Lane (AP-005-109) will result in a different significant effect for a further five properties on Hampstead Drive at Wychwood Park/Chorlton (approximately 45 properties in total) for a duration of up to one year and four months. No additional mitigation has been identified compared to that defined in the draft CoCP.

Community

6.8.6 The main ES reported a major adverse effect at 34 residential properties in Wychwood Park/Chorlton and at two allocations for housing (RES.1 Chorlton and RES1.6 St Clement's Court) due to a combination of noise and visual effects for up to one year and four months. As a result of the amendment, a new significant noise effect is identified at four additional residential properties on Hampstead Drive and Ferndown Way, Chorlton, for a duration of up to one month. These four properties would experience significant visual effects from the original scheme. As the effect on the four additional properties is short term, it is not considered to be significant to the community as a whole. Therefore, the significant effect on 34 residential properties due to a combination of noise and visual effects for up to one year and four months, will remain as reported in the main ES.

6.8.7 In addition to this amendment, the community at Wychwood Park/Chorlton will also experience different effects due to the permanent diversion of a Scottish Power Energy Networks 11kV overhead line along Chorlton Lane (AP-005-109). In total, the combination of the two amendments will result in 10 additional properties on Hampstead Drive, Chiltern Close, Henley Road and Ferndown Way experiencing a combination of noise and visual effects for up to two months. See SES and AP ES Volume 5: Appendix CM-001-000 for more information on this combined assessment. As the effect on the 10 additional properties will be short term, the combination of the two amendments is not considered to be significant to the community as a whole. Therefore, the significant effect on 34 residential properties due to a combination of

[24] The number of impacted properties identified within the likely significant construction noise effect is rounded up to the nearest five.
[25] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

noise and visual effects for up to one year and four months, will remain as reported in the main ES.

6.9 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead line along Chorlton Lane (AP-005-109)

6.9.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 11kV overhead line. This will include an underground diversion of a section of the existing overhead line. The diversion of the utility will be 670m in length, along Chorlton Lane to the Chorlton Lane closure, and will connect to an existing overhead line adjacent to Jubilee Farm. See Map CT-06-238, F4 to C5, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.5ha of additional land will be permanently required (see Map CT-06-238, F5 to C4, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.9.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.9.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for sound, noise and vibration and community.

Sound, noise and vibration

6.9.4 The main ES reported a likely significant construction airborne noise effect on the community at Wychwood Park/Chorlton (ref.: CSV05-C04) for a duration of up to one year and four months. This includes approximately 35[26] residential properties on Freshwater Drive, St Clements Court, Henley Road and Chiltern Close. As a result of the amendment, when considered in combination with the works identified in the main ES, a new construction noise impact is identified at an additional six residential properties on Henley Road and Chiltern Close , Chorlton (represented by assessment location ref.: 15090) for a duration of up to two months. See SES and AP ES Volume 5: Appendix CM-001-000 for more information on this combined assessment. This will result in a different significant effect for approximately 40 properties at Wychwood Park/Chorlton for a duration of up to one year and four months. No additional mitigation has been identified compared to that defined in the draft Code of Construction Practice (CoCP)[27].

[26] The number of impacted properties identified within the likely significant construction noise effect is rounded up to the nearest five.
[27] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

6.9.5 As a result of the amendment, when considered in combination with the works identified in the main ES, there are two residential properties: Bridge Cottage, Chorlton Lane, Chorlton (assessment location ref.: 15097); and Jubilee Farm, Chorlton (assessment location ref.: 15103), that are forecast to experience construction noise levels above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy[28]. The mitigation measures reported in the draft CoCP, including noise insulation for the residential properties, will reduce noise inside the dwellings such that it does not reach a level where it will significantly affect the residents.

6.9.6 The combination of this amendment and the new temporary Scottish Power Energy Networks power line to Waybutt Lane satellite compound (AP-005-108) will result in a different significant effect for a further four properties at Henley Road, Wychwood Park/Chorlton (approximately 45 properties in total) for a duration of up to one year and four months. No additional mitigation has been identified compared to that defined in the draft CoCP.

Community

6.9.7 The main ES reported a major adverse effect at 34 residential properties in Wychwood Park/Chorlton and at two allocations for housing (RES.1 Chorlton and RES1.6 St Clement's Court) due to a combination of noise and visual effects for up to one year and four months. As a result of the amendment, a new significant noise effect is identified at six additional residential properties on Henley Road and Chiltern Close, Chorlton for a duration of up to two months. These six properties would experience significant visual effects from the original scheme. As the effect on the six additional properties will be short term, it is not considered to be significant to the community as a whole. Therefore, the significant effect on 34 residential properties due to a combination of noise and visual effects for up to one year and four months will remain as reported in the main ES.

6.9.8 In addition to this amendment, the community at Wychwood Park/Chorlton will also experience different effects due to a new temporary Scottish Power Energy Networks power line to Waybutt Lane satellite compound (AP-005-108). In total, the combination of the two amendments will result in 10 additional properties on Hampstead Drive, Chiltern Close, Henley Road and Ferndown Way experiencing a combination of noise and visual effects for up to two months. As the effect on the 10 additional properties will be short term, the combination of the two amendments is not considered to be significant to the community as a whole. Therefore, the significant effect on 34 residential properties due to a combination of noise and visual effects for up to one year and four months, will remain as reported in the main ES.

[28] Further information is provided in the HS2 Phase 2a Information Paper E13: Control of construction noise and vibration.

6.10 Additional land for the permanent diversion of Severn Trent Water 27-inch water main along Chorlton Lane (AP-005-110)

6.10.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Severn Trent Water 27-inch water main. The diversion of the utility will be 700m in length, from the south-west of Dairy Farm, running along Chorlton Lane and crossing the HS2 route and under the West Coast Main Line. See Map CT-06-238, G7 to E9, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 1.0ha of additional land will be permanently required (see Map CT-06-238, F7 to E9, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.10.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing), the removal of existing utility infrastructure (where necessary) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.10.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for water resources and flood risk.

Water resources and flood risk

6.10.4 This amendment will potentially require works to be undertaken within the channel of Swill Brook, including excavation of both the river bed and banks. Swill Brook is located outside of the land required for the construction of the original scheme, as reported in the main ES. On a precautionary basis, in the absence of site-specific survey information, this watercourse is assumed to be a high value receptor. The amendment has the potential to have a minor impact on water quality and channel stability along Swill Brook. This would, therefore, potentially result in a new moderate adverse effect, which will be significant. It will, therefore, be verified by site survey whether this section of Swill Brook is of high value, and if so, options to avoid in-channel working will be considered. This may include, for example, use of horizontal directional drilling beneath the river bed of the brook. The measures set out in the draft Code of Construction Practice (CoCP)[29] require the Contractor to develop and agree a method statement with the consenting authority for works of this nature. It is, therefore, not likely that this amendment will result in significant effects.

[29] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

6.11 Additional land for the permanent diversion of BT Openreach overhead and underground telecommunications cable along Chorlton Lane (AP-005-111)

6.11.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert existing BT Openreach overhead and underground telecommunications cables. This will include an underground diversion of existing overhead telecommunications cable and existing underground cable. The diversion of the utilities will be 300m in length, running along Chorlton Lane and reconnecting to maintain supply to Dairy Farm and properties to south of Chorlton Lane. See Map CT-06-238, G7 to F7, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 650m² of additional land will be permanently required (see Map CT-06-238, G7 to F7, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.11.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utilities. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utilities are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.11.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.12 Additional land for the permanent diversion of BT Openreach overhead telecommunications cable along Newcastle Road (AP-005-112)

6.12.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing BT Openreach overhead telecommunications cable. This will include an underground diversion of an existing overhead telecommunications cable. The diversion will be 250m in length, and will run parallel to the realigned Newcastle Road. See Map CT-06-239, I5 to H7, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 820m² of additional land will be permanently required (see Map CT-06-239, H6 to H7, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.12.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the diversion route (this may include vegetation, soil, and existing road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.12.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.13 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead lines under Casey Lane (AP-005-113)

6.13.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert existing Scottish Power Energy Networks 11kV overhead lines. This will include an underground diversion of a section of the existing overhead lines. The diversion of the utility will be 240m in length, located south-west of the West Coast Main Line (WCML) from an existing overhead line on the western side of Casey Lane. The diversion will cross underneath the WCML and reconnect into an existing overhead line located to the north-east of the WCML, along the diverted Casey Lane. See Map CT-06-239, E4 to D7, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.1ha of additional land will be permanently required (see Map CT-06-239, E6 to D7, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.13.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.13.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.14 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead line along the diverted Casey Lane (AP-005-114)

6.14.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 11kV overhead line. This will include an underground diversion of a section of the existing overhead lines. The diversion of the utility will be 240m in length, from an existing overhead line south of Weston Lane, crossing under the diverted Casey Lane (connecting Weston Lane and Newcastle Road) and running along the diverted Casey Lane. See Map CT-06-239, E3 to D5, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 970m² of additional land will be permanently required (see Map CT-06-239, E3, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.14.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2022-2023 and are expected to take approximately six months to complete.

6.14.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.15 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead line along Weston Lane (AP-005-115)

6.15.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 11kV overhead line. This will include an underground diversion of a section of existing overhead lines. The diversion of the utility will be 140m in length, from an existing overhead line south-east of Weston Lane, running along Weston Lane and connecting to Dairy House to maintain power supply. See Map CT-06-239, C3 to C4, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 880m² of additional land will be permanently required (see Map CT-06-239, C3 to C4, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.15.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2022-2023 and are expected to take approximately six months to complete.

6.15.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.16 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead line along the realigned Newcastle Road (AP-005-116)

6.16.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 11kV overhead line. This will include an underground diversion of a section of existing overhead line. The diversion of the utility will be 1.2km in length, from an existing overhead line approximately 425m west of Heath Farm, running along the realigned Newcastle Road, and reconnecting to the an existing overhead line approximately 250m east of Newcastle Road overbridge (see Map CT-06-239, H10 to G3 and Map CT-06-239-L1, H2 to G1, in the SES and AP ES Volume 2, CA5 Map Book). Approximately 0.3ha of additional land will be permanently required (see Map CT-06-239-L1, H2 to G1, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.16.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the diversion route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.16.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.17 Additional land for the permanent diversion of Scottish Power Energy Networks 11kV overhead line around Chorlton cutting satellite compound (AP-005-117)

6.17.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 11kV overhead line. This will include an underground diversion of a section of existing overhead line. The diversion of the utility will be 340m in length, from an existing overhead line north of Newcastle Road, passing around the perimeter of Chorlton cutting satellite compound and reconnecting into an existing overhead line on Newcastle Road. See Map CT-06-239, H4 to G2, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.1ha of additional land will be permanently required (see Map CT-06-239, G2 to G3, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.17.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required

and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2022-2023 and are expected to take approximately six months to complete.

6.17.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.18 Additional land for the permanent diversion of three United Utilities sewers along Newcastle Road and Casey Lane (AP-005-118)

6.18.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert three existing United Utilities sewers, one 200mm sewer, one 300mm sewer and one 900mm sewer. The diversion of the utilities will be 1.2km in length, along the realigned Newcastle Road and the diverted Casey Lane. A foul sewer pumping station, adjacent to the Chorlton cutting satellite compound, will accommodate the change between gravity sewer and pressurised sewer systems. See Map CT-06-238, B1 to A4, Map CT-06-239, J1 to D10, and Map CT-06-239-L1, H2 to F1, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.2ha of additional land will be permanently required (see Map CT-06-238, B1, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.18.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing), the removal of existing utilities infrastructure (where necessary) and installation of the utilities. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utilities are currently planned to be carried out in 2021 - 2023 and are expected to take approximately 12 months to complete.

6.18.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for ecology and biodiversity.

Ecology and biodiversity

6.18.4 An area of woodland is located adjacent to Wychwood Park Golf Course and outside of the land required for the construction of the original scheme, as reported in the main ES. The amendment will result in the loss of approximately 0.1ha of woodland habitat. This habitat is likely to qualify as lowland mixed deciduous woodland (a habitat of principal importance listed under the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006)[30]) and is of local/parish value. The woodland may support foraging bats and individual trees within this woodland may also have the potential to support roosting bats. The amendment will result in a new effect at a local/parish level, which is not significant. Habitat creation measures

[30] Natural Environment and Rural Communities Act 2006 (2006 CHAPTER 16), Her Majesty's Stationery Office, London

within the original scheme will compensate for the loss of foraging and commuting habitat likely to be used by bats.

6.19 Additional land for the permanent diversion of Scottish Power Energy Networks 33kV overhead line near the Basford cutting main compound (AP-005-119)

6.19.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Scottish Power Energy Networks 33kV overhead line. This will include an underground diversion of a section of existing overhead lines. The diversion of the utility will be 890m in length, from an existing overhead line on Weston Lane, running within the site haul routes between the A500 Shavington Bypass and the existing Weston Lane overbridge, which crosses the West Coast Main Line (see Map CT-06-239, C6 to A9, Map CT-06-240 J5 to G10, and Map CT-06-240-L1, H1 to G3, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 1.1ha of additional land will be permanently required (see Map CT-06-239, C6 to B8, Map CT-06-240, J5 to I7 and H9 to G10, and Map CT-06-240-L1, H1 to G3, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.19.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2021-2022 and are expected to take approximately six months to complete.

6.19.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for ecology and biodiversity.

Ecology and biodiversity

6.19.4 An area of woodland and a pond are located adjacent to the A500 Shavington Bypass and outside of the land required for the construction of the original scheme, as reported in the main ES. The amendment will result in a loss of approximately 0.5ha of woodland habitat and the pond. The woodland habitat comprises broadleaved woodland of local/parish value. The pond is likely to qualify as a habitat of principal importance, listed under the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006)[31], of district/borough value and it is assumed to support a population of great crested newt associated with great crested newt metapopulation[32] (assumed metapopulation (AMP) 5.4), as described within the SES, which is of county value. The loss of woodland will result in a new effect at a local/parish level, which is not significant. The loss of an additional pond will result in a new significant effect on this habitat of significance at a district/borough level. As the pond is assumed to support great crested newt, its loss will result in a different adverse significant effect on great crested newt metapopulation AMP 5.4 to that

[31] Natural Environment and Rural Communities Act 2006 (2006 CHAPTER 16), Her Majesty's Stationery Office, London

[32] A metapopulation is a group of spatially separated populations that interact. Metapopulations are described in BID-EC-007-000 (which accompanied the main ES) and BID-EC-004-000 (which accompanies the SES and AP ES).

reported within the SES, however, the county level significance of the effect will be unchanged. Habitat creation measures within the original scheme will compensate for the loss of woodland, the loss of pond habitat, and potential loss of breeding sites, foraging habitat, and places of shelter used by great crested newt. This will reduce the level of effect such that it is not significant.

6.20 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 (AP-005-120)

6.20.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary Scottish Power Energy Networks 11kV underground power supply to Crewe South portal satellite compound and a permanent Scottish Power Energy Networks 11kV underground power supply to an HS2 pump station. The new temporary supply will be 10m in length, connecting to the existing utility along Casey Lane (see Map CT-05-239, F8 to F7, in the SES and AP ES Volume 2, CA5 Map Book). The new permanent supply will be 2km in length and run from a HS2 primary substation south of Newcastle Road, along Newcastle Road and Casey Lane and connecting to a HS2 pump station (see Map CT-06-239, H6 and I6 to E10, and Map CT-06-239-L1, G1 to F2, in the SES and AP ES Volume 2, CA5 Map Book). Approximately 0.8ha of additional land will be permanently required (see Map CT-05-239, H7 to G9 and G10 to F8, Map CT-05-239-L1, G2 to F1, Map CT-06-239, H7 to G9 and G10 to F8, and Map CT-06-239-L1, G2 to F1, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.20.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utilities. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new power supplies are currently planned to be carried out in 2023 and are expected to take approximately six months to complete.

6.20.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

6.21 Additional land for a new temporary United Utilities water main supply to the Basford cutting main compound and a temporary batching plant located within the compound (AP-005-121)

6.21.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary United Utilities water main supply to the Basford cutting main compound and to a temporary batching plant located within the compound. The new water main supply will be 390m in length, running along Weston Lane and connecting to the compound and batching plant. See Map CT-05-239, C8 to A9, in the SES and AP ES Volume 2, CA5 Map Book). Approximately 0.2ha of additional land will be permanently required (see Map CT-05-239, C8 to A9, in the SES and AP ES Volume 2,

CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.21.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new water main supply are currently planned to be carried out in 2020-2022 and are expected to take approximately 18 months to complete.

6.21.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for sound, noise and vibration, and community.

Sound, noise and vibration

6.21.4 As a result of the amendment, when considered in combination with the works identified in the main ES, a new construction noise impact is identified at approximately 30[33] residential properties on Larch Avenue, Basford and Weston Lane, Basford (represented by assessment locations ref.: 15126, 15127 and 15128) for a duration of up to two months. When considering the duration and scale of impact, these effects are considered to be significant when assessed on a community basis, taking account of the local context. Therefore, a new likely significant effect is identified at Basford in the vicinity of Larch Avenue and Weston Lane (ref.: CSV05-C06) at approximately 30 properties for a duration of up to two months. No additional mitigation has been identified compared to that defined in the draft Code of Construction Practice (CoCP)[34].

Community

6.21.5 No significant community effects were identified in Basford in the main ES. As a result of the amendment, a new significant noise effect is identified at 27 residential properties for up to two months. These 27 properties would experience significant visual effects from the original scheme. The significant noise and visual effects will result in a new in-combination effect on the amenity of residents of these properties for up to two months. However, as this effect is short term, it is not considered to be significant to the community as a whole. Therefore, this will not introduce a new significant effect compared to the main ES.

[33] The number of impacted properties identified within the likely significant construction noise effect is rounded up to the nearest five.
[34] HS2 Ltd (2017). *High Speed Rail (West Midlands - Crewe) Environmental Statement*, Volume 5: Technical appendices, draft Code of Construction Practice (CT-003-000). Available online at https://www.gov.uk/government/publications/draft-code-of-construction-practice-for-hs2-phase-2a

6.22 Additional land for a new temporary United Utilities water mains supply and Scottish Power Energy Networks power supply to the Crewe South crossovers satellite compound (AP-005-122)

6.22.1 Since submission of the Bill, a requirement has been identified for additional land for a new temporary United Utilities water main supply and new temporary Scottish Power Energy Networks power supply to the Crewe South crossovers satellite compound. The new water main supply and power supply will each be 900m in length, running parallel to the northern side of the A500 Shavington Bypass and to the eastern side of the West Coast Main Line. See Map CT-05-240-R1, I5 to G9, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 1.5ha of additional land will be permanently required (see Map CT-05-240-R1, I5 to G9, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.22.2 The activities will require the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utilities. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to install the new water mains supply and power supply are currently planned to be carried out in 2024 and are expected to take approximately three months to complete.

6.22.3 The amendment is considered to only require a reassessment of the environmental effects and mitigation described in the main ES for ecology and biodiversity.

Ecology and biodiversity

6.22.4 The main ES reported a temporary adverse effect on Basford Brook and Mere Gutter Local Wildlife Site (LWS) (and to the species supported within the site) that is significant at the local/parish level. The amendment will result in the loss of approximately 1ha of woodland and construction works will require a temporary pipe bridge[35] over a 25m stretch of the watercourse, which is a constituent feature of the LWS. The woodland is likely to qualify as lowland mixed deciduous woodland (a habitat of principal importance listed under the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006)[36]) and is of local/parish value. The Basford Brook and Mere Gutter LWS is a single watercourse and is of county value. In this location, the watercourse is known as Basford Brook, the habitats around and within Basford Brook support an assemblage of bat species and a population of white-clawed crayfish, both of county value. The amendment will result in a different significant effect to the LWS (and to the species supported) but will not change the level of significance of effects reported in the main ES. The loss of the woodland will result in an adverse effect at a local/parish level, which is not significant. The habitat creation measures within the original scheme will compensate for the loss of woodland.

[35] A pipe bridge is a bridge constructed to carry a pipe across a feature such as a river or stream.
[36] Natural Environment and Rural Communities Act 2006 (2006 CHAPTER 16), Her Majesty's Stationery Office, London

6.23 Additional land for the permanent diversion of Zayo telecommunication cable along the realigned Newcastle Road (AP-005-123)

6.23.1 Since submission of the Bill, a requirement has been identified for additional land to permanently divert an existing Zayo telecommunications cable along Newcastle Road. The diversion will be 1.5km in length, along the realigned Newcastle Road. See Map CT-06-239, J1 to G10, in the SES and AP ES Volume 2, CA5 Map Book. Approximately 0.2ha of additional land will be permanently required (see Map CT-06-239, I3 to H4, in the SES and AP ES Volume 2, CA5 Map Book). The additional land needed to meet this requirement is not included within the Bill, hence the need for this amendment.

6.23.2 The activities will require the removal of existing utility infrastructure (where necessary), the removal of any surface material from the area of the route (this may include vegetation, soil, and road surfacing) and installation of the utility. As required and where suitable, topsoil will be temporarily stored adjacent to the working area and will be used to reinstate the area once the works are complete. Activities to divert the utility are currently planned to be carried out in 2022-2023 and are expected to take approximately six months to complete.

6.23.3 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.

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