

# HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement 3 and  
Additional Provision 4 Environmental Statement

Volume 2 | Community forum area reports

CFA23 Balsall Common and Hampton-in-Arden

October 2015

SES3 and AP4 ES 3.2.1.23



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Department  
for Transport

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**AECOM**

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High Speed Two (HS2) Limited,  
One Canada Square,  
London  
E14 5AB

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: [HS2enquiries@hs2.org.uk](mailto:HS2enquiries@hs2.org.uk)

Website: [www.gov.uk/hs2](http://www.gov.uk/hs2)

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# Structure of the HS<sub>2</sub> Supplementary Environmental Statement 3 and Additional Provision 4 Environmental Statement

The Supplementary Environmental Statement (SES<sub>3</sub>) and Additional Provision 4 Environmental Statement (AP<sub>4</sub> ES) comprises:

- non-technical summary (NTS). This provides a summary in non-technical language of the SES<sub>3</sub> (Part 1) and AP<sub>4</sub> ES (Part 2) and of any likely significant environmental effects, both beneficial and adverse, which are new or different to those reported in the High Speed Two (HS<sub>2</sub>) Phase One Environmental Statement (ES) submitted to Parliament in November 2013 in support of the hybrid Bill ('the Bill') for Phase One of HS<sub>2</sub> (hereafter referred to as 'the main ES') as updated by subsequent SES and AP ES documents;
- Volume 1: introduction to the SES<sub>3</sub> and AP<sub>4</sub> ES. This introduces the supplementary environmental information and design changes included within the SES<sub>3</sub> and amendments, which have resulted in the need to amend the Bill, within the AP<sub>4</sub> ES. It also explains any changes to the scope, methodology, assumptions and limitations required for the environmental assessment;
- Volume 2: community forum area (CFA) reports and map books. These describe the supplementary environmental information and design changes included within the SES<sub>3</sub> (Part 1) and amendments within the AP<sub>4</sub> ES (Part 2). Any new or different likely significant environmental effects arising from these changes and amendments in each CFA, compared to those reported in the main ES, as updated by SES and SES<sub>2</sub> documents (and SES<sub>3</sub> for the AP<sub>4</sub> amendments) are reported. The AP<sub>1</sub>, AP<sub>2</sub> and AP<sub>3</sub> amendments are also taken into account where relevant. In addition, the main local alternatives that have been considered are described, where relevant;
- Volume 3: route-wide effects. This reports new or different likely significant route-wide effects arising from the supplementary environmental information and design changes included within the SES<sub>3</sub> (Part 1) and amendments within the AP<sub>4</sub> ES (Part 2) compared to those reported in the main ES as updated by SES and SES<sub>2</sub> (and SES<sub>3</sub> for the AP<sub>4</sub> amendments). The AP<sub>1</sub>, AP<sub>2</sub> and AP<sub>3</sub> amendments are also taken into account where relevant;
- Volume 4: off-route effects. This reports new or different likely significant off-route effects arising from the supplementary environmental information and design changes included within the SES<sub>3</sub> and amendments within the AP<sub>4</sub> ES compared to those reported in the main ES as updated by SES and SES<sub>2</sub> (and SES<sub>3</sub> for the AP<sub>4</sub> amendments). The AP<sub>1</sub>, AP<sub>2</sub> and AP<sub>3</sub> amendments are also

taken into account where relevant;

- Volume 5: appendices and map books. This contains environmental information and associated maps in support of the other volumes of the SES<sub>3</sub> and AP<sub>4</sub> ES; and
- glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and AP ES reports, additional to those included in the main ES.

# Structure of this report

This volume of the SES<sub>3</sub> and AP<sub>4</sub> ES is divided into CFA reports, which are in turn divided into two parts.

Part 1 of this CFA report provides supplementary environmental information relating to:

- new baseline information with respect to ecological surveys conducted during 2015;
- changes to the design or construction assumptions which do not require changes to the Bill; and
- a correction to the SES and AP<sub>2</sub> ES.

Part 1 of each CFA report includes, where relevant:

- a description of the changes or updates within the CFA that have triggered the need for reassessment;
- an assessment of the environmental effects of the changes for relevant environmental topics considering the:
  - scope, assumptions and limitations of the SES<sub>3</sub> assessment;
  - changes of relevance to the assessment;
  - environmental baseline;
  - effects arising during construction;
  - effects arising from operation; and
  - mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of the changes.

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

- a summary of the proposed amendments related to this CFA that have triggered the need for reassessment;
- a description of each amendment;
- an assessment of the environmental effects of each amendment for relevant environmental topics considering the:
  - scope, assumptions and limitations of the AP<sub>4</sub> ES 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 each proposed amendment.

# 1 Introduction

- 1.1.1 The Bill for high speed rail between London and the West Midlands was submitted to Parliament together with the main ES in November 2013. The AP1 ES, which was submitted in September 2014, contained generally minor amendments to the design of the original scheme (i.e. the scheme submitted in November 2013) in CFAs 7 – 26. The SES and AP2 ES which was submitted in July 2015, updated the main ES and contained a number of further amendments to the design of the original scheme in CFAs 4 – 26. The SES2 and AP3 ES which was submitted in September 2015, contained further updates to the main ES and reported the assessment of a number of amendments to the design of the original scheme in CFAs 1 – 5.
- 1.1.2 Since the submission of the main ES and subsequent SES and AP documents, updates to environmental baseline information and changes to scheme design or assumptions have occurred, which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES3 (Part 1) or AP4 ES (Part 2) of this document.
- 1.1.3 The Bill and associated Additional Provisions (APs) to the Bill described above, if enacted by Parliament, will provide the powers to construct, operate and maintain Phase One of HS2.
- 1.1.4 In order to differentiate between the original scheme and the subsequent changes, the terms set out in Table 1 are used:

Table 1: Scheme definitions

Scheme name	Definition	Relevant CFAs
the original scheme	the Bill scheme submitted to Parliament in November 2013, which was assessed in the main ES	1 – 26
the AP1 revised scheme	the original scheme as amended by the AP submitted in September 2014	7 – 26
the SES scheme	the original scheme with the design changes described in the SES submitted in July 2015	4 – 26
the AP2 revised scheme	the SES scheme as amended by the AP2 submitted in July 2015	4 – 26
the SES2 scheme	the original scheme as updated by the SES scheme, with the design changes described in the SES2 submitted in September 2015	1 – 5 (i.e. this applies in the London area only)
the AP3 revised scheme	the SES2 scheme as amended by the AP3 submitted in September 2015	1 – 5 (i.e. this applies in the London area only)
the SES3 scheme	the SES2 scheme with the design changes described in the SES3 submitted in October 2015	4 – 26
the AP4 revised scheme	the SES3 scheme as amended by the AP4 submitted in October 2015	4 – 26

- 1.1.5 SES<sub>3</sub> (Part 1 of this report) contains updated environmental baseline information and describes changes to the scheme that have occurred within the current limits and powers of the Bill, and therefore do not require an AP to the Bill. This includes:
- new baseline information with respect to ecological surveys conducted during 2015;
  - changes to the design or to construction assumptions which do not require changes to the Bill; and
  - a correction to the SES and AP<sub>2</sub> ES.
- 1.1.6 The design change assessed within the SES<sub>3</sub> for this CFA relates to the relocation of the Bickenhill Waste Recycling Centre, located within the Birmingham Interchange and Chelmsley Wood area (CFA<sub>24</sub>).
- 1.1.7 The change is described in Part 1 under a series of sub-headings, and assessed on a topic by topic basis using the same approach adopted in the main ES.
- 1.1.8 The purpose of the SES<sub>3</sub> is to provide an assessment of any new or different likely significant environmental effects arising from the changes described.
- 1.1.9 There were no SES<sub>2</sub> changes in this CFA so the SES<sub>3</sub> changes are compared to the SES scheme. There were AP<sub>2</sub> amendments so these are taken into account as appropriate.
- 1.1.10 The AP<sub>4</sub> ES (Part 2 of this report) 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 AP to the Bill. The amendments assessed within the AP<sub>4</sub> ES for this CFA include:
- an alternative access for overhead power line diversion south of Moat Farm;
  - provision of a new roundabout at the A<sub>452</sub> Kenilworth Road/Marsh Lane junction; and
  - the relocation of the Island Project School.
- 1.1.11 The AP<sub>4</sub> ES assesses each amendment separately for all relevant topics. The purpose of the AP<sub>4</sub> ES is to provide an assessment of any new or different likely significant environmental effects arising from the amendments compared to the SES<sub>3</sub> scheme, taking into account AP<sub>2</sub> amendments where relevant.
- 1.1.12 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in the main ES, Volume 1, Section 9 and the draft Code of Construction Practice (CoCP) submitted in support of the Bill. Implementation of these measures has been assumed in this SES<sub>3</sub> and AP<sub>4</sub> ES.

# Part 1: Supplementary Environmental Statement 3

## 2 Summary of changes

### 2.1 New environmental baseline information

#### Ecology

- 2.1.1 Habitat surveys and surveys for amphibians, bats and reptiles undertaken in this area during 2015 are relevant to this assessment.
- 2.1.2 Details of all amphibian surveys undertaken in this area during 2015 are provided in SES3 and AP4 ES Volume 5: Appendix EC-001-004 and Volume 5 map series EC-04.
- 2.1.3 The additional baseline data does not generate any new or different significant effects with respect to the original scheme, and therefore is not reported in Section 3.

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

- 2.2.1 Table 2 provides a summary of the changes to the design or to construction assumptions not requiring a change to the Bill which will result in new or different significant effects in the Balsall Common and Hampton-in-Arden CFA (CFA23). Figure 1 shows the locations of the changes.

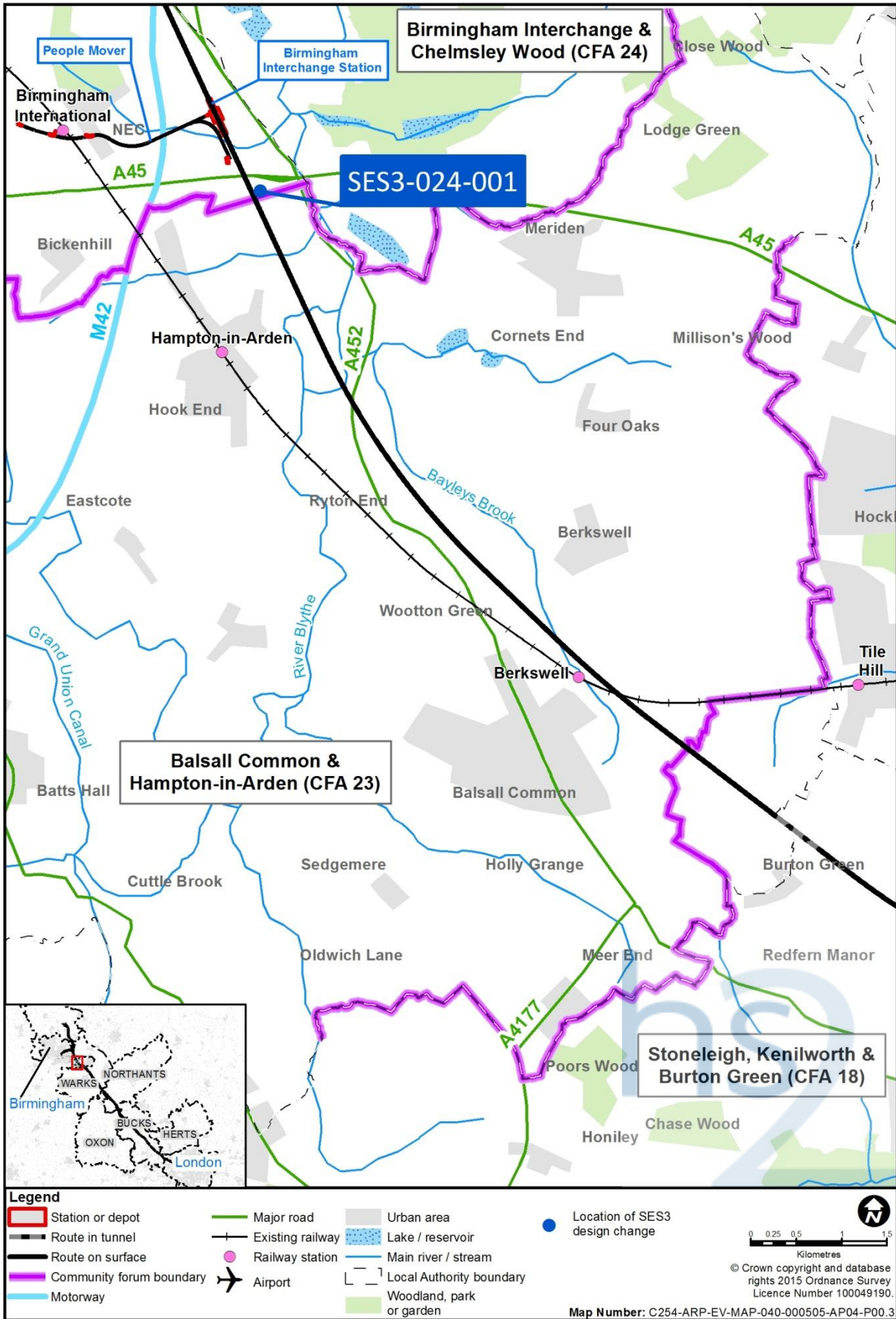
Table 2: Summary of changes to the design or to construction assumptions not requiring a change to the Bill in CFA24 that affect CFA23

Name of design change or construction assumption	Description of the SES scheme	Description of the SES3 scheme
Relocation of Bickenhill Waste Recycling Centre near the A45 Coventry Road in CFA24  (SES3-024-001)	The Bill provides for a realigned access to the Bickenhill Waste Recycling Centre to enable it to remain open during construction. Access to the Bickenhill Waste Recycling Centre would be elevated to tie in with the raised A45 Service Road.	<p>The Bickenhill Waste Recycling Centre will be relocated to the site previously proposed for the A45/A45 Service Road overbridges satellite compound and temporary stockpiles. The new recycling centre will be approximately 30–40% larger than the existing facility. The recycling centre will include a 'zig-zag' queuing lane to minimise the risk of queuing on the A45 Service Road, increased skip area providing a greater number of recycling bins, service yard, kerbside recycling bulking and transfer area, provision of a new resale area, weighbridge, and welfare facilities. A new balancing pond will also be provided.</p> <p>The original A45/A45 Service Road overbridges satellite compound will be relocated and combined with the East Way Loop satellite compound, and will be renamed the A45/A45 Service Road overbridges satellite compound. A new Diddington Lane overbridge satellite compound will be provided to the east of the new Bickenhill Waste Recycling Centre. Shadow Brook satellite compound will also be</p>

SES<sub>3</sub> and AP<sub>4</sub> ES Volume 2 – CFA23, Balsall Common and Hampton-in-Arden

<b>Name of design change or construction assumption</b>	<b>Description of the SES scheme</b>	<b>Description of the SES<sub>3</sub> scheme</b>
		relocated to accommodate alterations to materials stockpiles.

Figure 1: Locations of design changes not requiring a change to the Bill in CFA23



## 2.3 Description of changes to the design or construction assumptions

- 2.3.1 There are no changes to the design or construction assumptions in the Balsall Common and Hampton-in-Arden community forum area (CFA23) that result in a new or different significant effect.

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

#### *Relocation of Bickenhill Waste Recycling Centre near the A45 Coventry Road (SES3-024-001)*

- 2.3.2 The Bill provides for the construction of the HS2 route as it intersects the A45 Coventry Road north-east of the Bickenhill Waste Recycling Centre. The HS2 route would be in cutting and would gradually rise to ground level north of the A45 Coventry Road before entering the area of the Birmingham Interchange station. Highway works to the A45 Coventry Road and A45 Service Road would require a permanent minor realignment of the access to the Bickenhill Waste Recycling Centre, which would require the existing access to be raised to tie in with the raised A45 Service Road (see grid reference D7, map CT-06-105a, in the main ES Volume 2, CFA23 Map Book).
- 2.3.3 Since submission of the Bill, consultation with Solihull Metropolitan Borough Council and further consideration of construction and operational access issues at the existing facility concluded that the Bickenhill Waste Recycling Centre should be relocated. The relocation will be approximately 200m east of the existing site, to the site of the A45/A45 Service Road overbridges satellite compound and temporary stockpiles proposed in the original scheme. This compound will be relocated and combined with the East Way Loop satellite compound and will be renamed the A45/A45 Service Road overbridges satellite compound. A new Diddington Lane overbridge satellite compound will be provided to the south-east of the site of the new Bickenhill Waste Recycling Centre, in order to accommodate the works for its construction. Shadow Brook satellite compound is also relocated to accommodate alterations to materials stockpiles. No new construction routes will be used. See map CT-05-105a, in SES3 and AP4 ES, Volume 2, CFA23 Map Book.
- 2.3.4 The new Bickenhill Waste Recycling Centre will be similar to the existing waste recycling centre, but approximately 30-40% larger in area than the existing facility to meet modern standards. The operational site will include: a larger skip area providing a greater number of recycling bins, service yard, kerbside recycling bulking and transfer area, provision of a new resale area, weighbridge and welfare facilities. The facility will include a 'zig-zag' queuing lane, to reduce the risk of queuing on the A45 Service Road once operational. Access to the new facility will be provided from the A45 Service Road, as is the case for the existing facility. A new balancing pond will be provided for surface water run off from additional hard surface areas within the site. It is assumed that the new waste recycling centre will operate with the same opening hours as the existing recycling centre. The existing facility will be retained until the new facility is operational. The provision of the new Bickenhill Waste Recycling Centre is within the original Bill limits, and will cover approximately 1.6ha when complete. See map CT-06-105b, in SES3 and AP4 ES, Volume 2, CFA24 Map Book.

- 2.3.5 The new Diddington Lane overbridge satellite compound will be located approximately 350m south-east of the A45 Service Road overbridge. Works will commence in approximately quarter two of 2017 and continue for one year and three months.
- 2.3.6 The design change results in new or different significant effects for cultural heritage. The cultural heritage assets affected by the SES3 change are located within this CFA. There are no assets affected within CFA24, therefore the assessment has been reported in Section 3 of this report.

## **2.4 Corrections**

- 2.4.1 Since submission of the SES and AP2 ES, the need for a number of corrections in the contents of the SES and AP2 ES has been identified. Table 3 reports where there has been a need to correct the Volume 2 CFA report for Balsall Common and Hampton-in-Arden because of the potential to alter the significant environmental effects reported. The table gives the location of the correction in the SES and AP2 ES, the reason for the correction, replicates the text, where applicable provides revised text, and identifies whether the correction changes a significant effect reported. Where relevant, these corrections have been taken into account in the technical assessments contained within Section 3 of this SES3.

## **2.5 Topics included in the SES3 assessment**

- 2.5.1 The change described in Sections 2.2 to 2.4, result in new or different significant effects in respect of cultural heritage.



Table 3: Summary of corrections in CFA23

Reference in the relevant ES	Reason for correction	Text in the SES and AP2 ES	Revised text	Change to significant effects and mitigation
<p>Cultural Heritage Paragraph 5.6.72 Volume 2, CFA23 of the SES and AP2 ES (Part 2)</p>	<p>The SES and AP2 ES (Part 2) reported that Diddington Farmhouse would be subject to a moderate adverse significant effect on its setting. The level of significance should have been reported as a major adverse effect (as reported in the main ES).</p>	<p>The main ES reported that Diddington Farmhouse (asset reference BHA222) would be temporarily affected by the construction activities associated with the construction of Pasture Farm accommodation overbridge, the Diddington cutting, construction of balancing ponds and the presence of the A45/A45 Service Road overbridges satellite compound (located within CFA24), resulting in moderate adverse temporary effect. The setting of Diddington Farmhouse (asset reference BHA222) will be affected by activity associated with the construction of the amendment, namely Diddington Lane overbridge and the earthworks associated with the realigned Diddington Lane. However, the amendment will involve the removal of Pasture Farm accommodation overbridge. Therefore the effect will remain as reported in the main ES, with a low adverse impact, resulting in a moderate adverse effect.</p>	<p>The main ES reported that Diddington Farmhouse (asset reference BHA222) would be temporarily affected by the construction activities associated with the construction of Pasture Farm accommodation overbridge, the Diddington cutting, construction of balancing ponds and the presence of the A45/A45 Service Road overbridges satellite compound (located within CFA24), resulting in major adverse temporary effect. The setting of Diddington Farmhouse (asset reference BHA222) will be affected by activity associated with the construction of the amendment, namely Diddington Lane overbridge and the earthworks associated with the realigned Diddington Lane. However, the amendment will involve the removal of Pasture Farm accommodation overbridge. Therefore the effect will remain as reported in the main ES, with a medium adverse impact, resulting in a major adverse effect.</p>	<p>Yes.  In the SES and AP2 ES (Part 2) the significance of effect was incorrectly reported as moderate adverse. The major adverse significant effect was as reported in the main ES.</p>

## 3 Assessment of changes

### 3.1 Cultural heritage

#### Introduction

3.1.1 This section of the report describes the environmental baseline in relation to cultural heritage that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to those of the SES scheme.

3.1.2 Consideration is given to effects upon the value of heritage assets, including through changes to their setting, as a result of the additional changes.

#### Scope, assumptions and limitations

3.1.3 The assessment scope, key assumptions and limitations for the cultural heritage assessment are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/02) of the main ES.

3.1.4 This SES3 design change is located in the Birmingham Interchange and Chelmsley Wood area (CFA24), however the likely effects of the SES3 scheme on assets which are located within this CFA are reported in this SES3.

#### SES3 changes of relevance to this assessment

3.1.5 The SES3 design change to relocate the Bickenhill Waste Recycling Centre near the A45 Coventry Road (SES3-024-001) is considered in this assessment.

#### Environmental baseline

##### *Existing baseline*

3.1.6 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walk-over, geophysical survey, remote-sensing data, and data from national and local registers. A full list of heritage assets is provided in Volume 2, Section 6 of the main ES.

3.1.7 A summary of the baseline information relevant to the assessment of new or different effects is provided below. For those assets described in the main ES, further details are provided in the baseline reports, gazetteer of heritage assets, impact assessment tables and survey reports in Volume 5 of the main ES and are shown on maps CH-01 (Heritage Assets within Study Area), CH-02 (Designated Heritage Assets) and CH-03 (Archaeological Character Sub-zones).

#### Designated assets

3.1.8 Diddington Farmhouse (asset reference BHA222) is a Grade II\* listed building and an asset of high value. The asset is located approximately 400m south-east of the SES3 design change. It lies within a rural landscape and remains as a working farm. The setting of the farmhouse contributes to the value of the asset.

3.1.9 Pasture Farmhouse (asset reference BHA225) is a Grade II listed building and an asset of moderate value. The asset is located approximately 250m south-west of the SES3

design change. It is a 17th century timber-framed farmstead whose value is enhanced by the survival of its contemporary barn. The farmhouse lies within a rural landscape that enhances its value and the appreciation of the building's function.

### **Non-designated assets**

- 3.1.10 No non-designated heritage assets have been identified that will be affected by the relocation of the Bickenhill Waste Recycling Centre.

### *Future baseline*

#### **Construction (2017)**

- 3.1.11 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and the SES and AP2 ES.
- 3.1.12 None of the identified developments affect the assessment of the SES3 scheme's likely construction impacts on cultural heritage.

#### **Operation (2026)**

- 3.1.13 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and the SES and AP2 ES.
- 3.1.14 None of the identified developments affect the assessment of the SES3 scheme's likely operational impacts on cultural heritage.

### **Effects arising during construction**

#### *Avoidance and mitigation measures*

- 3.1.15 The assessment assumes implementation of the measures set out within the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES), which includes management measures that will be implemented for assets that are to be retained within the land required for the construction, as well as a programme for archaeological investigation and recording, prior to construction.

#### *Assessment of impacts and effects*

##### **Temporary effects**

- 3.1.16 The main ES reported that Diddington Farmhouse (asset reference BHA222) would be affected by the presence of construction activity associated with the construction of the original scheme including Pasture Farm accommodation overbridge, Diddington cutting, balancing ponds and presence of the A45/A45 Service Road overbridges satellite compound. The main ES reported that this would result in a major adverse effect.
- 3.1.17 The SES3 design change to relocate the Bickenhill Waste Recycling Centre will be an additional construction element which will be visible from the asset and will affect its rural setting, which contributes to its value. The SES3 design change will give rise to a different significant effect due to the change to the setting of Diddington Farmhouse. However, this will not change the level of significance of the effects reported in the main ES.

- 3.1.18 The main ES also reported that Pasture Farmhouse (asset reference BHA225) would be affected by the presence of construction activity associated with the construction of the original scheme including Pasture Farm accommodation overbridge and the presence of construction plant. The main ES reported that this would result in a moderate adverse effect.
- 3.1.19 The SES3 design change to relocate the Bickenhill Waste Recycling Centre will be an additional construction element which will be visible from the asset and will affect its rural setting, which contributes to its value. The SES3 design change will give rise to a different significant effect due to the change to setting of Pasture Farmhouse. However, this will not change the level of significance of the effects reported in the main ES.

### **Permanent effects**

- 3.1.20 The main ES reported that Diddington Farmhouse (asset reference BHA222) would have its setting changed by the presence of elements of the original scheme including the Pasture Farm accommodation overbridge and a number of balancing ponds, resulting in a moderate adverse effect.
- 3.1.21 The SES3 design change to relocate the Bickenhill Waste Recycling Centre will introduce a new element into the setting of the asset. This will give rise to a different significant effect due to the change to setting of Diddington Farmhouse. The SES3 design change will not however change the level of significance of the effects reported in the main ES.
- 3.1.22 The main ES reported that Pasture Farmhouse (asset reference BHA225) would have its setting changed by the presence of elements of the original scheme including the Pasture Farm accommodation overbridge, resulting in a moderate adverse effect.
- 3.1.23 The SES3 design change to relocate the Bickenhill Waste Recycling Centre, will introduce a new element into the setting of the asset. This will give rise to a different significant effect due to change to the setting of Pasture Farmhouse. The SES3 design change will not however change the level of significance of the effects reported in the main ES.
- 3.1.24 Therefore, the SES3 design change to relocate the Bickenhill Waste Recycling Centre near the A45 Coventry Road will give rise to different significant effects due to the change to setting of Pasture Farmhouse and Diddington Farmhouse. However, this will not change the level of significance of the effects reported in the main ES.

### *Other mitigation measures*

- 3.1.25 No other mitigation measures are proposed.

### *Cumulative effects*

- 3.1.26 The SES3 design change has been assessed for potential cumulative effects with the AP2 amendment for the Realignment of Diddington Lane (AP2-023-005), reported in the SES and AP2 ES (Volume 2, CFA Report 23, Section 5).
- 3.1.27 The AP2 amendment includes the realignment of Diddington Lane and also the removal of Pasture Farm overbridge from the scheme design. The SES and AP2 ES (Part 2) reported that Diddington Farmhouse (asset reference BHA222) would be

temporarily affected by the construction activity, but would not change the level of significance of the temporary effects reported in the main ES.

- 3.1.28 The SES3 design change will introduce an additional element, in addition to the construction associated with the AP2 revised scheme, into the view from the asset. However, this will not change the level of significance of the temporary effect reported in the main ES and the SES and AP2 ES (Part 2). The presence of the relocated Bickenhill Waste Recycling Centre in combination with the AP2 revised scheme will again add an additional element into the rural setting of the asset, resulting in a different significant effect. This will not however change the level of significance of the permanent effect reported in the SES and AP2 ES (Part 2).
- 3.1.29 The SES and AP2 ES (Part 2) reported that the setting of Pasture Farmhouse (asset reference BHA225) would be further affected by construction activity associated with the AP2 revised scheme. It was reported that this would not however change the level of significance of the temporary effects reported in the main ES, which would remain as moderate adverse significant effect.
- 3.1.30 The SES3 design change will introduce an additional element into the view from the asset, in addition to the construction associated with the AP2 revised scheme, resulting in a different significant effect. However, this will not change the level of significance of the temporary effect reported in the SES and AP2 ES (Part 2). The presence of the relocated Bickenhill Waste Recycling Centre in combination with the elements of the AP2 revised scheme will permanently add an additional element into the rural setting of the asset, resulting in a different significant effect. This will not however change the significance of the permanent effect reported in the SES and AP2 ES (Part 2).

### *Summary of likely residual significant effects*

- 3.1.31 The SES3 design change to relocate the Bickenhill Waste Recycling Centre will give rise to different likely residual significant temporary and permanent effects on the setting of Diddington Farmhouse (asset reference BHA222) and Pasture Farmhouse (asset reference BHA225). However, this will not change the level of significance of the effects reported in the main ES.
- 3.1.32 Cumulatively the SES3 design change to relocate the Bickenhill Waste Recycling Centre near the A45 Coventry Road and the Diddington Lane realignment (AP2-023-005) will give rise to different significant effects on the setting of Pasture Farmhouse (asset reference BHA225) and Diddington Farmhouse (asset reference BHA222). However, this will not change the level of significance of the effects reported in the SES and AP2 ES (Part 2).

### **Effects arising from operation**

- 3.1.33 The SES3 design change does not change the operation of the scheme and so there are no new or different significant operation effects for cultural heritage as a result of the SES3 design change, compared with those reported in the main ES or SES and AP2 ES.

# Part 2: Additional Provision 4 Environmental Statement

## 4 Summary of amendments

- 4.1.1 Table 4 provides a summary of the amendments in the Balsall Common and Hampton-in-Arden area (CFA23) and Figure 2 shows the locations.
- 4.1.2 An assessment of the likely significant environmental effects associated with the disposal of construction, demolition, excavation, worker accommodation site and operational waste has been undertaken for the SES3 scheme and AP4 revised scheme as a whole. See Volume 3, Section 19 of the SES3 and AP4 ES for further information.

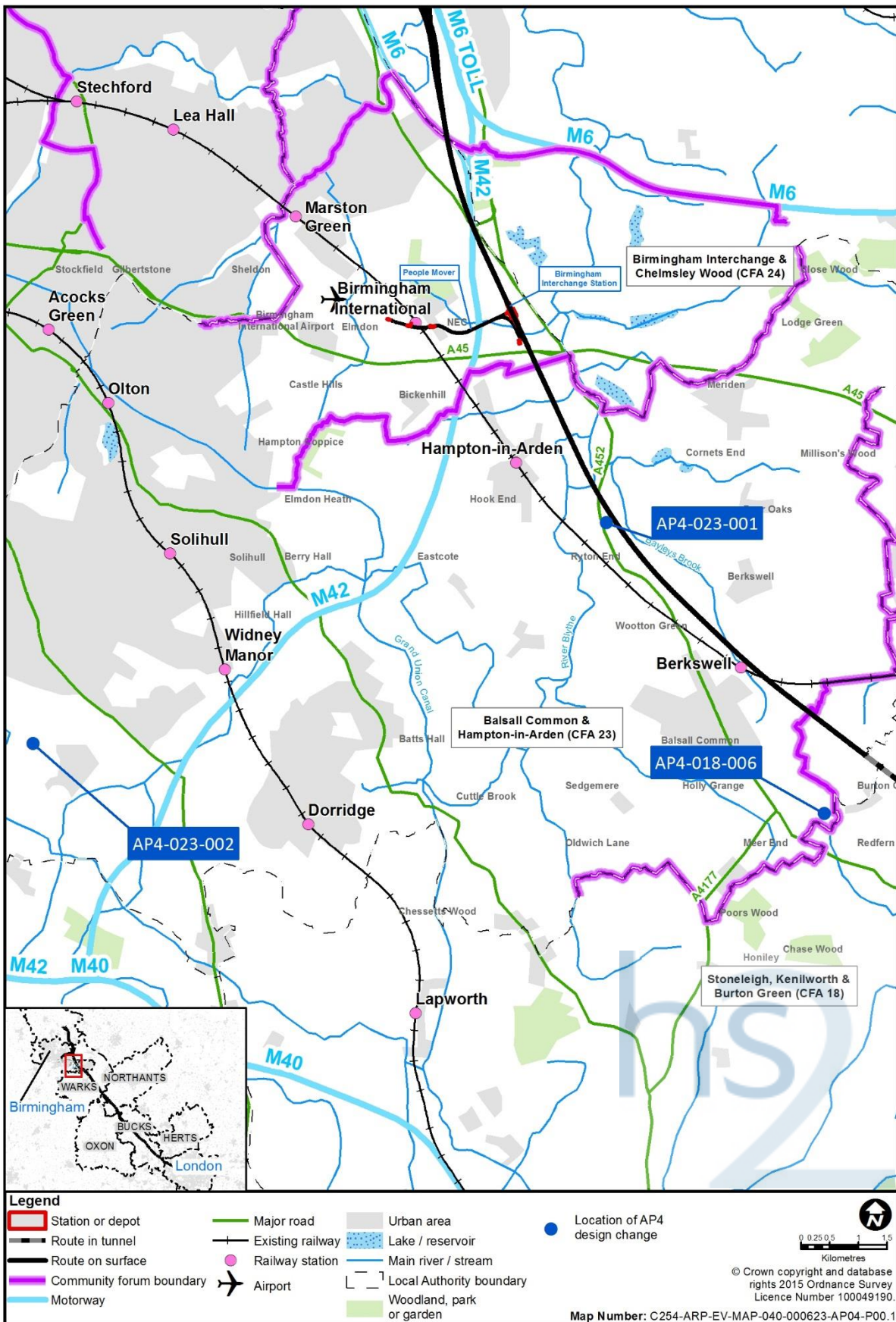
Table 4: Summary of amendments in CFA23

Name of amendment	Description of the SES <sub>3</sub> scheme	Description of the AP <sub>4</sub> revised scheme
<p>Alternative access for overhead power line diversion south of Moat Farm</p> <p>(AP<sub>4</sub>-018-006)</p>	<p>The Bill provided for diversion of the Berkswell substation 132kV overhead electricity line in the vicinity of Burton Green. A temporary access route leading from Hob Lane at Moat Farm was to be provided to the winching location to facilitate the diversion.</p>	<p>The provision of an alternative temporary access to the winching location, further south via agricultural land from the A<sub>452</sub> Kenilworth Road east of Black Hales Farm, in order to avoid the need for bridge upgrades and demolition activities. The revised access will follow existing field boundaries, crossing one field boundary with established vegetation. Although additional land will be required for the alternative access, no construction works will be necessary. The alternative temporary access is partially located within CFA<sub>23</sub> Balsall Common and Hampton-in-Arden.</p>
<p>Additional land required for roundabout at A<sub>452</sub> Kenilworth Road/Marsh Lane Junction.</p> <p>(AP<sub>4</sub>-023-001)</p>	<p>Permanent realignment of the A<sub>452</sub> Kenilworth Road over a distance of 1.7km, approximately 100m east of the existing alignment and raised up to 13.5m above ground level. Existing high voltage Western Power underground power line and telecommunications underground cables would be diverted along the realigned highway and through the new road bridge.</p> <p>Marsh Lane would be extended to join the realigned A<sub>452</sub> Kenilworth Road. The existing gap in the central reserve would be closed, allowing for vehicles turning in left off the northbound carriageway and left onto the northbound carriageway only.</p> <p>Bayleys Brook would be diverted through a new culvert under the A<sub>452</sub> Kenilworth Road and the existing culvert under the stopped up section of carriageway would be removed and replaced with an open channel.</p> <p>Mercote Hall Lane (Bridleway M<sub>218</sub>) accommodation overbridge would carry Mercote Hall Lane over the HS<sub>2</sub> route. Access to the overbridge and to a balancing pond would be provided from the A<sub>452</sub> Kenilworth Road southbound carriageway only.</p> <p>Areas of native broadleaved woodland, shrub and grassland planting provided along the embankments of the diverted</p>	<p>Provision of an all movement roundabout at the A<sub>452</sub> Kenilworth Road/Marsh Lane junction.</p> <p>Marsh Lane will be realigned to join the new junction and Mercote Hall Lane and earthworks raised slightly to accommodate the new roundabout and tie into the new junction.</p> <p>Amendment to the Bayleys Brook diversion including a new culvert under the new Marsh Lane (approximately 25m in length) and an increase in length of the culvert under Mercote Hall Lane from 26m to 46m.</p> <p>New permanent road lighting and advanced signage will be provided along the A<sub>452</sub> Kenilworth Road from the new roundabout junction to the existing A<sub>452</sub> Kenilworth Road/Bradnocks Marsh Lane roundabout.</p> <p>Mitigation planting provided west of the balancing pond and east of Marsh Lane will be reduced.</p>

Name of amendment	Description of the SES <sub>3</sub> scheme	Description of the AP <sub>4</sub> revised scheme
	A452 Kenilworth Road, south of the balancing pond and west of Marsh Farm.	
<p>Additional land required for the relocation of the Island Project School</p> <p>(AP<sub>4</sub>-023-002)</p>	<p>The Island Project School is located at Diddington Hall, approximately 350m north-east of Shadow Brook underbridge and 350m east of Diddington Lane. The HS<sub>2</sub> route would pass through this area on the Diddington Lane embankment before passing over the Shadow Brook underbridge continuing in Diddington cutting towards the Birmingham Interchange and Chelmsley Wood community forum area (CFA<sub>24</sub>).</p> <p>As reported in SES and AP<sub>2</sub> ES Volume 2, CFA<sub>23</sub>, the AP<sub>2</sub> amendment for the Realignment of Diddington Lane (AP<sub>2</sub>-023-005) would see Diddington Lane realigned to the west of the HS<sub>2</sub> route, approximately 450m east of the Island Project School.</p>	<p>The original scheme resulted in a number of adverse effects on the Island Project School which would affect the children attending the school. In consultation with Island Project School, an alternative location for the school has been identified.</p> <p>The amendment proposes to relocate the Island Project School to Jerrings Hall Farm, Solihull, West Midlands. The new site is located outside of the CFA<sub>23</sub> study area, approximately 11.3 km from the existing Island Project School at Diddington Hall. The new school will require internal and external alterations including the provision of a new building and car parking to make the site suitable for the Island Project School to operate. The farmhouse is a Grade II listed building.</p>



Figure 2: Locations of amendments in CFA23



## 5 Assessment of amendments

### 5.1 Alternative access for overhead power line diversion south of Moat Farm (AP<sub>4</sub>-018-006)

- 5.1.1 The following describes the elements of the SES<sub>3</sub> scheme which will be amended as part of the AP<sub>4</sub> revised scheme within Stoneleigh, Kenilworth and Burton Green (CFA<sub>18</sub>) and CFA<sub>23</sub>.
- 5.1.2 The Bill provided for diversion of the Berkswell substation 132kV overhead electricity line in the vicinity of Burton Green. A temporary access route leading from Hob Lane at Moat Farm was to be provided to the winching location to facilitate the diversion (refer to main ES maps CT-05-099-L1, grid references F5-F7, in the Volume 2, CFA<sub>18</sub> Map Book). This would require the upgrade of two accommodation bridges and the demolition of a residential garage. The initial section of the temporary access route from Hob Lane through Moat Farm was located within CFA<sub>18</sub> Stoneleigh, Kenilworth and Burton Green, with the remainder of the route up to the winching location located within CFA<sub>23</sub> Balsall Common and Hampton-in-Arden.
- 5.1.3 Since submission of the Bill, an alternative temporary access route to the winching location has been identified, which avoids the need for upgrade of the accommodation bridges and demolition of the residential garage. This revised route will be provided further south via agricultural land from the A<sub>452</sub> Kenilworth Road, east of Black Hales Farm (refer to map CT-05-099b-L2, grid references F1-F6 in the SES<sub>3</sub> and AP<sub>4</sub> ES Volume 2, CFA<sub>23</sub> Map Book). The revised access will follow existing field boundaries, crossing one field boundary with established vegetation. At this field boundary vegetation will need to be locally removed with replanting on completion of the works. No topsoil stripping or hardcore placement of the route will be required and only light construction vehicles would utilise this access with few vehicular movements required.
- 5.1.4 Approximately 0.67ha of additional land outside of the Bill limits is required temporarily for the new alternative access. The majority of this lies within CFA<sub>18</sub> Stoneleigh, Kenilworth and Burton Green with a short section partially located within CFA<sub>23</sub> Balsall Common and Hampton-in-Arden. There is also an approximate 0.17ha reduction in land required temporarily, with 0.05ha of this within CFA<sub>23</sub>. Overall there is a net increase of approximately 0.5ha of land required temporarily for the alternative access.
- 5.1.5 The AP<sub>4</sub> amendment is not considered to make changes that require a reassessment of the effects or proposed mitigation as set out in the main ES with respect to any environmental topics within the Balsall Common and Hampton-in-Arden area (CFA<sub>23</sub>). For the assessment of effects within CFA<sub>18</sub>, see the SES<sub>3</sub> and AP<sub>4</sub> ES, Volume 2 report for Stoneleigh, Kenilworth and Burton Green.

### 5.2 Additional land required for roundabout at A<sub>452</sub> Kenilworth Road/Marsh Lane junction (AP<sub>4</sub>-023-001)

- 5.2.1 The Bill provides for the realignment of the A<sub>452</sub> Kenilworth Road over a distance of 1.7km and with a deviation of approximately 100m east of the existing alignment. The road would be raised up to 13.5m in height above ground level and cross the route via

the A452 Kenilworth Road overbridge, which would be approximately 10m above rail level. The stopped up section of the A452 Kenilworth Road would be closed to vehicular traffic and would be partially landscaped with part of the existing carriageway retained to provide access to a balancing pond. The road construction works include 24-hour working for a total of three weekends within an eight month period. An existing high voltage Western Power underground power line and telecommunications underground cables would be diverted along the realigned highway and through the new road bridge. Areas of native broadleaved woodland, shrub and grassland planting are proposed along the embankments of the diverted A452 Kenilworth Road, providing visual screening to residential properties along Marsh Lane and users of Footpath M230A.

- 5.2.2 The existing gap in the central reservation would be removed, and an extension of Marsh Lane onto the realigned A452 Kenilworth Road would be provided for vehicles turning left from the northbound carriageway only and for vehicles exiting left on to the northbound carriageway only. Bayleys Brook would be diverted through a new culvert under the A452 Kenilworth Road and the existing culvert under the stopped up section of carriageway would be removed and replaced with an open channel.
- 5.2.3 The Mercote Hall Lane (Bridleway M218) accommodation overbridge would be approximately 9m above rail level and would carry Mercote Hall Lane and Bridleway M218 over the HS2 route and provide a private means of access. A floodplain replacement storage area would be provided under Marsh Farm viaduct and one balancing pond and associated access road, south of Marsh Farm viaduct, provided for drainage. Planting to the south of the balancing pond and west of Marsh Farm would provide visual screening to Mercote Cottages and Marsh Farm. See CT-06-103 in the main ES, Volume 2, CFA23 Map Book.
- 5.2.4 Since submission of the Bill, access to the Bradnock auto-transformer station has been redesigned. This will be provided via an access track which will be located parallel to the HS2 route, rather than with direct access to the auto-transformer station from the existing A452 Kenilworth Road/Bradnocks Marsh Lane roundabout. The land required for the realignment of the access track is within the limits of the Bill.
- 5.2.5 Further consideration has been given to improving operational traffic movements northbound and southbound along the A452 Kenilworth Road, and into and out of Marsh Lane in this area. A new roundabout will be provided at the A452 Kenilworth Road/Marsh Lane junction. Marsh Lane will be permanently extended along a new alignment to join the roundabout. An access onto the roundabout will also be provided enabling access to and from Mercote Hall Lane (via Mercote Hall Lane (Bridleway M218) accommodation overbridge), the flood compensation area beneath Marsh Farm viaduct, the balancing pond west of Marsh Farm and the Bradnock auto-transformer station. Mercote Hall Lane and its associated earthworks will be raised slightly to accommodate the new roundabout and tie into the junction, reducing the approach gradient on the south-west side of the route. New permanent road lighting and advanced signage will be provided along the A452 Kenilworth Road between the new roundabout and the A452 Kenilworth Road/Bradnocks Marsh Lane roundabout. Approximately 1.1ha of additional land not included within the original limits of the Bill is required temporarily, hence the need for this amendment.

- 5.2.6 The provision of the roundabout will require changes to drainage design included in the original scheme as updated by the SES scheme. The following changes are proposed:
- the open channel proposed in the SES scheme to replace the existing culvert under the A452 Kenilworth Road will be reduced in length by approximately 10m;
  - the culvert proposed under the realigned A452 Kenilworth Road in Part 1 of the SES and AP2 ES will remain unchanged in length;
  - the culvert proposed under Mercote Hall Lane in Part 1 of the SES and AP2 ES will increase from approximately 26m to 46m due to the raised level of Mercote Hall Lane;
  - a new culvert, approximately 25m in length, will be provided on the Bayleys Brook under the realigned Marsh Lane; and
  - extension of the existing culvert crossing beneath Marsh Lane by 1m to accommodate the required vehicle access.
- 5.2.7 Areas of landscape mitigation planting proposed west of the balancing pond and east of Marsh Lane will be reduced. See map CT-06-103, in the SES3 and AP4 ES, Volume 2, CFA23 Map Book.
- 5.2.8 The construction of the A452 Kenilworth Road/Marsh Lane Junction will be managed from the A452 Kenilworth Road overbridge satellite compound and will take up to two years and six months to complete, commencing in approximately quarter four of 2017, in conjunction with the realignment of the A452 Kenilworth Road. The works will extend the duration of the A452 Kenilworth Road overbridges satellite compound by approximately six months.
- 5.2.9 The provision of the A452 Kenilworth Road/Marsh Lane junction is not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: agriculture, forestry and soils, air quality, cultural heritage, ecology, land quality, and socio-economics. However, there are changes where reassessment is considered to be required in respect of community, ecology, landscape and visual assessment, sound, noise and vibration, traffic and transport, and water resources and flood risk assessment.

## Community

### *Introduction*

- 5.2.10 This section of the report describes the environmental baseline in relation to community that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment, compared to those of the SES3 scheme.

### *Scope, assumptions and limitations*

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

### *Existing baseline*

- 5.2.12 The baseline community information for the area is as described in the main ES (Volume 2, CFA<sub>24</sub>, Section 5).
- 5.2.13 The area is predominantly rural, with some residential dwellings scattered along the A<sub>452</sub> Kenilworth Road including Marsh Farm, Mercote Lodge and Hornbrook Cottage.

### *Future baseline*

#### **Construction (2017)**

- 5.2.14 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, and the SES and AP<sub>2</sub> ES.
- 5.2.15 None of the identified developments affect the assessment of the amendment's likely construction impacts on community.

#### **Operation (2026)**

- 5.2.16 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES, and the SES and AP<sub>2</sub> ES.
- 5.2.17 None of the identified developments affect the assessment of the amendment's likely operational impacts on community.

### *Effects arising during construction*

- 5.2.18 The main ES reported a major adverse amenity effect on six residential properties located off the A<sub>452</sub> Kenilworth Road and Marsh Lane for up to 13 months, due to noise and visual effects associated with the construction of the original scheme in this area. A significant vibration effect was also identified on Mercote Lodge and Hornbrook Cottage.
- 5.2.19 The AP<sub>4</sub> amendment to provide a roundabout at the A<sub>452</sub> Kenilworth Road/Marsh Lane junction will increase construction activity in this area. The existing group of residential properties which were reported to experience a significant noise effect in the main ES would be expanded, to also include Arden House, and the duration of the effect will be increased on the group by approximately two months. The group (including Arden House) was already subjected to significant visual effects associated with construction of the original scheme. The AP<sub>4</sub> amendment will therefore give rise to a different significant effect, increasing the number of residential properties on the A<sub>452</sub> Kenilworth Road and Marsh Lane from six properties to seven, and increasing the duration from up to 13 months to up to 15 months. However, this will not change the level of significance of the effects reported in the main ES.

### *Effects arising from operation*

- 5.2.20 The AP<sub>4</sub> amendment to provide a roundabout at the A<sub>452</sub> Kenilworth Road/Marsh Lane junction will not give rise to a new or different significant effect from operation and will not change the level of significance of the effects reported in the main ES.

### *Mitigation and residual effects*

- 5.2.21 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.
- 5.2.22 The AP<sub>4</sub> amendment will give rise to a different likely residual significant effect on amenity increasing from six to seven residential properties, and increase the duration from up to 13 months to up to 15 months on the A<sub>452</sub> Kenilworth Road and Marsh Lane during construction.

### *Cumulative effects*

- 5.2.23 There are no new or different likely significant cumulative effects for community as a result of the AP<sub>4</sub> amendments interacting with one another, the AP<sub>2</sub> amendments or any relevant committed developments.

## **Ecology**

### *Introduction*

- 5.2.24 This section of the report describes the environmental baseline in relation to ecology that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the AP<sub>4</sub> amendment, compared to those of the SES<sub>3</sub> scheme.
- 5.2.25 This section considers the single aspect of the AP<sub>4</sub> amendment which is of relevance to ecology; the change in length of culverting on the Bayleys Brook. Other aspects of the amendment are not considered to result in new or different significant effects on ecology.

### *Scope, assumptions and limitations*

- 5.2.26 Updates to the assessment scope for ecology are set out in Volume 1 of SES<sub>3</sub> and AP<sub>4</sub> ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/01) and the SMR Addendum (Volume 5: Appendix CT-001-000/01 and CT-001-000/02 of the main ES) of the main ES and in Addendum 4 to the SMR (SES<sub>3</sub> and AP<sub>4</sub> ES Volume 5: Appendix CT-001-000/5).
- 5.2.27 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP<sub>4</sub> revised scheme.

### *Existing baseline*

- 5.2.28 There are no changes in baseline data to report in this section. A summary of the baseline information relevant to the assessment of the AP<sub>4</sub> amendment is provided below. For those receptors described in the main ES, further details are provided in Volume 2, CFA<sub>23</sub>, Section 7 and in Volume 5, including maps EC-01 to EC-12 of the main ES.

### **Designated sites**

- 5.2.29 The River Blythe Site of Special Scientific Interest (SSSI) is located approximately 600m east of the AP<sub>4</sub> amendment. Berkswell Marsh SSSI is located between Berkswell and the A<sub>452</sub> Kenilworth Road. Both the River Blythe SSSI and the Berkswell Marsh SSSI are of national value.
- 5.2.30 Though not a designated site, Marsh Lane nature reserve is located approximately 250m west of the AP<sub>4</sub> amendment.
- 5.2.31 Berkswell Marsh Meadow Local Wildlife Site is located near Marsh Farm to the east side of the A<sub>452</sub> Kenilworth Road, approximately 300m east of the AP<sub>4</sub> amendment and is of county/metropolitan value.
- 5.2.32 There are no other statutory or non-statutory designated nature conservation sites or ancient woodland sites relevant to the assessment.

### **Habitats**

- 5.2.33 The habitat of relevance to this assessment is Bayleys Brook, a small watercourse between 1 and 2m in depth which passes through Berkswell Marsh SSSI, agricultural land and the land required for the assessment. Bayleys Brook is heavily shaded for much of its length. It is a habitat of principal importance<sup>1</sup> and represents a local Biodiversity Action Plan habitat which is of district/borough value.

### **Protected and/or notable species**

- 5.2.34 Species relevant to this assessment are fish and otter. An assemblage of fish species, including stone loach, brown trout and bullhead, is reported in the main ES as present within the River Blythe SSSI and assessed as being of district/borough value. Some of these species may be present, within Bayleys Brook, upstream of the River Blythe SSSI. Signs of otter presence have been recorded along Bayleys Brook and the small population which is present in this area is of district/borough value.

### *Future baseline*

#### **Construction (2017)**

- 5.2.35 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and in the SES and AP<sub>2</sub> ES.
- 5.2.36 None of the identified developments affect the assessment of the AP<sub>4</sub> amendment's likely construction impacts on ecology.

#### **Operation (2026)**

- 5.2.37 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and in the SES and AP<sub>2</sub> ES.

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<sup>1</sup> *Natural Environment and Rural Communities Act (2006)*, Chapter 16, Her Majesty's Stationery Office, London.

- 5.2.38 None of the identified developments affect the assessment of the AP4 amendment's likely operational impacts on ecology.

### *Effects arising during construction*

#### **Avoidance and mitigation measures**

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

#### **Designated sites**

- 5.2.40 The AP4 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.

#### **Habitats**

- 5.2.41 The main ES reports that a 50m section of Bayleys Brook would be culverted to enable realignment of the A452 Kenilworth Road, which will result in an adverse effect on Bayleys Brook at the local/parish level, which is not significant. The AP4 amendment will require the length of Bayleys Brook which is covered by culvert to be extended from 26m to 46m, however the effect will remain at the local/parish level, which is not significant, as reported in the main ES.
- 5.2.42 It is unlikely that the AP4 amendment will result in any other different effects on habitat receptors of relevance at more than the local/parish level.

#### **Protected and/or notable species**

- 5.2.43 The AP4 amendment will not give rise to new or different significant effects on protected and/or notable species and will not change the level of significance of the effects reported in the main ES or in the SES and AP2 ES.

### *Cumulative effects*

- 5.2.44 There are no new or different likely significant cumulative effects for ecology as a result of the AP4 amendments interacting with one another, the AP2 amendments or any relevant committed developments.

### *Mitigation and residual effects*

#### **Other mitigation measures**

- 5.2.45 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.

#### **Summary of likely residual effects**

- 5.2.46 The AP4 amendment will not give rise to a new or different significant residual effect and will not change the level of significance of the effects reported in the main ES.



### *Effects arising from operation*

- 5.2.47 No new or different residual effects on ecological receptors occur as a consequence of the AP<sub>4</sub> amendment. The significant residual effects of the AP<sub>4</sub> revised scheme in this area are therefore unchanged from those reported in the main ES or SES and AP<sub>2</sub> ES.

## **Landscape and visual assessment**

### *Introduction*

- 5.2.48 This section of the report describes the environmental baseline in relation to landscape and visual that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the AP<sub>4</sub> amendment, compared to those of the SES<sub>3</sub> scheme.

### *Scope, assumptions and limitations*

- 5.2.49 The assessment scope, key assumptions and limitations for the landscape and visual assessment are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES. An update to the methodology for the landscape and visual assessment is also described in Volume 1 of the AP<sub>1</sub> ES.

### *Existing baseline*

- 5.2.50 The area of land required for the amendment is located on the boundary of the Solihull Rural Heartland landscape character area (LCA) with the Blythe Valley LCA, as described in the main ES (Volume 2, CFA 23, Section 9).
- 5.2.51 The Solihull Rural Heartland LCA is characterised by an open rural setting with attractive villages, arable fields and woodland present as well as a number of major transport routes. The LCA is in good condition and value is of borough value. The LCA is assessed as being of medium sensitivity to change in CFA<sub>23</sub> due to the contrast it provides to neighbouring urban areas.
- 5.2.52 The Blythe Valley LCA is characterised by the meandering River Blythe and its tributaries. The LCA is also crossed by major transport routes including the flight path of Birmingham Airport. The LCA is in good condition and of borough/district value, with a high sensitivity to change due to the distinct contrast to the adjacent more intensively built-up area.
- 5.2.53 Views from visual receptors on Marsh Lane near to its junction with the A<sub>452</sub> Kenilworth Road are located in close proximity to the area. Viewpoint 291.4.004: View north-east across the A<sub>452</sub> Kenilworth Road from Marsh Lane, represents the view from the intersection of Marsh Lane and the A<sub>452</sub> Kenilworth Road looking north-east towards Mercote Mill Farm as described in the main ES (Volume 5: Appendix LV-01-023). Vegetation along the A<sub>452</sub> Kenilworth Road in the foreground screens and filters views of mature deciduous trees in both the middle and background. Visual receptors at this location are highway users assessed as being of low sensitivity.

### *Future baseline*

#### **Construction (2017)**

- 5.2.54 Volume 5: Appendix CT-004-000 of SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and in the SES and AP2 ES.
- 5.2.55 None of the identified developments affect the assessment of the amendment's likely construction impacts on landscape character and views.

#### **Operation (2026)**

- 5.2.56 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and the SES and AP2 ES.
- 5.2.57 None of the identified developments affect the assessment of the amendment's likely operational impacts on landscape character and views.

### *Effects arising during construction*

#### **Landscape assessment**

- 5.2.58 The Solihull Rural Heartland LCA was assessed as being affected by the SES3 scheme and will also be affected by this amendment. The Solihull Rural Heartland LCA is in good condition and of borough value, therefore is considered to be of medium sensitivity to change. The main ES reported a moderate adverse significant effect during construction due to a loss of characteristic landscape elements such as trees, hedges and agricultural land and severing land parcels as the HS2 route crosses the centre of a succession of fields.
- 5.2.59 The construction of the AP4 amendment will occur within the broader context of both the rail elements of the scheme, including the Sixteen Acre Wood embankment, the Marsh Farm viaduct and the Mercote Mill embankment and the highway amendments to construct the A452 Kenilworth Road overbridge and Mercote Hall Lane accommodation overbridge. These other elements of the scheme are more extensive and larger in scale than the AP4 amendment and involve similar or more extensive construction activity. Therefore, the AP4 amendment will not introduce a new or different significant effect and will not change the level of significance of the effects reported in the main ES.
- 5.2.60 The Blythe Valley LCA was assessed as being affected by the SES3 scheme and will also be affected by this amendment. The Blythe Valley LCA is in good condition and of borough/district value, therefore is considered to be of high sensitivity to change. The main ES reported a major adverse significant effect during construction due to the loss of some characteristic landscape elements such as trees, hedges and agricultural land and introduction of large scale construction activity.
- 5.2.61 In the Blythe Valley LCA, the other highway and rail elements of the scheme as described for Solihull Rural Heartland LCA above (the Sixteen Acre Wood embankment, the Marsh Farm viaduct, the Mercote Mill embankment, the A452 Kenilworth Road and Mercote Hall Lane accommodation overbridge), are more extensive and larger in scale than the AP4 amendment. Consequently, the AP4

amendment will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

### **Visual assessment**

- 5.2.62 Viewpoint 291.4.004: view north-east across the A452 Kenilworth Road from Marsh Lane, was assessed as being affected by the original scheme and will also be affected by this amendment. The main ES reported a moderate adverse significant effect during construction due to short range views being dominated by construction activity associated with the A452 Kenilworth Road realignment, including the removal of the existing road in the foreground.
- 5.2.63 The AP4 amendment will take place within the context of the wider works associated with the realignment of the A452 Kenilworth Road. Consequently, the amendment will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

### *Effects arising during operation*

#### **Landscape assessment**

- 5.2.64 The Solihull Rural Heartland LCA was assessed as being affected by the original scheme and will also be affected by this amendment. The main ES reported a moderate adverse significant effect in year 1 of operation due to the presence of new elements in the rural landscape affecting a relatively small part of the LCA. By year 15 and beyond to year 60 of operation, the maturity of planting established as part of the original scheme would result in greater landscape integration and reduce effects to be non-significant.
- 5.2.65 Blythe Valley LCA was assessed as being affected by the original scheme and will also be affected by this amendment. The main ES reported a major adverse significant effect in year 1 of operation due to the presence of rail infrastructure, landforms and the scale of the viaducts at Marsh Farm and the River Blythe, evident across a large proportion of the LCA. By year 15 and beyond to year 60 of operation, elements would remain clearly visible despite the incremental growth of vegetation. Therefore the significant effects would be unchanged.
- 5.2.66 The AP4 amendment will occupy a slightly larger footprint, straddling both the Solihull Rural Heartland and Blythe Valley LCAs and will introduce lighting between the proposed roundabout and the existing roundabout at Bradnocks Marsh Lane to the south. The lighting will be an extension of an existing localised effect and will increase urbanisation within the rural context of both LCAs.
- 5.2.67 However, the scale of landscape change as a result of this amendment, including additional lighting, in comparison with the wider elements of the scheme is localised. Therefore, the AP4 amendment will give rise to a different significant effect due to the localised introduction of the lighting and increased urbanisation of both LCAs. However, this will not change the level of significance of the effects reported in the main ES for both the Solihull Rural Heartland LCA and the Blythe Valley LCA.

## Visual assessment

- 5.2.68 Viewpoint 291.4.004: view north-east across the A452 Kenilworth Road from Marsh Lane, was assessed as being affected by the original scheme and will also be affected by this amendment. The main ES reported a moderate adverse significant effect in year 1 as both the A452 Kenilworth Road overbridge and Mercote Hall Lane (Bridleway M218) accommodation overbridge would form visual detractors against the skyline of this view.
- 5.2.69 The proposed earthworks associated with Mercote Hall Lane (Bridleway M218) accommodation overbridge would also be prominent, resulting in a moderate adverse significant effect in the winter of year 1 of operation. In the summer of year 1 of operation, effects would be unchanged due to the low height of the proposed planting. By year 15 and beyond to year 60 of operation, planting established along the overbridge embankments of the realigned A452 Kenilworth Road would partially screen views towards the overhead line equipment and other structures and integrate the original scheme into the landscape, reducing the effect to non-significant.
- 5.2.70 The AP4 amendment will increase visual intrusion but not beyond the medium magnitude of change reported in the main ES given the existing highway context. Lighting columns and light from them will form additional elements in the view but will be seen in the context of other changes from the scheme and as an extension of an existing localised effect. Therefore, the AP4 amendment will result in a different significant effect but the level of significance will remain as a moderate adverse significant effect in year 1 as described in the main ES. Effects in year 15 and year 60 will remain non-significant.

### *Mitigation and residual effects*

- 5.2.71 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are proposed.
- 5.2.72 The proposed A452 Kenilworth Road/Marsh Lane Junction will give rise to a different significant effect on the Solihull Rural Heartland LCA, the Blythe Valley LCA and viewpoint 291.4.004: View north-east across the A452 Kenilworth Road from Marsh Lane, during operation due to introducing lighting between the proposed roundabout and the existing roundabout at Bradnocks Marsh Lane to the south. However, this will not change the level of significance of the residual effects reported in the main ES.

### *Cumulative effects*

- 5.2.73 There are no new or different likely significant cumulative effects for landscape and visual as a result of the AP4 amendments interacting with one another, the AP2 amendments or any relevant committed development.

## Sound, noise and vibration

### *Introduction*

- 5.2.74 This section of the report describes the environmental baseline in relation to sound, noise and vibration that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment, compared to those of the SES3 scheme.

### *Scope, assumptions and limitations*

- 5.2.75 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.2.76 Local assumptions and limitations for sound, noise and vibration are set out in the main ES (Volume 2, CFA23, Section 11). These include the assumption that noise effects from night-time working during road and rail possession periods would be limited in duration and would hence not be considered significant. Any noise effects arising from these short-term construction activities will be controlled and reduced by the management processes set out in the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES).

### *Existing baseline*

- 5.2.77 The existing baseline sound, noise and vibration information for the area is as described in the main ES (Volume 2, CFA23, Section 11 and Volume 5: Appendix SV-002-023). In this area, the existing sound environment is characterised by the sound of road traffic from the A452 Kenilworth Road.

### *Future baseline*

#### **Construction (2017)**

- 5.2.78 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and the SES and AP2 ES.
- 5.2.79 None of the identified developments affect the assessment of the amendment's likely construction impacts on sound, noise and vibration.

#### **Operation (2026)**

- 5.2.80 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and the SES and AP2 ES.
- 5.2.81 None of the identified developments affect the assessment of the amendment's likely operational impacts on sound, noise and vibration.

### *Effects arising during construction*

- 5.2.82 The AP4 amendment to construct a roundabout at the A452 Kenilworth Road/Marsh Lane junction will affect the assumed location and timing of a number of road construction activities in this area. The road construction works include 24-hour working for a total of three weekends within an eight month period. In the main ES all works were assumed to be completed during the daytime.
- 5.2.83 The closest receptors include Mercote Lodge and Hornbrook Cottage, Arden House, Lincoln Farm café and offices, Bibury House and Marsh Cottage, and Bibury House guest house, all located on the A452 Kenilworth Road. The main ES reported a significant (on a community basis) effect (CSV23-Co3) at around 10 properties along the A452, Kenilworth Road. The properties included Mercote Lodge, Hornbrook

Cottage, Bibury House and Marsh Cottage. A significant effect due to daytime construction noise was also forecast at Bibury House guest house (CSV23-No2).

- 5.2.84 An assessment has been undertaken to determine whether the construction works for this amendment would result in any new or different likely significant effects, using the significance criteria detailed in the main ES (Volume 5: Appendix SV-001-000).
- 5.2.85 SES3 and AP4 Volume 5: Appendix SV-003-023 details the relevant changes to the results reported in the main ES, Volume 5: Appendix SV-003-023, Sound, noise and vibration assessment.
- 5.2.86 At Mercote Lodge and Hornbrook Cottage the highest monthly daytime construction noise level is predicted to increase by 1dB to 72dB, and the duration of the daytime impact is predicted to increase by two months to 15 months. The daytime construction vibration effect at this location remains unchanged.
- 5.2.87 At Arden House and Lincoln farm café and offices the typical and highest monthly daytime construction noise levels are predicted to increase by 3dB (to 62dB and 69dB respectively). The duration of the impact at Arden House increases by five months to a total of six months. The magnitude of the daytime construction vibration impact is slightly increased, but remains below the relevant impact screening criteria for both residential and non-residential receptors. The significant effect on a community basis in this area identified in the main ES is extended to include Arden House due to the AP4 amendment.
- 5.2.88 At Bibury House and Marsh Cottage, and Bibury House guest house, the typical and highest monthly daytime construction noise levels are predicted to increase by 1dB (to 61dB and 70dB respectively). The duration of the impact increases by one month, to four months, at the residential properties, and by two months, to five months, at the guest house.
- 5.2.89 The magnitude of the impact of night-time construction works will be high during the three weekends of 24-hour working within an eight month period, however the duration of the impact is limited.
- 5.2.90 The AP4 amendment to construct a roundabout at the A452 Kenilworth Road/Marsh Lane junction changes the likely construction noise significant effect (CSV23-Co3) identified in the main ES around Mercote Lodge and Hornbrook Cottage, Bibury House and Marsh Cottage, and also the likely significant effect at Bibury House guest house. It also extends the significant construction noise effect CSV23-Co3 to include a further assessment location, which is representative of one residential property (Arden House).

### *Effects arising during operation*

- 5.2.91 The main ES did not identify any likely adverse significant operational sound, noise or vibration effects at those properties close to this amendment.
- 5.2.92 The change in road traffic flow and composition as a result of this amendment results in a change less than the impact criterion defined in the SMR (Volume 5: Appendix CT-001-000/1) in the main ES as requiring detailed operational airborne noise assessment. The reduction in speed as vehicles negotiate the new roundabout along the main route would further reduce the road traffic noise levels.

- 5.2.93 The AP4 amendment does not alter the predicted operational ground-borne noise or vibration levels presented in the main ES.

#### *Mitigation and residual effects*

- 5.2.94 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.

- 5.2.95 The AP4 amendment to construct a roundabout at the A452 Kenilworth Road/Marsh Lane junction changes the significant residual construction noise effects identified in the main ES at around 10 dwellings on A452 Kenilworth Road and at Bibury House guest house.

#### *Cumulative effects*

- 5.2.96 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the AP4 amendments interacting with one another, the AP2 amendments, or any relevant committed development.

### **Traffic and transport**

#### *Introduction*

- 5.2.97 This section of the report describes the environmental baseline in relation to traffic and transport that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment, compared to those of the SES3 scheme taking into account any relevant AP2 amendments.

#### *Scope, assumptions and limitations*

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

#### *Existing baseline*

- 5.2.99 The baseline traffic and transport information for the area is as described in the main ES (Volume 2, CFA23, Section 12).
- 5.2.100 The main strategic route within the area of the AP4 amendment is the A452 Kenilworth Road, which runs in a north-south orientation connecting to the A45 Coventry Road to the north and passing through Balsall Common to the south.
- 5.2.101 The main local roads in the area of the AP4 amendment are Marsh Lane and Mercote Hall Lane. Marsh Lane is a no through road but provides access to a number of properties including the Truck-stop off Marsh Lane.
- 5.2.102 The A452 Kenilworth Road and local roads around Balsall Common operate at peak times with no major delays.

#### *Future baseline*

### **Construction**

- 5.2.103 The future baseline for construction is as set out in Volume 2, CFA23, Section 12 of the main ES.

### **Operation (2026 and 2041)**

- 5.2.104 The future baseline for operation is as set out in Volume 2, CFA23, Section 12 of the main ES.

#### *Effects arising during construction*

- 5.2.105 The AP4 amendment will have a minimal effect on construction related traffic flows with the change in flows expected to be less than 10 two-way heavy goods vehicle (HGV) trips per day. The additional construction related traffic flows will not give rise to a new or different significant effect.
- 5.2.106 The construction works for this amendment will require temporary restrictions to the movements at the junction of A452 Kenilworth Road/Marsh Lane for a period of up to six months:
- vehicles travelling to Marsh Lane from the north will need to travel southbound on the A452 Kenilworth Road, past the existing turning into Marsh Lane, and make a u-turn at the next roundabout to the south on the A452 Kenilworth Road at Bradnocks Marsh Lane to travel northbound on the A452 Kenilworth Road to Marsh Lane; and
  - vehicles leaving Marsh Lane wanting to travel south will need to travel northbound on the A452 Kenilworth Road and make a u-turn at the next roundabout to the north on the A452 Kenilworth Road at Meriden Road to travel southbound on the A452 Kenilworth Road.
- 5.2.107 This temporary restriction will increase congestion and delay at the roundabouts north and south identified above. However, this is not expected to be significant.
- 5.2.108 The temporary restriction will also increase the travel distance for vehicles turning into/out of Marsh Lane and Mercote Hall Lane, which will result in a new minor adverse significant effect with regard to delays to vehicle occupants. However, the new temporary effect is similar to the permanent operational effect reported in the main ES at this location which permanently required increased travel distance for right turning vehicles of 1.8km or 3.1km depending on the direction of travel.
- 5.2.109 The significant effects that result from construction of the AP4 revised scheme are shown on SES3 and AP4 map TR-03-153, in the Traffic and transport Map Book.

#### *Effects arising from operation*

- 5.2.110 The main ES reported a permanent minor adverse effect on journey times due to the reconfiguration of the A452 Kenilworth Road/Marsh Lane junction which required increased travel distance for right turning vehicles of 1.8km or 3.1km depending on the direction of travel. The AP4 amendment will result in this permanent effect being removed as vehicles will have access to an all movement junction.
- 5.2.111 The AP4 amendment will introduce a new delay to through traffic movements for users of the A452 Kenilworth Road itself, but this delay is not considered to be significant.



- 5.2.112 The removal of the significant effect that results from operation of the AP<sub>4</sub> revised scheme in 2026 and 2041 is shown on SES<sub>3</sub> and AP<sub>4</sub> ES map TR-04-153, Volume 5 Map Book.

#### *Mitigation and residual effects*

- 5.2.113 No mitigation measures in addition to those reported in the main ES (Volume 2, CFA<sub>23</sub>) are required.
- 5.2.114 The AP<sub>4</sub> amendment will result in a new temporary minor adverse residual effect which is significant for vehicles turning into/out of Marsh Lane and Mercote Hall Lane during construction. The amendment will remove the operational effect reported on journey times due to increased travel distances from the A452 Kenilworth Road/Marsh Lane junction reported in the main ES.

#### *Cumulative effects*

- 5.2.115 The assessment has taken into account cumulative effects, including planned developments, by taking account of background traffic growth, as well as traffic and transport impacts of works being undertaken in other areas.
- 5.2.116 There are no new or different likely significant cumulative effects for traffic and transport as a result of the AP<sub>4</sub> amendments interacting with one another or with AP<sub>2</sub> amendments.

### **Water resources and flood risk assessment**

#### *Introduction*

- 5.2.117 This section of the report describes the environmental baseline in relation to water resources and flood risk that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment compared to those of the SES<sub>3</sub> scheme.

#### *Scope, assumptions and limitations*

- 5.2.118 The assessment scope, key assumptions and limitations for water resources and flood risk assessment are set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.2.119 This AP<sub>4</sub> amendment makes changes to the Bayleys Brook diversion described as part of the SES scheme (as described in Part 1 of the SES and AP<sub>2</sub> ES). It will include a new culvert under the new Marsh Lane (approximately 25m in length) and an increase in length of the culvert under Mercote Hall Lane from 26m to 46m.

#### *Existing baseline*

- 5.2.120 The baseline water resources and flood risk information for the Balsall Common and Hampton-in-Arden area is described in the main ES (Volume 2, CFA<sub>23</sub>, Section 13).
- 5.2.121 Bayleys Brook is an ordinary watercourse, which flows from east to west. Bayleys Brook discharges to the River Blythe, approximately 500m to the west of the AP<sub>4</sub> amendment. The River Blythe is a Main River and is designated as a SSSI. Both watercourses have a very high receptor value.

- 5.2.122 The current (2009) overall Water Framework Directive (WFD) status for the River Blythe is moderate, while the objective for 2027 is to achieve good status. Bayleys Brook has not been classified and so for the purposes of this assessment it is treated as having the same status as the River Blythe.
- 5.2.123 The superficial deposits consist of alluvium, which are present close to Bayleys Brook. These deposits are classed as a Secondary A aquifer. This aquifer does not have any WFD classification. The superficial deposits have a moderate receptor value.
- 5.2.124 The underlying bedrock geology within the area of the AP4 amendment comprises the Mercia Mudstone Group. The Mercia Mudstone is classified as a Secondary B aquifer with a current overall WFD status of poor, while the objective for 2027 is to achieve good status. Within the Mercia Mudstone, the Arden Sandstone Formation is classified as a Secondary A aquifer. The bedrock deposits have a moderate receptor value.
- 5.2.125 The Environment Agency flood zone mapping shown on main ES map WR-01-039, Volume 5 Map Book indicates that the area where the AP4 amendment crosses a tributary of the Bayleys Brook, would be inundated during a flood event with a 1 in 100 annual probability (1%) of river flooding including climate change. The main ES flood risk assessment (Volume 5: Appendix WR-003-023) reported no significant flood risk to this location up to the 1 in 100 annual probability (1%) of river flooding event including climate change.
- 5.2.126 In terms of flood risk, the A452 Kenilworth Road is described as a flood receptor of high value (more vulnerable), with Marsh Lane of moderate receptor value (less vulnerable), and Berkswell Marsh SSSI as a receptor with low value due to the water compatible nature of the Marsh. The agricultural land between the HS2 route and the proposed realignment of the A452 Kenilworth Road has a moderate receptor value (less vulnerable) and is subject to flooding under the baseline conditions reported in the main ES.
- 5.2.127 Mercote Lodge and Marsh Farm Cottage have high receptor values (more vulnerable) and are elevated above the floodplain for the 1 in 100 annual probability (1%) of river flooding plus climate change event.

### *Future baseline*

#### **Construction (2017)**

- 5.2.128 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and SES and AP2 ES.
- 5.2.129 All committed developments are required to comply with National Planning Policy Framework, development plans and other legislation and guidance. As such committed developments are not expected to have an effect on the water resources and flood risk baseline.

### Operation (2026)

- 5.2.130 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and SES and AP<sub>2</sub> ES.
- 5.2.131 For the reasons stated above for construction, the committed developments will not generate any new or different significant effects from operation, and will not change the level of significance of the effects reported in the main ES.

### *Effects arising during construction*

- 5.2.132 The AP<sub>4</sub> amendment will not result in new or different effects to the superficial deposits or groundwater. However, the amendment to construct a new roundabout at the A452 Kenilworth Road/Marsh Lane junction will potentially give rise to new or different effects to surface water and flood risk.
- 5.2.133 The AP<sub>4</sub> amendment will involve construction within the floodplain and in close proximity to the Bayleys Brook, as described in the main ES. With the CoCP measures in place the release of sediments into the Bayleys Brook and any disturbance to the floodplain during the construction period will be minimised. Therefore the impacts to surface water are anticipated to be negligible and temporary, resulting in a neutral effect which is not significant.
- 5.2.134 The total length of culverted watercourse in the SES<sub>3</sub> scheme would be 91m. The AP<sub>4</sub> amendment results in an extra 45m of culvert on the Bayleys Brook and a reduction in open channel length by 10m compared to the original scheme. The total length of culvert on the Bayleys Brook in the AP<sub>4</sub> revised scheme will be 136m. The increased length of culverted watercourse has the potential to affect water quality by reducing photosynthetic activity and dissolved oxygen concentration within the Bayleys Brook. However, at the receptor level, the impact magnitude is considered to be negligible. In conjunction with the very high receptor value for Bayleys Brook, this results in a neutral effect and is not significant.
- 5.2.135 The site-specific flood modelling in the main ES reported that both Mercote Lodge and Marsh Farm Cottage are elevated above the floodplain for the 1 in 100 annual probability (1%) of river flooding plus climate change event. The AP<sub>4</sub> amendment will not change this effect which remains not significant.
- 5.2.136 Culvert sizes and spans have been optimised during the hydraulic modelling of this amendment to minimise changes to flood levels. Preliminary results from the site-specific flood modelling show that there will be localised increases to flood levels for the agricultural land situated between the HS2 route and the proposed realignment of the A452 Kenilworth Road.
- 5.2.137 The magnitude of this increase is predicted to be up to 43mm for the 1 in 100 annual probability (1%) of river flooding plus climate change event and is a minor adverse impact. This area has a moderate receptor value (less vulnerable) and will result in a change to flood levels which is not significant.
- 5.2.138 The Mercote Hall Lane accommodation overbridge earthworks will encroach into the floodplain. However, the loss of storage volume will be mitigated by the existing replacement flood storage area. Therefore, the proposed change to the A452

Kenilworth Road/Marsh Lane junction will not change the level of significance of the effects reported in the main ES.

#### *Effects arising from operation*

- 5.2.139 The AP4 amendment will not change the operation of the scheme, therefore the amendment will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

#### *Mitigation and residual effects*

- 5.2.140 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.
- 5.2.141 The AP4 amendment will not give rise to a new or different significant residual effect and will not change the level of significance of the effects reported in the main ES.

#### *Cumulative effects*

- 5.2.142 There are no new or different likely significant cumulative effects for water resources and flood risk as a result of the AP4 amendments interacting with one another, the AP2 amendments, or any relevant committed development.

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

- 5.2.143 The amendment will give rise to a different significant residual effect on amenity at seven residential properties on the A452 Kenilworth Road and Marsh Lane during construction for a period of up to 15 months. However, this will not change the level of significance of the effects reported in the main ES.
- 5.2.144 The AP4 amendment will give rise to a different significant effect on the Solihull Rural Heartland LCA, the Blythe Valley LCA and viewpoint 291.4.004: view north-east across the A452 Kenilworth Road from Marsh Lane, during operation due to introducing lighting between the proposed roundabout and the existing roundabout at Bradnocks Marsh Lane to the south. However, this will not change the level of significance of the effects reported in the main ES.
- 5.2.145 The AP4 amendment will also give rise to a new temporary minor adverse significant traffic and transport effect due to increased journey times for vehicles turning into/out of Marsh Lane and Mercote Hall Lane during construction and will remove the operational effect reported on journey times.
- 5.2.146 The AP4 amendment will give rise to a different construction noise and vibration significant residual effect to around 10 dwellings on A452 Kenilworth Road and at Bibury House guest house.

### **5.3 Additional land for the relocation of the Island Project School (AP4-023-002)**

- 5.3.1 The Bill provides for the HS2 route on embankment (known as the Diddington Lane embankment), before passing over Shadow Brook underbridge, and leaving the Balsall Common and Hampton-in-Arden area in the Diddington cutting as it enters the Birmingham Interchange and Chelmsley Wood area (CFA24). Diddington Hall is

located approximately 350m north-east of the Shadow Brook underbridge and 350m east of Diddington Lane and is the location of the Island Project School. The Island Project School is an independent school for children with Autism and Asperger's Syndrome aged from 5 to 19 years. See map CT-06-105a, in the main ES, Volume 2, CFA23 Map Book.

- 5.3.2 As reported in the SES and AP2 ES (Part 2), Diddington Lane will be realigned to the west of the HS2 route, approximately 450m east of the Island Project School (see Part 2 of the SES and AP2 ES, Volume 2, CFA23, AP2-023-005: Realignment of Diddington Lane).
- 5.3.3 The main ES, as amended by the SES and AP2 ES, reported a number of effects on the Island Project School which would adversely affect the children who attend the school.
- 5.3.4 Since submission of the Bill, further consultation with the Island Project School has been undertaken and the Island Project has identified an alternative location for the school. The Island Project School will be relocated to Jerrings Hall Farm, a grade II listed building located off Tanworth Lane, Shirley, Solihull, West Midlands. Currently, Jerrings Hall Farm is a residential property. The new site is located outside of the Balsall Common and Hampton-in-Arden area (CFA23), approximately 11.3km south-west of the existing Island Project School at Diddington Hall. The provision of the new school requires approximately 1.6ha of additional land not included within the original limits of the Bill, hence the need for this amendment. See map CT-06-105a-L1, in SES3 and AP4 ES, Volume 2, CFA23 Map Book.
- 5.3.5 The property will require internal and external alterations to make it suitable for the Island Project School to operate. These include: the provision of a new staircase (although the existing staircase will be retained), a new modular building, and additional car parking. There will be no alterations to roof voids of the main hall and barn. All construction works and alterations will be completed prior to construction works beginning in the vicinity of the existing Island Project School at Diddington Hall to allow the school to continue to operate until such time as the relocation can take place.
- 5.3.6 The alterations to Jerrings Hall Farm will be supported by a new satellite compound (Island Project satellite compound) at the site and managed from the Park Lane main compound. Works will commence in approximately quarter 1 of 2017 and will take up to six months to complete.
- 5.3.7 The relocation of the Island Project School is not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: agriculture, forestry and soils, air quality, land quality, landscape and visual assessment, socio-economics, and water resources and flood risk assessment. However, there are changes where reassessment is considered to be required in respect of: community, cultural heritage, ecology, sound, noise and vibration, and traffic and transport.

## Community

### *Introduction*

- 5.3.8 This section of the report describes the environmental baseline in relation to community that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment compared to those of the SES3 scheme, taking into account any relevant AP2 amendments.
- 5.3.9 The following amendments have been considered by this assessment:
- extension of the River Blythe viaduct (AP2-023-004); and
  - realignment of Diddington Lane (AP2-023-005).

### *Scope, assumptions and limitations*

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

### *Existing baseline*

- 5.3.11 The baseline community information for the area is as described in the main ES (Volume 2, CFA23, Section 5).
- 5.3.12 The Island Project School at Diddington Hall is an independent school that serves 26 children with Autism and Asperger's Syndrome from ages 5 to 19 years. The grounds provide a teaching resource used for learning and play activities and are in continual use by pupils during the school day. Other adjacent areas are also used by pupils including the track to Diddington Hall, leading to Diddington Lane and connecting footpaths to Hampton-in-Arden village.
- 5.3.13 Jerrings Hall Farm is located outside the study area considered by the community assessment for the Balsall Common and Hampton-in-Arden area (CFA23) reported in the main ES. The area immediately adjacent to Jerrings Hall Farm is predominantly rural.

### *Future baseline*

#### **Construction (2017)**

- 5.3.14 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and SES and AP2 ES.
- 5.3.15 None of the identified developments affect the assessment of the amendment's likely construction impacts on community.

#### **Operation (2026)**

- 5.3.16 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and SES and AP2 ES.

- 5.3.17 None of the identified developments affect the assessment of the amendment's likely operational impacts on community.

*Effects arising during construction*

- 5.3.18 The main ES reported that the pupils at the Island Project School, would be adversely affected by the construction of the original scheme. The construction of elements of the scheme in the area including the River Blythe viaduct, Diddington Lane embankment, Shadow Brook underbridge and the closure of Diddington Lane would result in significant noise and visual effects, resulting in a major adverse effect on the amenity of pupils for approximately four months in total, which was therefore considered significant.
- 5.3.19 The pupils at the Island Project School regularly walk to Hampton-in-Arden village along Diddington Lane as part of life skills education. The main ES reported that Diddington Lane would be closed permanently to vehicles and to pedestrians throughout the construction period. An alternative pedestrian route is available along the A452 Kenilworth Road and the B4102 Meriden Road, however this is not considered to be a suitable alternative for the pupils. The closure of Diddington Lane was reported in the main ES as a major adverse isolation effect on pupils at the Island School Project for approximately three years, which was therefore considered significant.
- 5.3.20 The AP4 amendment will relocate the school to a new site at Jerrings Hall Farm, Solihull, which will be unaffected by construction of the HS2 route. The farm will be converted to meet the needs of the Island Project pupils, in advance of the need for the pupils to move from the existing Diddington Hall. The new site will be within walking distance of Dickens Heath, which will enable the pupils to continue their life skills education. The relocation of the school will remove the significant adverse temporary isolation effect and temporary adverse amenity effect on the pupils and staff at the school, as reported in the main ES. See SES3 and AP4 ES map CM-01-153, Volume 5 Map Book.
- 5.3.21 Further information relating to the effects can be found in SES3 and AP4 Volume 5: Appendix CM-001-023.

*Effects arising from operation*

- 5.3.22 The AP4 amendment will not give rise to a new or different significant operational community effect and will not change the level of significance of the effects reported in the main ES.

*Mitigation and residual effects*

- 5.3.23 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.
- 5.3.24 The AP4 amendment will remove the temporary isolation effect and temporary amenity effect on the Island Project School during construction.

### *Cumulative effects*

- 5.3.25 The AP2 amendments relating to the extension of the River Blythe viaduct (AP2-023-004) and the realignment of Diddington Lane (AP2-023-005) were assessed in the SES and AP2 ES (Part 2) as resulting in no change to the significance of the effects on pupils at the Island Project School, previously reported in the main ES. When considered in combination with the AP4 amendment to relocate the school, the significant amenity and isolation effects will be removed.

### **Cultural heritage**

#### *Introduction*

- 5.3.26 This section of the report describes the environmental baseline in relation to cultural heritage that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the AP4 amendment, compared to those of the SES3 scheme.

#### *Scope, assumptions and limitations*

- 5.3.27 The assessment scope, key assumptions and limitations for cultural heritage are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/01) and the SMR Addendum (Volume 5: Appendix CT-001-000/02) of the main ES.

#### *Existing baseline*

- 5.3.28 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included a walk-over survey, geophysical survey, remote-sensing data, and data from national and local registers. A full list is provided in Volume 2, Section 6 of the main ES.
- 5.3.29 The existing Island Project School is located at Diddington Hall (asset reference BHA216), a Grade II\* listed building and designated asset of high value. The asset dates to the 16th century, with 19th century alterations. Diddington Lane and the A452 Kenilworth Road largely define its boundaries, with open green space and fields surrounding it. This rural setting makes an important contribution to its setting. Baseline information for this asset is as reported in the main ES (Volume 2, CFA23, Section 6).
- 5.3.30 The AP4 amendment will relocate the Island Project School from its current location at Diddington Hall (asset reference BHA216) to Jerrings Hall Farm. Jerrings Hall Farm is located outside of the Balsall Common and Hampton-in-Arden area (CFA23) assessed in the main ES and the SES and AP2 ES.
- 5.3.31 Baseline information relating to the land required for the AP4 amendment is provided in a baseline report, gazetteer of heritage assets and impact assessment table within Volume 5 of the SES3 and AP4 ES.
- 5.3.32 Jerrings Hall Farm, a Grade II listed building (asset reference BHA272), is a designated asset of moderate value. There is evidence of former medieval settlement at the site (asset reference BHA286), including a moat which is a non-designated asset of low value.



- 5.3.33 Jerrings Hall Farm dates to the 17th century the farm complex includes a number of 18th century outbuildings. Although no longer in agricultural use, the historic setting of the group remains legible in the surrounding rural landscape and this setting contributes to the understanding of the asset. Jerrings Hall Farm occupies the location of a medieval moated site, with other moated manorial sites recorded elsewhere within the Forest of Arden area, such as Light Hall (asset reference BHA273) and Ram Hall (asset reference BHA046).

#### *Future baseline*

##### **Construction (2017)**

- 5.3.34 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and SES and AP2 ES.
- 5.3.35 None of the identified developments affect the assessment of the AP4 amendment's likely construction impacts on cultural heritage.

##### **Operation (2026)**

- 5.3.36 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and SES and AP2 ES.
- 5.3.37 None of the identified developments affect the assessment of the AP4 amendment's likely operational impacts on cultural heritage.

#### *Effects arising during construction*

- 5.3.38 The AP4 amendment relates to the relocation of the Island Project School only, and will not change the fabric or setting of Diddington Hall (asset reference BHA216) in any way. Therefore, it will not give rise to a new or different significant effect to Diddington Hall (asset reference BHA216) and will not change the level of significance of the effects reported in the main ES and SES and AP2 ES, therefore this asset has not been considered further by this assessment.
- 5.3.39 The relocation of the Island Project School to Jerrings Hall Farm will require internal reconfiguration of the Listed building (asset reference BHA272). This will include the insertion of a new staircase, which will have a physical impact on the historic fabric of the listed building. The existing staircase will be retained. This internal reconfiguration will result in a permanent high adverse impact on Jerrings Hall, resulting in a major adverse effect, which is significant.
- 5.3.40 The open rural landscape is the element that contributes to the setting of Jerrings Hall. Construction activities associated with the AP4 amendment will have a temporary impact upon this setting. The alterations to Jerrings Hall, the construction of a new modular building and the car park will be managed from the new Island Project satellite compound, which will be located approximately 100m east of the hall. These construction activities will result in changes to the setting elements that contribute to the value of the hall, which will lead to a temporary high adverse impact on Jerrings Hall, resulting in a major adverse effect, which is significant.

- 5.3.41 Once the construction is complete, the proposed new building and additional car parking will introduce new features into the open rural landscape surroundings of Jerrings Hall, and will result in a permanent change to the setting of the hall. Therefore, the proposed amendment will result in a permanent high adverse impact on Jerrings Hall, resulting in a major adverse effect, which is significant.
- 5.3.42 The extant moat is located south of the hall and south-west of the proposed new building and car park. Although only part of the moat is now extant, further archaeological remains associated with the moat may remain as part of the broader medieval site (asset reference BHA286). Therefore, the Island Project satellite compound, to be located east of the hall, may have a direct impact upon below-ground archaeological remains. This will result in a permanent high adverse impact, resulting in a moderate adverse effect, which is significant. See SES3 and AP4 ES map CH-01-153-L2, Volume 5 Map Book.

#### *Effects arising from operation*

- 5.3.43 The AP4 amendment will impact Jerrings Hall and its 18th century outbuildings, by introducing new elements into its setting. The introduction of new car park, additional traffic movement and the change of use of the site, from residential to a school, will have a high adverse impact upon the elements of the setting that contributes to the value of Jerrings Hall, resulting in a major adverse effect on the hall, which is significant, see SES3 and AP4 ES map CH-01-153-L2, Volume 5 Map Book.

#### *Mitigation and residual effects*

- 5.3.44 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are proposed.
- 5.3.45 The AP4 amendment will result in new significant residual effects on Jerrings Hall and its setting during construction and operation, and a significant construction stage effect on archaeological remains.

#### *Cumulative effects*

- 5.3.46 There are no new or different likely significant cumulative effects for cultural heritage as a result of the AP4 amendments interacting with one another, the AP2 amendments or any relevant committed development.

### **Ecology**

#### *Introduction*

- 5.3.47 This section of the report describes the environmental baseline in relation to ecology that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment, compared to those of the SES3 scheme.

#### *Scope, assumptions and limitations*

- 5.3.48 Updates to the scope and methodology for ecology are set out in Volume 1 of the SES3 and AP4 ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR and the SMR Addendum (Volume 5: Appendix CT-001-000/01 and Volume 5: Appendix CT-001-

000/02 of the main ES) and in Addendum 4 to the SMR (SES<sub>3</sub> and AP<sub>4</sub> ES Volume 5: Appendix CT-001-000/5).

- 5.3.49 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP<sub>4</sub> revised scheme.

### *Existing baseline*

- 5.3.50 The land required for the AP<sub>4</sub> amendment did not form part of the original scheme, and therefore no baseline information has been collected for this area prior to 2015. The ecological baseline of the land required for the amendment has been based on a review of relevant information obtained from Warwickshire Biological Records Centre, and field survey data collected in 2015, comprising extended Phase 1 habitat survey data and protected species survey data for amphibians (presence/absence survey including environmental DNA (eDNA)<sup>2</sup> analysis) and for bats. Further details of amphibian surveys undertaken in 2015 are provided in SES<sub>3</sub> and AP<sub>4</sub> Volume 5 Appendix EC-001-004.
- 5.3.51 A summary of the baseline information relevant to the assessment of the AP<sub>4</sub> amendment is provided below. This takes account of any relevant 2015 survey information provided in Volume 5, EC-001-004. For those receptors described in the main ES, further details are provided in Volume 2, CFA23, Section 7 and in Volume 5, including maps EC-01 to EC-12 of the main ES.

### **Designated sites**

- 5.3.52 There are no statutory designated sites relevant to this assessment.
- 5.3.53 There are no non-statutory designated nature conservation sites or ancient woodland inventory sites relevant to this assessment.

### **Habitats**

- 5.3.54 Habitats within the land required for the AP<sub>4</sub> amendment comprise approximately 0.7ha of species-poor semi-improved grassland, 0.6ha of amenity grassland, 0.1ha of hardstanding, 0.1ha of buildings and less than 0.1ha each of introduced shrub, dense scrub, tall ruderal vegetation, standing water and marginal vegetation. There is approximately 150m of intact, species-poor hedgerow on the boundaries of the land required for the AP<sub>4</sub> amendment. Scattered broadleaved and coniferous trees occur throughout the land required for the amendment.
- 5.3.55 Both of the intact, species-poor hedgerows, which border the site, qualify as habitats of principal importance, as they both consist predominantly (i.e. 80% or more cover) of at least one woody UK native species. These hedgerows are part of a hedgerow

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<sup>2</sup> Environmental DNA is that which is released into the water by plants and animals in a host of ways: from their skin, faeces, mucous, hair, eggs and sperm, or when they die. It provides a means to undertake a diagnostic test to determine the presence or likely absence of a specific target species.

network including the roadside hedgerows along B4102 Tanworth Lane, considered to be of local/parish value.

- 5.3.56 The water body (standing water) does not qualify as a habitat of principal importance, and is considered to be of local/parish value.
- 5.3.57 All areas of scrub, tall ruderal vegetation, scattered trees and buildings are assessed collectively as being of local/parish value.
- 5.3.58 The small areas of species-poor and amenity grassland, introduced shrub and hardstanding are considered to be of negligible value.

### **Protected and/or notable species**

- 5.3.59 Surveys of the water body within the land required for the AP4 amendment, confirmed that great crested newt can be assumed absent from this water body. A population of common frog was confirmed to be present and assessed as being of local/parish value. No other amphibians were recorded within the land required for the AP4 amendment.
- 5.3.60 Negative results were obtained for eDNA surveys undertaken at an additional five water bodies outside of the land required, but within 250m. However, two further water bodies located within 250m of the land required could not be assessed and await survey. Therefore the presence of a population of greater crested newt in this location cannot be ruled out. A precautionary assessment therefore assumes a metapopulation of great crested newt of up to district/borough value is associated with the two water bodies awaiting survey.
- 5.3.61 Internal inspections of the buildings within the land required for the AP4 amendment, confirmed that long-eared bats are roosting in two roof voids of the main house. No bats were recorded emerging or re-entering this building during subsequent surveys. The two roof voids of the main house contained numerous bat droppings and it is likely they have, and may continue to support a maternity colony of brown long-eared bat, which is assessed as being of district/borough value.
- 5.3.62 Six small bat droppings, most likely attributable to pipistrelle *Pipistrellus* species. Bats, were found in the roof void of a detached converted barn. The dropping evidence may be due to occasional roosting by an individual pipistrelle bat. This population of common pipistrelle is assessed as being of local/parish value.
- 5.3.63 Several other buildings, comprising a linear strip of barns/outbuildings used for storage and a supplementary accommodation building with an enclosed roof void, exhibit moderate potential to support bat roosts. However, no other evidence of bat roosting was observed during building inspections or recorded during subsequent surveys.

### *Future baseline*

#### **Construction (2017)**

- 5.3.64 Volume 5: Appendix CT-004-000 of the SES3 and AP4 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES and the SES and AP2 ES.

- 5.3.65 None of the identified developments affect the assessment of the AP<sub>4</sub> amendment's likely construction impacts on ecology.

### **Operation (2026)**

- 5.3.66 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES and the SES and AP<sub>2</sub> ES.
- 5.3.67 None of the identified developments affect the assessment of the AP<sub>4</sub> amendment's likely operational impacts on ecology.

### *Effects arising during construction*

- 5.3.68 No previous assessment has been undertaken for the land required for the AP<sub>4</sub> amendment as this area was not included within the original scheme.

### **Avoidance and mitigation measures**

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

### **Designated sites**

- 5.3.70 The AP<sub>4</sub> amendment will result in no impacts on designated sites, and will not give rise to new significant effects.

### **Habitats**

- 5.3.71 The AP<sub>4</sub> amendment involves the construction of a small, two storey modular building as well as a car park with 50 spaces. This will result in the loss of approximately 0.1ha of species-poor semi-improved grassland and less than 0.1ha of amenity grassland. The extent of loss of these habitats within the land required for the amendment is small and will result in effects at up to the local/parish level, which are not significant.
- 5.3.72 It is unlikely that the AP<sub>4</sub> amendment will result in any other new effects on habitat receptors of relevance at more than the local/parish level. Local/parish level effects which are in addition to those identified in the main ES and the SES and AP<sub>2</sub> ES are listed in Volume 5: Appendix EC-003-004 of the SES<sub>3</sub> and AP<sub>4</sub> ES.
- 5.3.73 Given the distance and location of the assumed metapopulation of great crested newt in water bodies to the east of the land required, as well as the limited extent of habitat loss, represented by small areas of terrestrial vegetation of low suitability (amenity and grazed, semi-improved grassland), it is considered the proposed amendment will not result in a significant effect on the conservation status of great crested newt.

### **Protected and/or notable species**

- 5.3.74 The AP<sub>4</sub> amendment design is assumed to avoid alterations or indirect impacts on the conditions of roosts in the roof voids of the buildings (including lighting or changes to the thermal regime), so avoiding adverse impacts on roosting bats.

5.3.75 Given the distance and location of the assumed metapopulation of great crested newt in water bodies to the east of the land required, as well as the limited extent of habitat loss, represented by small areas of terrestrial vegetation of low suitability (amenity and grazed, semi-improved grassland), it is considered the proposed amendment will not result in a significant effect on the conservation status of great crested newt.

5.3.76 It is unlikely that the AP4 amendment will result in any other new effects on species receptors of relevance at more than the local/parish level. Local/parish level effects which are in addition to those identified in the main ES and the SES and AP2 ES are listed in Volume 5: Appendix EC-003-004 of the SES3 and AP4 ES.

### *Cumulative effects*

5.3.77 There are no new or different likely significant cumulative effects for ecology as a result of the AP4 amendments interacting with one another, the AP2 amendments, or any relevant committed development.

### *Mitigation and residual effects*

#### **Other mitigation measures**

5.3.78 No additional mitigation measures (i.e. in addition to those identified in the main ES or SES) are required.

#### **Summary of likely residual effects**

5.3.79 No new residual significant effects on ecological receptors occur as a consequence of construction of the AP4 amendment.

### *Effects arising from operation*

5.3.80 No new residual significant effects on ecological receptors occur as a consequence of operation of the AP4 amendment.

### **Sound, noise and vibration**

#### *Introduction*

5.3.81 This section of the report describes the environmental baseline in relation to sound, noise and vibration that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the AP4 amendment, compared to those of the SES3 scheme, taking into account any amendments from previous SES and AP ES reports that are relevant to the assessment.

5.3.82 Amendment AP2-023-005, realignment of Diddington Lane, has been considered in this assessment.

#### *Scope, assumptions and limitations*

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

5.3.84 Local assumptions and limitations for sound, noise and vibration are set out in main ES (Volume 2, CFA Report 23, Section 11).

### *Existing baseline*

- 5.3.85 The existing baseline sound, noise and vibration information for the area of the existing Island Project School is as described in the main ES (Volume 2, CFA Report 23, Section 11 and Volume 5: Appendix SV-002-023). In this area, the existing sound environment is characterised by the sound of road traffic from the A452 Kenilworth Road and the A45 Coventry Road, and aircraft on the Birmingham Airport flight path.
- 5.3.86 The location of the proposed new Island Project School is remote from the original scheme and is therefore outside the study area for which baseline sound data was obtained. The area surrounding the site is predominantly agricultural, with a small number of individual residential properties located along Tanworth Lane. The larger communities of Cheswick Green and Dickens Heath are located approximately 450m to the south-east, and 375m to the west, respectively.
- 5.3.87 The impact screening criteria for daytime construction noise affecting residential properties is 65dB, 70dB or 75dB, depending on the existing ambient sound level, unless the existing ambient sound level is already above 75dB. In the absence of site-specific baseline sound data a conservative approach has been adopted and a criterion of 65dB has been applied to all identified residential properties.

### *Future baseline*

#### **Construction (2017)**

- 5.3.88 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2017 additional to those identified in the main ES and the SES and AP<sub>2</sub> ES.
- 5.3.89 None of the identified developments affect the assessment of the AP<sub>4</sub> amendment's likely construction impacts on sound, noise and vibration.

#### **Operation (2026)**

- 5.3.90 Volume 5: Appendix CT-004-000 of the SES<sub>3</sub> and AP<sub>4</sub> ES provides details of the developments which are assumed to have been implemented by 2026 additional to those identified in the main ES and the SES and AP<sub>2</sub> ES.
- 5.3.91 None of the identified developments affect the assessment of the AP<sub>4</sub> amendment's likely operational impacts on sound, noise and vibration.

### *Effects arising during construction*

- 5.3.92 The main ES identified a significant daytime construction noise effect at the current location of the Island Project School for approximately four months due to vegetation clearance and earthworks. The relocation of the Island Project School from its current premises at Diddington Hall to Jerrings Hall Farm will remove the direct significant effect reported on the school as a non-residential receptor, and therefore the effects identified in the main ES are assumed to remain as reported previously.
- 5.3.93 However, it is assumed that Diddington Hall will have a new occupant in place during the construction works with the potential for the significant effect to remain, subject to the sensitivity of the new occupants as a receptor. Therefore as a worst-case

approach the significant effect at Diddington Hall, identified in the main ES, is assumed to remain as reported previously.

- 5.3.94 The AP4 amendment will introduce additional construction works and the Island Project satellite compound at the proposed new Island Project School site at Jerrings Hall Farm not included in any previous assessment.
- 5.3.95 An assessment has been undertaken to determine whether these new construction works would result in any new likely significant effects, using the significance criteria detailed in the main ES (Volume 5 Appendix SV-001-000).
- 5.3.96 SES3 and AP4 Volume 5: Appendix SV-003-023 details the relevant results.
- 5.3.97 At the two closest identified residential properties, located on the opposite side of Tanworth Lane to the east of the new Island Project School site, the daytime construction noise impact screening criterion is exceeded by 3-5dB for 1 month. When the effects arising from these impacts are assessed on a community basis, a significant effect is not considered likely.
- 5.3.98 The relocation of the Island Project School will therefore not give rise to any new or different significant effects at these closest residential properties to the new school site.
- 5.3.99 At all the selected individual residential properties and residential communities further away from the new Island Project School site, the impact screening criterion is not exceeded and a significant effect is not likely.

#### *Effects arising during operation*

- 5.3.100 The main ES did not identify any likely significant adverse operational sound, noise or vibration effects at the Island Project School.
- 5.3.101 An assessment has been undertaken to determine whether operational noise levels from the AP4 amendment will result in new or different likely significant effects, using the significance criteria detailed in the main ES (Volume 5: Appendix SV-001-000).
- 5.3.102 The operational sound assessment has considered the use of the school with respect to potential sound generated by the school itself and sound relating to road traffic accessing the site.
- 5.3.103 The new location of the Island Project School is outside the scoping distance which would require sound, noise or vibration assessment as a result of the operation of HS2.
- 5.3.104 The school is likely to be subject to local planning conditions to control sound both within the building and at neighbouring properties, in addition to those specified in the Building Regulations<sup>3</sup>.
- 5.3.105 The change in road traffic flow and composition as a result of this amendment results in a change less than the impact criterion defined in the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES, and therefore it is not subject to a detailed assessment.

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<sup>3</sup> A regulatory framework for the acoustic design of schools is provided in Building Bulletin 93, Acoustic Design of Schools.



- 5.3.106 Significant operational noise effects from any mechanical or electrical plant associated with the facility will be avoided through the plant design and the specification of noise emission requirements, as detailed within main ES Volume 5: Appendix SV-001-000 (Annex E – Operation of stationary systems).
- 5.3.107 The amendment will not result in any new or different significant residual effects in the vicinity of the new Island Project School site during construction or operation. The relocation of the Island Project School from its current premises at Diddington Hall to Jerrings Hall Farm will remove the direct construction noise significant effect reported on the existing school as a non-residential receptor, however, the subsequent occupants of the premises may experience a significant effect, subject to their sensitivity. Therefore as a worst-case approach the significant effect at Diddington Hall, identified in the main ES, is assumed to remain as reported previously.

#### *Mitigation and residual effects*

- 5.3.108 No additional mitigation measures (i.e. in addition to those identified in the main ES and subsequent SES and AP ES reports) are required.
- 5.3.109 The AP<sub>4</sub> amendment will not result in any new or different significant residual effects in the vicinity of the new Island Project School site during construction or operation. The relocation of the Island Project School from its current premises at Diddington Hall to Jerrings Hall Farm will remove the direct construction noise significant effect reported on the existing school as a non-residential receptor. The subsequent occupants of the premises may experience a significant effect, subject to their sensitivity.

#### *Cumulative effects*

- 5.3.110 The AP<sub>2</sub> amendment relating to the realignment of Diddington Lane is in the vicinity of the existing Island Project School. However, the significant effect reported in the main ES may remain at Diddington Hall with this AP<sub>4</sub> amendment in place, dependant on the sensitivity of the subsequent occupier. Therefore, there are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the AP<sub>4</sub> amendments interacting with one another, the AP<sub>2</sub> amendments, or any relevant committed development.

### **Traffic and transport**

#### *Introduction*

- 5.3.111 This section of the report describes the environmental baseline in relation to traffic and transport that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the amendment, compared to those of the SES<sub>3</sub> scheme, taking into account any relevant AP<sub>2</sub> amendments.

#### *Scope, assumptions and limitations*

- 5.3.112 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.3.113 There is no change to the scope, assumptions and limitations as reported in the main ES in relation to the existing site.

- 5.3.114 Assessment of the proposed site has been undertaken with particular regard to the effects of construction traffic and the change in travel patterns for Island School Project users at the new location.
- 5.3.115 Construction activities associated with the relocation have been assessed against 2021 baseline traffic flows, irrespective of when they occur during the construction period.

#### *Existing baseline*

- 5.3.116 The existing Island Project School is located off Diddington Lane. The baseline traffic and transport information for the area is as described in the main ES (Volume 2, CFA23, Section 12).
- 5.3.117 The amendment will relocate the Island Project School to Jerrings Hall Farm, located on B4102 Tanworth Lane, Solihull. The B4102 Tanworth Lane is a rural road with some 8,050 two-way vehicle movements per day, or 850 two-way vehicles movements per hour in the peak hours. The B4102 Tanworth Lane connects to Blackford Road to the north which in turn connects to the A34 Stratford Road in the east which is the main strategic route in the area. To the south, B4102 Tanworth Lane provides access to the village of Cheswick Green. There is a footway on the western side of B4102 Tanworth Lane which provides access to bus stops located north and south of the site.

#### *Future baseline*

- 5.3.118 The future baseline for the existing location remains unchanged from that reported in Volume 2, CFA24, Section 12 of the main ES.
- 5.3.119 Future baseline traffic volumes for the proposed site have been calculated by applying growth factors derived from Trip End Model Presentation Program. Committed developments within the area which have a direct access on to the route into the proposed site have been included.

#### **Construction**

- 5.3.120 Future baseline traffic volumes in the peak hours at the relocation site are forecast to grow by around 9% by 2021 compared to 2015.

#### **Operation (2026 and 2041)**

- 5.3.121 Future baseline traffic volumes in the peak hours at the relocation site are forecast to grow by around 17% by 2026 compared to 2015 and by around 41% by 2041 compared to 2015.

#### *Effects arising during construction*

- 5.3.122 The relocated Island Project School will be constructed from a new satellite compound (Island Project satellite compound) located at the relocation site, and managed from the Park Lane main compound. The satellite compound will be operational for approximately six months.
- 5.3.123 The relocation of the Island Project School will increase construction related HGV movements on the B4102 Tanworth Lane by up to 10 two-way HGV movements per day in the peak month and the duration of the peak will be less than one month. The

construction related HGV movements will not result in significant adverse effects due to the relatively small increase and the short duration of the peak activity.

- 5.3.124 The proposed relocation of the Island Project School will not change the effects reported in the main ES with regard to the existing site.
- 5.3.125 The AP4 amendment to relocate the Island Project School will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

#### *Effects arising from operation*

- 5.3.126 The proposed relocation of the Island Project School will not change the effects reported in the main ES with regard to the existing site.
- 5.3.127 The relocation of the Island Project School will increase traffic flows on the roads around the relocation site. However, this will not result in a significant effect due to the small increase in traffic. The relocation will also change the travel distances for staff and pupils. However, this will not be significant.
- 5.3.128 Therefore the proposed AP4 amendment to relocate the Island Project School will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

#### *Mitigation and residual effects*

- 5.3.129 No mitigation measures in addition to those reported in the main ES (Volume 2, CFA23) are proposed.
- 5.3.130 The AP4 amendment will not result in new or different significant residual effects in construction or operation and will not change the level of the significance of the effects reported in the main ES.

#### *Cumulative effects*

- 5.3.131 The assessment has taken into account cumulative effects, including planned development by taking account of background traffic growth, as well as traffic and transport impacts of works being undertaken in other areas.
- 5.3.132 There are no new or different likely significant cumulative effects for traffic and transport as a result of the AP4 amendments interacting with one another or with the AP2 amendments.

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

- 5.3.133 The AP4 amendment to relocate the Island Project School will remove the significant adverse community amenity and isolation effects, and the significant residual noise effect reported on the Island Project School during construction.
- 5.3.134 The Ap4 amendment will result in new major adverse, significant residual effects on cultural heritage at Jerrings Hall (asset reference BHA272) and its setting during construction and operation, as well as a permanent moderate adverse effect on the archaeological remains during construction.

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

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



**High Speed Two (HS2) Limited**

One Canada Square  
London E14 5AB

**T** 020 7944 4908

**E** [hs2enquiries@hs2.org.uk](mailto:hs2enquiries@hs2.org.uk)

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