

# **High Speed Rail (Crewe – Manchester)**

## **Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

### **Volume 2: Community Area reports**

MA06: Hulseheath to Manchester Airport

## **High Speed Rail (Crewe – Manchester)**

### **Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

#### **Volume 2: Community Area reports**

MA06: Hulseheath to Manchester Airport



## Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

High Speed Two (HS2) Limited  
Two Snowhill  
Snow Hill Queensway  
Birmingham B4 6GA

Telephone: 08081 434 434

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

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

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

**ARUP+** ERM | FOSTER + PARTNERS | JACOBS  
RAMBOLL | TYPISA | COSTAIN

**MWJV**

Mott MacDonald | WSP

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.

© High Speed Two (HS2) Limited, 2023, except where otherwise stated.

Copyright in the typographical arrangement rests with High Speed Two (HS2) Limited.

This information is licensed under the Open Government Licence v3.0. To view this licence, visit [www.nationalarchives.gov.uk/doc/open-government-licence/version/3](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3) **OGL** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk). Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.



Printed in Great Britain on paper containing 100% recycled fibre.

# Contents

<b>Structure of the HS2 Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement</b>	<b>8</b>
<b>Structure of this report</b>	<b>11</b>
<b>1 Introduction</b>	<b>12</b>
<b>Part 1: Supplementary Environmental Statement 2</b>	<b>15</b>
<b>2 Summary of changes in the Hulseheath to Manchester area</b>	<b>15</b>
2.1 New environmental baseline information	15
2.2 Changes to the design or to construction assumptions not requiring a change to the Bill	21
2.3 Corrections to the main ES	27
<b>3 Assessment of changes in the Hulseheath to Manchester Airport area</b>	<b>42</b>
3.1 Introduction	42
3.2 Community	42
3.3 Ecology and biodiversity	44
3.4 Health	56
3.5 Landscape and visual	58
3.6 Socio-economics	63
3.7 Sound, noise and vibration	66
3.8 Water resources and flood risk	69
3.9 Summary of new or different likely residual significant effects as a result of the SES2 changes	72
3.10 Summary of likely residual significant effects that will be removed	74
<b>4 Summary of AP2 amendments in the Hulseheath to Manchester Airport area</b>	<b>75</b>
4.1 Engineering amendments	75
<b>5 Assessment of engineering amendments in the Hulseheath to Manchester Airport area</b>	<b>82</b>
5.1 Additional land permanently required for the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland (AP2-003-003)	82
5.2 Additional land temporarily required for construction access from Chapel Lane and the A556 temporary slip roads (AP2-006-001)	91
5.3 Additional land temporarily required for the provision of a maintenance access road to the Chester Road satellite compound from the A556 (AP2-006-002)	92



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

5.4	Additional land permanently required to relocate Rostherne Mere groundwater recharge trenches north of Cherry Tree Lane (AP2-006-003)	96
5.5	Additional land temporarily required for the installation of a temporary vehicle restraint system at M56 junction 8 (AP2-006-004)	101
5.6	Additional land permanently required for modifications to the Yarwood Heath Farm accommodation overbridge (AP2-006-005)	102
5.7	Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)	103
5.8	Change in Bill powers for the retention and realignment of Footpath Ashley 3/1 (AP2-006-007)	137
5.9	Additional land permanently required for the realignment of a maintenance access road from Ashley Road (AP2-006-008)	144
5.10	Additional land temporarily required for the provision of surface water drainage at Mobberley Road South satellite compound (AP2-006-009)	149
5.11	Additional land permanently required for watercourse diversions at Mobberley Road (AP2-006-010)	150
5.12	Additional land temporarily required for the operation of Ashley railhead near Sugar Brook Ancient Woodland (AP2-006-011)	161
5.13	Additional land permanently required for the revised realignment of Tributary of Birkin Brook 2 south of Thorns Green embankment (AP2-006-012)	165
5.14	Additional land required for the revised diversion of a Scottish Power 11kV overhead line, north of Brickhill Wood (AP2-006-013)	170
5.15	Additional land permanently required to reconfigure M56 junction 6 (AP2-006-014)	173
5.16	Additional land permanently required for modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)	267
5.17	Additional land permanently required for the realignment of an 11kv underground power line diversion along Shay Lane (AP2-006-016)	279
5.18	The provision of access to land parcels in the Manchester Airport High Speed station area (AP2-006-017)	280
5.19	Additional land permanently required for modifications to mitigation for Timperley Brook (AP2-006-018)	281
5.20	Change in Bill powers for the retention of Footpath Hale 16 from Brooks Drive to the Manchester Airport High Speed station (AP2-006-019)	301
5.21	Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020)	308
5.22	Additional Bill powers for construction traffic route along Enterprise Way (AP2-006-021)	312

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

5.23	Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	312
5.24	Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)	340
5.25	Additional land temporarily required for the provision of surface water drainage at Manchester tunnel south portal main compound (AP2-006-024)	348
5.26	Combined effects of AP amendments in the Hulseheath to Manchester Airport area	348
<b>6</b>	<b>Construction programme</b>	<b>356</b>
6.1	Introduction	356
<b>7</b>	<b>Combined effects of changes and amendments in the Hulseheath to Manchester Airport area due to changes in traffic flows</b>	<b>375</b>
7.1	Introduction	375
7.2	SES2 changes and AP2 amendments of relevance to this assessment	375
7.3	Traffic and transport	376
7.4	Air quality	416
7.5	Community	419
7.6	Ecology and biodiversity	423
7.7	Health	435
7.8	Socio-economics	438
7.9	Sound, noise and vibration	441
7.10	Water resources and flood risk	446
7.11	Summary of new or different likely residual significant effects as a result of combined effects due to changes in traffic flows	452
7.12	Summary of likely residual significant effects that will be removed	458

#### Tables

Table 1:	Summary of changes to the design not requiring a change to the Bill in the Hulseheath to Manchester Airport area	22
Table 2:	Summary of corrections to the main ES Volume 2 Community Area report for the Hulseheath to Manchester Airport area	28
Table 3:	Committed developments of relevance to ecology and biodiversity during construction	51
Table 4:	Committed developments of relevance to water resources and flood risk	70
Table 5:	Summary of AP2 engineering amendments in the Hulseheath to Manchester Airport area	75

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Table 6: Summary characteristics of the holdings affected by the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)	83
Table 7: Temporary impacts and effects on holdings arising from the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)	84
Table 8: Permanent impacts and effects on holdings arising from the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)	85
Table 9: Summary characteristics of the holdings affected by the land required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)	105
Table 10: Temporary impacts and effects on holdings arising from the land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)	106
Table 11: Permanent impacts and effects on holdings arising from the land required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)	108
Table 12: Additional demolitions	184
Table 13: Summary characteristics of the holdings affected by the reconfiguration of M56 junction 6 (AP2-006-014)	185
Table 14: Temporary impacts and effects on holdings arising from reconfiguration of M56 Junction 6 (AP2-006-014)	186
Table 15: Permanent impacts and effects on holdings arising from reconfiguration of M56 Junction 6 (AP2-006-014)	189
Table 16: Committed developments of relevance to landscape and visual amenity	214
Table 17: Committed developments of relevance to socio-economics	237
Table 18: Direct adverse construction effects on residential communities and shared open areas that are considered to be significant on a community basis and are new to those reported in the main ES	242
Table 19: Groundwater – surface water interaction features relevant to the AP2 revised scheme	256
Table 20: River flood risk sources and receptors	257
Table 21: Summary characteristics of the holding affected by the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)	269
Table 22: Temporary impacts and effects on holdings arising from the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)	270
Table 23: Permanent impacts and effects on holdings arising from the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)	270

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Table 24: Summary characteristics of the holdings affected by the changes to mitigation at Timperley Brook (AP2-006-018)	283
Table 25: Temporary impacts and effects on holdings arising from the changes to mitigation at Timperley Brook (AP2-006-018)	284
Table 26: Permanent impacts and effects on holdings arising from the changes to mitigation at Timperley Brook (AP2-006-018)	285
Table 27: Direct adverse construction effects on residential communities and shared open areas that are considered to be significant on a community basis and are new compared to those reported in the main ES	297
Table 28: Summary characteristics of the holdings affected by the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	318
Table 29: Temporary impacts and effects on holdings arising from the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	319
Table 30: Permanent impacts and effects on holdings arising from the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	320
Table 31: Combined effects of AP2 amendments on holdings in the Hulseheath to Manchester Airport area	349
Table 32: Combined effects of AP2 amendments on ecological receptors in the Hulseheath to Manchester Airport area	351
Table 33: Combined effects of AP2 amendments on viewpoints in the Hulseheath to Manchester Airport area - construction	353
Table 34: Combined effects of AP2 amendments on viewpoints in the Hulseheath to Manchester Airport area - operation	354
Table 35: Typical vehicle trip generation for construction compounds in the Hulseheath to Manchester Airport area	380
Table 36: Construction traffic routes for construction compounds in the Hulseheath to Manchester Airport area	382
Table 37: Construction highway interventions by scenario (Hulseheath to Manchester Airport area, west)	387
Table 38: Construction highway interventions by scenario (Hulseheath to Manchester Airport area, east)	388
Table 39: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Broomedge to Glazebrook area, 2031	389
Table 40: Roads with changes in daily all vehicle movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2031	390

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Table 41: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2031	390
Table 42: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Risley to Bamfurlong area, 2031	391
Table 43: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Risley to Bamfurlong area, 2031	392
Table 44: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2031	392
Table 45: Roads with changes in daily all vehicle movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2031	394
Table 46: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2031	396
Table 47: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2039	401
Table 48: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2051	403
Table 49: Roads with changes in traffic flow resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2039 and 2051	404
Table 50: New or different significant effects on delays to public transport in the Hulseheath to Manchester Airport area	413
Table 51: Indirect adverse operational effects on residential communities and shared open areas that are considered significant on a community basis and are new compared to those reported in the main ES	446

### Figures

Figure 1: Structure of the SES2 and AP2 ES	10
Figure 2: Locations of SES2 design changes not requiring a change to the Bill in the Hulseheath to Manchester Airport area	23
Figure 3: Locations of AP2 amendments in the Hulseheath to Manchester Airport area	81

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Figure 4: Schematic showing traffic flows in the vicinity of the gyratory	175
Figure 5: Reconfiguration of M56 junction 6 – view from the west	178
Figure 6: Reconfiguration of M56 junction 6 – view from the north	178
Figure 7: Illustration showing additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station	314
Figure 8: Indicative construction programme for the SES2 and AP2 ES compared to the main ES	357

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

This report is part of the suite of documents that make up the SES2 and AP2 ES for the High Speed Rail (Crewe – Manchester) Bill. The SES2 and the AP2 ES are separate documents; however, they are bound together and presented in a number of volumes shown in Figure 1 and described below:

- **Non-technical summary (NTS).** This provides a summary in non-technical language of the SES2 (Part 1) and the AP2 ES (Part 2). It presents a summary of any likely residual significant environmental effects (i.e. effects which are likely to remain after mitigation measures are put in place), both beneficial and adverse, which are new, different or have been removed compared to those reported in the main ES or the SES1 and AP1 ES, where relevant;
- **Glossary of terms, list of abbreviations and references.** This contains any terms and abbreviations used throughout the SES2 and the AP2 ES, and provides all references cited in each of the volumes listed below;
- **Volume 1: Introduction to the SES2 and the AP2 ES.** This introduces the supplementary environmental information and changes to the design and to the construction assumptions included within the SES2 and amendments within the AP2 ES. The report explains the environmental impact assessment (EIA) process which has been applied;
- **Volume 2: Community area reports and map books.** These report the supplementary environmental information and changes to the design and to the construction assumptions included within the SES2 (Part 1), amendments within the AP2 ES (Part 2) and any new, different or removed likely significant environmental effects arising from these changes and amendments in the following community areas:
  - MA01: Hough to Walley's Green;
  - MA02: Wimboldsley to Lostock Gralam;
  - MA03: Pickmere to Agden and Hulseheath;
  - MA06: Hulseheath to Manchester Airport;
  - MA07: Davenport Green to Ardwick; and
  - MA08: Manchester Piccadilly Station.
- Note, through the SES1, the removal of the HS2 West Coast Main Line (WCML) connection, included in the original scheme, has removed the community areas of Broomedge to Glazebrook (MA04) and Risley to Bamfurlong (MA05) from the HS2 Phase 2b Western Leg. Where changes in the combined traffic assessment result in effects that would have been reported in these two community areas, they are instead reported in the Hulseheath to Manchester Airport (MA06) community area report;

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

- The environmental effects in the Volume 2 reports are compared to those reported in the main ES, the SES1 or AP1 ES as relevant. The maps relevant to each community area are provided in separate Volume 2 map books and should be read in conjunction with the relevant community area report;
- **Volume 3: Route-wide effects.** This describes any new, different or removed likely significant environmental effects arising at a route-wide level from the supplementary environmental information and changes to the design and to the construction assumptions included within the SES2 (Part 1) and the amendments within the AP2 ES (Part 2) compared to those reported in the main ES, the SES1 or AP1 ES as relevant;
- **Volume 4: Off-route effects.** Describes any new, different or removed likely significant environmental effects arising at locations beyond the route corridor between Crewe and Manchester from the supplementary environmental information, changes to the design and construction assumptions included in the SES2 (Part 1) and amendments within the AP2 (Part 2) compared to those reported in the main ES; and
- **Volume 5: Appendices and map books.** These contain supporting environmental information and associated maps.
- Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES2 and AP2 ES. These documents are available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>. The BID documents and maps present background survey information and other relevant background material.

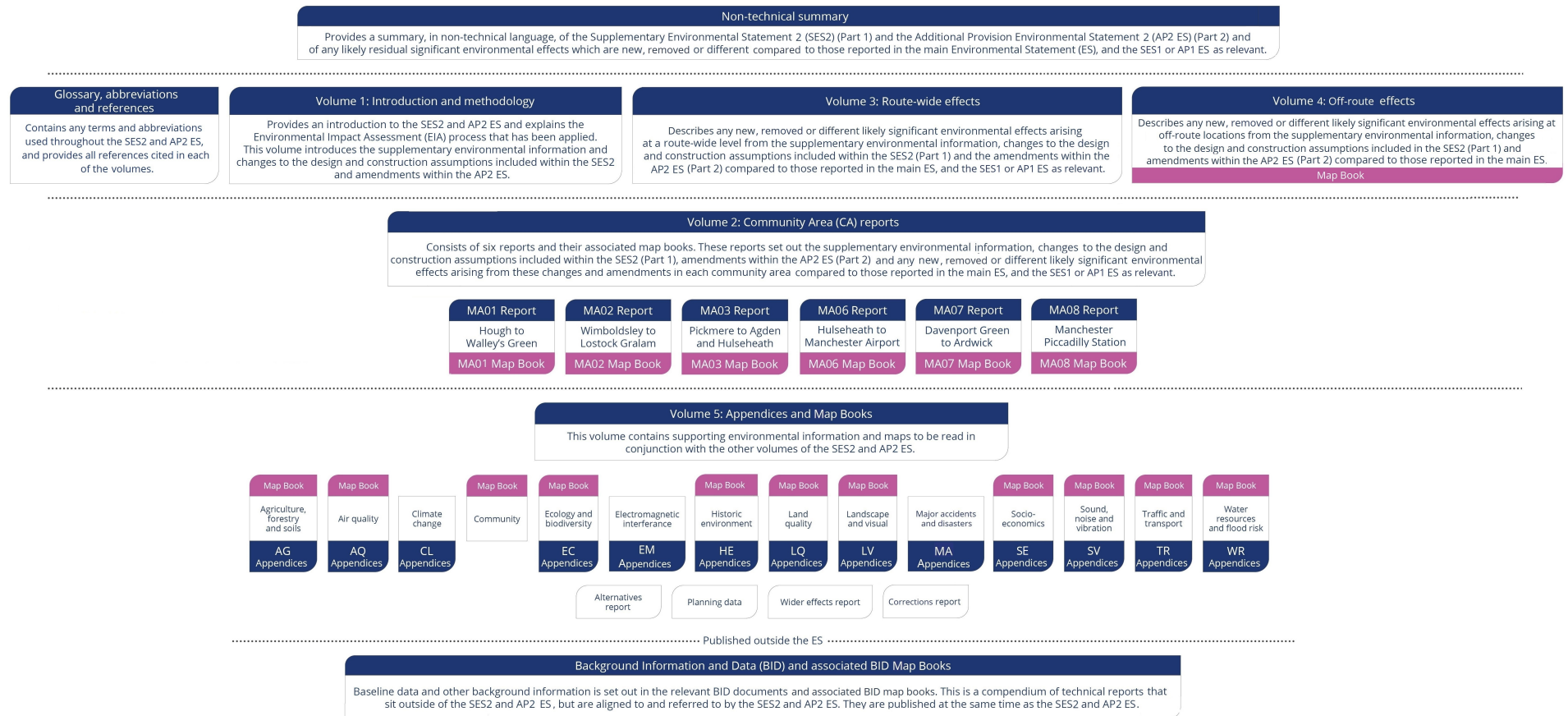


# Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

## Volume 2: Community Area report

### MA06 Hulseheath to Manchester Airport

**Figure 1: Structure of the SES2 and AP2 ES**



## Structure of this report

This volume of the SES2 and AP2 ES is divided into Community Area (CA) reports. Each of these reports is in turn divided into two parts.

Part 1 (SES2) provides supplementary environmental information, where relevant, relating to:

- new baseline information with respect to environmental surveys completed and additional information received since the production of the main ES and the SES1 and AP1 ES;
- changes to the design and construction assumptions that do not require changes to the Bill; and
- corrections to the main ES and the SES1 and AP1 ES.

Part 2 (AP2 ES) provides environmental assessment information relating to proposed amendments to the design that have resulted in the need to alter the powers conferred by the Bill and the Additional Provisions to the Bill.

Parts 1 and 2 also include the following, where relevant:

- a description of the SES2 changes (Part 1) or the proposed AP2 amendments (Part 2) within the community area that have triggered the need for reassessment;
- an assessment of the environmental effects of the SES2 changes (Part 1) or the proposed AP2 amendments (Part 2) for relevant environmental topics, considering the:
  - scope, assumptions and limitations of the assessment;
  - environmental baseline;
  - effects arising during construction;
  - effects arising from operation; and
  - mitigation and residual effects;
- a summary of any new, removed or different likely residual significant effects as a result of the SES2 changes (Part 1) and the proposed AP2 amendments (Part 2) compared to those reported in the main ES and the SES1 and AP1 ES (as relevant).

This report also includes traffic assessments for the Broomedge to Glazebrook (MA04) and Risley to Bamfurlong (MA05) community areas which were included in the original scheme but removed through the SES1 change SES1-004-001, Removal of the HS2 WCML connection.

# 1 Introduction

- 1.1.1 The High Speed Rail (Crewe – Manchester) Bill was submitted to Parliament together with an Environmental Statement ('the main ES') in January 2022. The SES1 and AP1 ES, which was submitted in July 2022, updated the main ES and contained changes and amendments to the design of the original scheme (i.e. the scheme submitted in January 2022) for the following community areas:
- MA01: Hough to Walley's Green;
  - MA02: Wimboldsley to Lostock Gralam;
  - MA03: Pickmere to Agden and Hulseheath;
  - MA04: Broomedge to Glazebrook; and
  - MA05: Risley to Bamfurlong.
- 1.1.2 The Bill and the Additional Provisions to the Bill, if enacted by Parliament, will provide the powers to construct, operate and maintain the HS2 Phase 2b Western Leg.
- 1.1.3 Since submission of the main ES and SES1 and AP1 ES, a number of further updates or changes to environmental baseline information, to the design and to construction assumptions have occurred, which may lead to new, removed or different significant effects. These effects, depending on the type of change, are reported in the SES2 or the AP2 ES, which form Part 1 and Part 2 of this report respectively.
- 1.1.4 The SES2 (Part 1) contains updated environmental baseline information and scheme information relating to changes within the current limits and powers of the Bill, which therefore do not require an Additional Provision to the Bill. The SES2 changes within the Hulseheath to Manchester Airport area include:
- additional environmental baseline information (which may be relevant to the SES2 scheme and/or AP2 revised scheme) for air quality; community; ecology and biodiversity; health; historic environment; land quality; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk;
  - changes to the design and to construction assumptions that do not require changes to the Bill; and
  - corrections to the main ES and the SES1 and AP1 ES.
- 1.1.5 These changes are described in Part 1 and are assessed on a topic by topic basis, where relevant.
- 1.1.6 The purpose of the SES2 is to describe the assessment and identify any new, removed or different likely significant environmental effects arising from the changes. These will be compared to the main ES or SES1 as relevant for each topic assessment.
- 1.1.7 The AP2 ES (Part 2) 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

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

access rights or other extensions to the powers conferred by the Bill, making it necessary to submit an Additional Provision to the Bill.

- 1.1.8 The AP2 ES reports the assessment of each amendment separately for all relevant topics. The purpose of the AP2 ES is to provide an assessment of any new, removed or different likely significant environmental effects arising from the amendments, as compared to the main ES, the SES1 or the SES2 as relevant. Consideration is also given to the interaction between AP1 amendments and AP2 amendments, where relevant.
- 1.1.9 A combined assessment of new, removed or different significant construction and operation traffic and traffic related effects, as a result of changes in traffic flows, is reported in Section 7. This is because alterations in traffic flows cannot generally be directly attributed to particular SES2 changes or AP2 amendments. Traffic and transport effects are reported first, since the effects arise from changes in traffic flows. Other topics affected by traffic and transport changes are then reported, as necessary.
- 1.1.10 All other new, removed or different significant traffic and transport effects are reported with the relevant SES2 change or AP2 amendment section of this report.
- 1.1.11 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in Section 9 of Volume 1 of the main ES and in the draft Code of Construction Practice (CoCP)<sup>1</sup> submitted in support of the Bill. Implementation of these measures has been assumed in this SES2 and AP2 ES.
- 1.1.12 In order to differentiate between the original proposals assessed as part of the main ES and subsequent changes, the following terms are used throughout the SES2 and the AP2 ES to define the scheme:
- ‘the SES1 scheme’ – the original scheme with any changes described in SES1 that are within the existing powers of the Bill;
  - ‘the AP1 revised scheme’ – the original scheme as amended by SES1 changes and AP1 amendments;
  - ‘the SES2 scheme’ – the original scheme with any changes described in SES1 (submitted in July 2022) and SES2; and
  - ‘the AP2 revised scheme’ – the original scheme as amended by SES1 changes, SES2 changes and AP2 amendments.

---

<sup>1</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Environmental Statement, draft Code of Construction Practice*, Volume 5, Appendix: CT-002-00000. Available online at: <https://www.gov.uk/government/collections/cross-topic-technical-appendices-for-high-speed-rail-crewe-manchester-environmental-statement#draft-code-of-construction-practice>.

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

- ‘SES2 design changes’ – changes to the scheme design reported in the SES2 that do not require additional powers;
- ‘SES2 changes’ – all changes reported in the SES2 that do not require additional powers. This may include new baseline information, changes to the design and to construction assumptions, and corrections; and
- ‘AP2 amendments’ – amendments to the scheme reported in the AP2 ES that include requirements for additional powers in the Bill.

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

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

# Part 1: Supplementary Environmental Statement 2

## 2 Summary of changes in the Hulseheath to Manchester area

### 2.1 New environmental baseline information

- 2.1.1 Since the main ES and the SES1 and AP1 ES, updates to the environmental baseline information have occurred which may lead to new or different significant effects for the following environmental topics.
- 2.1.2 An update to the baseline information for traffic and transport effects is reported first, since this has implications for other topics. The other topics where updated baseline information may lead to new or different significant effects are then reported, in the following sequence:
- air quality;
  - community;
  - ecology and biodiversity;
  - health;
  - historic environment;
  - land quality;
  - socio-economics;
  - sound, noise and vibration; and
  - water resources and flood risk.

### Traffic and transport

- 2.1.3 Since the main ES, additional traffic information has been used in the development of updated baseline and future baseline models for the SES2 scheme and AP2 revised scheme in the Hulseheath to Manchester Airport area, as well as the former Broomedge to Glazebrook area (MA04) and the former Rislely to Bamfurlong area (MA05). This includes traffic data from National Highways and Transport for Greater Manchester (TfGM) and Trafficmaster journey time data from the Department for Transport (DfT), as set out in the Background Information and Data (BID)<sup>2</sup> report TR-004-00001 SES2 and AP2 ES. This data

---

<sup>2</sup>High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Transport Assessment policy and data*, BID TR-004-00001 SES2 and AP2 ES. Available online at:

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

has been combined with the information collected for local junction modelling set out in the BID<sup>3</sup> report TR-004-00001 which accompanied the main ES.

- 2.1.4 The baseline and future baseline models have been updated for the assessment of the SES2 scheme and AP2 revised scheme to reflect:
- additional traffic information outlined above;
  - refinement of network coding to improve model performance in key areas of interest;
  - inclusion of recently committed or completed transport schemes and development proposals that have come forward since the models used in the assessment reported in the main ES were developed;
  - refinements to future baseline traffic demand to reflect changes to future growth patterns;
  - the change in the future baseline forecast years from 2030 to 2031, 2038 to 2039 and 2046 to 2051 (as described in Section 7 of this report); and
  - updates to transport model parameters to reflect the July 2020 release of the DfT's Transport Analysis Guidance (TAG) data book.
- 2.1.5 In addition, the Planet Framework Model (PFM) future baseline has also been updated for the SES2 and AP2 ES from PFM9.6, which was used in the assessment of the original scheme, to PFM10A. Changes from PFM9.6 to PFM10A reflect updated data including revised population and employment estimates.
- 2.1.6 The assessment of the changes to traffic flows associated with the updated baseline and future baseline models in combination with all SES2 changes and AP2 amendments is reported in Section 7 of this report.

## Air quality

- 2.1.7 Road traffic data, as discussed in Section 7, and air quality assessment years have been updated for both construction (2026 as a worst case earliest construction year) and operation (2039) for the Hulseheath to Manchester Airport area. Details of the additional traffic data and associated background air pollution concentrations in this area are provided in the BID<sup>4</sup> document BID AQ-002-0MA06 SES2 and AP2 ES, SES2 and AP2 ES Volume 5, Appendix: AQ-001-0MA06 and SES2 and AP2 ES Volume 5, Air Quality Map Book: Map Series AQ-01 Monitoring Locations and Receptors.

---

<https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

<sup>3</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Background Information and Data, Transport Assessment policy and data report*, BID TR-004-00001. Available online at:

<https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

<sup>4</sup> High Speed Two (2023) High Speed Rail (Crewe – Manchester), *Background Information Data, Additional data used in the air quality assessment*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.



## Community

- 2.1.8 A review of residential properties, community resources, recreational facilities and open spaces in the Hulseheath to Manchester Airport area has been completed and has resulted in the following update to the baseline information.
- 2.1.9 Since the main ES, it has been identified that the Manchester Airport Marriott Hotel, located on the A538 Hale Road, contains a leisure club that is open to members of the public as well as hotel guests. The leisure club includes a gym and a swimming pool. The leisure club is open seven days a week and provides swimming lessons for children of all ages six days a week.

## Ecology and biodiversity

- 2.1.10 Since the main ES, additional Phase 1 habitat, hedgerow, protected and notable flora, National Vegetation Classification (NVC), pond and canal, aquatic and terrestrial invertebrates, great crested newt, bat, and otter surveys have been completed in the Hulseheath to Manchester Airport area.
- 2.1.11 Details of these additional ecological surveys are provided in BID documents<sup>5</sup> BID EC-017-00000, BID EC-007-00000 and BID EC-011-00000, and BID Ecology Map Book<sup>6</sup>: Map Series EC-02, EC-04, EC-05, EC-06, EC-08, EC-10, EC-11, and EC-12, which accompany the SES2 and AP2 ES.
- 2.1.12 New ecological baseline data relating to the designation of nature conservation sites have also been published by Cheshire Wildlife Trust, which covers part of the Hulseheath to Manchester Airport area. This update introduces two new Local Wildlife Sites (LWS) and extends one LWS.
- 2.1.13 Additional effects that are significant at the local/parish level that are likely to occur as a consequence of changes to the SES2 baseline and AP2 amendments are identified in SES2 and AP2 ES Volume 5, Appendix: EC-015-00000.
- 2.1.14 Detailed supplementary ecological information that is relevant to the SES2 assessment is provided in Section 3.

---

<sup>5</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, ecology and biodiversity baseline data*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

<sup>6</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Ecology Map Book*: Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.



## Health

- 2.1.15 A review of residential properties, community resources, healthcare facilities, recreational facilities and open spaces in the Hulseheath to Manchester Airport area has been completed and has resulted in the following update to the baseline information.
- 2.1.16 Since the main ES, it has been identified that the Manchester Airport Marriott Hotel, located on the A538 Hale Road, contains a leisure club that is open to members of the public as well as hotel guests. The leisure club includes a gym and a swimming pool. The leisure club is open seven days a week and provides swimming lessons for children of all ages six days a week.

## Historic environment

- 2.1.17 The historic environment baseline information is as described in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES.
- 2.1.18 There are no additional assets within the historic environment baseline which are relevant to the assessment of the SES2 scheme in the Hulseheath to Manchester Airport area. A description of the additional baseline relevant to the AP2 amendments, where relevant, is provided in Part 2.
- 2.1.19 Details of additional historic environment baseline are provided in SES2 and AP2 ES Volume 5, Appendix: HE-002-00000 and BID HE-001-00000<sup>7</sup> SES2 and AP2 ES.

## Land quality

- 2.1.20 Environmental regulatory data has been updated. This data includes information on pollution incidents, radioactive and hazardous substances consents, environmental permits (previously integrated pollution control and integrated pollution prevention and control licences) and ecological receptors.
- 2.1.21 In the Hulseheath to Manchester Airport area, this includes nine pollution incidents to controlled waters, four pollution prevention controls, 17 discharge consents and one control of major accident hazards (COMAH) site reported within the study area.

---

<sup>7</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data, Historic environment baseline data used in the Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

2.1.22 Further details of these are presented in the BID<sup>8</sup> report (BID LQ-002-00000 SES2 and AP2 ES).

## Socio-economics

2.1.23 Since the main ES, the following baseline information has been updated:

- datasets reflecting changes to the business and labour market from the Office for National Statistics (ONS), namely:
  - UK Business Counts (UKBC) (January – December 2021);
  - Business Register and Employment Survey (BRES) (January – December 2021); and
  - Annual Population Survey (APS) (January – December 2021).
- vacancy rates for industrial and warehousing property and for office space, with information supplied by Estates Gazette.

2.1.24 A review of local authority level employment land reports has been undertaken.

2.1.25 This baseline information has been considered, where relevant, in the assessment and is presented in the SES2 and AP2 ES Volume 5, Appendix: SE-001-00000, Updated socio-economic baseline information.

## Sound, noise and vibration

2.1.26 Road traffic information, such as flows and speeds, is used to determine the baseline sound levels. Additional road traffic information has been obtained for the SES2 scheme and AP2 revised scheme. Where relevant, this road traffic information has been used to update the existing and future baseline sound modelling. Details of the updated baseline information that is relevant to the assessment are provided in SES2 and AP2 ES Volume 5, Appendix: SV-002-00000.

## Water resources and flood risk

2.1.27 Additional water quality data have been collected for six watercourses within the Hulseheath to Manchester Airport area. These are:

- River Bollin;
- Tributary of River Bollin 2;
- Tributary of River Bollin 3;
- Tributary of River Bollin 5;
- Timperley Brook; and
- Tributary of Timperley Brook 1.

---

<sup>8</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Land quality baseline data*, BID LQ-002-00000 SES2 and AP2 ES. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

- 2.1.28 Laboratory analysis of these water quality samples is presented in the Background Information and Data (BID)<sup>9</sup> BID WR-004-0MA06 SES2 and AP2 ES.
- 2.1.29 In the BID WR-004-0MA06, which supported the main ES, one of the potential groundwater – surface water interactions identified was the potential spring at Keeper’s Cottage, Sunbank Lane (north). This was previously included as a High value receptor. Since the main ES, surveys were undertaken and indicated that there is no evidence of a spring feature, culvert or watercourse at this location. Therefore, the reported groundwater – surface water interaction feature at this location has been removed from the assessment, and the existing baseline updated to remove this feature.
- 2.1.30 Since the main ES, the Environment Agency has issued updated datasets for groundwater source protection zones (SPZ), discharge consents and licensed water abstractions. However, these updated datasets do not introduce any new water receptors or change existing receptors for the water resources and groundwater flood risk topics in this area. For the SES2 scheme, the additional data does not result in any new or different significant effects compared to the main ES.
- 2.1.31 In the BID WR-004-0MA06, which supported the main ES, Wood Near Chapel Lane Site of Biological Importance (SBI) (including Hennersley Bank ancient woodland) was identified as a potential water dependent habitat. National vegetation classification (NVC) surveys have been undertaken since the main ES. These surveys indicate that this site is an ash woodland which is not anticipated to be dependent on groundwater flows. Therefore, this feature is no longer considered be a water dependent habitat and has been removed from the water resources assessment.
- 2.1.32 In July 2021, the Environment Agency published revised guidance and climate change allowance for peak river flows to reflect the UK Climate Projections 2018 (UKCP18)<sup>10</sup>. In May 2022 updated peak rainfall intensity allowances were published by the Environment Agency using UKCP local projections of extreme rainfall. Further details are provided in the SES2 and AP2 ES Volume 5, Appendix: CT-001-00005: Water resources and flood risk technical note: Updated guidance on flood risk assessment. The main changes to the guidance of relevance to SES2 and AP2 ES are:
- peak river flow and rainfall intensity allowances are given for ‘management catchments’ instead of river basin districts (RBD). The smaller geographical units better reflect variability of the catchment response to climate change impact;

---

<sup>9</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Water resources assessment baseline data*, BID WR-004-0MA06. Available online at:

<https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

<sup>10</sup> Environment Agency (2022). *Flood risk assessments: climate change allowances*. Available online at: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>.

- the 'Higher central' peak river flow allowance should be used for catchments which contain 'essential infrastructure', elsewhere the 'Central' allowance should be used; and
- the 'Upper end' peak rainfall intensity allowance should be used for all development with a lifespan beyond 2100.

2.1.33 This information has been used in the water resources and flood risk assessment, where relevant.

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

### **Introduction**

2.2.1 The following have been identified for the Hulseheath to Manchester Airport area:

- changes to construction assumptions;
- changes to the construction programme; and
- design changes.

2.2.2 These changes, which are described below, do not require a change to the Bill.

### **Changes to construction assumptions**

2.2.3 The main ES provided indicative details of the construction works to be managed from the construction compounds in the area (see Section 2 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES). The information included the duration of works, number of workers and a summary of the works to be undertaken. A construction programme was also provided, which included indicative periods for each of the core construction activities.

2.2.4 A route-wide review of earthworks and the movement of materials has been undertaken since the main ES. Changes to assumed construction methods have also been made. The review and the changes have resulted in the need to alter the indicative construction programme. The revised programme is provided in Section 6 and described in Section 3 of the SES2 and Section 5 of the AP2 ES.

2.2.5 There will be changes to the construction workforce at eight compounds as a result of the AP2 revised scheme. An assessment of socio-economic effects on employment at a route-wide level is reported in Volume 3 of the SES2 and AP2 ES.

### **SES2 engineering design changes**

2.2.6 Table 1 provides a summary of the design changes which result in new or different significant effects in the Hulseheath to Manchester Airport area. Figure 2 shows the locations of these changes.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

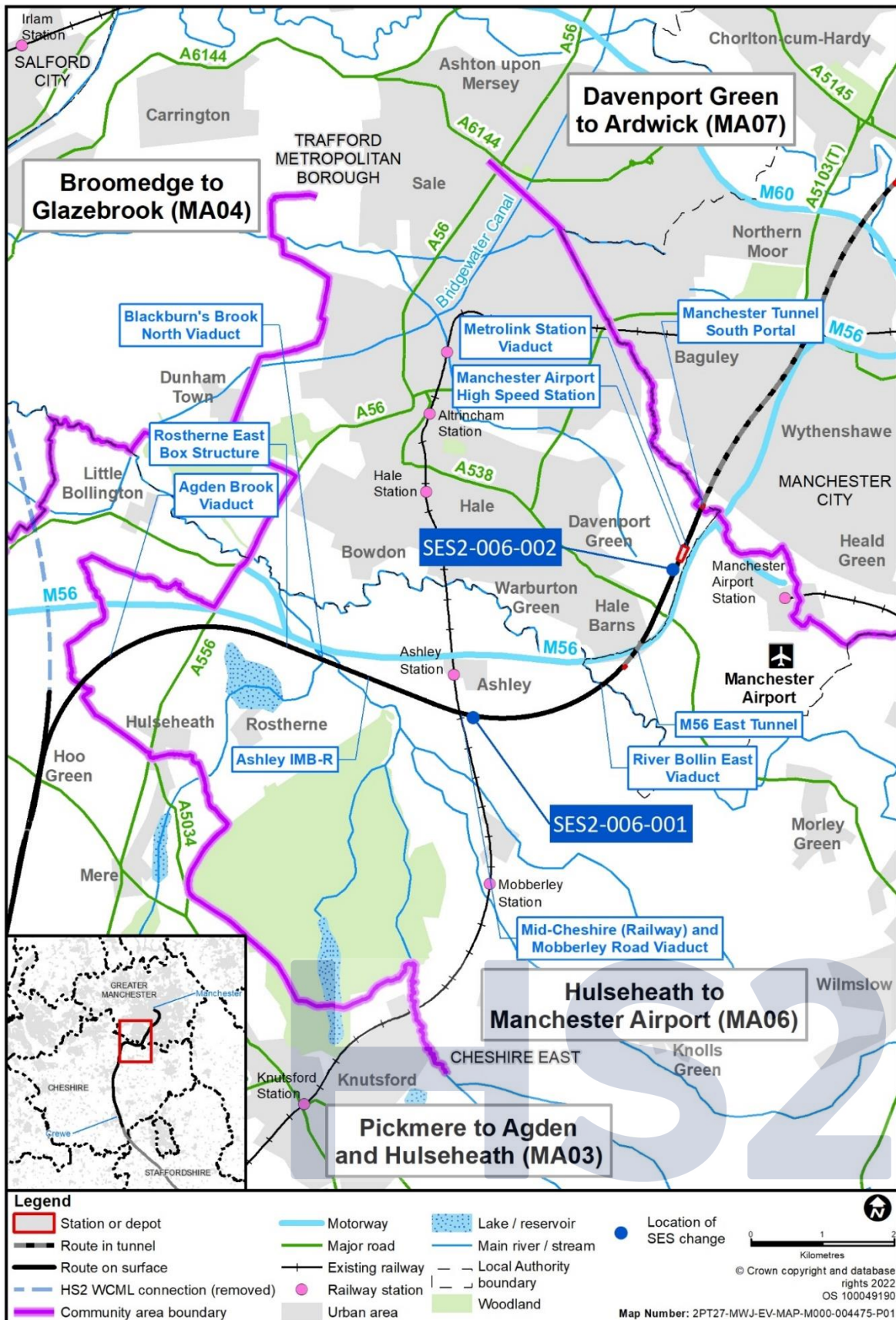
2.2.7 Please note that all dimensions in the following sections are approximate.

**Table 1: Summary of changes to the design not requiring a change to the Bill in the Hulseheath to Manchester Airport area**

Name of the SES2 design change	Description of the original scheme	Description of the SES2 scheme
Modifications to Mobberley Road realignment, Mid Cheshire (Railway) and Mobberley Road viaduct and Thorns Green embankment SES2-006-001 see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-354, H4 to J9	The Bill provides for the Mid-Cheshire (Railway) and Mobberley Road viaduct on which the HS2 route would be carried over the Mid-Cheshire railway line and the realigned Mobberley Road. The viaduct would be 266m in length and 9m in height above ground level. Mobberley Road would be realigned to cross over the Mid-Cheshire Line via Mobberley Road offline overbridge.	Modifications to the Mid-Cheshire (Railway) and Mobberley Road viaduct to remove the requirement for rail movement joints. The realignment of Mobberley Road will cross the HS2 route 40m west of the location proposed in the original scheme. This allows the length of the Mid Cheshire (Railway) and Mobberley Road viaduct to be shortened.
Modifications to car park roofs and forecourts at Manchester Airport High Speed station SES2-006-002 See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, A5 to C7.	Provision for car parking at the Manchester Airport High Speed station, including two multi-storey car parks and western and eastern forecourts for private vehicle and public transport access. Each multi storey car park would be separated into four parking areas making eight parking areas in total.	Modifications to the east and west multi-storey car parks to provide additional car parking spaces on the roofs of four of the eight northernmost parking areas. Drainage provisions to convey surface water runoff into attenuation tanks via raingardens.



Figure 2: Locations of SES2 design changes not requiring a change to the Bill in the Hulseheath to Manchester Airport area



## Modifications to Mobberley Road realignment, Mid Cheshire (Railway) and Mobberley Road viaduct and Thorns Green embankment (SES2-006-001)

2.2.8 The Bill provides for:

- the Mid-Cheshire (Railway) and Mobberley Road viaduct on which the HS2 route would be carried over the Mid-Cheshire railway line and the realigned Mobberley Road. The viaduct would be 266m in length and 9m in height above ground level (see Volume 2, MA06 Map Book, map CT-06-354, H6 to J5 in the main ES);
- Ashley embankment, 829m in length and up to 9m in height above ground level, located to the south of the viaduct (see Volume 2, MA06 Map Book: map CT-06-354, D5 to E5 in the main ES);
- Thorns Green embankment, 725m in length and up to 8m in height above ground level, located to the north of the viaduct (see Volume 2, MA06 Map Book: map CT-06-354, J5 and CT-06-355, A5 to D7 in the main ES);
- an area of grassland habitat with five ecological mitigation ponds to the west of the HS2 route south of Mobberley Road, to provide replacement habitat;
- a balancing pond for railway drainage to the east of the HS2 route (see Volume 2, MA06 Map Book: map CT-06-354, I5 to I4 and I6 in the main ES); and
- the realignment of Mobberley Road, up to 142m east of its current alignment for 824m which would cross over the Mid-Cheshire Line via Mobberley Road offline overbridge (see Volume 2, MA06 Map Book: map CT-06-354, I9 to I4 in the main ES).

2.2.9 Since the main ES, further design development has identified the requirement to move the point at which Mobberley Road crosses the HS2 route to 40m west of the location proposed in the original scheme. This allows the length of the Mid-Cheshire (Railway) and Mobberley Road viaduct to be reduced to 200m, a reduction of 66m compared to the original scheme. As a consequence, the length of Thorns Green embankment will be increased by 61m to 786m, and the eastern abutment of the Mid-Cheshire (Railway) and Mobberley Road viaduct will be moved 40m further west. The maximum height of Thorns Green embankment will remain the same as in the original scheme (SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-354, H4 to J9).

2.2.10 To accommodate this design change, the following modifications will also be required (with reference to the SES2 and AP2 ES Volume 2, MA06 Map Book):

- the proposed alignment of Ashley Road diversion and associated maintenance access roads will be realigned to tie into the realigned Mobberley Road (CT-06-354, I4 to I8);
- the proposed carriageway for Mobberley Road will be widened to a width of 6.8m, with a 1.5m verge on the western side and 2.5m footway on the eastern side, an increase of 0.8m compared to the original scheme. This will accommodate forward visibility sightlines for motorists (map CT-06-354, I4 to I8);

- the realigned Mobberley Road will pass under the Mid-Cheshire (Railway) and Mobberley Road viaduct and over the Mid-Cheshire Railway Line, via Mobberley Road offline overbridge. The length of the proposed Mobberley Road realignment will be reduced to 798m, a reduction of 26m compared to the original scheme (map CT-06-354, I5 to I7);
- the minimum clearance from the Mid-Cheshire Railway Line to Mobberley Road offline overbridge will be 5.8m, compared to 6.7m in the original scheme. The minimum clearance for the realigned Mobberley Road passing under the Mid-Cheshire (Railway) and Mobberley Road viaduct will be 5.7m, which is the same as presented within the main ES (map CT-06-354, I5 to I7);
- a balancing pond for track drainage will be moved to the south-east by 50m compared to its position in the original scheme. The revised balancing pond location will be to the east of the realigned Mobberley Road and will discharge into the realigned tributary of Birkin Brook, as reported within the main ES (map CT-06-354, J6 to I6); and
- a balancing pond for highway drainage will be moved to the north by 5m compared to position in the original scheme to avoid highway and track drainage infrastructure. The balancing pond will discharge into the realigned tributary of Birkin Brook, as reported within the main ES (map CT-06-354, I6).

2.2.11 The design change will be managed from Mobberley Road North satellite compound and Mobberley Road South satellite compound will be constructed within the indicative construction programme provided in Section 6.

### **Topics included in the SES2 assessment**

2.2.12 The assessment of the following topic is reported for this design change: ecology and biodiversity. This is reported in Section 3.

2.2.13 A combined assessment of new or different significant traffic and traffic related effects, as a result of changes in traffic flows, is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

### **Modifications to car park roof and forecourts at Manchester Airport High Speed station (SES2-006-002)**

2.2.14 The Bill provides for the construction and operation of Manchester Airport High Speed station and approaches. The station would include:

- a western forecourt, including provision for public transport (buses and taxis), with access from Manchester Airport High Speed station access road (west);
- an eastern forecourt, including provision for private motorised vehicular drop-offs and pick-ups, with access from Manchester Airport High Speed station access road (east); and
- two multi-storey car parks (east and west) located south-west and south-east of the central concourse.



- 2.2.15 The western forecourt would include 33 taxi queuing bays, four taxi pick-up bays, eight taxi drop-off bays, four bus bays, one airport shuttle bus bay and 300 bicycle bays. The eastern forecourt would include provision for private motorised vehicular drop-offs and pick-ups, including 25 car pick-up bays and 12 car drop-off bays.
- 2.2.16 The east and west multi-storey car parks are divided into eight separate parking areas (four on each side) and would provide a total of 3,813 spaces including up to 3,752 car spaces, 21 private hire car bays and 40 staff parking bays. Stairs and lifts would provide access to a sheltered public walkway, which would link the multi-storey car parks with the central concourse.
- 2.2.17 Since the main ES, updates to the baseline have resulted in modifications to the multi-storey car parks to provide an additional level of car parking on the roofs of four of the eight northernmost parking areas. This will increase the above ground parking levels from four to five. The basement parking is unchanged from the original scheme. The design change will also increase the height of each car park by 2.3m.
- 2.2.18 This design change will also increase the capacity across both car parks to 3992 spaces including 3,928 car spaces and the addition of three private hire pick-up bays bringing the total to 24 bays. Staff parking bays remain the same as the original scheme. The design change will allow for the addition of two taxi queuing bays, bringing the total to 35 bays and an additional taxi pick-up bay bringing the total to five bays in the western forecourt. In order to facilitate the roof car parking, changes to the lift cores, cladding, smoke vents and lighting on the four northernmost parking areas will be required.
- 2.2.19 As a result of this design change, the multi-storey car park drainage provisions will be modified to accommodate the changes. The surface water flow will be filtered through raingardens<sup>11</sup> that will be located adjacent to the east and west multi storey car parks. Raingardens provide pollution treatment to the surface water flows from the multi storey car parks, and flows are then conveyed to attenuation tanks. The filtered surface water will then be discharged to the Hasty Lane culvert and Timperley Brook.
- 2.2.20 The design change will be managed from the Manchester Airport High Speed station main compound and the Manchester Airport High Speed station south satellite compound. The works will be completed within the indicative construction programme set out in Section 6 (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, A5 to C7).

## **Topics included in the SES2 assessment**

- 2.2.21 The assessment of the following topic is reported for this design change: landscape and visual. This is reported in Section 3.
- 2.2.22 A combined assessment of new or different significant traffic and traffic related effects, as a result of changes in traffic flows, is reported in Section 7. Topics where a significant effect

---

<sup>11</sup> Raingardens are relatively small depressions in the ground that can act as infiltration points for roof water and other 'clean' surface water.

has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **2.3 Corrections to the main ES**

2.3.1 The need for a number of corrections to the contents of the main ES has been identified since submission of the Bill. Table 2 provides the following:

- corrections to the Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) that have the potential to alter the significant environmental effects previously reported;
- corrections to any factual inaccuracies relating to significant effects previously reported;
- clarifications to elements of the scheme description previously reported;
- the location of the text that is subject to the correction in the relevant report;
- the reason for the correction;
- the original text from the relevant report and, where applicable, revised text; and
- whether the correction changes a significant effect previously reported.

2.3.2 These corrections are considered, where relevant, in the technical assessments reported in Section 3 of this SES2.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

**Table 2: Summary of corrections to the main ES Volume 2 Community Area report for the Hulseheath to Manchester Airport area**

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Overview of the area and description of the Proposed Scheme Paragraph, 2.2.31, Volume 2, MA06 of the main ES.	The main ES reported the incorrect number of car parking spaces at Manchester Airport High Speed station. The correct number is 3,898 as reported in the traffic assessment.	Paragraph 2.2.31 The two multi-storey car parks will provide up to 3,752 car spaces, 21 private hire car bays, and 40 staff parking bays. Stairs and lifts will provide access to a sheltered public walkway, which will link the multi-storey car parks with the central concourse.	Paragraph 2.2.31 The two multi-storey car parks will provide up to 3,898 car spaces, including 21 private hire car bays, and 40 staff parking bays. Stairs and lifts will provide access to a sheltered public walkway, which will link the multi-storey car parks with the central concourse.	N/A
Overview of the area and description of the Proposed Scheme Paragraph 2.2.39, Volume 2, MA06 of the main ES	The diversion route for Footpath Hale 16 is incorrectly reported as being via the realigned Thorley Lane. The diversion route for Footpath Hale 16 should be reported as via Hasty Lane.	Paragraph 2.2.39, fifth bullet: closure of Footpath Hale 16 where it crosses the Proposed Scheme. Users will be diverted via Brooks Drive, the realigned Thorley Lane, and the realigned A538 Hale Road, increasing journey length by 676m (see Volume 2, MA06 Map Book: map CT-06-357a, B7 to C3).	Paragraph 2.2.39, fifth bullet: closure of Footpath Hale 16 where it crosses the Proposed Scheme. Users will be diverted via Brooks Drive, A538 Hale Road, and the diverted Hasty Lane, increasing journey length by 676m (see Volume 2, MA06 Map Book: map CT-06-357a, B7 to C3).	N/A
Overview of the area and description of the Proposed Scheme Paragraph 2.3.37, Volume 2, MA06 of the main ES	The need for a temporary closure of Footpath Millington 4/2 during utility works should have been identified in the main ES.	None included.	Paragraph 2.3.37, sixth bullet: • temporary closure of Footpath Millington 4/2 for a period of three years during utility works. Users travelling between Millington Hall Lane and Footpath Millington FP4/1 will be diverted via Millington Hall Lane, Millington Lane and Millington FP5-2. Users travelling between Millington FP4/1 and Chapel Lane will be diverted via Millington FP5-1, Millington Lane, Millington Hall Lane, Millington FP1/1 and Chapel Lane. This will increase journey length by up to 1.5km.	N/A
Traffic and transport		None included.	Paragraph 14.4.42, sixth bullet:	Yes.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Paragraph 14.4.42, Volume 2, MA06 of the main ES			Footpath Millington 4/2 – moderate adverse effect from an increase in journey length of up to 1.5km	This correction will lead to a new temporary moderate adverse significant effect with regards to changes in journey lengths for non-motorised users on Footpath Millington 4/2.
Overview of the area and description of the Proposed Scheme Paragraph 2.3.36 and 2.3.37, Volume 2, MA06 of the main ES	The need for a temporary closure on Footpath Millington 2/1 during utility works should have been reported in the main ES.	None included.	<p>Paragraph 2.3.36 and 2.3.37, first bullet Wrenshot Lane satellite compound</p> <p>This compound will be located within the Pickmere to Agden and Hulseheath area (MA03). It is described in Volume 2, Community Area report: Pickmere to Agden and Hulseheath (MA03). The compound will be used to manage the construction of the following works to utilities:</p> <ul style="list-style-type: none"> <li>• permanent diversion of an underground National Grid 900mm high pressure gas pipeline, which will take two years to complete; and</li> <li>• permanent diversion of an underground Cadent Gas 300mm high pressure gas pipeline, which will take two years to complete.</li> </ul> <p>No demolitions in the Hulseheath to Manchester Airport area will be required as a result of the works to be managed from this compound.</p> <p>The works to be managed from this compound will require the following works to PRoW:</p>	N/A

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
			<ul style="list-style-type: none"> <li>temporary closure of Footpath Millington 2/1 for a period of three years. Users travelling between Millington FP4/1 and Chapel Lane will be diverted via Millington FP5-1, Millington Lane, Millington Hall Lane, Millington FP1/1 and Chapel Lane. Users travelling between Chapel Lane and Millington Hall Lane will be diverted via Chapel Lane, Millington FP1/1 and Millington Hall Lane. Users travelling between Chapel Lane and Boothbank Lane will be diverted via Chapel Lane, Peacock Lane, Back Lane, Thowler Lane and Boothbank Lane. This will increase journey length up to 1.5km;</li> </ul>	
Landscape and Visual Paragraph 2.3.36 Table 28; Construction phase significant visual effects, Volume 2, MA06 of the main ES		<p>Paragraph 11.4.13, Table 28, first entry</p> <p><b>View north-west from Footpath Millington 2/1 (High sensitivity receptors) (VP 317-03-007)</b> from Footpath Millington 2/1. The footpath will be temporarily diverted during construction. The large-scale components associated with construction, including Chapel Lane satellite compound, machinery, earthworks and material stockpiles, will be prominent in the view over the valley and the open farmland to the north and south. Construction traffic using Peacock Lane, the Peacock Lane realignment and Ivy House Farm accommodation access will introduce uncharacteristic traffic movements into views.</p>	<p>Paragraph 11.4.13, Table 28, first entry</p> <p><b>View north-west from Footpath Millington 2/1 (High sensitivity receptors) (VP 317-03-007)</b> from Footpath Millington 2/1. The footpath will be temporarily diverted during construction. In addition, there will be a period of temporary closure of Footpath Millington 2/1, to facilitate utility works. The large-scale components associated with construction, including Chapel Lane satellite compound, machinery, earthworks and material stockpiles, will be prominent in the view over the valley and the open farmland to the north and south. Construction traffic using Peacock Lane, the Peacock Lane realignment and Ivy House Farm accommodation access will introduce uncharacteristic traffic movements into views.</p>	<p>No change.</p> <p>This correction will not lead to a new or different significant effect.</p>

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES		Paragraph 14.4.42, first bullet: Footpath Millington 2/1 – minor adverse effect from increase in journey length of up to 359m;	Paragraph 14.4.42, first bullet: Footpath Millington 2/1 – moderate adverse effect from increase in journey length of up to 1.5km;	Yes. The effect changes from minor adverse to moderate adverse.
Overview of the area and description of the Proposed Scheme Paragraph 2.3.37, Volume 2, MA06 of the main ES	The need for a temporary closure on Footpath Millington 3/2 during utility works should have been reported in the main ES.	None included.	Paragraph 2.3.37, fifth bullet • temporary closure of Footpath Millington 3/2 for a period of one year and six months during utility works. Users travelling between Millington Hall Lane and Footpath Millington FP4/1 will be diverted via Millington Hall Lane, Millington Lane and Millington FP5-2. Users travelling between Millington Hall Lane and Boothbank Lane will be diverted via Millington Hall Lane, Millington Lane, Millington FP5-2, Millington FP4/1, Millington Lane and Boothbank Lane. This will increase journey length up to 1km;	N/A
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES		None included.	Paragraph 14.4.42, fifth bullet: Footpath Millington 3/2 – moderate adverse effect from increase in journey length of up to 1km;	Yes. This correction will lead to a new temporary moderate adverse significant effect with regards to changes in journey lengths for non- motorised users on Footpath Millington 3/2.
Overview of the area and description of the Proposed Scheme	The need for temporary closures on nearby PRow during utility works should have been reported in the main ES and results in a change to the temporary	None included.	Paragraph 2.3.37, second bullet • temporary closure of Footpath Millington 3/3 for a period of one year and six months during utility works. Users travelling between Millington Hall Lane and Boothbank Lane will	N/A

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Paragraph 2.3.37, Volume 2, MA06 of the main ES	diversion route for Footpath Millington 3/3.		be diverted via Millington Hall Lane, Millington Lane, Millington FP5-2, Millington FP4/1 (including temporary realignment), Millington Lane and Boothbank Lane. Users travelling between Chapel Lane and Boothbank Lane will be diverted via Chapel Lane, Peacock Lane, Back Lane Thowler Lane and Boothbank Lane. This will increase journey length up to 1km;	
Overview of the area and description of the Proposed Scheme Paragraph 2.3.54, Volume 2, MA06 of the main ES	The need for a temporary closure on Footpath Millington 4/1 during utility works should have been reported in the main ES.	Paragraph 2.3.54, first bullet temporary realignment of Footpath Millington 4/1, 40m north-east of its existing alignment for 296m, for a period of two years and one month, increasing journey length by 76m. On completion of construction, Footpath Millington 4/1 will be permanently reinstated along its existing alignment	Paragraph 2.3.37, fourth bullet • temporary closure of Footpath Millington 4/1 for a period of one year during utility works, users will be diverted via Millington Lane and Footpath Millington 5/1, increasing journey length by 454m;	N/A
Landscape and Visual Paragraph 2.3.36, Table 28 Construction phase significant visual effects, Volume 2, MA06 of the main ES:		Paragraph 11.4.13, Table 28, third entry <b>View south from Millington Lane (High sensitivity receptor) (VP 318-02-003)</b> Woodland will be removed during the laying of a new high-pressure gas main through Millington Clough, opening up Level of effect: Major adverse (significant) Environmental Statement Volume 2, Community Area report MA06 Hulseheath to Manchester Airport 288 View south from Millington Lane (High sensitivity receptor) (VP 318-02-003) views of construction to the south-west. Views from Millington Lane will be	Paragraph 11.4.13, Table 28, third entry <b>View south from Millington Lane (High sensitivity receptor) (VP 318-02-003)</b> Woodland will be removed during the laying of a new high-pressure gas main through Millington Clough, opening up views of construction to the south-west. Footpath Millington 4/1 will be temporarily closed to facilitate this utility work. Views from Millington Lane will be partially screened by the raised landform of the western side of the valley and by vegetation lining the lane. Views from Footpath Millington 4/1 will be partially screened by vegetation lining the Agden	No change. This correction will not lead to a new or different significant effect.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
		partially screened by the raised landform of the western side of the valley and by vegetation lining the lane. Views from Footpath Millington 4/1 will be partially screened by vegetation lining the Agden Brook but will become more open nearer the land required for the construction of the Proposed Scheme.	Brook but will become more open nearer the land required for the construction of the Proposed Scheme.	
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES		None included.	Paragraph 14.4.42, fourth bullet: Footpath Millington 4/1 – minor adverse effect from an increase in journey length of up to 454m;	Yes. This correction will lead to a new temporary minor adverse significant effect with regards to changes in journey lengths for non-motorised users on Footpath Millington 4/1.
Overview of the area and description of the Proposed Scheme Paragraph 2.3.37, Volume 2, MA06 of the main ES	The main ES incorrectly omitted the effect associated with the temporary closure of Footpath Millington 5/2 during the main works, and the need for a temporary closure on Footpath Millington 5/2 during utility works should have been reported in the main ES.	None included.	Paragraph 2.3.37, third bullet • temporary closure of Footpath Millington 5/2 for a period of one year and six months during utility works, users will be diverted via Footpath Millington 4/1, Millington Lane and Boothbank Lane, increasing journey length by up to 329m;	N/A
Overview of the area and description of the Proposed Scheme	The need for a temporary closure on Footpath Millington 14/2 during utility	None included.	Paragraph 2.3.61, third bullet • temporary closure of Footpath Millington 14/2 for a period of two years during utility works, users will be diverted via Footpath	N/A



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Paragraph 2.3.61, Volume 2, MA06 of the main ES	works should have been reported in the main ES.		Millington 6/1 to Footpath Millington 8/1m increasing journey length by 144m.	
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES		None included.	Paragraph 14.4.42, eight bullet: Footpath Millington 14/2 – minor adverse effect from an increase in journey length of up to 144m;	Yes. This correction will lead to a new temporary minor adverse significant effect with regards to changes in journey lengths for non-motorised users on Footpath Millington 14/2.
Overview of the area and description of the Proposed Scheme Paragraph 2.3.86, Volume 2, MA06 of the main ES	The need for a temporary closure on Footpath Ashley 1/2 during utility works should have been reported in the main ES.	None included.	Paragraph 2.3.86, bullet one The works to be managed from this compound will require the following works to PRoW: • temporary closure of Footpath Ashley 1/2 for a period of three months during utility works, users will be diverted via A56 Dunham Road, Footpath Bowdon 18 and Bow Lane, Footpath Bowden 5 and Footpath Ashley 1/1, increasing journey length by up to 1km; and	N/A
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES		None included.	Paragraph 14.4.42, tenth bullet: Footpath Ashley 1/2 – minor adverse effect from increase in journey length of up to 1km;	Yes. This correction will lead to a new temporary minor adverse significant effect with regards to changes in journey lengths for non-

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
				motorised users on Footpath Ashley 1/2.
Overview of the area and description of the Proposed Scheme Paragraph 2.3.86, Volume 2, MA06 of the main ES	The need for a temporary closure on Footpath Ashley 3/1 during utility works should have been reported in the main ES.	None included.	Paragraph 2.3.86, bullet two: • temporary closure of Footpath Ashley 3/1 for a period of three months during utility works, users diverted to Footpath Rostherne 5/1 from intersection with Footpath Ashley 2/3, south of the M56, increasing journey distance by up to 1km.	N/A
Landscape and Visual Paragraph 2.3.36, Table 28: Construction phase significant visual effects, Volume 2, MA06 of the main ES		Paragraph 11.4.13, Table 28, 10th entry <b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b> ... The large-scale components associated with construction including Blackburn's Brook and Birkin Brook satellite compounds, machinery, earthworks and temporary stockpiles will be prominent in views over farmland...	Paragraph 11.4.13, Table 28, 10th entry <b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b> ... The large-scale components associated with construction including Blackburn's Brook and Birkin Brook satellite compounds, machinery, earthworks and temporary stockpiles will be prominent in views over farmland. Footpath Ashley 3/1 will be temporarily closed to facilitate utility work...	No change. This correction will not lead to a new or different significant effect.
Community Paragraphs 6.4.5 and 6.4.33, Volume 2, MA06 of the main ES	The main ES incorrectly omitted a significant community effect upon Children's Adventure Farm Trust	Paragraph 6.4.5 No temporary construction effects on community facilities are anticipated in this area. Paragraph 6.4.33, fifth bullet; None included	Paragraph 6.4.5 The Children's Adventure Farm Trust provides a variety of free programmes for terminally ill, disabled and disadvantaged children from across the North West. Construction of the original scheme will result in significant visual effects at Children's Adventure Farm Trust due to views of construction activities, this will combine with significant HGV effects along Reddy Lane, outside of the main entrance to Children's Adventure Farm Trust. Together, these visual and HGV traffic effects will result	Yes. This correction will lead to a new moderate adverse significant community effect upon Children's Adventure Farm Trust

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
			<p>in a moderate adverse effect for users of Children's Adventure Farm Trust, which is significant.</p> <p>Paragraph 6.4.33, fifth bullet;</p> <ul style="list-style-type: none"> <li>• CAFT due to the combination of noise and HGV traffic effects.</li> </ul>	
Land Quality, Paragraph 10.3.19, Volume 2, MA06 of the main ES.	The main ES incorrectly omitted Cotteril Clough Site of Special Scientific Interest (SSSI) from the environmental baseline section.	None included.	Paragraph 10.3.19, third bullet: one nationally important ecological designation, as defined in the land quality section of the SMR. Cotteril Clough is a SSSI and Local Wildlife Site (LWS), location approximately 900m south of junction 6 of the M56/230m west of Manchester Airport;	No change. This correction will not lead to a new or different significant effect.
Land Quality, Table 23: Summary of sensitive receptors, Volume 2, MA06 of the main ES.	The main ES incorrectly omitted Cotteril Clough Site of Special Scientific Interest (SSSI) from the environmental baseline section.	Table 23: Summary of sensitive receptors, ninth entry Receptor description Rostherne Mere SSSI, NNR and Ramsar	Table 23: Summary of sensitive receptors, ninth entry Receptor description Rostherne Mere SSSI, NNR and Ramsar, and Cotteril Clough SSSI and LWS	No change. This correction will not lead to a new or different significant effect.
Land Quality Paragraph 10.3.27, Volume 2, MA06 of the main ES.	The main ES incorrectly identified an additional sand and gravel Minerals Safeguarding Area (MSA).	Paragraph 10.3.27: There are four sand and gravel Minerals Safeguarding Area (MSA) present in the study area along the southern fringes of Hale, and a further MSA in the study area within Manchester Airport. Three of these MSA fall partially within the land required for the construction of the Proposed Scheme.	Paragraph 10.3.27: There are three sand and gravel Minerals Safeguarding Area (MSA) present in the study area along the southern fringes of Hale. Two of these MSA fall partially within the land required for the construction of the Proposed Scheme.	No change. This correction will not lead to new, removed or different significant effects.
Landscape and Visual Paragraph 2.3.36, Table 28: Construction	The main ES included an incorrect description for view south-west for Footpath	Table 28: Construction phase significant visual effects	Table 28: Construction phase significant visual effects	No change. This correction will not lead to a new or

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
phase significant visual effects, Volume 2, MA06 of the main ES	Rostherne 5/1 (VP 330-03-003).	<p><b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b></p> <p>Users of Footpath Rostherne 5/1 (temporarily diverted during construction), Ashley 2/3 and Ashley 3/1 of high susceptibility and with medium value views, will experience substantial changes to near and middle-distance views due to the construction of Rostherne East box structure, Blackburn’s Brook North viaduct, Birkin Brook embankment and Ashley IMB-R and the diversion of an overhead power line.</p> <p>Table 30: Operation phase significant visual effects</p> <p><b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b></p> <p>PRoW users of Footpaths Rostherne 5/1, Ashley 2/1 and Ashley 3/1, of high susceptibility and with medium value views, will experience substantial changes to near and middle-distance views as a result of the Proposed Scheme.</p>	<p><b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b></p> <p>Users of Footpath Rostherne 5/1 (temporarily diverted during construction) and Ashley 2/3, of high susceptibility and with medium value views, will experience substantial changes to near and middle-distance views due to the construction of Rostherne East box structure, Blackburn’s Brook North viaduct, Birkin Brook embankment and Ashley IMB-R and the diversion of an overhead power line. Footpath Ashley 3/1 will be permanently closed north of the Proposed Scheme.</p> <p>Table 30: Operation phase significant visual effects</p> <p><b>View south-west from Footpath Rostherne 5/1 (High sensitivity receptors) (VP 330-03-003)</b></p> <p>Users of Footpath Rostherne 5/1 (temporarily diverted during construction) and Ashley 2/3, of high susceptibility and with medium value views, will experience substantial changes to near and middle-distance views as a result of the Proposed Scheme.</p>	different significant effect.
Socio-economics Paragraph 12.4.4	The main ES included an incorrect noise effect duration	Birkin Farm Holiday Let, run by Tatton Stays and located on Ashley Road, will experience significant visual effects and noise effects (for seven years and nine	Birkin Farm Holiday Let, run by Tatton Stays and located on Ashley Road, will experience significant visual effects and noise effects (for one year and seven months) as a result of the construction of the Proposed Scheme.	No change. This correction will not lead to a new or different significant effect.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
		months) as a result of the construction of the Proposed Scheme.		
Socio-economics Paragraph 12.4.5	The main ES included an incorrect noise effect duration	South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays, located on Mobberley Road, will experience significant visual effects and noise effects (for seven years and nine months) as a result of the construction of the Proposed Scheme.	South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays, located on Mobberley Road, will experience significant visual effects and noise effects (for four years and six months) as a result of the construction of the Proposed Scheme.	No change. This correction will not lead to a new or different significant effect.
Socio-economics Paragraphs 12.4.3 and 12.4.31, Volume 2, MA06 of the main ES	The main ES incorrectly omitted a socio-economic in-combination effect upon Children's Adventure Farm Trust	Paragraph 12.4.3: None included. Paragraph 12.4.31: During construction of the Proposed Scheme, customers may also be discouraged from using Birkin Farm, South Arden and Little Lodge Holiday Lets, and a bed and breakfast at Sugar Brook Farm. The staff of a management company on Cherry Tree Lane are expected to be affected by construction works associated with the Proposed Scheme. The adverse in-combination effect on all these resources will be significant.	Paragraph 12.4.3: The Children's Adventure Farm Trust, a farm offering programmes for terminally ill, disabled and disadvantaged children, in Booth Bank, will experience significant visual effects and effects from HGV construction traffic (traffic-related severance for non-motorised users) as a result of the construction of the Proposed Scheme. The sensitivity of this establishment is assessed to be medium as users are considered to be sensitive to impacts on the local environment and setting. The construction works may discourage them from using this facility. Given the duration of effects and the medium level of sensitivity, the Proposed Scheme is assessed to have a significant adverse in-combination effect on this business. Paragraph 12.4.31: During construction of the Proposed Scheme, customers may also be discouraged from using Birkin Farm, South Arden and Little Lodge Holiday Lets, and a bed and breakfast	Yes. This correction will lead to a new socio-economic in-combination effect upon Children's Adventure Farm Trust.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
			at Sugar Brook Farm. The staff of a management company on Cherry Tree Lane and users of Children's Farm Adventure Trust are expected to be affected by construction works associated with the Proposed Scheme. The adverse in combination effect on all these resources will be significant.	
Sound, Noise and Vibration, Paragraphs 13.4.18, 13.4.23 and 13.4.32, Volume 2, MA06 of the main ES	The main ES omitted the Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) located on Runger Lane in Manchester as a non-residential receptor.	<p>Paragraph 13.4.18, fourth bullet: ...• Sugar Brook Farm, Bed and Breakfast, Mobberley Road (assessment location ref.: 612680).</p> <p>Paragraph 13.4.23: None included</p> <p>Paragraph 13.4.32, third bullet: ...• Sugar Brook Farm Bed and Breakfast, Mobberley Road.</p>	<p>Paragraph 13.4.18, fourth bullet: ...• Sugar Brook Farm, Bed and Breakfast, Mobberley Road (assessment location ref.: 612680); and</p> <p>•The Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) (assessment location ref.: 613302).</p> <p>Paragraph 13.4.23: The Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) is located on Runger Lane in Manchester. The receptor is approximately 30m to the north of the land required for construction of the M56 retaining wall construction. The four-story clad building has windows that appear to be openable. It is assumed that the building is not provided with alternative means of ventilation to openable windows. The building has been assessed against the criteria for hotel use. The typical and highest predicted daytime monthly construction noise levels are 22dB and 24dB respectively above the screening criteria defined in the SMR for this use for a period of</p>	<p>Yes.</p> <p>This correction will lead to a new temporary adverse significant noise effect on the Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073).</p>

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
			<p>up to 5 months. The Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) is identified, on the basis of a precautionary assessment, as being subject to a likely significant adverse effect (denoted by MA06-C-N7 in Table 6 of Volume 5, Appendix: SV-002-0MA06). This temporary adverse effect from construction site noise may take the form of activity disturbance to guests of the hotel.</p> <p>Paragraph 13.4.32, third bullet:</p> <ul style="list-style-type: none"> <li>...• Sugar Brook Farm Bed and Breakfast, Mobberley Road; and</li> <li>• The Holiday Inn Express Manchester Airport hotel.</li> </ul>	
Traffic and transport Paragraph 14.4.42, Table 28: Construction phase significant visual effects, Volume 2, MA06 of the main ES	The need for temporary closures on nearby PRoW during utility works should have been reported in the main ES and results in a change to the temporary diversion route for Footpath Millington 3/3.	Paragraph 14.4.42, second bullet: Footpath Millington 3/3 – moderate adverse effect from increase in journey length of up to 566m;	Paragraph 14.4.42, second bullet: Footpath Millington 3/3 – moderate adverse effect from increase in journey length of up to 1km;	No change. This correction will not lead to a new or different significant effect.
Traffic and transport Paragraph 14.4.42, Volume 2, MA06 of the main ES	The main ES incorrectly omitted the effect associated with the temporary closure of Footpath Millington 5/2 during the main works, and the need for a temporary closure on Footpath Millington 5/2 during utility	None included.	Paragraph 14.4.42, third bullet: Footpath Millington 5/2 – minor adverse effect from an increase in journey length of up to 489m;	Yes. This correction will lead to a new temporary minor adverse significant effect with regards to changes in journey lengths for non-motorised users on Footpath Millington 5/2.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
	works should have been reported in the main ES.			
Traffic and transport Paragraph 14.5.19, Volume 2, MA06 of the main ES	The main ES incorrectly reported the effect on delays to vehicle occupants and congestion at the Enterprise Way/World Way/Airport Spur junction during operation in 2038 as major adverse. The correct effect was moderate adverse.	Paragraph 14.5.19, 21st bullet: Enterprise Way/World Way/Airport Spur - major adverse effect	Paragraph 14.5.19, 21st entry: Enterprise Way/Outwood Lane West/World Way - moderate adverse effect	Yes. The effect changes from major adverse to moderate adverse.
Traffic and transport Paragraph 14.5.20, Volume 2, MA06 of the main ES	The main ES incorrectly reported the effect on delays to vehicle occupants and congestion at the A538 Hale Road/Elmridge Drive junction during operation in 2046 as major adverse. The correct effect was moderate adverse.	Paragraph 14.5.20, 14th bullet: A538 Hale Road/Elmridge Drive - major adverse effect	Paragraph 14.5.20, 14th bullet: A538 Hale Road/Elmridge Drive - moderate adverse effect	Yes. The effect changes from major adverse to moderate adverse.



## 3 Assessment of changes in the Hulseheath to Manchester Airport area

### 3.1 Introduction

3.1.1 This section describes the effects of the SES2 changes in the Hulseheath to Manchester Airport area on:

- community;
- ecology and biodiversity;
- health;
- landscape and visual;
- socio-economics;
- sound, noise and vibration; and
- water resources and flood risk.

3.1.2 Any new or different likely significant environmental effects as a result of the baseline and design changes summarised in Section 2 are identified, compared to the original scheme.

3.1.3 The assessment of the changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7.

### 3.2 Community

#### Introduction

3.2.1 The environmental baseline relevant to the community assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES.

#### Scope, assumptions and limitations

3.2.2 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the EIA Scope and Methodology Report (SMR)<sup>12</sup> of the main ES.

---

<sup>12</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report*, Volume 5, Appendix: CT-001-00001. Available online at: <https://www.gov.uk/government/collections/cross-topic-technical-appendices-for-high-speed-rail-crewe-manchester-environmental-statement#environmental-impact-assessment-scope-and-methodology-report>.

- 3.2.3 The SES2 changes of relevance to this assessment have the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for community.
- 3.2.4 Community effects that result from the changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

## **SES2 changes relevant to the assessment**

- 3.2.5 A change to the environmental baseline resulting from a review of community resources in the Hulseheath to Manchester Airport area is relevant to the assessment.

## **Environmental baseline**

### **Existing baseline**

- 3.2.6 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the SES2 change is provided below.
- 3.2.7 Manchester Airport Marriott Hotel located on the A538 Hale Road contains a leisure club that is open to members of the public as well as hotel guests. The leisure club includes a gym and a swimming pool.

### **Future baseline**

- 3.2.8 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 3.2.9 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.2.10 None of the identified developments affect the assessment of the SES2 scheme's likely impacts on community.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 3.2.11 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

- 3.2.12 Construction of Manchester Airport High Speed station will require the demolition of the Marriott Hotel on the A538 Hale Road. The hotel contains a leisure club with facilities including a gym and an indoor swimming pool. The leisure facilities are open to members of the public as well as hotel guests. The swimming pool is open seven days a week and is used for swimming lessons for children six days a week. There are limited alternatives nearby that provide swimming lessons for children in the area. Therefore, the loss of this facility in this location will result in a major adverse effect, which is significant. The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Community Map Book: Map Series CM-01.

## Other mitigation measures

- 3.2.13 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 3.2.14 The SES2 change to the baseline information will result in a new major adverse residual significant effect due to the permanent loss of the Marriott Hotel leisure centre on the A538 Hale Road.

## Cumulative effects

- 3.2.15 No new, removed or different significant cumulative effects have been identified.

## 3.3 Ecology and biodiversity

### Introduction

- 3.3.1 The environmental baseline relevant to the ecology and biodiversity assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES.

### Scope, assumptions and limitations

- 3.3.2 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 3.3.3 The SES2 changes of relevance to this assessment have the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for ecology and biodiversity.
- 3.3.4 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.

3.3.5 Ecology and biodiversity effects that result from changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

## **SES2 changes relevant to the assessment**

3.3.6 The following SES2 changes are relevant to the ecology and biodiversity assessment:

- new environmental baseline information resulting from additional ecological surveys in the Hulseheath to Manchester Airport area; and
- design change: modifications to Mobberley Road realignment, Mid Cheshire (Railway) and Mobberley Road viaduct and Thorns Green embankment (SES2-006-124).

## **Environmental baseline**

### **Existing baseline**

3.3.7 The baseline ecology and biodiversity information is as described in Section 7 of Volume 2, Community Area Report: Hulseheath to Manchester Airport of the main ES. A summary of the baseline information relevant to the assessment of SES2 scheme is provided below.

### **Designated sites**

3.3.8 The main ES reported 19 Local Wildlife Sites (LWS) within or near to land required for the original scheme, all considered to be of county/metropolitan value.

3.3.9 Cheshire Wildlife Trust has revised the boundaries of a number of LWS which has resulted in changes to one LWS of relevance to the proposed scheme that was reported in the main ES.

3.3.10 The main ES reported the presence of Ashley Brickworks LWS (formally Erlam's Meadow LWS), entirely within the land required for the construction of the original scheme. It was reported to cover an area of 3.1ha, and was designated for lowland mixed deciduous woodland, rough meadow, ponds and stream habitat. It was considered to be of county/metropolitan value. Additional data provided by the Cheshire Wildlife Trust includes an extension of this site by 0.1ha to the south to include wetland habitat. The extension of this site does not change the value as reported within the main ES.

3.3.11 Additional information received from Cheshire Wildlife Trust also identifies the presence of two newly designated LWS not previously reported in the main ES that are relevant to the assessment. Both of these sites are of county/metropolitan value. They are:

- Birkin Brook LWS located along Birkin Brook to the west of Birkin Farm, almost entirely within land required for the SES2 scheme. It covers an area of 8.2ha and is designated for the meandering watercourse and wet grassland plant species along its margins, and an area of grassland supporting vetch species including the locally rare grass vetchling; and

- Sugar Brook Farm Grasslands LWS located directly south of the Ashley Brickworks LWS, almost entirely within land required for the construction of the SES2 scheme. It covers an area of 9.4ha and is designated for species-rich neutral grassland.

## Habitats

- 3.3.12 The main ES reported 21 woodlands (each up to 1.5ha and none within wildlife site designations) that qualify or are likely to qualify as lowland mixed deciduous woodland, a habitat of principal importance at various locations throughout the Hulseheath to Manchester Airport area. These woodland habitats are of up to local/parish value. Further surveys have confirmed two areas qualify as habitats of principal importance, they are as follows:
- west bank of the River Bollin, north of the access road to Coppice Farm, covering 0.2ha. The woodland contains frequent beech, sycamore and ash; and occasional pedunculate oak, hornbeam, hazel and elm. The woodland understory has frequent bramble and occasional holly and hawthorn. This is of local/parish value; and
  - south-west of Millington Hall, near to Agden Brook covering 0.02ha. The woodland is dominated by hawthorn, with frequent pedunculate oak and occasional sycamore, hazel and bramble. The ground flora includes abundant common nettle, cleavers and bluebell. This is of local/parish value.
- 3.3.13 The main ES reported a total of 58.1km of hedgerow within land required for the construction of the original scheme in the Hulseheath to Manchester Airport area. This comprised 14.7km of native species-poor hedgerow and 43.4km of native species-rich hedgerow (including 40.7km of hedgerows not subject to survey and assumed to be species-rich on a precautionary basis), of which 2.2km were also classified as 'important' according to the 'Wildlife and Landscape' criteria in The Hedgerows Regulations 1997. The hedgerow network as a whole was reported to be of county/metropolitan value.
- 3.3.14 Additional surveys for the SES2 were carried out on 3.1km of hedgerows that were not previously surveyed and were assumed to be species-rich. These surveys confirmed that within the land required for the SES2 scheme, 184m of these hedgerows meet the criteria for being important hedgerows.
- 3.3.15 As a result of the updated baseline data and adjusting for improved data, the total length of hedgerows within the land required for the SES2 scheme is 56.9km, comprising 15.5km of native species-poor hedgerow and 41.4km of native species-rich hedgerow (including 38.3km of un-surveyed hedgerow, assumed to be species-rich on a precautionary basis). The decrease in the length and change in composition of hedgerows reported does not change the value of the hedgerow network as a whole from that reported in the main ES.
- 3.3.16 The main ES reported 52 ponds located within, or partly within, the land required for the construction of the original scheme in the Hulseheath to Manchester Airport area. On a precautionary basis it was assumed that all ponds could qualify as habitats of principal importance or local Biodiversity Action Plan (BAP) habitats and are of district/borough value.

The SES2 baseline, accounting for OS mapping changes and further survey data, shows there are 43 ponds located within or partially within the land required for the SES2 scheme.

## **Species**

### **Amphibians**

- 3.3.17 The outcomes of additional ecological surveys undertaken for great crested newt have formed the basis of a review of the composition of metapopulations across the Hulseheath to Manchester Airport area. This review has considered the quality and connectivity of terrestrial habitat between ponds in order to determine the locations of distinct clusters of ponds that are likely to support metapopulations of great crested newt. This review has resulted in the identification of one new metapopulation, removal of three populations/metapopulations and changes to the composition of five metapopulations, in comparison with those reported in the main ES. A total of 30 metapopulations and two populations are present in the Hulseheath to Manchester Airport area. Great crested newt metapopulations that are reported in the Amphibians BID EC-007-00000 SES2 and AP2 ES include metapopulations associated with the AP2 revised scheme and which are not reported in this section as they are not relevant to the SES2 assessment.
- 3.3.18 The main ES reported an assumed large sized great crested newt metapopulation in a network of 179 ponds located south of Thorns Green and east of New Mills (GCNMP1.6.1), which was of up to county/metropolitan value. Additional surveys at SES2 have confirmed absence of great crested newt within nine ponds where great crested newt populations were previously assumed to be present, and have been removed from the metapopulation. Additional surveys have also confirmed presence of great crested newt within four ponds where populations were previously assumed, and in one new pond, that is now included in the metapopulation. A further six new ponds assumed to support great crested newt have been added to the metapopulation. The revised metapopulation, therefore, includes 177 ponds with confirmed or assumed populations of great crested newt. The change in the number of ponds with assumed populations of great crested newt and the confirmed populations does not change the value of GCNMP1.6.1 reported in the main ES.
- 3.3.19 The main ES reported an assumed medium sized great crested newt population in one pond north-east of New Mills (GCNP1.6.2), which was of up to county/metropolitan value. Additional surveys have confirmed absence of great crested newt in this pond and therefore GCNP1.6.2 has been removed.
- 3.3.20 The main ES reported an assumed medium sized great crested newt population in a network of three ponds located north of New Mills (GCNP1.6.5), which was of up to county/metropolitan value. Additional surveys at SES2 have confirmed presence of great crested newt in one new pond. This pond will now form part of this population. The revised population, therefore, includes four ponds and is now classed as a metapopulation. The increase in the number of ponds with confirmed or assumed populations of great crested newt does not change the value reported in the main ES for the reclassified GCNMP1.6.5.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

- 3.3.21 The main ES reported an assumed medium sized great crested newt metapopulation in a network of 17 ponds located north of New Mills (GCNMP1.6.9), which was of up to county/metropolitan value. Additional surveys for SES2 have confirmed absence of great crested newt within one pond where a great crested newt population was previously assumed to be present and has been removed from this metapopulation. Due to spatial separation as a result of updated survey results, and a review of the metapopulation, the 16 ponds that made up this metapopulation have subsequently been included as part of a new metapopulation GCNMP1.6.33 on this basis, and GCNMP1.6.9 has been removed.
- 3.3.22 The main ES reported an assumed medium sized great crested newt population in a network of two ponds located east of Warburtons Green (GCNP1.6.16), which was of up to county/metropolitan value. New data, including information on ponds where great crested newt have been confirmed to be absent and spatial separation of ponds, has led to a review of the meta-population. The two ponds within this population now subsequently form part of the new metapopulation GCNMP1.6.33 on this basis, and GCNP1.6.16 has been removed.
- 3.3.23 Additional surveys as part of the SES2 baseline update have identified an assumed medium sized great crested newt metapopulation in a network of 39 ponds west of Manchester Airport (GCNMP1.6.33). GCNMP1.6.33 includes ponds previously included within GCNMP1.6.16 and GCNMP1.6.9 where there is confirmed presence of great crested newt. This new metapopulation is of up to county/metropolitan value.
- 3.3.24 The main ES reported an assumed medium sized great crested newt metapopulation in a network of four ponds located west of Ashley (GCNMP1.6.17), which was of up to county/metropolitan value. Additional surveys at SES2 have identified one new pond which is assumed to contain a medium population of great crested newt. The revised metapopulation, therefore, includes five ponds with confirmed or assumed populations of great crested newt and this does not change the value of GCNMP1.6.17 reported in the main ES.
- 3.3.25 The main ES reported an assumed medium sized great crested newt metapopulation in a network of eight ponds south of Bowgreen (GCNMP1.6.20), which was of up to county/metropolitan value. Additional surveys at SES2 confirmed the absence of great crested newt from one pond where great crested newt populations were previously assumed to be present, this pond no longer forms part of this metapopulation. The revised metapopulation, therefore, includes seven ponds and does not change the value of GCNMP1.6.20 reported in the main ES.
- 3.3.26 The main ES reported an assumed medium sized great crested newt metapopulation in a network of 38 ponds east of Altrincham (GCNMP1.6.27) that was of up to county/metropolitan value. Additional surveys at SES2 have identified four additional ponds relevant to this metapopulation, for which additional surveys have confirmed the presence of great crested newt in one pond. The revised metapopulation, therefore, includes 42 ponds with confirmed or assumed populations of great crested newt and is now of county/metropolitan value.



- 3.3.27 The main ES reported a total of 52 waterbodies within land required for the original scheme, of which 33 were not subject to survey and were assumed to support populations of great crested newt of up to county/metropolitan value. Of the 43 waterbodies within the land required for the construction of the SES2 scheme, 25 waterbodies have not been subject to survey and are assumed to support populations of great crested newt.

## Bats

- 3.3.28 The main ES and SES1 for the Pickmere to Agden and Hulseheath area (MA03) reported a bat assemblage of at least nine species bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area. The assemblage was considered to be of regional value due to the presence of possible maternity roosts within and adjacent to the land required for the construction of the original scheme, and on the basis of high levels of Nathusius' pipistrelle, noctule, Leisler's bat and *Myotis* species bat activity. Additional surveys for SES2 identified a possible maternity roost for soprano pipistrelle at Bentleyhurst Lane, Mere, 40m north of the land required for the construction of the SES2 scheme in the Pickmere to Agden and Hulseheath area (MA03). A confirmed maternity roost for soprano pipistrelle was also identified at Millington Lane, Little Bollington, 20m east of the land required for the construction of the SES2 scheme. Surveys also recorded further occasional roosts for previously recorded species between 10m and 115m from the land required for the construction of the SES2 scheme. Rushy-pits Covert was recorded as being of moderate potential to support roosting bats. Increased levels of foraging by noctule and soprano pipistrelle was also recorded. The presence of these additional roosts and increased foraging activity does not change the value of the bat assemblage reported in the main ES and SES1.
- 3.3.29 The main ES reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56 within the Hulseheath to Manchester Airport area. The assemblage was considered to be of regional value due to the presence of a common pipistrelle maternity roost; and occasional roosts and high levels of commuting and foraging habitat of various species including *Myotis* species associated with the River Bollin. Additional surveys at SES2 recorded a new occasional roost for soprano pipistrelle within land required for the SES2 scheme on Sunbank Lane and further occasional roosts for previously recorded species were recorded between 5m and 85m from the land required for the construction of the SES2 scheme. High levels of activity of common and soprano pipistrelles and *Myotis* species were recorded along Back Lane, Ashley, and Sunbank Wood has high potential for roosting bats. The presence of these additional roosts and increased foraging activity does not change the value of the bat assemblage reported in the main ES.
- 3.3.30 The main ES reported a bat assemblage of at least 10 species between junction 6 of the M56 and Manchester Airport within the Hulseheath to Manchester Airport area. The assemblage was considered to be of regional value, due to high levels of noctule, Leisler's bat and *Myotis* species activity, which are considered to be 'rarer' species in England. Additional surveys at SES2 recorded a new occasional roost for common pipistrelle within land required for the SES2 scheme and further occasional roosts for previously identified species were recorded



along Roaring Gate Lane, between 1m and 20m from the land required for construction of the SES2 scheme. The presence of these additional roosts does not change the value of the bat assemblage reported in the main ES.

### **Aquatic macro-invertebrates**

- 3.3.31 The main ES reported an aquatic macro-invertebrate assemblage in Tributary of Timperley Brook 1 of local/parish value, located adjacent to land required for the original scheme. The autumn assemblage recorded 919 specimens of four taxa with a Community Conservation Index (CCI) score indicating it was of 'low' conservation status. Additional surveys in spring identified 503 specimens of 11 taxa, with a CCI score still indicating an assemblage of 'low' conservation status. The additional surveys do not change the value reported in the main ES.

### **Terrestrial invertebrates**

- 3.3.32 The main ES reported the terrestrial invertebrate assemblage north of Millington Clough to be of district/borough value. This is located within the land required for the SES2 scheme. The presence of alder leaf beetle *Agelastica alni* was noted, along with 53 common and widespread species typical to the habitat type present. Additional surveys identified a total of 104 terrestrial invertebrate species, including further records of the alder leaf beetle. This increase in species diversity has increased assemblage representation but, as additional species are common and widespread, the value of this assemblage remains as reported in the main ES.
- 3.3.33 Additional surveys to the north of Flaxhigh Covert, located within land required for the SES2 scheme, identified a total of 59 terrestrial invertebrate species including alder leaf beetle. This assemblage is valued at district/borough level.

### **Future baseline**

- 3.3.34 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) provides details of committed developments assumed to have been implemented by 2025.
- 3.3.35 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered within a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.3.36 The following committed developments of relevance to the community assessment that would materially alter the future baseline during construction of the SES2 scheme in this area, are set out in Table 3 .

**Table 3: Committed developments of relevance to ecology and biodiversity during construction**

Map book reference <sup>13</sup>	Planning reference	Description	How this is considered in the assessment
CT-13-321	MA06/291S	Erection of a terrace of three Class B8 warehouse units (7,845m <sup>2</sup> gross internal floor area) with associated parking, access and landscaping, following demolition of existing building.	Informing future baseline
CT-13-321	MA06/282S	Erection of a terrace of four Class B8 warehouse units (8,604m <sup>2</sup> gross internal floor area) with associated parking, access and landscaping, following demolition of existing building	Informing future baseline

3.3.37 Implementation of committed developments MA06/291S and MA06/282S will result in the loss of trees with bat roosting and commuting potential within a woodland belt along Wilmslow Old Road, which is situated adjacent to the land required for the SES2 scheme. Appropriate mitigation will be in place prior to the commencement of construction of the SES2 scheme and has therefore been included as future baseline.

## Effects arising during construction

### Avoidance and mitigation measures

3.3.38 No avoidance or mitigation measures additional to those reported in the main ES and draft Code of Construction Practice (CoCP)<sup>14</sup> are proposed.

## Assessment of impacts and effects

### Designated sites

3.3.39 The main ES reported that the construction of the original scheme would result in the permanent loss of 3.1ha (100%) of Ashley Brickworks LWS, which was significant at county/metropolitan level. On the basis of updated information, the area of the LWS has increased to 3.2ha, of which the additional area, comprising a pond with some wet grassland and trees, is also within the land required for the construction of the SES2 scheme. The additional area now included in the LWS was within the land required for the original scheme, and therefore there is no additional effect as a result of the SES2 design change. The increase in the extent of the LWS that will be lost will result in a different significant

<sup>13</sup> SES2 and AP2 ES Volume 5, Appendix: CT-004-00000, *Planning Data/Committed Development Map Book*: Maps CT-13-321 to CT-13-322a-L1.

<sup>14</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Environmental Statement, draft Code of Construction Practice*, Volume 5, Appendix: CT-002-00000. Available online at: <https://www.gov.uk/government/collections/cross-topic-technical-appendices-for-high-speed-rail-crewe-manchester-environmental-statement#draft-code-of-construction-practice>.

effect to that reported in the main ES. However, there will be no change in the level of significance of the effect on this LWS reported in the main ES.

- 3.3.40 The main ES reported that the construction of the original scheme would result in the permanent loss of 10.2ha of semi-improved neutral grassland, which was partly located in a potential LWS. The loss of this grassland was considered to have an adverse effect, significant at up to county/metropolitan level. The potential LWS has subsequently been designated as Birkin Brook LWS, of which 7.62ha (92%) will be removed as a result of construction of the SES2 scheme. Due to the change in the status of designation of this site, the loss of this habitat will result in a different significant adverse effect to that reported in the main ES, that is now significant at the county/metropolitan level.
- 3.3.41 The main ES reported that the construction of the original scheme would result in the permanent loss of 7.9ha of semi-improved neutral grassland, which was partly located in a potential LWS. The loss of this grassland was considered to have an adverse effect, significant at up to county/metropolitan level. The potential LWS has subsequently been designated as Sugar Brook Grasslands LWS, of which 8.94ha (94.5%) will be removed as a result of construction of the SES2 scheme. Due to the change in the status of designation of this site, the loss of this habitat will result in a different significant adverse effect to that reported in the main ES, that is now significant at the county/metropolitan level.

## **Habitats**

- 3.3.42 The main ES assumed, on a precautionary basis, all hedgerows (58.1km) within the land required for the construction of the original scheme in the Hulseheath to Manchester Airport area would be permanently lost and the remaining hedgerow network would be fragmented. This would have a permanent adverse effect that was significant at county/metropolitan level. Following the SES2 changes, the total extent of hedgerows within the Hulseheath to Manchester Airport area that are assumed to be permanently lost has decreased to 56.9km. This will result in a different significant effect to that reported in the main ES, however, there will be no change in the level of significance of the effect reported in the main ES.
- 3.3.43 The original scheme required the loss of 52 ponds which was a significant effect at the district/borough level in each case. The SES2 baseline, accounting for OS mapping changes and further survey, shows the number of ponds within the land required for the SES2 scheme is 43. The change in the number of ponds that will be removed will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance reported in the main ES.

## **Species**

### **Amphibians**

- 3.3.44 The main ES reported that the loss of habitat resulting from the construction of the original scheme would result in a permanent adverse effect on the metapopulation of great crested

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

newt in a network of 179 ponds located south of Thorns Green and east of New Mills (GCNMP1.6.1) that was significant at up to county/metropolitan level. Following additional surveys, the number of ponds in this metapopulation has reduced to 177, of which three are within the land required for the construction of the SES2 scheme. The change in the composition of this metapopulation will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance reported in the main ES.

- 3.3.45 The main ES reported that the loss of ponds resulting from the construction of the original scheme would result in a permanent adverse effect on the assumed population of great crested newt in one pond located north of New Mills (GCNP1.6.2), that would be significant at up to county/metropolitan level. Additional surveys at SES2 confirmed an absence of great crested newt in the pond forming GCNP1.6.2. The absence of this population removes the adverse effect associated with the loss of this pond that was significant at up to county/metropolitan level in the main ES.
- 3.3.46 The main ES reported that the loss of habitat resulting from the construction of the original scheme would result in a permanent adverse effect on the population of great crested newt in a network of three ponds located north of New Mills (GCNP1.6.5) that would be significant up to county/metropolitan level. Following additional surveys, the number of ponds associated with this population has increased to four and is now classed as a metapopulation (GCNMP1.6.5). The change in the composition of this population will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance of the effect reported in the main ES.
- 3.3.47 Additional data has resulted in the amalgamation of two previous populations to form a new great crested newt metapopulation in a network of 39 ponds west of Manchester Airport (GCNMP1.6.33). These were reported as GCNMP1.6.16 and GCNMP1.6.9 in the main ES. Seven ponds are located within the land required for the SES2 scheme and one has been confirmed as supporting great crested newt. The loss of ponds results in a permanent adverse effect on this metapopulation that is significant at up to county/metropolitan level. This was previously an effect significant at county/metropolitan level on two populations, which have now been combined. Whilst the number of populations/metapopulations affected has been reduced resulting in a different significant effect, there will be no change in the level of significance reported in the main ES.
- 3.3.48 The main ES reported that the loss of habitat resulting from the construction of the original scheme would result in a permanent adverse effect on the metapopulation of great crested newt in a network of four ponds located north of New Mills (GCNMP1.6.17) that was significant at up to county/metropolitan level. The number of ponds associated with this metapopulation has increased to five. The change in the composition of this population will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance of the effect reported in the main ES.
- 3.3.49 The main ES reported that the loss of ponds resulting from the construction of the original scheme would result in a permanent adverse effect on the assumed metapopulation of

great crested newt in a network of 42 ponds east of Altrincham (GCNMP1.6.27) that would be significant at up to county/metropolitan level. Additional surveys at SES2 have confirmed that one pond included in GCNP1.6.27 contains great crested newt. The loss of ponds supporting this population will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance of the effect reported in the main ES.

- 3.3.50 The main ES reported the loss of a total of 52 water bodies proving potential breeding sites within the land required for the original scheme, of which 33 had not been subject to survey and were assumed to support populations of great crested newt of up to county/metropolitan value. Of the 43 water bodies within the land required for the construction of the SES2 scheme, 25 water bodies have not been subject to survey and are assumed to support populations of great crested newt. The loss of the water bodies supporting these populations will result in a permanent adverse effect on amphibian populations, in each case, significant at up to county/metropolitan level. This will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance of the effect reported in the main ES.

## **Bats**

- 3.3.51 On a precautionary basis, the main ES and SES1 reported the loss of a possible maternity roost of *Myotis* species and whiskered bat, and the loss of occasional roosts of these and other species that would result in a permanent adverse effect on the bat assemblage bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area, that was significant at the regional level. Additional surveys recorded the presence of an additional maternity roost of soprano pipistrelle, located 20m from the land required for the SES2 scheme. On a precautionary basis, it is assumed the roost will be lost and that additional occasional roosts will be affected by disturbance during construction. The loss and disturbance of these additional roosts will result in a different significant effect to that reported in the main ES. However, there will be no change in the level of significance of the effect reported in the main ES.

## **Other mitigation measures**

### **Habitats**

#### **Grassland**

- 3.3.52 The main ES reported an area of 8.3ha of species-rich grassland would be created in 10 locations around Mobberley Road, to mitigate the loss of grassland adjacent to Birkin Brook that was identified as a proposed LWS. Subsequently, the designation of this area as Birkin Brook LWS has been confirmed. The change in the status of this site does not require any further mitigation to that identified in the main ES.

- 3.3.53 The main ES reported an area of 1.7ha of species-rich grassland would be created at four locations around Agden Brook, 3ha in four locations around Blackburn's Brook and Birkin Brook, 0.7ha adjacent to ditches at two locations adjacent to Tributary of Birkin Brook 2 and Tributary of Birkin Brook 3 and 1ha to the east of the River Bollin. Subsequently, the designation of this area as Sugar Brook Grasslands LWS has been confirmed. The updated designation of this area of grassland to LWS does not change the requirement for the habitat creation. This grassland creation should now be considered to be mitigation for the significant effect on the Sugar Brook Grasslands LWS. This will reduce adverse effects on this grassland in the Hulseheath to Manchester Airport area to a level that is not significant.

### **Hedgerows**

- 3.3.54 The main ES reported a total of 12km of new hedgerows would be planted as replacement for those lost as a result of the original scheme in the Hulseheath to Manchester Airport area. This represented a net reduction in hedgerow of 46.1km after mitigation and a residual adverse effect that was significant at county/metropolitan level. The SES2 scheme will result in a decrease in the overall net loss to 44.9km. This will result in a different residual effect; however, it will not change the level of significance as reported in the main ES.

### **Water bodies**

- 3.3.55 At least one pond will be created for every pond lost within the land required for the construction of the SES2 scheme. New ponds will be established in accordance with the Ecological Principles of Mitigation in the SMR. Once established, it is anticipated that any adverse effect on pond habitats will be reduced to a level that is not significant.

### **Species**

#### **Amphibians**

- 3.3.56 The main ES reported that significant effects on the great crested newt populations within the Hulseheath to Manchester Airport area would be addressed by creating areas of suitable habitat. Habitats will be created at Birkin Farm, Mobberley Road, south of Ashlar, east of the River Bollin, and south of Davenport Green as described in the main ES, with ponds incorporated into these areas to compensate for the changes in pond loss with the SES2 scheme. These measures would comprise provision of ponds and grassland that would be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newt and other amphibian species. The mitigation measures will take account of the different significant effects identified above. Therefore, implementation of the measures reported in the main ES, once established, will reduce adverse effects on amphibian populations in the Hulseheath to Manchester Airport area to a level that is not significant.

## **Bats**

- 3.3.57 The main ES reported that significant effects to the bat assemblages within MA06 would be addressed by mitigation which would be provided in accordance with the Ecological Principles of Mitigation within the SMR. This includes the provision of artificial roosts as well as woodland planting and creation of hedgerows, grassland, wetland habitat and ponds throughout the Hulseheath to Manchester Airport area.
- 3.3.58 The main ES reported that significant effects to the bat assemblage bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area would be addressed by hedgerow planting around Millington Clough, grassland along Agden Brook and the provision of alternative roosts within creation and enhancement areas adjacent to Millington Clough area. The additional loss of the maternity roost of soprano pipistrelle will be addressed through the provision of a suitable replacement roost within habitat creation areas in close proximity to existing roost locations. Following implementation of these measures, the effects on the bat assemblage bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area will be reduced to a level that is not significant.

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

- 3.3.59 On a precautionary basis, it is assumed that there will be a net loss of 44.9km of hedgerow as a result of the SES2 scheme, which is less than the 46.1km reported in the main ES. A permanent adverse residual effect that is significant at the county/metropolitan level will remain, as reported in the main ES. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## **Cumulative effects**

- 3.3.60 No new or different significant cumulative effects have been identified further.

# **3.4 Health**

## **Introduction**

- 3.4.1 The environmental baseline relevant to the health assessment is described below. Any new or different likely environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES.

## **Scope, assumptions and limitations**

- 3.4.2 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.



- 3.4.3 The SES2 changes of relevance to this assessment have the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for health.
- 3.4.4 Health effects that result from the changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

## **SES2 changes relevant to the assessment**

- 3.4.5 Changes to environmental baseline information resulting from a review of health and community resources in the Hulseheath to Manchester Airport area is relevant to the assessment.

## **Environmental baseline**

### **Existing baseline**

- 3.4.6 The baseline community information is as described in Section 8 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the SES change is provided below.
- 3.4.7 Manchester Airport Marriott Hotel, located on the A538 Hale Road, contains a leisure club that is open to members of the public as well as hotel guests. The leisure club includes a gym and a swimming pool.

### **Future baseline**

- 3.4.8 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 3.4.9 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.4.10 None of the identified developments affect the assessment of the SES2 scheme's likely impact on health.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 3.4.11 No avoidance or mitigation measures additional to those reported in the main ES are proposed.



## **Assessment of impacts and effects**

- 3.4.12 Construction of Manchester Airport High Speed station will require the demolition of the Marriott Hotel on the A538 Hale Road. The hotel contains a leisure club with facilities including a gym and an indoor swimming pool. The leisure facilities are open to members of the public as well as hotel guests. The swimming pool is open seven days a week and is used for swimming lessons for children six days a week. There are limited alternatives nearby that provide swimming lessons for children in the area. Permanent loss of this facility in this location will reduce the opportunity for beneficial health outcomes achieved through physical exercise and is therefore considered to result in an adverse health effect.

## **Other mitigation measures**

- 3.4.13 No mitigation measures additional to those reported in the main ES are proposed.

## **Cumulative effects**

- 3.4.14 No new, removed or different cumulative effects have been identified.

# **3.5 Landscape and visual**

## **Introduction**

- 3.5.1 The environmental baseline relevant to the landscape and visual assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 of this report are then identified, compared to those reported in the main ES.

## **Scope, assumptions and limitations**

- 3.5.2 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 3.5.3 The SES2 design change of relevance to this assessment has the potential to result in new or different significant operational phase visual effects only. Therefore, there is no construction assessment for landscape and visual.
- 3.5.4 All visual effects arising from the SES2 design change are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during the operational phase are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-04.

## **SES2 changes relevant to the assessment**

- 3.5.5 The SES2 design change, modifications to car park roofs and forecourts at Manchester Airport High Speed station (SES2-006-002) is considered in this assessment as it has the

potential to result in new or different significant visual effects on two viewpoints during operation.

## **Environmental baseline**

### **Existing baseline**

- 3.5.6 The baseline landscape and visual information is as described in the SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the SES2 design change is provided below.

### **Visual baseline**

#### **View east from the A538 Hale Road (high sensitivity receptor) (332-02-006)**

- 3.5.7 This viewpoint is representative of views experienced by residents and road users of the A538 Hale Road. The view is of a tree-lined suburban road, bordered by the hedges, fences, walls and railings in the front gardens of the residential properties. The properties are generally set back from the road, with many screened from view by garden vegetation. The junction of the A538 Hale Road and Hasty Lane is visible in the middle distance of the view along with a large house, typical in scale of the houses along the road. Hale Road curves to the south-east and mature trees fill much of the skyline and screen more distant views to the south.

#### **View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)**

- 3.5.8 This viewpoint is representative of views experienced by residents of Brooks Drive and users of Footpath Hale 16. Property boundaries along Brooks Drive have variable tree cover, filtering views to the south and east. From the footpath there are wide views over a pasture in the near distance, framed by a hedgerow running parallel to Footpath Hale 16 and vegetation in the back gardens of properties on Brooks Drive. The middle distance is occupied by open farmland which slopes gently down towards the valley of Timperley Brook. Flaxhigh Covert screens long views towards the A538 Hale Road. Davenport Green Wood screens views north towards Thorley Lane. The M56 is screened by intervening vegetation but the lights and overhead gantries of the motorway are visible in gaps between the trees. On the skyline, hotels and buildings in the Manchester Airport logistics zone can be seen.
- 3.5.9 At night, near and middle-distance views are relatively dark, but lighting on the M56 and in the Manchester Airport area is intermittently visible in the far distance where there are gaps in the tree cover.

## Future baseline

- 3.5.10 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2038.
- 3.5.11 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.5.12 None of the identified developments affect the assessment of the SES2 scheme's likely impacts for landscape and visual.

## Effects arising from operation

### Avoidance and mitigation measures

- 3.5.13 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

### Visual effects

#### View east from the A538 Hale Road (high sensitivity receptors) (332-02-006)

- 3.5.14 At year 1, the main ES reported a **major** adverse (significant) effect for residents of properties on A538 Hale Road, of **high** susceptibility and road users of lower susceptibility all with **medium** value views, experiencing a substantial change to near-distance views. This would be due to uninterrupted views of the A538 Hale Road service roads (north and south) and A538 Hale Road realignment due to the loss of garden and roadside vegetation. In addition, the demolition of houses would allow open views of the A538 Hale Road overbridge (south) and the car parks at the southern end of Manchester Airport High Speed station.
- 3.5.15 At year 1, as a result of the design change, the overall height of the Manchester Airport High Speed station west and east car parks will be raised to accommodate an additional level of parking on the roof of the car parks. However, the change will be barely perceptible when viewed in the context of other large-scale infrastructure elements associated with the HS2 route. The design change will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 3.5.16 At years 15 and 30, the main ES reported a **major** adverse (significant) effect. This would be due to the continued visibility of traffic using the A538 Hale Road service roads (north and

south) and A538 Hale Road realignment being partially filtered by landscape mitigation planting, but the full screening effect of the trees and mature garden vegetation, removed from gardens during construction, would not be restored.

- 3.5.17 At years 15 and 30, the design change will slightly change the visual effect at this viewpoint as the Manchester Airport High Speed station west and east car parks will remain visible in much of the view from A538 Hale Road, above the line of intervening mitigation planting. However, the scale of the change will be barely perceptible when viewed in the context of other large-scale infrastructure elements associated with the HS2 route. The design change will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### **View south-east from Brooks Drive (high sensitivity receptors) (332-02-008)**

- 3.5.18 At year 1, the main ES reported a **major** adverse (significant) effect for residents of Brooks Drive and users of Footpath Hale 16, of **high** susceptibility and all with **medium** value views, experiencing substantial changes to middle-distance views. This would be due to the introduction of Manchester Airport High Speed station car parks and access road (west), cars and buses at the transport interchange and Manchester Airport High Speed station which would be visible from dwellings on Brooks Drive beyond the intervening woodland habitat creation.
- 3.5.19 At year 1, the design change will slightly change the visual effect at this viewpoint. The height of the Manchester Airport High Speed station west and east car parks will increase to accommodate an additional level of car parking on the roof. However, the scale of the change will be barely perceptible when viewed in the context of other large-scale infrastructure elements associated with the HS2 route. The design change will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 3.5.20 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to maturing woodland habitat creation providing an effective visual screen for residents along Brooks Drive and from the PRoW. However, views from some properties, where existing views are open, will change from views of farmland to woodland.
- 3.5.21 At year 15, maturing woodland habitat creation will partially screen the increased height of Manchester Airport High Speed station car park west. The design change will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 3.5.22 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-OMA06.

### Night-time

- 3.5.23 At year 1, the main ES reported a **moderate** adverse (significant) effect. This would be due to the presence of lighting associated with the original scheme which would introduce a wide area of illumination across a currently relatively dark middle distance.
- 3.5.24 At year 1, the design change will slightly change the night-time effects at this viewpoint due to the introduction of external downlighting associated with the provision of open car parking on the roof of the Manchester Airport High Speed station west and east car parks. This will increase the amount of lighting visible at night from Brooks Drive, with potential views of the luminaires through the louvered external cladding and the addition of skyglow generated from the open car parking deck. These new light sources would be viewed in the context of lighting associated with the HS2 route. The design change will give rise to a different significant effect, however, the level of significance of the effect will remain as reported in the main ES.
- 3.5.25 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to maturing woodland habitat creation which would partially screen the lighting along the elevated access road to the Manchester Airport High Speed station and on the station forecourt. However, lighting within the elevated station and car parks would remain visible across the relatively dark middle distance.
- 3.5.26 At year 15, the design change will be partially screened by intervening and maturing mitigation planting. The design changes will give rise to a different significant effect, however, the level of significance of the effect will remain as reported in the main ES.
- 3.5.27 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-OMA06.

### Other mitigation measures

- 3.5.28 No mitigation measures additional to those reported in the main ES are proposed.

### Summary of likely residual significant effects

- 3.5.29 In many cases, significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the modifications to car park roofs and forecourts at Manchester Airport High Speed station (SES2-006-002) will give rise to different likely residual significant operational effects at the following viewpoints:
- View east from the A538 Hale Road (332-02-006). The effect will remain **major** adverse (significant) as reported in the main ES; and
  - View south-east from Brooks Drive (332-02-008). The effect will remain **moderate** adverse (significant) as reported in the main ES.
- 3.5.30 The design change will give rise to a different likely residual significant operational night-time effect at view south-east from Brooks Drive (332-02-008). The effect will remain **moderate** adverse (significant) as reported in the main ES.

## **Cumulative effects**

- 3.5.31 No new, removed or different significant cumulative effects have been identified.

## **3.6 Socio-economics**

### **Introduction**

- 3.6.1 The environmental baseline relevant to the socio-economic assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES.

### **Scope, assumptions and limitations**

- 3.6.2 The assessment scope, key assumptions and limitations for socio-economics are as set out in Volume 1 and the SMR of the main ES.
- 3.6.3 The SES2 change of relevance to this assessment has the potential to result in new or different construction effects only. Therefore, there is no operational assessment for socio-economics.
- 3.6.4 Socio-economic effects that result from the changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

### **SES2 changes relevant to the assessment**

- 3.6.5 New baseline information resulting from updated socio-economic data in the Hulseheath to Manchester Airport area is relevant to the assessment.
- 3.6.6 The implications of changes to the sound, noise and vibration assessment are considered in this assessment. Changes to the sound, noise and vibration assessment have the potential to result in different significant construction effects.

### **Environmental baseline**

#### **Existing baseline**

- 3.6.7 The baseline socio-economics information is as described in the SES2 and AP2 ES Volume 5, Appendix: SE-001-00000, Updated socio-economic baseline information.

#### **Future baseline**

- 3.6.8 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

- 3.6.9 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.6.10 None of the identified developments affect the assessment of the SES2 revised scheme's likely impacts for socio-economics.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 3.6.11 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 3.6.12 The main ES reported that the construction of the original scheme was expected to result in a major adverse significant effect on the Holiday Inn Express Manchester Airport. New information obtained from the recent baseline update shows that employment at this business has been reduced and therefore the impact warrants a medium magnitude, rather than the high magnitude reported in the main ES. The major adverse significant effect reported in the main ES is now a moderate adverse significant effect. Therefore, there is a different significant effect to that reported in the main ES.
- 3.6.13 It is estimated that, as a result of the recent baseline update, ten fewer jobs are assumed to be displaced or lost within the Hulseheath to Manchester Airport area, compared to those reported for the construction of the original scheme. The socio-economic effects on jobs displaced or lost are assessed at a route-wide level in Volume 3, Route-wide effects (Section 12).
- 3.6.14 The main ES reported that the construction of the original scheme was expected to result in a temporary adverse in-combination effect on a bed and breakfast at Sugar Brook Farm, Mobberley Road. This was as a result of significant noise effects (for three years and eight months) and visual effects. New information obtained from the recent baseline update shows that the bed and breakfast at Sugar Brook Farm is no longer operating. As a result, this receptor has been removed from the socio-economic assessment. Therefore, the adverse significant in-combination effect reported in the main ES on the bed and breakfast at Sugar Brook Farm is removed.
- 3.6.15 The main ES reported that the construction of the original scheme was expected to result in a temporary adverse significant in-combination effect on a management company operating from Cherry Tree Farm, located on Cherry Tree Lane. This was as a result of significant noise effects (for one year and 11 months) and visual effects. The SES2 scheme will increase the duration of the significant noise effects to two years and six months. This will result in a



different temporary adverse significant in-combination effect on the management company operating from Cherry Tree Farm.

- 3.6.16 The main ES (as corrected in Table 2) reported that the construction of the original scheme was expected to result in a temporary adverse significant in-combination effect on South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays, located on Mobberley Road. This was as a result of significant noise effects (for four years and six months) and visual effects. The SES2 scheme will increase the duration of the significant noise effects to seven years and 10 months. This will result in a different temporary adverse significant in-combination effect on South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays.
- 3.6.17 The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Socio-economics Map Book: Map Series SE-01.

### **Other mitigation measures**

- 3.6.18 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 3.6.19 The SES2 scheme will result in a different adverse significant effect on Holiday Inn Express Manchester Airport, which will reduce to moderate adverse compared to major adverse as reported in the main ES.
- 3.6.20 The SES2 scheme will result in a different temporary adverse significant in-combination effect on a management company operating from Cherry Tree Farm.
- 3.6.21 The SES2 scheme will result in a different temporary adverse significant in-combination effect on Birkin Farm Holiday Let, run by Tatton Stays.
- 3.6.22 The SES2 scheme will result in a different temporary adverse significant in-combination effect on South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays.
- 3.6.23 As a result of the SES2 scheme, the significant adverse residual temporary in-combination effect on a bed and breakfast at Sugar Brook Farm will be removed.

### **Cumulative effects**

- 3.6.24 No new, removed or different significant cumulative effects have been identified.



## 3.7 Sound, noise and vibration

### Introduction

- 3.7.1 The environmental baseline relevant to the sound, noise and vibration assessment is described below. Any new, different or removed likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES.
- 3.7.2 The SES2 change of relevance to this assessment has the potential to result in new or different construction effects only. Therefore, there is no operational assessment for sound, noise and vibration.
- 3.7.3 Sound, noise and vibration effects that result from the assessment of the changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

### Scope, assumptions and limitations

- 3.7.4 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1 and SMR of the main ES.
- 3.7.5 The SES2 changes of relevance to this assessment have the potential to result in new, different or removed likely significant construction effects only. Therefore, there is no assessment of operational effects for sound, noise and vibration.

### SES2 changes relevant to the assessment

- 3.7.6 The following SES2 changes are considered in the construction assessment:
- additional environmental baseline information; and
  - changes to the construction design programme.

### Environmental baseline

#### Existing baseline

- 3.7.7 In the Hulseheath to Manchester Airport area, the updated sound modelling described in Section 2 has resulted in updates to the existing baseline sound levels at receptors in the community of Ringway and Hale Barns. Further information on the updated baseline sound levels relevant to the assessment is provided in the SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. Where no updates to baseline sound levels are required, the baseline sound, noise and vibration information is as described in Section 13 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES.

- 3.7.8 Sugar Brook Farm Bed and Breakfast, located on Mobberley Road in Ashley, no longer provides bed and breakfast accommodation, and is no longer classified as a non-residential receptor. Sugar Brook Farm is now assessed as a residential receptor.

## **Future baseline**

- 3.7.9 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 3.7.10 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.7.11 None of the identified developments affect the assessment of the SES2 scheme's likely impacts for sound, noise and vibration.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 3.7.12 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## **Assessment of impacts and effects**

### **Non-residential receptors: direct effects**

- 3.7.13 The main ES identified, on the basis of a precautionary assessment, a significant adverse construction noise effect at Cherry Tree House offices located on Cherry Tree Lane for a duration of up to one year and 11 months. This was denoted as MA06-C-N1 in the Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06), in Volume 5, Appendix: SV-002-0MA06 and in Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. The SES2 changes to the construction programme will increase the duration of impact to two years and six months. This will give rise to a different likely significant effect on the non-residential receptor.
- 3.7.14 The Tatton Stays Holiday Lets are a group of holiday lets which include Birkin Farm, Stock Farm, Little Lodge and South Arden Lodge. Birkin Farm and Stock Farm are located along Ashley Road, Little Lodge and South Arden Lodge are located along Mobberley Road. The main ES identified, on the basis of a precautionary assessment, a significant adverse construction noise effect at Tatton Stays Holiday Lets (Birkin Farm and Stock Farm) and a significant adverse construction noise and vibration effect at Tatton Stays Holiday Lets (Little Lodge and South Arden Lodge). This was denoted as MA06-C-N2 in the Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06), in Volume 5, Appendix:

SV-002-0MA06 and in Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. The SES2 changes to the construction programme will increase the duration of noise impact at Little Lodge and South Arden Lodge from four years and six months to seven years and ten months during the daytime. This will give rise to a different likely significant noise effect on Little Lodge and South Arden Lodge. The likely significant noise effect on Birkin Farm and Stock Farm, and the vibration effect at Little Lodge and South Arden Lodge are unchanged from the main ES.

- 3.7.15 The main ES identified, on the basis of a precautionary assessment, a significant adverse construction noise effect at Sugar Brook Farm Bed and Breakfast located on Mobberley Road, Ashley for a duration of up to three years and eight months. This was denoted as MA06-C-N3 of the Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06), in Volume 5, Appendix: SV-002-0MA06 and in Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. Sugar Brook Farm no longer offers bed and breakfast accommodation and is now assessed as a residential receptor. This SES2 change removes the likely significant effect on Sugar Brook Farm Bed and Breakfast.
- 3.7.16 For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000 and SES2 and AP2 ES Volume 5, Sound, noise and vibration Map Book: Map Series SV-03.

## **Other mitigation measures**

- 3.7.17 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 3.7.18 The SES2 changes will give rise to a different likely temporary residual adverse significant construction noise effect at Cherry Tree Offices located on Cherry Tree Lane, due to an increased impact duration.
- 3.7.19 The SES2 changes will give rise to a different likely temporary residual adverse significant construction noise and vibration effect at Tatton Stays Holiday Lets (Little Lodge and South Arden Lodge) located along Mobberley Road, due to an increased noise impact duration.
- 3.7.20 The SES2 changes will result in the removal of the likely temporary residual adverse significant construction noise effect at Sugar Brook Farm Bed and Breakfast due to a change in use from non-residential to residential receptor.

## **Cumulative effects**

- 3.7.21 No new, removed, or different significant cumulative effects have been identified.

## 3.8 Water resources and flood risk

### Introduction

- 3.8.1 The environmental baseline relevant to the water resources and flood risk assessment is described below. Any new or different likely significant environmental effects as a result of the changes introduced in Section 2 are then identified, compared to those reported in the main ES. The combined assessment of new or different significant construction traffic effects on water resources, as a result of changes in construction traffic flows, is discussed in Section 7.

### Scope, assumptions and limitations

- 3.8.2 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1 and the SMR of the main ES. The scope and methodology for the updated flood risk assessment is set out in the SES2 and AP2 ES Volume 5, Appendix: CT-001-00005 Water resources and flood risk technical note: Updated guidance on flood risk assessment.
- 3.8.3 Unless indicated otherwise, the spatial scope of the assessment (the study area) is based upon the identification of surface water and groundwater features within 1km of the original scheme, as described in the main ES. In the Hulseheath to Manchester Airport area, the main ES study area has been extended to include the springs and watercourses that feed into Rostherne Mere Ramsar site, SSSI and NNR.
- 3.8.4 The baseline changes for SES2 have the potential to result in removed, new or different significant construction effects. Therefore, there is no operational assessment for water resources and flood risk.

### SES2 changes relevant to the assessment

- 3.8.5 The SES2 changes considered in the construction assessment are updates to environmental baseline information.

### Environmental baseline

#### Existing baseline

- 3.8.6 The baseline water resources and flood risk information is as described in Section 15 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. A summary of the baseline information relevant to the assessment of the SES2 design change is provided below.
- 3.8.7 For the SES2 assessment, the baseline environmental information has been updated to include the new climate change guidance for peak river flows which was published by the

Environment Agency in July 2021. The revised guidance indicates that for essential infrastructure, the Environment Agency’s ‘Higher central’ allowance for peak river flow should be used.

- 3.8.8 The revised guidance provides peak river flow allowances by management catchment instead of river basin district. Blackburn’s Brook, Birkin Brook and the River Bollin are all located within the Upper Mersey Management Catchment. In accordance with this guidance, the corresponding ‘Higher central’ peak river flow climate change allowance for the Upper Mersey Management catchment is 53%.
- 3.8.9 The baseline environmental information has also been updated for the new climate change guidance on peak rainfall intensity published by the Environment Agency in May 2022. In this area, this leads to an increase in peak rainfall intensity allowance for tributaries of Birkin Brook, Agden Brook and Timperley Brook from 40% to 45%.

## Future baseline

- 3.8.10 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 3.8.11 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 3.8.12 The committed developments relevant to water resources and flood risk in this Hulseheath to Manchester Airport (MA06) area are set out in Table 4.

**Table 4: Committed developments of relevance to water resources and flood risk**

Map book reference <sup>15</sup>	Planning reference	Description	How this is considered in the assessment
MA06/288S	106824/FUL/21	Erection of a new dwelling following demolition of existing dwelling	Informing future baseline

- 3.8.13 Implementation of this proposed development will result in the introduction of different water resources receptors within the study area. As such, this committed development has been included as part of the future baseline and considered within this assessment.

<sup>15</sup> SES2 and AP2 ES Volume 5, Appendix: CT-004-00000, *Planning Data/Committed Development Map Book*: Maps CT-13-321 to CT-13-322a-L1.

## Effects arising during construction

### Avoidance and mitigation measures

- 3.8.14 No further avoidance and mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Groundwater – surface water interactions

- 3.8.15 The potential spring at Keeper’s Cottage, Sunbank Lane (north) was considered a groundwater receptor on a precautionary basis, pending survey, in the main ES. The main ES reported a potential permanent moderate adverse effect on the potential spring due to the presence of the cuttings around Manchester Airport High Speed station. Since the main ES, surveys have confirmed that there is no spring feature in this location, as there is no evidence of a spring emergence, culvert or water channel in this location. This feature is therefore no longer considered a receptor. The removal of this receptor will result in the removal of this significant effect.
- 3.8.16 There are no new impacts and significant effects on groundwater – surface water interactions arising from the SES2 changes.

#### Water dependent habitats

- 3.8.17 Wood Near Chapel Lane Site of Biological Importance (SBI) (including Hennesley Bank ancient woodland) was considered a potential water dependent habitat, pending surveys, in the main ES. The main ES reported a potential permanent minor impact on the SBI due to the presence of the Ringway cutting to the south of the Manchester Airport High Speed station. Since the main ES, surveys have confirmed that this site is not groundwater dependent. This feature is therefore no longer considered a water dependent habitat. The removal of this water dependent habitat will result in the removal of this hydrological impact.

#### Flood risk

- 3.8.18 In the main ES, hydraulic analysis was carried out for the Blackburn’s Brook, Birkin Brook and the River Bollin, due to the presence of the viaducts crossing the floodplain. Under the updated peak river flows guidance, the corresponding updated climate change allowance of 54% has been applied to these crossings. There are no new or different significant effects on flood risk at these watercourse crossings arising from the SES2 changes.
- 3.8.19 In the main ES, culvert design details were provided along with the estimated peak river flow during the 1 in 100 year plus climate change event. Taking into account the change to climate change allowances, the estimated peak river flows during the 1 in 100 year plus climate change event have been recalculated. These values have been used to ensure that

the culverts have sufficient conveyance capacity to accommodate the changes in design peak river flows for the new climate allowances. The updated culvert tables for the SES2 scheme are provided in SES2 and AP2 ES, Volume 5, Appendix: WR-005-0MA06 Flood risk assessment. The assessment shows that the culverts in the original scheme have sufficient capacity to convey the revised 1 in 100 year plus climate change peak river flows.

- 3.8.20 In the main ES, hydraulic modelling was carried out for Tributaries of Millington Clough, which included the Agden Brook viaduct, tributaries of Birkin Brook and Timperley Brook. Under the updated climate change guidance, the corresponding updated allowance for peak rainfall intensity has increased from 40% to 45%. For SES2, both of these hydraulic models have been updated. The results show that there are no changes to the flood risk effects reported in the main ES for these watercourses.

### **Other mitigation measures**

- 3.8.21 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 3.8.22 No new or different likely residual significant effects have been identified.
- 3.8.23 The removal of potential spring at Keeper's Cottage, Sunbank Lane (north) as a receptor will lead to the removal of the significant effect on this receptor reported in the main ES due to the presence of the cuttings around Manchester Airport Station.

### **Cumulative effects**

- 3.8.24 No new, removed or different significant cumulative effects have been identified.

## **3.9 Summary of new or different likely residual significant effects as a result of the SES2 changes**

### **Construction**

#### **Community**

- 3.9.1 The SES2 scheme will result in a new major adverse residual significant effect due to the permanent loss of the Marriott Hotel leisure centre on the A538 Hale Road.

## Ecology and biodiversity

- 3.9.2 The SES2 scheme will result in a net loss of 44.9km of hedgerow, which is less than the 46.1km reported in the main ES. A permanent adverse residual effect that is significant at the county/metropolitan level will remain, as reported in the main ES.

## Socio-economics

- 3.9.3 The SES2 scheme will result in a different adverse significant effect on Holiday Inn Express Manchester Airport, which will reduce to moderate adverse compared to major adverse as reported in the main ES.
- 3.9.4 The SES2 scheme will result in different temporary adverse significant in-combination effects at:
- a management company operating from Cherry Tree Farm;
  - Birkin Farm Holiday Let, run by Tatton Stays; and
  - South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays.

## Sound, noise and vibration

- 3.9.5 The SES2 scheme will result in a different likely temporary residual adverse significant construction noise effect at Cherry Tree Offices located on Cherry Tree Lane, due to an increased impact duration.
- 3.9.6 The SES2 scheme will result in a different likely temporary residual adverse significant construction noise and vibration effect at Tatton Stays Holiday Lets (Little Lodge and South Arden Lodge) located along Mobberley Road.

## Operation

### Landscape and visual

- 3.9.7 The SES2 scheme will result in different likely residual significant effects at the following viewpoints:
- View east from the A538 Hale Road (332-02-006). The level of significance of the effect will remain **major** adverse (significant) as reported in the main ES; and
  - View south-east from Brooks Drive (332-02-008). The level of significance of the effect will remain **moderate** adverse (significant) as reported in the main ES.
- 3.9.8 The SES2 scheme will give rise to a different likely residual significant operation night-time effect at view south-east from Brooks Drive (332-02-008). The level of significance of the effect will remain **moderate** adverse (significant) as reported in the main ES.



## 3.10 Summary of likely residual significant effects that will be removed

### Construction

#### Socio-economics

- 3.10.1 As a result of the SES2 scheme, the significant adverse residual temporary in-combination effect reported in the main ES on a bed and breakfast at Sugar Brook Farm will be removed.

#### Sound, noise and vibration

- 3.10.2 As a result of the SES2 scheme, the temporary residual adverse significant construction noise effect at Sugar Brook Farm Bed and Breakfast reported in the main ES will be removed.

#### Water resources and flood risk

- 3.10.3 As a result of further surveys undertaken for the SES2 scheme, the significant effect on the 'Potential spring at Keeper's Cottage, Sunbank Lane (north)' reported in the main ES will be removed.

## 4 Summary of AP2 amendments in the Hulseheath to Manchester Airport area

### 4.1 Engineering amendments

4.1.1 Amendments in the Hulseheath to Manchester Airport area will result in changes to the land or Bill powers required. Table 5 provides a summary of the engineering amendments. Figure 3 shows the locations of the engineering amendments.

4.1.2 Please note that all dimensions in the following sections are approximate.

**Table 5: Summary of AP2 engineering amendments in the Hulseheath to Manchester Airport area**

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
Additional land temporarily required for construction access from Chapel Lane and the A556 temporary slip roads AP2-006-001 See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-351-R1 D10 to F5	Temporary slip roads leading from the A556 onto Chapel Lane providing construction access to satellite compounds within the area.	Redesign of the temporary northbound and southbound slip roads between the A556 Chester Road and Chapel Lane and tie-in to Peacock Lane.
Additional land temporarily required for the provision of a maintenance access road to the Chester Road satellite compound from the A556 AP2-006-002 See SES2 and AP2 ES Volume 2, MA06 Map Book: CT-05-351, I9 to J7 and map CT-05-352 D10 to F8	Direct access to the A556 Chester Road satellite compound from the temporary realignment of the A556.	The relocation of the temporary access road to the A556 Chester Road satellite compound to 685m south of the original scheme design with a left-in/left-out junction arrangement off the A556. The access road will be 10m wide with 2.5m grass verges on each side. The access road will require the temporary diversion of Footpath Millington 14/1 and diversion of minor utility assets on A556 northbound footpath and the new attenuation pond access road.
Additional land permanently required to relocate Rostherne Mere groundwater recharge trenches north of Cherry Tree Lane AP2-006-003 SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-352, I6 to J9 and map CT-06-353, A6 to C7.	Rostherne Mere groundwater recharge trenches, 1m in width, south of the HS2 route near Cherry Tree Lane to help maintain groundwater and surface water levels in Rostherne Mere. This would result in the permanent loss of 0.5ha (0.3%) of Rostherne Mere Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR).	The groundwater recharge trenches will now be constructed on the north side of Cherry Tree Lane and the trenches will be culverted beneath Tom Lane using the same dimensions as required in the original scheme, to avoid constructing within the boundaries of Rostherne Mere SSSI. The amendment interacts with the AP2-006-005 amendment that will require the pipeline from the pumping station to the recharge trenches to be realigned to reflect the revised earthworks associated with the

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
		changes to the Yarwood Heath accommodation overbridge.
<p>Additional land temporarily required for the installation of a temporary vehicle restraint system at M56 junction 8  AP2-006-004  See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-352, H4 to I5</p>	<p>The Bill provides passive provision for highway improvements under the National Highways future proofing programme. The land identified for construction of the original scheme included some of the carriageway at M56 junction 8 slip road and verge (see Volume 2, MA06 Map Book: map CT-05-352, H4 to I5 in the main ES).</p>	<p>Improvements to the M56 junction 8 slip road. The amendment will temporarily require an additional area of the carriageway at M56 junction 8 during construction to facilitate the works proposed in the original scheme.</p>
<p>Additional land permanently required for modifications to the Yarwood Heath Farm accommodation overbridge  AP2-006-005  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-353, A4 to B6</p>	<p>The realignment of the existing access for Yarwood Heath Farm, 277m in length, crossing the HS2 route on the Yarwood Heath Farm accommodation overbridge, 12m above track level.</p>	<p>The gradient of the Yarwood Heath Farm accommodation overbridge ramps will be reduced and the height above track level reduced to 7.4m. The realigned access to Yarwood Heath Farm will be extended to 324m in length, south of the HS2 route. The amendment requires the pipeline from the pumping station to the Rostherne Mere recharge trenches (AP2-006-003) to be realigned with the revised earthworks. There would be no changes to the amendment if introduced without AP2-006-003.</p>
<p>Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site  AP2-006-006  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-352-L1, C1 to J10, CT-06-352, C9 to D10, CT-06-353, A1 to J6, CT-06-353-L1, A5 to J10, CT-06-354, A1 to F10 and CT-06-354-R1, C1 to E3.</p>	<p>The diversion of an existing National Grid 400kV overhead power line, 1.9km in length, to cross Birkin Brook embankment 470m north-west of Birkin Farm. The diversion would result in the permanent loss of 0.4ha of woodland from Ryecroft Covert Local Wildlife Site (LWS) of which 0.2ha is Ryecroft Covert Ancient Woodland Inventory (AWI).</p>	<p>The National Grid 400kV overhead power line has been redesigned and a new 3.2km route has been identified which will reduce impact on Ryecroft Covert LWS and AWI site. The change will reroute the start of the National Grid 400kV overhead powerline diversion to the north of M56 junction 7, approximately 1.3km further north of the location identified in the original scheme.</p>
<p>Change in Bill powers for the retention and realignment of Footpath Ashley 3/1  AP2-006-007  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-353, G3 to J4 and CT-06-354, A3 to E5.</p>	<p>Footpath Ashley 3/1 would be diverted up to 365m south-east of its current alignment. The footpath would connect with the diverted Footpath Rostherne 5/1, crossing the HS2 route under Blackburn's Brook North viaduct.</p>	<p>A section of the existing Footpath Ashley 3/1 between the junction with Footpath Ashley 2/1 and Footpath Ashley 2/3 will remain open. The retained footpath will connect with a separate section of Footpath Ashley 3/1 that will also be diverted to the north of Birkin Brook embankment and connect to the existing Ashley Road, on the northern side of the HS2 route.</p>
<p>Additional land permanently required for the realignment of a</p>	<p>A new public right of way (PRoW) between the existing Ashley Road and the diverted Ashley Road and</p>	<p>A cycle route will be incorporated into the new PRoW provided for in the original scheme and combined with the</p>

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>maintenance access road from Ashley Road  AP2-006-008  See SES2 and AP2 ES Volume 2, MA06 Map Book: CT-06-354, F2 to J10 and CT-06-354-R1, G1 to I2</p>	<p>a maintenance access road from the diverted Ashley Road to the Ashley Road auto-transformer station.</p>	<p>maintenance access road between the existing and diverted sections of Ashley Road. The amendment will result in the diverted road providing access to the western abutment of the Mid-Cheshire (Railway) and Mobberley Road viaduct from the Ashley Road auto-transformer station; and a maintenance access strip and drainage ditch north of the HS2 route.</p>
<p>Additional land temporarily required for the provision of surface water drainage at Mobberley Road South satellite compound  AP2-006-009  SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-354-R1, G3 to G4.</p>	<p>Land would be required for Mobberley Road South satellite compound.</p>	<p>Extension of surface water drainage outfall from the Mobberley Road South satellite compound to the outfall at Sugar Brook to allow for a gravity surface water drainage outfall to Sugar Brook watercourse during construction.</p>
<p>Additional land permanently required for watercourse diversions at Mobberley Road  AP2-006-010  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-354, H4 to J10, CT-06-354-R1, G1 to J3 and CT-06-355, A4 to C9.</p>	<p>Permanent watercourse diversions to accommodate the realignment of Mobberley Road, including the diversion of a section of Tributary of Birkin Brook 1 and Ashley Road offline east culvert.</p>	<p>Modifications to permanent watercourse diversions at Mobberley Road. This includes: the replacement of two culverts under the Mid-Cheshire (Railway); the excavation of an open channel; installation of new culverts under Mobberley Road and the realigned Ashley Road; construction of a weir on the Tributary of Birkin Brook 1; construction of a culverted access bridge crossing the Tributary of Birkin Brook 1; and a new drainage ditch between the Tributary of Birkin Brook 1 and the Mid-Cheshire (Railway). An attenuation pond south of the HS2 route and its discharge drain will be moved 4m west and the outfall will be moved to the realigned Tributary of Birkin Brook 1 open channel.</p>
<p>Additional land temporarily required for the operation of Ashley railhead near Sugar Brook Ancient Woodland  AP2-006-011  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-354-R1, I4 to J5.</p>	<p>The Bill provides for Ashley Railhead, located 300m south of Ashley. The temporary railhead would be used to receive and stockpile materials by rail, required for the construction of the original scheme.</p>	<p>A reduction in land required for the operation of the temporary railhead by 0.24ha to reduce the amount of land required within the boundary of Sugar Brook Ancient Woodland. There will also be the separate introduction of a 5m by 250m strip of land required for the operation of the railhead.</p>
<p>Additional land permanently required for the revised realignment of Tributary of Birkin Brook 2 south of Thorns Green embankment  AP2-006-012</p>	<p>Realignment of Tributary of Birkin Brook 2 for 30m to the south of Thorns Green embankment. Diversion of Tributary of Birkin Brook 2 for 20m to the south of the realigned Mobberley Road.</p>	<p>An additional 220m permanent realignment of Tributary of Birkin Brook 2 is required to the south of Thorns Green embankment.</p>

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-355, B6 to D7.		
Additional land required for the revised diversion of a Scottish Power 11kV overhead line, north of Brickhill Wood Ancient Woodland AP2-006-013 See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-355, H9 to I10.	The permanent diversion of an existing Scottish Power 11kV overhead power line, 201m in length, located approximately 340m south of the HS2 route.	The length of the Scottish Power 11kV overhead power line diversion will be extended approximately 60m further west of the location identified in the original scheme to avoid Brickhill Wood Ancient Woodland Inventory (AWI) site.
Additional land permanently required to reconfigure M56 Junction 6 AP2-006-014 See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-355, E1 to CT-05-357a, D4, and CT-06-355-L1, D8 to CT-06-356, J8.	The Bill provides for the HS2 route between the River Bollin East viaduct and the Manchester Airport High Speed station. The HS2 route would be located close to the M56. However, with the exception of realignment works to the slip roads at junction 6, there would be no permanent impact on the layout of the motorway. Mitigation would be provided in the form of replacement floodplain storage areas, ecological mitigation ponds, grassland habitat creation, woodland habitat creation and landscape mitigation planting.	The M56 will be realigned up to 30m to the south of the current alignment for a length of 2.5km and junction 6 will be reconfigured with the introduction of a new grade-separated, six-arm gyratory located 600m to the south-west of the existing junction 6. Related works will include the introduction of a direct, grade-separated link to the Manchester Airport High Speed Station, a direct link to the A538 Hale Road and the A538 Wilmslow Road, and the construction of overbridges to accommodate the reconfigured junction. The amendment will result in areas of additional mitigation, including landscape mitigation planting, flood compensation areas, ecological mitigation ponds, and areas of woodland and grassland habitat creation.
Additional land permanently required for modifications to the A538 Altrincham Road and Mobberley Road junction AP2-006-015 see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-356-R2, B5 to C7	The main ES reported significant delays (a major adverse effect) due to construction traffic. The main ES did not propose any mitigation works in this location for road users.	Removal of the existing A538 Altrincham Road and Mobberley road junction and implementation of a series of permanent modifications to a new junction in order to mitigate the impacts of HS2 construction workforce traffic on existing road users
Additional land permanently required for the realignment of an 11kv underground power line diversion along Shay Lane AP2-006-016 SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-356, H1 to J4, CT-06-356-L1, G2 to J10 and CT-06-357a, A1 to F4	The permanent diversion of a Scottish Power transmission 11kV overhead power line, for 461m in length, following the realigned A538 Hale Road.	The Scottish Power transmission 11kV overhead power line diversion will be re-routed to avoid use of a private road. The new diversion route will be located within the highway boundary of the A538 Hale Road and Shay Lane.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land permanently required for the provision of access to land parcels in the Manchester Airport High Speed station area  AP2-006-017  See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-356, I4 to J5</p>	<p>The closure of Hasty Lane to provide access to Manchester Airport High Speed station. The A538 Hale Road service road (north) would be provided to maintain access to residential properties.</p>	<p>The amended design will no longer require the closure of Hasty Lane. Access will be provided to two areas of land severed by the AP2 revised scheme by extending Hasty Lane by 147m.</p>
<p>Additional land permanently required for modifications to mitigation for Timperley Brook  AP2-006-018  See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-356, J3, CT-06-357a, A5 to A3, CT-06-357a, C2 to C3 and CT-06-357a-L1, C7 to C8</p>	<p>The permanent realignment of Timperley Brook for 330m, replacement habitat and a replacement floodplain storage area, located partially within the Ringway Golf Club golf course.</p>	<p>Additional land permanently required and a change in Bill powers for modifications to mitigation for Timperley Brook. The additional Water Framework Directive (WFD) mitigation will be implemented at Flaxhigh Covert, Brooks Drive and Shay Lane. This includes modification to culvert headwalls and the re-meandering of channels.</p>
<p>Change in Bill powers for the retention of Footpath Hale 16 from Brooks Drive to the Manchester Airport High Speed station  AP2-006-019  See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, B5 to C3.</p>	<p>The permanent closure of Footpath Hale 16 where it crosses the HS2 route. Users would be diverted via Brooks Drive, the realigned Thorley Lane, and the realigned A538 Hale Road, increasing journey length by 676m.</p>	<p>Footpath Hale 16 will remain open from Brooks Drive to the Manchester Airport High Speed Station. From here, Footpath Hale 16 will be diverted up to 375m south of its current alignment for 300m. The footpath will cross the earthworks for the Manchester Airport High Speed station and includes the widening of earthworks by 1.5m to provide a ramp with stairs, approximately 150m in length.</p>
<p>Additional land permanently required for the provision of a replacement culvert at Brooks Drive  AP2-006-020  See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-357a, C3</p>	<p>The upgrading or replacement of the culvert at Brooks Drive.</p>	<p>Additional land is required for the construction and maintenance of the culvert at Brooks Drive.</p>
<p>Change to Bill powers for construction traffic route along Enterprise Way  AP2-006-021  See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-357a-R1, E7</p>	<p>Land identified as a construction traffic route but outside the limits of the Bill.</p>	<p>Additional land temporarily required to include Enterprise Way within the limits of the Bill.</p>
<p>Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station  AP2-006-022</p>	<p>Construction of a viaduct, 216m in length, and up to 15m above existing ground level, to enable future provision of a Metrolink station. The section of viaduct will be constructed as part of the original scheme. The approaches to the viaduct from the west and</p>	<p>Construction of the Metrolink stop viaduct, 130m in length and 15m above ground level. The AP2 amendment also seeks powers for the future construction of the west and east approaches. This includes Roaring Gate Lane embankment, a 330m section of embankment and retaining wall,</p>

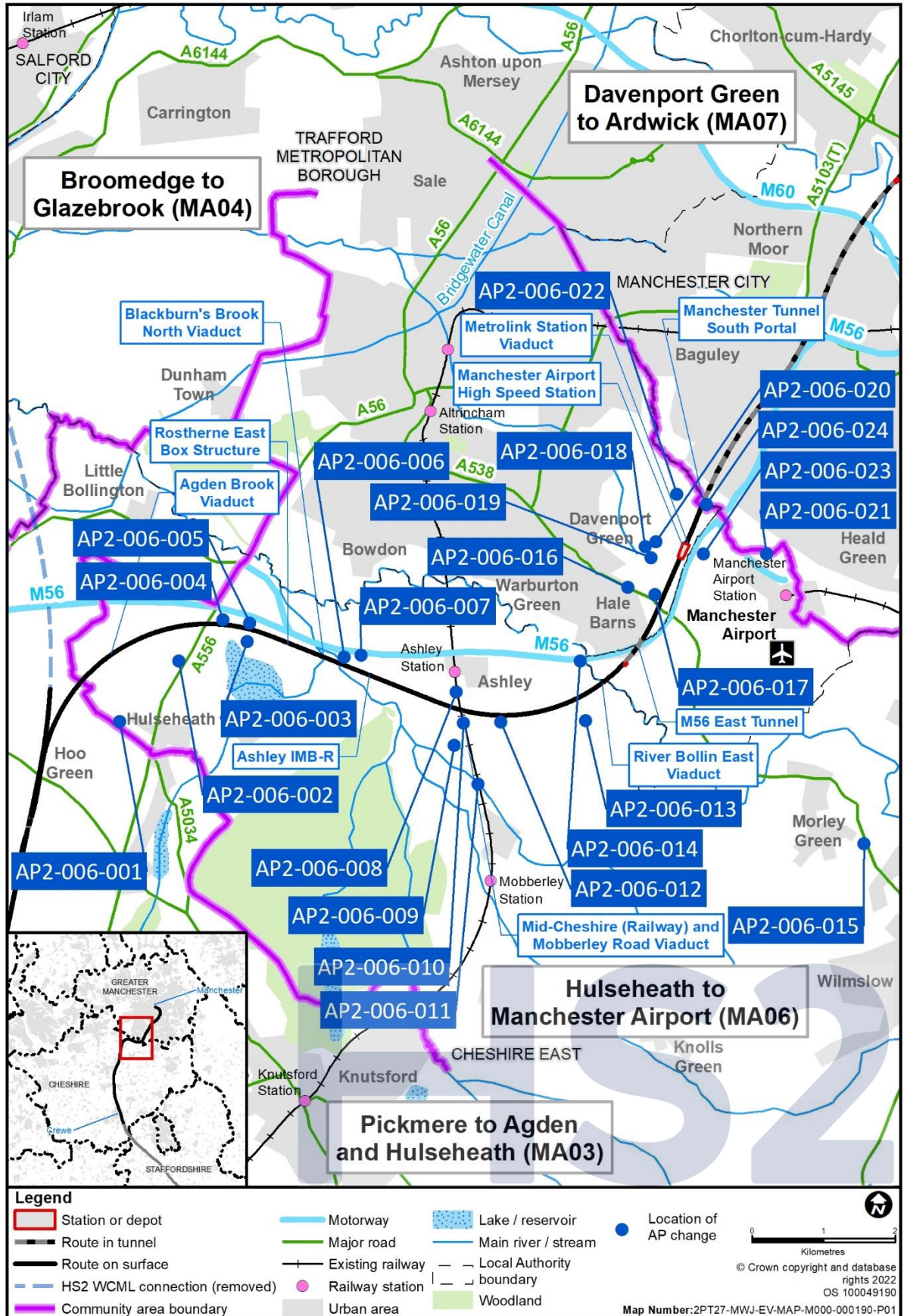
## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Name of AP2 amendment	Description of the original scheme	Description of the AP2 revised scheme
See SES2 and AP2 ES Volume 2, MA06 Map Book: CT-06-357a, C9 to H3	east would not be constructed as part of the original scheme. The Manchester Airport High Speed station building would have forecourts to the east and west leading to a central concourse area. The central concourse would have a Metrolink level that would provide access to future Metrolink services.	Thorley Lane west approach viaduct, a 325m section of viaduct and Metrolink station viaduct.
Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction AP2-006-023 See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-357a, C7 to E10 and CT-06-357a-R1, D1 to E3	It is assumed for the main ES that the modifications of the Thorley Lane and Runger Lane junction would be delivered by Manchester Airport Group before the start of construction of the original scheme.	The existing Thorley Lane and Runger Lane junction will be widened to accommodate dedicated right turn lanes and additional through lanes. Additional signalised crossing facilities for non-motorised users will be provided. The amendment will require the diversion of ten existing utilities on Thorley Lane and Runger Lane, including 11kV cables, water main, telecom cables and a mobile phone mast and associated equipment.
Additional land temporarily required at Manchester tunnel south portal main compound for provision of drainage outfall AP2-006-024 See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-357a, H5	Land would be required for Manchester tunnel south portal main compound.	Extension of surface water drainage outfall from the Manchester tunnel south portal main compound to the outfall at Fairywell Brook to allow for a gravity surface water drainage outfall to Fairywell Brook watercourse during construction. It will be 22m in length.



Figure 3: Locations of AP2 amendments in the Hulseheath to Manchester Airport area





## **5 Assessment of engineering amendments in the Hulseheath to Manchester Airport area**

### **5.1 Additional land permanently required for the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland (AP2-003-003)**

- 5.1.1 The diversion routes of three gas pipelines will start and finish in the Pickmere to Agden and Hulseheath area (MA03). However, the diversion routes cross the boundary with, and therefore have the potential to impact on receptors within, the Hulseheath to Manchester Airport area. A description of this amendment is provided in the SES2 and AP2 ES Volume 2, Community Area report: Pickmere to Agden and Hulseheath (MA03). The significant effects within the Hulseheath to Manchester Airport are described below.

#### **Topics included in the AP2 assessment**

- 5.1.2 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; and ecology and biodiversity.
- 5.1.3 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

#### **Agriculture, forestry and soils**

##### **Scope, assumptions and limitations**

- 5.1.4 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES.
- 5.1.5 The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.1.6 All agriculture, forestry and soils effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

## Environmental baseline

### Existing baseline

- 5.1.7 The baseline description and impacts and effect of this amendment on agricultural land and soil are reported in the SES2 and AP2 ES Volume 2, Community Area report: Pickmere to Agden and Hulseheath community area (MA03).
- 5.1.8 Five holdings will be affected by this amendment in the Hulseheath to Manchester Airport area, as detailed in Table 6. This amendment will also affect holdings in the Pickmere to Agden and Hulseheath community area (MA03) (see SES2 and AP2 ES Volume 2, Community Area report: Pickmere to Agden and Hulseheath (MA03)).

**Table 6: Summary characteristics of the holdings affected by the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)**

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/1 Land at Chapel Lane, Bucklow Hill (2)*	Residential with grassland paddock	0.5ha	None	None	Low
MA06/2 Moss House Farm	Beef cattle and sheep	47	Contract shepherding services	None	Medium
MA06/4 Millington House Nursery	Glasshouse horticulture and grassland	2.6	None	None	Low <sup>16</sup>
MA06/5 Ivy House Farm	Equestrian livery and grazing	11	None	None	Medium
MA06/6 Millington Hall Farm	Arable and sheep	300	Commercial and residential properties let	Countryside Stewardship Scheme (CSS) Mid-tier	Medium

\* It has not been possible to arrange farm impact assessment interviews with this holding. Publicly available sources have been used to obtain the information presented.

### Future baseline

- 5.1.9 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.1.10 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5,

<sup>16</sup> Glasshouses assessed as high sensitivity to change; grassland assessed as low sensitivity to change.

Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.1.11 None of the identified developments affect the assessment of the AP2 revised scheme’s likely impacts on agriculture, forestry and soil.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.1.12 No mitigation measures additional to those reported in the main ES and draft Code of Construction Practice (CoCP)<sup>17</sup> are proposed.

### Assessment of impacts and effects

- 5.1.13 The impacts and effects of this amendment on agricultural land and soil are reported in the SES2 and AP2 ES Volume 2, Community Area report: Pickmere to Agden and Hulseheath (MA03). The impacts and effects on holdings in the Pickmere to Agden and Hulseheath area are also reported in the same document.
- 5.1.14 The impact and effects on the holdings affected in the Hulseheath to Manchester Airport area are set out in Table 7 and Table 8.

**Table 7: Temporary impacts and effects on holdings arising from the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/1 Land at Chapel Lane, Bucklow Hill (2)	The amendment will result in a marginal reduction in the area of land required compared to the main ES. However, factoring in rounding, The total area required from this holding remains as 0.1ha (18%). Medium	Negligible	Negligible	Minor adverse	No change
MA06/2 Moss House Farm	The amendment will result in a reduction in the area of land required by 3ha compared to the main ES. The total area required from this holding is 26.7ha (57%). High	Medium	Negligible	Major/ moderate adverse	No change

<sup>17</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Environmental Statement, draft Code of Construction Practice*, Volume 5, Appendix: CT-002-00000. Available online at: <https://www.gov.uk/government/collections/cross-topic-technical-appendices-for-high-speed-rail-crewe-manchester-environmental-statement#draft-code-of-construction-practice>.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/4 Millington House Nursery	The amendment will result in an increase in the area of land required by 0.1ha compared to the main ES. The total area required from this holding is 1.6ha (62%). High	Medium	Low	Moderate adverse	No change
MA06/5 Ivy House Farm	The amendment will result in an increase in the area of land required by 1ha compared to the main ES. The total area required from this holding is 8.4ha (76%). High	Medium	Low	Major/ moderate adverse	No change
MA06/6 Millington Hall Farm	The amendment will result in a reduction in the area of land required of 2.2ha compared to the main ES. The adoption of this amendment alone would reduce the area of land required from this holding to 51.8ha (17%). Medium This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	Negligible	Moderate adverse	No change

**Table 8: Permanent impacts and effects on holdings arising from the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland Inventory Site (AP2-003-003)**

Holding reference/ name	Permanent area required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/1 Land at Chapel Lane, Bucklow Hill (2)	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 0ha (0%) Negligible	Negligible	Negligible	Negligible	No change
MA06/2 Moss House Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 12.2ha (26%) High	Medium	Negligible	Major/ moderate adverse	No change
MA06/4 Millington House Nursery	The amendment will not alter the area of land permanently required compared to the main ES.	Medium	Negligible	Moderate adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Holding reference/ name</b>	<b>Permanent area required from holding</b>	<b>Severance</b>	<b>Infrastructure</b>	<b>Scale of effect</b>	<b>Change in effect from main ES</b>
	The total land required permanently will remain 0.9ha (35%) High				
MA06/5 Ivy House Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 2ha (18%) Medium	Medium	Negligible	Moderate adverse	No change
MA06/6 Millington Hall Farm	The adoption of this amendment alone will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 19.4ha (7%). Low This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	Negligible	Moderate adverse	No change

### **Other mitigation measures**

5.1.15 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation has been identified.

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

5.1.16 No new, removed or different significant residual effects have been identified.

### **Cumulative effects**

5.1.17 No new, removed or different significant cumulative effects have been identified.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

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

- 5.1.19 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.1.20 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.1.21 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all AP2 amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.1.22 The baseline for ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Pickmere to Agden and Hulseheath (MA03) and Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### **Designated sites**

- 5.1.23 There is one AWI site of relevance to the assessment of the amendment which is of national value. This is Millington Clough AWI site which was located partly within the land required for the original scheme, but is not within the land required for the amendment.

### **Habitats**

- 5.1.24 The following habitats are located within the land required for the amendment: broadleaved woodland, scrub, improved/semi-improved grassland, marshy grassland, waterbodies and arable. The habitats of relevance to this assessment of the amendment are described further below.
- 5.1.25 The woodland areas are described as semi-natural broadleaved woodland, plantation broadleaved woodland, semi-natural mixed woodland and plantation mixed woodland. Woodland is located throughout the land required for the amendment.
- 5.1.26 The main ES reported an unnamed woodland measuring 3ha (likely to qualify as habitat of principal importance) north of Millington Clough that was of district/borough value.
- 5.1.27 The main ES reported an unnamed woodland measuring 0.7ha along Agden Brook west of Millington Hall, that was a potential LWS and of up to county/metropolitan value.
- 5.1.28 Marshy grassland is located within the land required for the amendment to the south and west of Millington Clough, east of Stonedelph Farm and at Hulseheath. This habitat is of district/borough value.
- 5.1.29 Within the land required for the amendment, there are 542m of hedgerow that includes hedgerows with trees, that (based on aerial photography) are intact and are assumed to be

species-rich. The hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire BAP. These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester area that is of county/metropolitan value.

## **Species**

- 5.1.30 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.1.31 The SES2 baseline in the Pickmere to Agden and Hulseheath area (MA03) reports an assumed great crested newt metapopulation of large size in a network of 102 ponds located north of Tatton Dale (GCNMP1.3.9), which extends into both the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area. The land required for the construction of the amendment includes terrestrial habitat associated with this metapopulation and one pond with confirmed presence of great crested newt. This metapopulation is considered to be of county/metropolitan value.
- 5.1.32 The SES2 baseline reported a bat assemblage of at least nine species bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area. The land required for the construction of the amendment contains small areas of woodland, hedgerows and water bodies which are considered to support roosting and foraging bats. The bat assemblage is considered to be of regional value.

## **Future baseline**

- 5.1.33 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.1.34 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.1.35 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measure**

- 5.1.36 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Designated sites

- 5.1.37 The main ES reported the modification of a high-pressure gas pipeline would result in the permanent loss of 0.2ha (20%) of Millington Clough AWI site, resulting in a permanent adverse effect on the structure and function of irreplaceable ancient woodland which was significant at the national level. The amendment avoids loss of ancient woodland at this site and therefore removes the nationally significant adverse effect on Millington Clough AWI site.

### Habitats

- 5.1.38 The main ES reported the construction of the Hulseheath North embankment would result in the permanent loss of 1.3ha of broadleaved woodland north of Millington Clough, that was significant at district/borough level. The amendment will result in a retention of 0.18ha of this woodland, reducing the total loss to 1.12ha. This will result in a different significant effect, but there will be no change to the level of significance of the effect reported in the main ES.
- 5.1.39 The main ES reported the construction of the Agden Brook viaduct would result in the permanent loss of 200m<sup>2</sup> of broadleaved woodland along Agden Brook, that was significant up to county/metropolitan level. The amendment will result in a retention of 140m<sup>2</sup> of this woodland. This will result in a different significant effect, but there will be no change to the level of significance of the effect reported in the main ES.
- 5.1.40 The main ES reported the modification of a high-pressure gas pipeline and Agden cutting would result in the loss of marshy grassland in three areas; 200m<sup>2</sup> north of Millington Clough, 0.1ha east of Stonedolph Farm, and 0.2ha at Hulseheath. These losses would result in an adverse effect that was significant at the district/borough level in each case. The amendment will result in an additional area of loss of 0.2ha of marshy grassland to the south-west of Millington Clough but will also result in the retention of 0.25ha of marshy grassland east of Stonedolph Farm and north of Millington Clough. This will result in a different significant effect, but there will be no change to the level of significance of the effect reported in the main ES.
- 5.1.41 On a precautionary basis, the SES2 reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the land required for construction within the Hulseheath to Manchester Airport area, resulting in a permanent adverse effect, significant at the county/metropolitan level. The amendment will result in the loss of an additional 542m of hedgerows with trees that are assumed to be species-rich. This will result in a different significant effect on hedgerow, but there will be no change in the level of significance of the effect reported in the SES2.



## **Species**

- 5.1.42 The SES2 in the Pickmere to Agden and Hulseheath area (MA03) reported an adverse effect on an assumed metapopulation of great crested newt within a network of 102 ponds located north of Tatton Dale (GCNMP1.3.9), which would be significant at the county/metropolitan level. The amendment will result in the loss of one additional pond in which the presence of great crested newt is confirmed, along with three other ponds, and approximately a 2.7ha decrease (including land within the Pickmere to Agden and Hulseheath Area (MA03)) in the terrestrial habitat associated with this metapopulation. The amendment will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the SES2.
- 5.1.43 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat and roosts from within the bat assemblages bounded by the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area. This would result in a permanent adverse effect that would be significant at a regional level. The amendment will result in the loss of trees, which on a precautionary basis are assumed to support roosting bats and provide foraging habitat. The amendment will result in a different significant effect on this bat assemblage, but there will be no change to the level of significance of the effect reported within the SES2.

## **Other mitigation measures**

- 5.1.44 The SES2 reported that significant effects on the great crested newt populations within the Hulseheath to Manchester Airport area would be addressed by creating areas of suitable habitat. These measures would comprise provision of ponds and grassland that would be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newt and other amphibian species. The mitigation measures will take account of the different significant effects identified above. Therefore, following implementation of these measures, the effects on the amphibian populations in the Hulseheath to Manchester Airport area will be reduced to a level that is not significant.
- 5.1.45 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on the bat assemblage will be reduced to a level that is not significant.

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

- 5.1.46 As a result of the amendment, the nationally significant adverse effect on Millington Clough AWI site reported in the main ES will be removed. The planting formerly proposed as compensation has been retained in the AP2 scheme and now forms part of mitigation for effects on the loss of woodland.

- 5.1.47 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2, and the amendment will result in a further loss of 542m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level. In addition to the mitigation described above, opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

### **Cumulative effects**

- 5.1.48 No new, removed or different significant cumulative effects have been identified.

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

### **Construction**

#### **Ecology and biodiversity**

- 5.1.49 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2, and the amendment will result in a further loss of 542m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level, as reported in the main ES.

## **Summary of removed likely residual significant effect as a result of the amendment**

### **Construction**

#### **Ecology and biodiversity**

- 5.1.50 As a result of the amendment, the nationally significant adverse effect on Millington Clough AWI site reported in the main ES will be removed.

## **5.2 Additional land temporarily required for construction access from Chapel Lane and the A556 temporary slip roads (AP2-006-001)**

- 5.2.1 The Bill provides for temporary slip roads leading from the A556 Chester Road onto Chapel Lane. The slip roads would provide construction access to Peacock Lane satellite compound, Peacock Lane ATFS satellite compound, and Agden Lane satellite compound (all within the Pickmere to Agden and Hulseheath area (MA03)), and Chapel Lane satellite compound. The temporary slip roads would be operational for four years and six months (see Volume 2, MA06 Map Book: maps CT-05-351, D8 to E6 in the main ES).

- 5.2.2 Since the main ES, design development has identified the need to revise the northbound and southbound slip road arrangements between the A556 Chester Road and Chapel Lane. This includes:
- realigning the A556 northbound slip road, approximately 320m in length, to relocate the junction on Chapel Lane and the tie-in to Peacock Lane;
  - lengthening the southbound slip road from Chapel Lane onto the A556 Chester Road to approximately 617m; and
  - ground improvement works along the embankments of both slip roads.
- 5.2.3 The amended works on Chapel Lane will overlap with the National Grid high pressure gas pipeline diversion proposed as part of the original scheme. An additional construction area will be included as part of the amendment to manage this interaction.
- 5.2.4 The southbound slip road will cross an existing Mainline fuel pipeline with protection provided to the pipeline during the works.
- 5.2.5 The amendment will be constructed from the Chapel Lane satellite compound and will be undertaken over a period of approximately nine months for construction and nine months for the removal of the temporary slip roads and reinstatement works.
- 5.2.6 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for 2.9ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-351-R1 D10 to F5).

## **Topics included in the AP2 assessment**

- 5.2.7 The amendment is not considered to require a reassessment of the environmental effects or mitigation set out in the main ES, with respect to any environmental topics.
- 5.2.8 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **5.3 Additional land temporarily required for the provision of a maintenance access road to the Chester Road satellite compound from the A556 (AP2-006-002)**

- 5.3.1 The Bill provides for direct maintenance access to the A556 Chester Road satellite compound from the temporary realignment of the A556 northbound carriageway (see Volume 2, MA06 Map Book: map CT-05-352, F4 to D9 in the main ES).

- 5.3.2 Since the main ES, engagement with National Highways has identified a need to relocate the temporary access road to address concerns related to the distance between the access road junction and the A556 diverge lane for the M56 junction 7. The access road will be relocated 685m south of the original scheme design with a left-in/left-out junction arrangement off the A556.
- 5.3.3 The modified junction will include an off-slip for traffic leaving the A556 northbound and an on-slip for traffic merging onto the A556 northbound, each 110m in length. The existing highway embankment earthworks will be reprofiled and a physical segregation island will be provided to separate the diverging and merging flows from the A556.
- 5.3.4 The modified access road will be 10m wide with 2.5m grassed verges on each side. The access road will connect to an existing private access road and Footpath Millington 14/1. Footpath Millington 14/1 runs along the existing private access road and will be temporarily diverted around the modified access road during the works.
- 5.3.5 The amendment will require the permanent diversion of minor utility assets on the A556 northbound footpath and the modified access road. The utility works will be constructed in conjunction with the construction of the access road.
- 5.3.6 The amendment will be constructed from the A556 Chester Road satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.3.7 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for 1.3ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: CT-05-351, I9 to J7 and CT-05-352, D10 to F8).

## **Topics included in the AP2 assessment**

- 5.3.8 The assessment of this amendment has identified new, different or removed likely significant effects for landscape and visual.
- 5.3.9 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Landscape and visual**

### **Scope, assumptions and limitations**

- 5.3.10 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.

- 5.3.11 This amendment has the potential to result in different significant construction effects for the visual assessment only. Therefore, there is no operational phase visual assessment and no construction or operational phase landscape assessment.
- 5.3.12 All visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during the construction phase are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03.

## **Environmental baseline**

### **Existing baseline**

- 5.3.13 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### **Visual baseline**

- 5.3.14 The amendment has the potential to significantly affect one viewpoint. This viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

#### **View north from Footpath Millington 6/2 (high sensitivity receptor) (329-02-002)**

- 5.3.15 This viewpoint is representative of views experienced by users of Footpath Millington 6/1, 6/2 and 8/1, and residents of Newhall Cottages, Mereside Farm, Newhall Farm and properties on Millington Lane. In the near and middle distance, there are expansive and open views over farmland with large fields bordered by low hedgerows to the east and west. In the far distance, the land rises to Rushy-pits Covert on the skyline to the north-west. Hope Cottage is visible to the north, though partially screened by garden vegetation. The wooded Dunham Park and trees in Bowdon can be seen on higher ground in the north and north-east. Vehicles on the M56 can be discerned in the distance. Views north from Newhall Cottages and Mereside Farm are screened or filtered by the rolling landform and intervening vegetation. Views from Newhall Farm and properties fronting directly onto Millington Lane are more open due to limited intervening vegetation.

### **Future baseline**

- 5.3.16 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.3.17 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.3.18 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.3.19 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Visual assessment

##### View north from Footpath Millington 6/2 (high sensitivity receptors) (329-02-002)

- 5.3.20 The main ES reported a **major** adverse (significant) effect during construction for residents of Newhall Cottages, Mereside Farm, Newhall Farm and properties on Millington Lane of **high** susceptibility and with **medium** value views. This would be due to the presence of large-scale construction works for Millington cutting, Millington North cutting, Manchester to Liverpool junction, Millington Footpath 7/4 diversion and accommodation overbridge and the A556 Chester Road overbridge, which would be out of character with existing views over the rural landscape. There would be more distant views of construction over open farmland from Newhall Farm and other residential properties at the southern end of Millington Lane.
- 5.3.21 The amendment will slightly change the visual effect at this viewpoint. This is because the introduction of the temporary junction along the A556 will introduce construction traffic into views south from Newhall Cottages, Mereside Farm and Footpaths Millington 6/1, 6/2 and 8/1. For residents at Newhall Farm and other residential properties at the southern end of Millington Lane the amendment will bring construction activity closer in the view and increase the effect for these receptors. However, when considered in the context of the large-scale construction works associated with the HS2 route, the amendment will only slightly change the effect at this viewpoint. Therefore, the amendment will give rise to a different significant effect. However, the level of significance of the effect will remain as reported in the main ES.

### Other mitigation measures

- 5.3.22 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Summary of likely residual significant effects

- 5.3.23 The amendment will give rise to a different likely residual significant construction effect, at view north from Footpath Millington 6/2 (329-02-002) after implementation of construction

phase mitigation. The effect will remain **major** adverse (significant) as reported in the main ES.

### Cumulative effects

- 5.3.24 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Landscape and visual

- 5.3.25 The amendment will give rise to a different likely residual significant construction effect, after implementation of construction phase mitigation, at view north from Footpath Millington 6/2 (329-02-002). The effect will remain **major** adverse (significant).

## 5.4 Additional land permanently required to relocate Rostherne Mere groundwater recharge trenches north of Cherry Tree Lane (AP2-006-003)

- 5.4.1 The Bill provides for Rostherne Mere groundwater recharge trenches, 435m in length, 1m in width, south of the HS2 route near Cherry Tree Lane to help maintain groundwater and surface water levels in Rostherne Mere (see Volume 2, MA06 Map Book: map CT-06-352, I7 to J9 and map CT-06-353, A6 to C7 in the main ES).
- 5.4.2 Construction of groundwater recharge trenches for Rostherne Mere would result in the permanent loss of 0.5ha (0.3%) of Rostherne Mere Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR), which comprise species rich semi-improved grassland. Within the land required for the original scheme, a 1.9ha area of grassland mitigation would be provided to the east of the HS2 route.
- 5.4.3 Since the main ES, further design development has been carried out to avoid constructing the groundwater recharge trenches for Rostherne Mere within the boundaries of Rostherne Mere SSSI. The amendment will move the groundwater recharge trenches to the north side of Cherry Tree Lane, outside of the SSSI boundary and the trenches will be culverted beneath Tom Lane using the same dimensions as proposed in the original scheme (435m in length and 1m wide).



- 5.4.4 Maintenance access to the recharge trenches will be provided on the north side of Cherry Tree Lane. The western trench will be accessed from Tom Lane and the eastern trench will be accessed from the pumping station access.
- 5.4.5 The amendment interacts with the amendment Additional land permanently required for modifications to the Yarwood Heath Farm accommodation overbridge (AP2-006-005) that will require the pipeline from the pumping station to the recharge trenches to be realigned to reflect the revised earthworks associated with the amendment to the Yarwood Heath accommodation overbridge. If amendment (AP2-006-005) was not implemented, this amendment (AP2-006-003) would no longer require the pipeline to be realigned and would have a reduced area. The pumping station which will supply the recharge trenches is unchanged from the original scheme.
- 5.4.6 No additional environmental mitigation or flood management measures will be required for the amendment.
- 5.4.7 The amendment will be constructed from Rostherne Mere satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.4.8 The land required for this amendment is outside the limits of the Bill. The AP2 amendment will result in the permanent requirement for an additional 0.4ha of land and a separate 0.4ha reduction in land required (SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-352, I6 to J9 and map CT-06-353, A6 to C7).

## **Topics included in the AP2 assessment**

- 5.4.9 The assessment of this amendment has identified new, different or removed likely significant effects for ecology and biodiversity.
- 5.4.10 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope assumptions, and limitations**

- 5.4.11 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.4.12 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for ecology and biodiversity.



- 5.4.13 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.4.14 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.4.15 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### **Designated sites**

- 5.4.16 There is one Ramsar site of relevance to the assessment of the amendment which is of international value. There is also one SSSI and one National Nature Reserve (NNR) each of national importance. These are:
- Rostherne Mere Ramsar site, which is located approximately 80m from the land required for the original scheme and the amendment;
  - Rostherne Mere SSSI, which is located partly within the land required for the original scheme, and adjacent to the land required for the amendment; and
  - Rostherne Mere NNR, which is located partly within the land required for the original scheme, and adjacent to the land required for the amendment.

### **Habitats**

- 5.4.17 Habitats within the land required for the amendment include semi-improved grassland, hedgerows, agricultural land and grass verge. The habitats of relevance to the assessment of the amendment are described further below.
- 5.4.18 Within the land required for the amendment, there are 475m of hedgerow that (based on aerial photography) are intact and are assumed to be species-rich. The hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire BAP. These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester Airport area that is of county/metropolitan value.
- 5.4.19 The main ES reported species-rich semi-improved grassland within the Rostherne Mere SSSI and NNR, which was considered to be of county/metropolitan value. As a result of this amendment this habitat is no longer within the land required for the construction of the original scheme.

## **Species**

- 5.4.20 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.4.21 The main ES reported a great crested newt metapopulation in a network of nine ponds to the south-east of High Legh (GCNMP1.6.6). The land required for construction of the amendment includes terrestrial habitat associated with this metapopulation. This metapopulation is considered to be up to county/metropolitan value.
- 5.4.22 The SES2 reported a bat assemblage of at least nine species between the M6, the M56 and the A556 within the Pickmere to Agden and Hulseheath area (MA03) and the Hulseheath to Manchester Airport area. The SES2 also reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport Area. The assemblages are of regional value. Rostherne Mere forms part of the commuting and foraging habitat for both assemblages. The land required for the amendment contains hedgerows that are also suitable for foraging and commuting bats.
- 5.4.23 The main ES reported the assumed presence of early-purple orchid within land required for the ground water recharge trenches in Rostherne Mere SSSI. This is a Locally Scarce species in Cheshire and was considered to be up to district/borough value. As a result of the amendment, this species is not within the land required for the construction of the AP2 revised scheme.

## **Future baseline**

- 5.4.24 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.4.25 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.4.26 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.4.27 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## **Assessment of impacts and effects**

### **Designated sites**

- 5.4.28 The main ES reported that the construction of the groundwater recharge trenches along Cherry Tree Lane would result in a permanent loss of 0.5ha (0.3%) semi-improved grassland at Rostherne Mere SSSI and NNR. This was not considered to result in a significant effect on the SSSI or the NNR. As a result of the amendment, the permanent loss of 0.5ha of Rostherne Mere SSSI and NNR will be avoided.

### **Habitats**

- 5.4.29 The main ES reported that the construction of the groundwater recharge trenches within Rostherne Mere SSSI and NNR would result in the permanent loss of 0.5ha of species-rich semi-improved grassland, which would be significant at up to county/metropolitan level. As a result of the amendment, the loss of this grassland will be avoided. This will remove an adverse effect that was significant up to county/metropolitan level.
- 5.4.30 On a precautionary basis, the SES2 reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the land required for construction of the scheme within the Hulseheath to Manchester Airport area, resulting in a permanent adverse effect, significant at the county/metropolitan level. The amendment will result in the loss of an additional 475m of assumed species-rich hedgerow. This will result in a different significant effect on hedgerow, but there will be no change in the level of significance of the effect reported in the SES2.

### **Species**

- 5.4.31 The main ES reported an adverse effect at up to district/borough level relating to the loss of early-purple orchid at Rostherne Mere within land required for the groundwater recharge trenches. The amendment will relocate the groundwater recharge trenches outside the SSSI, this will remove an adverse effect that was significant at up to district/borough level.

### **Other mitigation measures**

- 5.4.32 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.4.33 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2, and the amendment will result in a further loss of 475m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## Cumulative effects

5.4.34 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Ecology and biodiversity

5.4.35 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2, and the amendment will result in a further loss of 475m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level as reported in the main ES.

## 5.5 Additional land temporarily required for the installation of a temporary vehicle restraint system at M56 junction 8 (AP2-006-004)

5.5.1 The Bill provides passive provision for highway improvements under the National Highways future proofing programme. The land identified for construction of the original scheme included some of the carriageway at M56 junction 8 slip road and verge (see Volume 2, MA06 Map Book: map CT-05-352, H4 to I5 in the main ES). The original scheme included:

- a new National Highways boundary fence;
- a 3m wide HS2 maintenance access;
- Rostherne cutting retaining wall west;
- a high containment parapet above the proposed retaining wall; and
- the installation of a temporary vehicle restraint system (VRS) on the edge of the existing carriageway, to enable the construction of the proposed retaining wall. The temporary VRS would be removed upon completion of the proposed retaining wall.

5.5.2 Since the main ES, engagement with National Highways has identified that insufficient land was identified to install the temporary VRS in the original scheme. The layout for future highway improvements would include land for a two-lane carriageway with a 4.5m verge to the south.

5.5.3 The modification of the M56 junction 8 will be managed locally within the highway.

5.5.4 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for an additional 0.35ha of land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-352, H4 to I5).

## Topics included in the AP2 assessment

- 5.5.5 The amendment is not considered to require a reassessment of the environmental effects or mitigation set out in the main ES with respect to any environmental topics.
- 5.5.6 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## 5.6 Additional land permanently required for modifications to the Yarwood Heath Farm accommodation overbridge (AP2-006-005)

- 5.6.1 The Bill provides for the realignment of the existing access for Yarwood Heath Farm, up to 25m west of its current alignment for 277m, crossing the HS2 route on the Yarwood Heath Farm accommodation overbridge, 82m in length and 12m above track level (see Volume 2, MA06 Map Book: maps CT-06-353, A4 to B6 in the main ES).
- 5.6.2 Since the main ES, design development and stakeholder engagement has identified a requirement to reduce the gradient of the ramps either side of the Yarwood Heath Farm accommodation overbridge crossing the HS2 route to comply with recent design guidance<sup>18</sup>. The amendment to the realigned access to Yarwood Heath Farm will extend the approach earthworks south of the HS2 route to Cherry Tree Lane, increasing to 324m in overall length. The height of the overbridge above track level will be reduced to 7.4m to improve visibility for users of the overbridge.
- 5.6.3 The amendment interacts with AP2-006-003 (Additional land permanently required to relocate Rostherne Mere groundwater recharge trenches north of Cherry Tree Lane) and the pipeline connecting the pumping station to the Rostherne Mere recharge trenches will be realigned to reflect the revised earthworks. Although these amendments interact they are not inter-dependent and this amendment (AP2-006-005) can be implemented in full if amendment AP2-006-003 is not adopted.
- 5.6.4 The amendment will be constructed from the Rostherne Cutting satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.

---

<sup>18</sup> Department for Transport (2020), Cycle Infrastructure Design (Local Transport Note 1/20), Her Majesty's Stationery Office, London. Available online at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf).

- 5.6.5 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for 0.08ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-352, I6 to J9 and CT-06-353, A4 to C7).

## **Topics included in the AP2 assessment**

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

- 5.6.6 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **5.7 Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)**

- 5.7.1 The Bill provides for the diversion of an existing National Grid 400kV overhead power line, 1.9km in length, to cross Birkin Brook embankment 470m north-west of Birkin Farm. The diversion would result in the permanent loss of 0.4ha of woodland from Ryecroft Covert Local Wildlife Site (LWS) of which 0.2ha is Ryecroft Covert Ancient Woodland Inventory (AWI) site (See Volume 2, MA06 Map Book: map CT-05-354, A5 to F10, in the main ES).
- 5.7.2 Since the main ES, the National Grid 400kV overhead power line diversion has been redesigned and a new 3.2km route has been identified which will avoid Ryecroft Covert LWS and AWI site. The amendment reroutes the start of the National Grid 400kV overhead power line diversion to the north of M56 junction 7, approximately 1.3km north of the location identified in the original scheme. As part of this amendment, the overhead power line diversion will now cross the M56 approximately 80m east of the location identified in the original scheme, before crossing the HS2 route. The route of the final 715m of the diversion will remain the same as that reported in the main ES.
- 5.7.3 The amendment will require the installation of 11 new pylons and the dismantling of eight existing pylons, compared to the installation of six new pylons and the dismantling of four existing pylons required as part of the original scheme.
- 5.7.4 The amendment will be constructed from the Ashley IMB-R satellite compound within the indicative construction programme for the compound provided in Section 6.
- 5.7.5 The land required for this amendment is outside the limits of the Bill. This amendment will result in the permanent requirement for an additional 44ha of land and a separate 2ha

reduction in land required, a net increase of 40ha (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-352-L1, C1 to J10, CT-06-352, C9 to D10, CT-06-353, A1 to J6, CT-06-353-L1, A5 to J10, CT-06-354, A1 to F10 and CT-06-354-R1, C1 to E3).

## **Topics included in the AP2 assessment**

- 5.7.6 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; ecology and biodiversity; community; health; historic environment; landscape and visual; socio-economics; and traffic and transport.
- 5.7.7 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Agriculture, forestry and soils**

### **Scope, assumptions and limitations**

- 5.7.8 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES. The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.7.9 All agriculture, forestry and soils effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

## **Environmental baseline**

### **Existing baseline**

- 5.7.10 The agricultural land associated with this amendment has soil in the Blackwood association, with some soil in the Conway association in the vicinity of the River Bollin. Soils of the Blackwood association are commonly seasonally waterlogged (WC IV) and limited by soil wetness to Subgrade 3b, unless the land is under-drained. Soils of the Conway association are deep, stoneless, fine silty soils that are often affected by high groundwater. The quality of agricultural land is limited by soil wetness to mainly Subgrade 3b.
- 5.7.11 Eight agricultural holdings, including some that are not impacted by the original scheme, will be affected by this amendment, as detailed in Table 9. One holding in the Pickmere to Agden and Hulseheath (MA03) area is also affected and details of this are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.



**Table 9: Summary characteristics of the holdings affected by the land required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)**

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/6 Millington Hall Farm	Arable and sheep	300	Commercial and residential properties let	CSS Mid-tier	Medium
MA06/8 Yarwood Heath Farm including Cherry Tree Farm	Arable and livestock grazing	300	Let commercial buildings	CSS Mid-tier	Medium
MA06/11 Ryecroft Farm*	Arable and grassland	54	Not known	None	Medium
MA06/12 Bow Green Farm*	Arable and grassland	59	Not known	None	Medium
MA06/13 Birkin Farm	Equestrian livery and grazing	8.0	Holiday lets	None	Medium
MA06/15 Birtles Farm*	Arable and grassland	50	Not known	None	Medium
MA06/41 Stamford Farm*	Grassland	53	Not known	None	Medium
MA06/42 Land at Park Lane*	Grassland	13	Not known	None	Medium

\* It has not been possible to arrange farm impact assessment interviews with these holdings. Publicly available sources have been used to obtain the information presented.

## Future baseline

- 5.7.12 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.7.13 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.14 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on agriculture, forestry and soil.



## Effects arising during construction

### Avoidance and mitigation measures

5.7.15 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

5.7.16 The amendment will require 16.4ha of agricultural land which is classified as Subgrade 3b.

5.7.17 The impacts and effects on the holdings affected are set out in Table 10 and Table 11.

**Table 10: Temporary impacts and effects on holdings arising from the land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)**

Holding reference/name	Total area required from holding for the original scheme plus this amendment	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/6 Millington Hall Farm	The amendment will result in a marginal increase in the area of land required (<0.1ha) compared to the main ES. The adoption of this amendment alone, factoring in rounding, would not alter the area of land required in the main ES of 54ha (18%). Medium This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	Negligible	Moderate adverse	No change
MA06/8 Yarwood Heath Farm including Cherry Tree Farm	The amendment will result in an increase in the area of land required of 1.4ha compared to the main ES. The adoption of this amendment alone would increase the area of land required to 76.1ha (25%) compared to the main ES. High This holding is affected by more than one AP2 amendment (see Section 5.26).	Low	Low	Major/moderate adverse	No change
MA06/11 Ryecroft Farm	The amendment will result in an increase in the area of land required of 2.6ha compared to the main ES.	Low	Negligible	Moderate adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/name	Total area required from holding for the original scheme plus this amendment	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
	The adoption of this amendment alone would increase the area of land required to 8.6ha (16%). Medium This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/12 Bow Green Farm	The amendment will result in a marginal increase in the area of land required (<0.1ha) compared to the main ES. However, factoring in rounding, the total area required from this holding remains as 0.3ha (1%) Negligible	Low	Negligible	Minor adverse	No change
MA06/13 Birkin Farm	The amendment will result in a marginal reduction in the area of land required (<0.1ha) compared to the main ES. However, factoring in rounding, the total area required from this holding remains as 5.3ha (66%) High	Negligible	Low	Major/moderate adverse due to the proportion of land required	No change
MA06/15 Birtles Farm	The amendment will result in an increase in the area of land required of 1.1ha compared to the main ES. The total area required from this holding is 5.4ha (>10%). Medium	Low	Negligible	Moderate adverse	Increase from minor adverse - new significant effect.
MA06/41 Stamford Farm	This is a newly affected holding and the amendment will require 9.7ha (18%) of the holding. Medium	Low	Negligible	Moderate adverse due to the proportion of land required.	New holding affected - new significant effect.
MA06/42 Land at Park Lane	This is a newly affected holding and the amendment will require 1.5ha (12%) of the holding. Medium	Low	Negligible	Moderate adverse due to the proportion of land required.	New holding affected - new significant effect.

**Table 11: Permanent impacts and effects on holdings arising from the land required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert Local Wildlife Site (AP2-006-006)**

Holding reference/name	Permanent area required from holding for the original scheme plus this amendment	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/6 Millington Hall Farm	The adoption of this amendment alone will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 19.4ha (7%) Low This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	Negligible	Moderate adverse	No change
MA06/8 Yarwood Heath Farm including Cherry Tree Farm	The adoption of this amendment alone will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 30.7ha (10%) Medium This holding is affected by more than one AP2 amendment (see Section 5.26).	Low	High	Major/moderate adverse	No change
MA06/11 Ryecroft Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 0ha; 0% Negligible	Negligible	Negligible	Negligible	No change
MA06/12 Bow Green Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 0ha; 0% Negligible	Negligible	Negligible	Negligible	No change
MA06/13 Birkin Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 5.1ha (64%) High	Negligible	Negligible	Major/moderate adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Holding reference/name</b>	<b>Permanent area required from holding for the original scheme plus this amendment</b>	<b>Severance</b>	<b>Infrastructure</b>	<b>Scale of effect</b>	<b>Change in effect from main ES</b>
MA06/15 Birtles Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 0ha; 0% Negligible	Negligible	Negligible	Negligible	No change
MA06/41 Stamford Farm	The amendment will not require any land on a permanent basis. The total land required permanently will be 0ha; 0% Negligible	Negligible	Negligible	Negligible	New holding affected – no significant effect
MA06/42 Land at Park Lane	The amendment will not require any land on a permanent basis. The total land required permanently will be 0ha; 0% Negligible	Negligible	Negligible	Negligible	New holding affected – no significant effect

### **Other mitigation measures**

5.7.18 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation has been proposed.

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

5.7.19 This amendment will result in the following residual significant effects:

- a new temporary moderate adverse (significant) effect for Birtles Farm (MA06/15);
- a new temporary moderate adverse (significant) effect for Stamford Farm (MA06/41); and
- a new temporary moderate adverse (significant) effect at Land at Park Lane (MA06/42).

### **Cumulative effects**

5.7.20 No new, removed or different significant cumulative effects have been identified.

## **Community**

### **Scope, assumptions and limitations**

5.7.21 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.

- 5.7.22 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for community.

## **Environmental baseline**

### **Existing baseline**

- 5.7.23 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.7.24 Community facilities in Ashley include St Elizabeth's Church and Community Centre and Into the Wild Bushcraft activity centre. Recreational facilities in Ashley include Ashley Cricket Club and the Greyhound public house.

### **Future baseline**

- 5.7.25 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.7.26 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.27 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for community.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.7.28 No avoidance or mitigation measures, additional to those reported in the main ES and draft CoCP, are proposed.

### **Assessment of impacts and effects**

- 5.7.29 Into the Wild Bushcraft is an outdoor activity centre that provides a forest school, film clubs and party events for children and families. Construction work for utilities will require the temporary closure of Footpath Ashley RB21/1 for approximately 15 months. Footpath Ashley RB21/1 provides the only access to Into the Wild Bushcraft. The temporary closure of the footpath will mean that the centre will become physically isolated, with no access. The footpath closure will affect the ability of staff and customers to access the premises, therefore affecting its ability to operate. The loss of this facility will result in a moderate adverse effect, which is significant.

- 5.7.30 The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Community Map Book: Map Series CM-01.

### **Other mitigation measures**

- 5.7.31 No mitigation measures, additional to those reported in the main ES and draft CoCP, are proposed.

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

- 5.7.32 The amendment will result in a new moderate adverse significant community effect upon Into the Wild Bushcraft activity centre.

### **Cumulative effects**

- 5.7.33 No new, removed or different significant cumulative effects have been identified.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

- 5.7.34 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.7.35 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.7.36 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.7.37 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.7.38 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### **Designated sites**

- 5.7.39 There are four AWI sites of relevance to the assessment of the amendment, these are each of national value. Three are also designated as LWS, and are each of county/metropolitan value. They are:

- Hancock's Bank North AWI site which is located within Hancock's Bank North LWS, adjacent to the land required for the original scheme, and partly within land required for the amendment;
- Hancock's Bank South AWI site which is located within Hancock's Bank South LWS, partly within the land required for the original scheme, and with additional area required for the amendment;
- Ryecroft Covert AWI site which is located within Ryecroft Covert LWS, partly within land required for the original scheme and with a reduced area required for the amendment; and
- Birkin Bridge Lodge AWI site, partly located within the land required for the original scheme, and with a reduced area required for the amendment.

## **Habitats**

- 5.7.40 In addition to the ancient woodland described above, the following habitats are also located within the land required for the amendment: semi-natural broadleaved woodland, mixed plantation woodland, hedgerow, dense scrub, scattered trees, semi-improved neutral grassland, improved grassland, bracken and ruderals, arable, amenity grassland, buildings, bare ground, standing water and running water. The habitats of relevance to this assessment of the amendment are described further below.
- 5.7.41 The main ES reported that lowland mixed deciduous woodland within Ryecroft Covert LWS is of county/metropolitan value.
- 5.7.42 The SES2 reported that 23 woodlands, likely to qualify as lowland mixed deciduous woodland habitat of principal importance and present at various locations throughout the Hulseheath to Manchester Airport area, are of up to local/parish value. Small areas of woodland with a combined area of approximately 0.5ha are present in the land required for the construction of the amendment and are assumed to be semi-natural broadleaved woodland and plantation woodland, considered to up to local/parish value.
- 5.7.43 Within the land required for the amendment, there are 2.86km of hedgerow that includes hedgerows with trees, that (based on aerial photography) are intact and are assumed to be species-rich. The hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire BAP. These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester Airport area that is of county/metropolitan value.
- 5.7.44 On a precautionary basis, it is assumed that ponds within the land required for the construction of the amendment are a habitat of principal importance and a conservation priority of the Cheshire BAP. There is an additional pond located within the land required for the amendment which is of up to district/borough value.



## **Species**

- 5.7.45 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.7.46 The SES2 reported a great crested newt metapopulation of medium size in a network of four ponds west of Ashley (GCNMP1.6.17). The land required for the construction of the amendment contains a pond included in this metapopulation in which the presence of great crested newt has been confirmed. This metapopulation is considered to be of up to county/metropolitan value.
- 5.7.47 The main ES reported a great crested newt population of medium size in two ponds north of Little Bollington (GCNMP1.3.20) in the Pickmere to Agden and Hulseheath area (MA03). The land required for the construction of the amendment contains sub-optimal terrestrial habitat associated with this population. This population is considered to be of up to county/metropolitan value.
- 5.7.48 The SES2 baseline reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees in the woodlands and hedgerows, which are assumed to support roosting and foraging bats. The bat assemblage is considered to be of regional value.

## **Future baseline**

- 5.7.49 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.7.50 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.51 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.7.52 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Designated sites

- 5.7.53 The amendment will result in the permanent loss of 233m<sup>2</sup> (0.02%) of Hancock's Bank North LWS, of which all is also Hancock's Bank North AWI site. The loss of this irreplaceable habitat will result in a new permanent adverse effect that will be significant at county/metropolitan level for the LWS, and national level for the AWI site.
- 5.7.54 The main ES reported a permanent loss of 1.3ha (18%) of woodland in Hancock's Bank South LWS, of which 1.3ha (41%) is Hancock's Bank South AWI site, as a result of the construction of the original scheme. This would result in an adverse effect which would be significant at the county/metropolitan level for the LWS and national level for the AWI site. The amendment will result in an additional 159m<sup>2</sup> of this ancient woodland being within the land required for the AP2 revised scheme. However, this area will be retained as it is within the utility corridor of an overhead power line modification and there will be no impacts on the AWI site. As such, the amendment will not change the significant effect, or the level of significance reported in the main ES.
- 5.7.55 The main ES reported a permanent loss of 0.2ha (18%) of Ryecroft Covert AWI site. This would have an adverse effect on the structure and function of the site that was considered to be significant at the national level. The amendment removes the permanent adverse effect on Ryecroft Covert AWI site.
- 5.7.56 The main ES reported a permanent loss of 0.4ha (10%) of woodland in Ryecroft Covert LWS. The loss of the woodland would have an adverse effect on the structure and function of the site that was significant at the county/metropolitan level. The amendment will result in the reduction of habitat loss within Ryecroft Covert LWS from 0.2ha to 600m<sup>2</sup>. This will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES.
- 5.7.57 The main ES reported a permanent loss of 0.4ha (25%) of Birkin Bridge Lodge AWI site that would be a permanent adverse effect that would be significant at the national level. An additional area of 0.1ha was included within the land required for the construction of the original scheme, but was not affected. As a result of the amendment, the area of 0.1ha included within the land required but not affected is no longer required for the amendment. The amendment will still result in the permanent loss of 0.4ha of Birkin Bridge Lodge AWI site. This will result in no change to the significant effect, or the level of significance reported in the main ES.

### Habitats

- 5.7.58 The main ES reported the permanent loss of 0.2ha of lowland mixed deciduous woodland at Ryecroft Covert LWS to have a permanent adverse effect which would be significant at the county/metropolitan level. The reduction in the woodland loss due to the construction of the amendment, from 0.2ha to 0.06ha, will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES.

- 5.7.59 On a precautionary basis, the SES2 reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the land required for construction of the scheme within the Hulseheath to Manchester Airport area, resulting in a permanent adverse effect, significant at the county/metropolitan level. The amendment will result in the loss of an additional 2.86km of hedgerows with trees and that are assumed species-rich hedgerow. This will result in a different significant effect on hedgerow, but there will be no change in the level of significance of the effect reported in the SES2.
- 5.7.60 The SES2 reported that, on a precautionary basis, all of the ponds within the land required for the construction of the SES2 scheme would be permanently lost. This would lead to a permanent adverse effect that would be significant, in each case, up to district/borough level. The AP2 amendment will result in the loss of an additional pond which will result in an additional significant effect but there will be no change to the level of significance of the effect reported in the SES2.

## **Species**

- 5.7.61 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat, and roosts, from within the bat assemblages bounded by the A556 and junction 6 of the M56 within the Hulseheath to Manchester Airport area. This would result in a permanent adverse effect that would be significant at a regional level. The amendment will result in the loss of trees, which on a precautionary basis are assumed to support roosting bats and foraging habitat. The amendment will result in a different significant effect on this bat assemblage, but there will be no change in the level of significance of the effect reported within the SES2. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26.

## **Other mitigation measures**

- 5.7.62 The main ES reported a combined loss of 1.9ha of ancient woodland from Hancock's Bank South, Ryecroft Covert and Birkin Bridge Lodge AWI sites. Several areas of woodland habitat creation totalling 13.7ha were identified within the main ES to partly compensate for the loss of these irreplaceable habitats. Further opportunities for compensation for Birkin Bridge Lodge AWI site were to be explored due to the late identification of this site as ancient woodland and no compensation being included within the main ES. The amendment will not reduce the loss of 0.4ha of this ancient woodland; however, it will remove a retained area of 0.1ha from within the land required for the construction of the original scheme. As such, the compensation planting has been reviewed throughout the Hulseheath to Manchester Airport area. Woodland habitat creation previously identified for Ryecroft Covert AWI site has been reassigned to Hancock's Bank AWI site. An additional area of 1.2ha has been included immediately adjacent to Birkin Bridge Lodge to partly compensate for the loss of Birkin Bridge Lodge AWI site.
- 5.7.63 Woodland planting to partly compensate for the loss of ancient woodland will include further measures such as translocation of ancient woodland soil with its associated seed

bank where appropriate. Other measures such as planting native trees and shrubs of local provenance and translocation of coppice stools and dead wood will be undertaken in accordance with the Ecological Principles of Mitigation within the SMR.

- 5.7.64 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on the bat assemblage will be reduced to a level that is not significant.

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

- 5.7.65 Ancient woodland is an irreplaceable habitat. As a result of the amendment there will be a decrease in the loss of ancient woodland habitat of approximately 0.2ha in the following locations:
- a new loss of 233m<sup>2</sup> at Hancocks Bank North AWI site. This will result in a new permanent residual effect at the national level;
  - an additional area of 159m<sup>2</sup> at Hancocks Bank South AWI within the land required for the construction of the amendment, but which will be retained. This will result in no change to the residual effect, or the level of significance reported in the main ES;
  - a removal of the loss of 0.2ha at Ryecroft Covert AWI site. This will result in the removal of a permanent residual effect at the national level; and
  - the removal of the 0.1ha retained habitat at Birkin Bridge Lodge AWI site, no change to the 0.4ha. This will result in no change to the significant effect, or the level of significance reported in the main ES.
- 5.7.66 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 2.86km. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

### **Cumulative effects**

- 5.7.67 No new, removed or different significant cumulative effects have been identified.

## **Health**

### **Scope, assumptions and limitations**

- 5.7.68 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.

- 5.7.69 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for health.

## **Environmental baseline**

### **Existing baseline**

- 5.7.70 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.7.71 Community facilities in Ashley include St Elizabeth's Church and Community Centre and Into the Wild Bushcraft activity centre. Recreational facilities in Ashley include Ashley Cricket Club and the Greyhound public house.

### **Future baseline**

- 5.7.72 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.7.73 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.74 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for health.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.7.75 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.7.76 Into the Wild Bushcraft is an outdoor activity centre that provides a forest school, film clubs and party events for children and families. Construction work for utilities will require the temporary closure of Footpath Ashley RB21/1 for approximately 15 months. Footpath Ashley RB21/1 provides the only access to Into the Wild Bushcraft. The temporary closure of the footpath will mean that the centre will become physically isolated, with no access. The footpath closure will affect the ability of staff and customers to access the premises, therefore affecting its ability to operate. The loss of this facility will reduce the opportunity

for beneficial health outcomes achieved through outdoor educational activities and is therefore considered to result in an adverse health effect.

### **Other mitigation measures**

- 5.7.77 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Cumulative effects**

- 5.7.78 No new, removed or different significant cumulative effects have been identified.

## **Historic environment**

### **Scope, assumptions and limitations**

- 5.7.79 The assessment scope, key assumptions and limitations for historic environment are as set out in Volume 1 and the SMR of the main ES.
- 5.7.80 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for historic environment.

## **Environmental baseline**

### **Existing baseline**

- 5.7.81 The baseline historic environment information is as described in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. A summary of the baseline information relevant to the assessment of the AP2 amendment is provided below.
- 5.7.82 There is one designated heritage asset relevant to the assessment of the amendment. Tatton Park, a Grade II\* Registered park and garden (MA06\_0002), is of high value and is partly located within the land required for the AP2 amendment. The 18th century park has an agricultural setting which makes a positive contribution to its heritage value. The heritage value of the park is derived from its archaeological, historic and aesthetic interest.
- 5.7.83 There is one non-designated heritage asset relevant to the assessment of the AP2 amendment. Cropmarks at Ryecroft Farm, Ashley (MA06\_0111) is of low value and is located within the land required for the AP2 amendment. The heritage value of the asset relates to its archaeological interest for the potential to provide evidence of 19th century agricultural improvement practices.

### **Future baseline**

- 5.7.84 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

- 5.7.85 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.86 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on historic environment.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.7.87 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.7.88 The main ES reported no construction permanent significant effects on Tatton Park (MA06\_0002).
- 5.7.89 The amendment requires land within the northern extent of the park for the provision of mitigation planting. This will introduce a new block of tree planting designed to compensate for the loss of Ancient Woodland at Birkin Bridge Lodge. This will alter the character of the designed landscape of the registered park and garden in this location. This will constitute a new low adverse impact on a high value asset, resulting in a new permanent moderate adverse significant effect.
- 5.7.90 The main ES reported no effects on the cropmarks at Ryecroft Farm, Ashley (MA06\_0111).
- 5.7.91 The amendment requires additional land for the construction of the diversion of the overhead line to avoid Ryecroft Covert ancient woodland. The cropmarks at Ryecroft Farm (MA06\_0111) are located within the land required for the amendment. It is therefore assumed that any archaeological remains associated with the asset will be removed. This will constitute a new permanent adverse high impact on a low value asset, resulting in a new moderate adverse significant effect.

### **Other mitigation measures**

- 5.7.92 HS2 Ltd will give further consideration to the design of the ancient woodland compensation planting for the loss of Ancient Woodland at Birkin Bridge Lodge as part of the ongoing design process.
- 5.7.93 No further mitigation measures additional to those reported in the main ES and draft CoCP are proposed.



## Summary of likely residual significant effects

- 5.7.94 The proposed tree planting would result in physical changes to the registered park and garden and therefore, on a precautionary basis, this will remain a low adverse impact, resulting in a new residual permanent moderate adverse significant effect on Tatton Park (MA06\_002).
- 5.7.95 The amendment will give rise to a new residual permanent moderate adverse significant effect on the Cropmarks at Ryecroft Farm, Ashley (MA06\_0111).

## Cumulative effects

- 5.7.96 No new, removed or different significant cumulative effects have been identified.

## Landscape and visual

### Scope, assumptions and limitations

- 5.7.97 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.7.98 This amendment has the potential to result in new or different visual effects for construction and new or different landscape and visual effects for operation. Therefore, there is no construction landscape assessment.
- 5.7.99 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

## Environmental baseline

### Existing baseline

- 5.7.100 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the landscape and visual baseline information relevant to the assessment of the amendment is provided below.

### Landscape baseline

- 5.7.101 The amendment has the potential to significantly affect one LCA. This LCA is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06, and summarised below.

#### Tatton and Rostherne Wooded Estates and Meres LCA

- 5.7.102 The Tatton and Rostherne Wooded Estates and Meres LCA comprises the Tatton Park estate, the settlement of Rostherne, Mere and Bucklow Hill, and the Rostherne Mere National Nature Reserve. The defining characteristics of the LCA are the 18th century wooded

parkland and gardens of Tatton Park and the many meres including Rostherne Mere and Tatton Mere. Tatton Park, on the Register of Parks and Gardens of Special Historic Interest (Grade II\*), has been a deer park since 1290. Extensive woodland in the LCA creates a sense of enclosure, but there are long-distance views from Tatton Park towards Manchester Airport and the Peak District. Much of the area is farmland, with fields bordered by hedgerows with mature trees. The estate village of Rostherne, a conservation area, has a secluded feel due to the surrounding undulating topography and woodland. The PRow network is fragmented, but there are recreational routes within Tatton Park. The area feels fairly tranquil but noise from the M56 and A556 Chester Road and planes using Manchester Airport is evident in parts of the LCA. The night sky is not dark due to street lighting in Greater Manchester, but the LCA is largely unlit.

- 5.7.103 The Tatton and Rostherne Wooded Estates and Meres LCA is assessed as having an overall high landscape value based on the historic importance of Tatton Park and its extensive avenues, woodland belts and pastures, and the cultural, ecological and scenic value of Tatton Mere SSSI, Rostherne Mere National Nature Reserve and the estate village of Rostherne.

### **Visual baseline**

- 5.7.104 The amendment has the potential to affect six viewpoints, one of which is a new viewpoint. These viewpoints are described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. Of these, the amendment has the potential to significantly affect the five viewpoints summarised below.

#### **View south-west from Ryecroft Farm and Footpath Ashley 6/1 (high sensitivity receptor) (329-02-008)**

- 5.7.105 This viewpoint is representative of views experienced by residents of Ryecroft Farm and users of Footpath Ashley 1/2, Footpath Ashley 2/4 and Restricted Byway Ashley 21/1. Views from the farm over open farmland to the south-west are framed or partially screened by intervening garden vegetation and woodland belts. Traffic movements are visible, although partially screened by the M56 in cutting. The top of gantries along the M56 are visible from the footpath in front of the wooded backdrop of Hancock's Bank which is on the southern side of the motorway and limits views south of the M56. An overhead power line and pylons cross the view. There are long views over open farmland, divided by low hedgerows, towards the Pennines in the east.

#### **View north from Footpath Rostherne 5/1 (high sensitivity receptor) (330-02-002)**

- 5.7.106 This viewpoint is representative of views experienced by residents of Birkin House, Birkinheath Cottage and Briddon Weir Farm and users of Footpath Rostherne 5/1. The view is over a series of small defined paddocks, separated by timber post and rail fencing with field barns, access tracks and gates. Footpath Rostherne 5/1 passes along the grass path between the paddocks towards the woodland, lining the northern and southern boundaries of the M56, in the far distance. This woodland includes Hancock's Bank and Ryecroft Covert,

which screen the M56 from this location. A power line is present in the middle distance of the view and is a prominent visual detractor.

**View south-west from Footpath Rostherne 5/1 (high sensitivity receptor) (330-03-003)**

- 5.7.107 This viewpoint is representative of views experienced by users of Footpath Rostherne 5/1, Ashley 2/3 and Ashley 3/1. Footpath Rostherne 5/1 passes a series of small paddocks in the near distance. Scrub vegetation on the edge of Ryecroft Covert screens views to the east. In the middle distance, the undulating landform rises from the Birkin Brook valley. The footpath continues past the paddocks, reaching a steel gate next to closeboard fencing which screens the view further south. A power line is a prominent feature in the near distance, punctuating the skyline. In the far distance, woodland on Hancock's Banks and along Blackburn's Brook filters views of the M56 and associated gantries, which are discernible through the tree cover.

**View north from Ashley Road at Birkin Farm (high sensitivity receptor) (330-02-006)**

- 5.7.108 This viewpoint is representative of views experienced by residents at Birkin Farm and users of Footpath Ashley 3/1. This expansive view is over open farmland, with a gently sloping arable field in the middle distance. Ashley Road and the buildings and garden of Birkin Farm can be seen to the east. There are views across open farmland to the far distance, which is formed by trees on field boundaries and woodland along Ashley Road and the M56 to the north. Pylons are visible to the west of the viewpoint. Views north from Birkin Farm are partially filtered by garden vegetation. Existing hedgerows tend to be managed to a low height and are sparse in places.

**View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)**

- 5.7.109 This viewpoint is representative of views experienced by residents at Stock Farm and Sycamore Cottage, guests at Stock Farm events, users of Footpath Ashley 6/5 and players and spectators at Ashley Cricket Club. In the near distance, there is a low boundary hedgerow bordering Ashley Road. The view is framed by a mature oak tree to the north and a hedgerow along the boundary of Stock Farm to the south. In the middle distance are arable fields, divided by low hedgerows, with hedgerow oaks. There are expansive views across open farmland towards the wooded backdrop of the view where the land rises gently to the south-east. Dwellings on Ashley Road and Ashley Cricket Club Pavilion are visible to the east and north-east. Views from properties are partially filtered by intervening vegetation in gardens and along field boundaries. Views for users of the PRoW are similarly open over farmland towards the wooded backdrop with intervening hedgerows, where present, partially filtering the views.

**Future baseline**

- 5.7.110 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.

- 5.7.111 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.112 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.7.113 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Visual assessment

##### View south-west from Ryecroft Farm and Footpath Ashley 6/1 (high sensitivity receptor) (329-02-008)

- 5.7.114 The main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect for residents of Ryecroft Farm and users of Footpath Ashley 1/2 of **high** susceptibility all with **medium** value views. This would be due to the clear views of the temporary works to the existing overhead powerline, in the middle distance to the south. Construction works associated with the formation of Rostherne East box structure would be screened by existing planting along the M56, although cranes would be occasionally visible above the intermediate tree line.
- 5.7.115 The amendment will change the visual effect at this viewpoint due to the realignment of the existing overhead power line north of Ryecroft Farm. Construction activity associated with the utilities works will be closer to the viewpoint and visible across the majority of the view for users of Footpath Ashley 1/2, sections of which will be subject to temporary diversions, and Footpath Ashley 2/4 and Restricted Byway Ashley 21/1. For residents at Ryecroft Farm, the construction activities associated with the amendment will be partially screened by intervening farm buildings. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

##### View north from Footpath Rostherne 5/1 (high sensitivity receptor) (330-02-002)

- 5.7.116 The main ES reported a **major** adverse (significant) effect for residents of Birkin House, Birkinheath Cottage and Briddon Weir Farm and users of Footpath Rostherne 5/1 of **high** susceptibility all with **medium** value views. This would be due to substantial changes to near and middle-distance views as a result of the original scheme, including the construction of

Blackburn's Brook North viaduct, Birkin Brook embankment, Manchester to Liverpool junction provision, Ashley IMB-R and the diversion of an overhead power line.

- 5.7.117 The amendment will slightly change the visual effects at this viewpoint. This will be due to the route of the overhead power line diversion being moved further away from the viewpoint to an area beyond Ryecroft Covert and the M56. As a result of the amendment, there will be a reduction in the area of woodland to be removed at Ryecroft Covert. The majority of construction activity associated with the diversion will be largely screened by this retained woodland at Ryecroft Covert, although tall plant will be visible above the treeline. The amendment will be viewed in the context of large-scale construction activity associated with construction of the HS2 route in the near and middle-distance of the view. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View south-west from Footpath Rostherne 5/1 (high sensitivity receptor) (330-03-003)**

- 5.7.118 The main ES reported a **major** adverse (significant) effect for users of Footpath Rostherne 5/1, Ashley 2/3 and Ashley 3/1 of **high** susceptibility all with **medium** value views. This would be due to substantial changes to near and middle-distance views due to the construction of Rostherne East box structure, Blackburn's Brook North viaduct, Birkin Brook embankment, Ashley IMB-R and the diversion of an overhead power line.
- 5.7.119 The amendment will slightly change the visual effect at this viewpoint. This is due to an alteration in the alignment of the overhead power line diversion from the south of Ryecroft Covert (as set out in the original scheme), to the north of Ryecroft Covert and the M56 (the amendment). This will allow for retention of a greater area of woodland at Ryecroft Covert and will increase the screening provided by the woodland of views from Footpaths Ashley 2/3 and 3/1. The slight change in the view from Footpath Ashley 5/1 will not be noticeable when seen in the context of the large-scale construction activity associated with the HS2 route. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View north from Ashley Road at Birkin Farm (high sensitivity receptor) (330-02-006)**

- 5.7.120 The main ES reported a **major** adverse (significant) effect for residents at Birkin Farm and users of Footpath Ashley 3/1 of **high** susceptibility all with **medium** value views. This would be due to clear views of construction works associated with Birkin Brook embankment, Ashley IMB-R and Ashley Road diversion, Ashley embankment and the diversion of an overhead power line.
- 5.7.121 The amendment will slightly change the visual effect at this viewpoint as the route of the diversion will bring the power line slightly closer to Birkin Farm and continue further north into the distance. Construction of the overhead power line diversion will be visible across a slightly greater proportion of the view. However, the amendment will be viewed in the context of large-scale construction activity associated with construction of the HS2 route scheme, in the near and middle-distance of the view. The amendment will give rise to a

different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### **View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)**

- 5.7.122 The main ES reported a **major** adverse (significant) effect for residents at Stock Farm and Sycamore Cottage, guests at Stock Farm events, users of Footpath Ashley 6/5 and players and spectators at Ashley Cricket Club of **high** susceptibility and **medium** value views. This would be due to clear views of the construction of Birkin Brook embankment, Ashley embankment, Ashley IMB-R, and the diversion of overhead power lines.
- 5.7.123 The amendment will slightly change the visual effect at this viewpoint as construction works for the diversion of the overhead power line will be slightly closer to the viewpoint. The amendment will be visible across a large proportion of the view and will result in the removal of a section of woodland at Lamb's Covert which will open up views north to a short section of the M56. However, the amendment will be viewed in the context of large-scale construction activity associated with construction of the HS2 route, in the near and middle-distance of the view. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### **Other mitigation measures**

- 5.7.124 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.7.125 The amendment will give rise to a new likely residual significant construction effect after implementation of construction phase mitigation, at view south-west from Ryecroft Farm and Footpath Ashley 6/1 (329-02-008). The effect will be **moderate** adverse (significant).
- 5.7.126 The amendment will give rise to a different likely residual significant construction effect, after implementation of construction phase mitigation, at the following viewpoints, but where the level of effect will be unchanged from that reported in the main ES:
- view north from Footpath Rostherne 5/1 (330-02-002). The effect will remain **major** adverse (significant);
  - view south-west from Footpath Rostherne 5/1 (330-03-003). The effect will remain **major** adverse (significant);
  - view north from Ashley Road at Birkin Farm (330-02-006). The effect will remain **major** adverse (significant); and
  - view south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse (significant).

## Cumulative effects

- 5.7.127 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.7.128 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

### Landscape assessment

#### The Tatton and Rostherne Wooded Estates and Meres LCA

- 5.7.129 At year 1, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect for the Tatton and Rostherne Wooded Estates and Meres LCA of high susceptibility and high value. This would be due to the indirect effects resulting from the introduction of moving trains and overhead line equipment on embankments and viaduct and the Rostherne box structure into the rural landscape outside the LCA, but close to Rostherne Mere and the northern boundary of Tatton Park.
- 5.7.130 At year 1, the amendment will change the effect on the Tatton and Rostherne Wooded Estates and Meres LCA, with a direct impact on Tatton Park, a Grade II\* registered park and garden. An area of woodland habitat creation will be planted on farmland, at the northern end of the park to compensate for the loss of woodland at Birkin Brook Lodge, with the introduction of a new woodland belt into the farmed landscape adjacent to Ward's Plantation, which runs along the north-western boundary of the park. The new woodland belt is arranged in a rectangular shape which is uncharacteristic of the historic pattern of the Tatton Park landscape where, over the last 300 years, the parkland has been planted with irregularly shaped tree clumps and woodland belts in pasture. The amendment will diminish one of the defining characteristics of the LCA, the 18th century wooded parkland and gardens of Tatton Park. The immature planting and associated fencing, stakes and ties will be screened from the majority of Tatton Park by intervening tree belts. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give therefore rise to a new significant effect.
- 5.7.131 At year 15, the main ES reported a low magnitude of change and a minor adverse (non-significant) effect. This would be due to the continued indirect effects on the landscape setting of the northern boundary of the LCA. Maturing woodland habitat creation and landscape mitigation planting along the HS2 route would strengthen the existing wooded character of the area and assist in the integration of the original scheme into the landscape but train movements and overhead line equipment would remain apparent in the northern part of the LCA.



- 5.7.132 At year 15, the amendment will change the effect on the LCA. The growth of the rectangular-shaped woodland belt will make it a more noticeable and increasingly uncharacteristic feature in the Tatton Park landscape. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.7.133 At year 30, the main ES reported a **negligible** magnitude of change and **negligible** (non-significant) effect. This would be due to the further maturing of the woodland habitat creation and landscape mitigation planting along the HS2 route largely screening the original scheme from the LCA.
- 5.7.134 At year 30, the amendment will change the landscape effect on this LCA, as further growth will soften the outline of the woodland belt but it will remain an uncharacteristic addition to the historic parkland landscape. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

## Visual assessment

### View north from Footpath Rostherne 5/1 (high sensitivity receptor) (330-02-002)

- 5.7.135 At year 1, the main ES reported a **major** adverse (significant) effect for residents of Birkin House, Birkinheath Cottage and Briddon Weir Farm and users of Footpath Rostherne 5/1 of **high** susceptibility and with **medium** value views. This would be due to the removal of woodland and vegetation opening views of Rostherne East Box structure and embankment, Blackburn's Brook North viaduct, Birkin Brook embankment and Ashley IMB-R which would be noticeable in the middle distance.
- 5.7.136 At year 1, the amendment will slightly alter the visual effect at this viewpoint due to a change in location of the diverted overhead power line and pylons and retention of a greater area of woodland at Ryecroft Covert. The 400kv overhead power line in the middle distance will have been removed from the view and replaced with the diverted overhead power line visible in the far distance, beyond Ryecroft Covert and the M56. The amendment will be viewed in the context of the substantial changes as a result of the HS2 route. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.7.137 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to growth of landscape mitigation planting and woodland habitat creation further screening the lower levels of Rostherne West embankment, Rostherne East box structure, Blackburn's Brook North viaduct, Birkin Brook embankment and Ashley IMB-R.
- 5.7.138 At year 15, the amendment will slightly alter the visual effect at this viewpoint. The diverted overhead power line and pylons will be visible on the skyline across a small proportion of the view, in the far distance and will be partially screened by maturing mitigation planting associated with the AP2 revised scheme. The amendment will give rise to a different

significant effect; however, the level of significance of the effect will remain as reported in the main ES.

- 5.7.139 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View south-west from Footpath Rostherne 5/1 (high sensitivity receptor) (330-03-003)**

- 5.7.140 At year 1, the main ES reported a **major** adverse (significant) effect for residents of Birkin House, Birkinheath Cottage and Briddon Weir Farm and users of Footpath Rostherne 5/1 of **high** susceptibility all with **medium** value views. This would be due to the removal of woodland and intervening vegetation during construction which would open up views from the footpath towards Rostherne East box structure, Blackburn's Brook North viaduct, Birkin Brook embankment and Ashley IMB-R.
- 5.7.141 At year 1, the amendment will change the effect at this viewpoint. This will be due to the retention of a larger area of woodland at Ryecroft Covert which will provide additional screening for views from Footpath Ashley 2/3 and 3/1 and the removal of the overhead power line and pylons from near-distance views from Footpath Ashley 5/1 and a short stretch of Footpath Ashley 2/3. The amendment will result in a slight change to the view but this will not be noticeable when seen in the context of the large-scale elements associated with the AP2 revised scheme. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.7.142 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to the growth of the landscape mitigation planting and woodland habitat creation filtering views of the lower levels of Rostherne East box structure, Blackburn's Brook North viaduct, Birkin Brook embankment and Ashley IMB-R from much of the PRoW.
- 5.7.143 At year 15, the amendment will change the effect as the overhead power line will no longer form part of the view. However, elements of the AP2 revised scheme will still be noticeable in views from Footpath Ashley 5/1 and a short stretch of Footpath Ashley 2/3 above the maturing planting of the AP2 revised scheme. The amendment will give rise to a different significant effect; however, the level of significance of effect will remain as reported in the main ES.
- 5.7.144 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View north from Ashley Road at Birkin Farm (high sensitivity receptor) (330-02-006)**

- 5.7.145 At year 1, the main ES reported a **major** adverse (significant) effect for residents at Birkin Farm and users of Footpath Ashley 3/1 of **high** susceptibility all with **medium** value views. This would be due to substantial changes to near and middle-distance views with clear views of Birkin Brook embankment, Ashley IMB-R, Ashley Road diversion and the start of Ashley embankment and the diversion of an overhead power line.

- 5.7.146 At year 1, the amendment will slightly change the visual effect at this viewpoint as the route will bring the power line slightly closer to Birkin Farm and will be visible on the skyline across a greater proportion of the view. However, the amendment will be viewed in the context of large-scale elements associated with the HS2 route, in the near and middle-distance of the view. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.7.147 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to the growth of the landscape mitigation planting and woodland habitat creation largely screening Birkin Brook embankment and Ashley IMB-R, Ashley Road diversion and part of Ashley embankment but would change existing views over open farmland to close views of woodland.
- 5.7.148 At year 15, the amendment will slightly change the visual effect at this viewpoint as the diverted overhead power line and pylons will remain visible, partly above the maturing landscape mitigation planting along the Birkin Brook embankment. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.7.149 At year 30, the main ES reported a **moderate** adverse (significant) effect. This would be due to the growth of the landscape mitigation planting and woodland habitat creation largely screening the original scheme and limiting existing views over the open landscape.
- 5.7.150 At year 30, the amendment will slightly change the visual effect at this viewpoint as the diverted overhead power line and pylons will remain visible, partly screened by the further maturing landscape mitigation planting along the Birkin Brook embankment. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)**

- 5.7.151 At year 1, the main ES reported a **major** adverse (significant) effect for residents and guests at Stock Farm and Sycamore Cottage, guests at Stock Farm events, users of Footpath Ashley 6/5 and players and spectators at Ashley Cricket Club of **high** susceptibility all with **medium** value views. This would be due to Ashley IMB-R and Ashley embankment forming a large-scale linear feature that would be highly visible and uncharacteristic of views over the existing farmed landscape.
- 5.7.152 At year 1, the amendment will slightly change the visual effect at this viewpoint due to the diverted overhead power line being closer to the viewpoint and visible on the skyline across a larger proportion of the view. The removal, during construction, of a section of woodland at Lamb's Covert will also be perceptible. However, the amendment will be viewed in the context of large-scale infrastructure elements associated with the HS2 route introduced into near and middle-distance views. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

- 5.7.153 At year 15, the main ES reported a **major** adverse (significant) effect. This would be due to growth of landscape mitigation planting on landscape earthworks screening Birkin Brook embankment, Ashley IMB-R and Ashley embankment, but replacing existing views over open farmland with near-distance views of woodland.
- 5.7.154 At year 15, the amendment will slightly change the visual effect at this viewpoint as the diverted overhead power line and pylons will remain visible on the skyline across a large proportion of the view. The amendment will be seen in the context of large-scale infrastructure elements associated with the HS2 route and maturing mitigation woodland, in near and middle-distance views. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.7.155 At year 30, the main ES reported a **moderate** adverse effect. This would be due to the continued growth of the landscape mitigation planting largely screening the original scheme and limiting existing views over the open landscape.
- 5.7.156 At year 30, the amendment will slightly change the visual effect at this viewpoint as the diverted overhead power line and pylons will remain visible above the horizon across a larger proportion of the view. The amendment will be seen in the context of the elements associated with the HS2 route and maturing mitigation woodland, in near and middle-distance views. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Other mitigation measures

- 5.7.157 No mitigation measures additional to those reported in the main ES are proposed.

### Summary of likely residual significant effects

- 5.7.158 In many cases, significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to a new likely residual significant operation effect, at Tatton and Rostherne Wooded Estates and Meres LCA. The effect will be **moderate** adverse (significant).
- 5.7.159 The amendment will give rise to a different likely residual significant operation effect, at the following viewpoints, but where the level of effect will be unchanged from that reported in the main ES:
- view north from Footpath Rostherne 5/1 (330-02-002). The effect will remain **moderate** adverse (significant);
  - view south-west from Footpath Rostherne 5/1 (330-03-003). The effect will remain **moderate** adverse (significant);
  - view north from Ashley Road at Birkin Farm (330-02-006). The effect will remain **moderate** adverse (significant); and
  - view south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse (significant).

## **Cumulative effects**

- 5.7.160 No new, removed or different significant cumulative effects have been identified.

## **Socio-economics**

### **Scope, assumptions and limitations**

- 5.7.161 The assessment scope, key assumptions and limitations for socio-economics are as set out in Volume 1 and the SMR of the main ES.
- 5.7.162 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for socio-economics.

## **Environmental baseline**

### **Existing baseline**

- 5.7.163 The baseline socio-economics information is as described in the SES2 and AP2 ES Volume 5, Appendix: SE-001-00000, Updated socio-economic baseline information.
- 5.7.164 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.7.165 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.7.166 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for socio-economics.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.7.167 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.7.168 Into the Wild Bushcraft is an outdoor activity and fieldcraft destination that operates a survival school including workshops and courses for businesses and schools, hosts live music events, and operates a coffee shack and wood-fired pizza oven on-site. The receptor is located on, and accessed via, Restricted Byway Ashley 21/1 off Ashley Road. Utility works associated with the amendment will require the temporary closure and diversion of

Restricted Byway Ashley 21/1 for one year and three months. The closure is expected to result in serious disruption to business activities since this is the only route by which Into the Wild Bushcraft can be accessed.

- 5.7.169 For the reasons stated above, the serious disruption as a result of the amendment is considered to represent a temporary major adverse significant isolation effect on this business.
- 5.7.170 The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Socio-economics Map Book: Map Series SE-01.

### **Other mitigation measures**

- 5.7.171 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.7.172 The amendment will give rise to a new likely temporary adverse residual significant isolation effect on Into the Wild Bushcraft as a result of the temporary closure of Restricted Byway Ashley 21/1.

### **Cumulative effects**

- 5.7.173 No new, removed or different significant cumulative effects have been identified.

## **Traffic and transport**

### **Scope, assumptions and limitations**

- 5.7.174 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 and the SMR of the main ES.
- 5.7.175 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for traffic and transport.
- 5.7.176 The assessment of the changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.
- 5.7.177 The assessment in this section considers the potential effects on PRoW and roadside footway users. No effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## Environmental baseline

### Existing baseline

- 5.7.178 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.7.179 There are a number of PRow and roadside footways in the Hulseheath to Manchester Airport area. The PRow of relevance to the assessment of this amendment are:
- Footpath Ashley 1/2;
  - Footpath Ashley 2/4; and
  - Restricted Byway Ashley 21/1.
- 5.7.180 No survey information is available for Footpath Ashley 1/2, Footpath Ashley 2/4 or Restricted Byway Ashley 21/1; however, in the absence of information, the assessment is based on reasoned assumptions regarding usage.

### Future baseline

- 5.7.181 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.7.182 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.7.183 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

- 5.7.184 SES2 reported that the SES2 scheme would require the temporary closure and diversion of Footpath Ashley 1/2 (map reference CT-05-353-L1<sup>19</sup>), resulting in a minor adverse effect on non-traffic related severance, which is significant, due to an increase in journey length of up to 1km. The amendment will result in a change to the diversion route for users of Footpath

---

<sup>19</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.



Ashley 1/2. This will extend the increase in journey length for some non-motorised users from 1km, to 3.7km. This will increase the effect on non-traffic related severance from minor adverse, as reported in SES2, to moderate adverse, which is significant.

- 5.7.185 The main ES reported no significant effects on users of Restricted Byway Ashley 21/1 (map reference CT-05-353-L1<sup>20</sup>) as a result of the original scheme. Utility works associated with the amendment will require the temporary closure and diversion of Restricted Byway Ashley 21/1. This will give rise to a new temporary moderate adverse effect on non-traffic related severance, which is significant, due to an increase in journey length for users of Restricted Byway Ashley 21/1 of up to 1.7km.
- 5.7.186 The main ES reported no significant effects on users of Footpath Ashley 2/4 (map reference CT-05-353-L1<sup>21</sup>) as a result of the original scheme. Utility works associated with the amendment will require the temporary closure and diversion of Footpath Ashley 2/4. This will give rise to a new temporary moderate adverse effect on non-traffic related severance, which is significant, due to an increase in journey length for users of Footpath Ashley 2/4 of up to 3.7km.

### **Other mitigation measures**

- 5.7.187 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.7.188 The amendment will give rise to a different likely residual significant effect for non-motorised users of Footpath Ashley 1/2 (map reference CT-05-353-L1<sup>22</sup>), which will increase from a minor adverse effect, as reported in SES2, to a moderate adverse effect.
- 5.7.189 The amendment will give rise to a new likely residual temporary moderate adverse significant effect on non-traffic related severance for users of Footpath Ashley 2/4 (map reference CT-05-353-L1<sup>23</sup>), due to an increase in journey length of up to 3.7km.
- 5.7.190 The amendment will give rise to a new likely residual temporary moderate adverse significant effect on non-traffic related severance for users of Restricted Byway Ashley 21/1, map reference CT-05-353-L1<sup>24</sup> , due to an increase in journey length of up to 1.7km.

### **Cumulative effects**

- 5.7.191 No new, removed or different significant cumulative effects have been identified.

---

<sup>20</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>21</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>22</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>23</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>24</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

5.7.192 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

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

### Construction

#### Agriculture, forestry and soils

- 5.7.193 The amendment will result in residual significant effects at the following holdings:
- a new temporary moderate adverse (significant) effect for Birtles Farm (MA06/15);
  - a new temporary moderate adverse (significant) effect for Stamford Farm (MA06/41); and
  - a new temporary moderate adverse (significant) effect at Land at Park Lane (MA06/42).

#### Community

- 5.7.194 The amendment will result in a new moderate adverse significant community effect upon Into the Wild Bushcraft activity centre.

#### Ecology and biodiversity

- 5.7.195 The amendment will result in the loss of 233m<sup>2</sup> at Hancocks Bank North AWI site. This will result in a new permanent residual effect on ancient woodland habitat at the national level.
- 5.7.196 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 2.86km. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level as reported in the main ES.

#### Historic environment

- 5.7.197 The amendment will give result in new residual permanent moderate adverse significant effects on Tatton Park (MA06\_0002) and the Cropmarks at Ryecroft Farm, Ashley (MA06\_0111).

#### Landscape and visual

- 5.7.198 The amendment will give rise to a new likely residual significant construction effect at view south-west from Ryecroft Farm and Footpath Ashley 6/1 (329-02-008). The effect will increase to **moderate** adverse (significant) from minor adverse as reported in the main ES.

5.7.199 The amendment will give rise to a different likely residual significant construction effect at the following viewpoints. The level of effect for each will be unchanged from that reported in the main ES:

- view north from Footpath Rostherne 5/1 (330-02-002). The effect will remain **major** adverse (significant);
- view south-west from Footpath Rostherne 5/1 (330-03-003). The effect will remain **major** adverse (significant);
- view north from Ashley Road at Birkin Farm (330-02-006). The effect will remain **major** adverse (significant); and
- View south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse (significant).

## Socio-economics

5.7.200 The amendment will give rise to a new likely temporary adverse residual significant isolation effect on Into the Wild Bushcraft as a result of the temporary closure of Restricted Byway Ashley 21/1.

## Traffic and transport

- 5.7.201 The amendment will give rise to a different likely residual significant effect for non-motorised users of Footpath Ashley 1/2, which will increase from a minor adverse effect, as reported in SES2, to a moderate adverse effect.
- 5.7.202 The amendment will give rise to a new likely residual temporary moderate adverse significant effect on non-traffic related severance for users of Footpath Ashley 2/4.
- 5.7.203 The amendment will give rise to a new likely residual temporary moderate adverse significant effect on non-traffic related severance for users of Restricted Byway Ashley 21/1.

## Operation

### Landscape and visual

- 5.7.204 The amendment will give rise to a new likely residual significant operation effect, at Tatton and Rostherne Wooded Estates and Meres LCA. The effect will be **moderate** adverse (significant).
- 5.7.205 The amendment will give rise to a different likely residual significant operational effect at the following viewpoints, The level of effect for each will be unchanged from that reported in the main ES:
- view north from Footpath Rostherne 5/1 (330-02-002). The effect will change but will remain **moderate** adverse (significant);
  - view south-west from Footpath Rostherne 5/1 (330-03-003). The effect will change but will remain **moderate** adverse (significant);

- view north from Ashley Road at Birkin Farm (330-02-006). The effect will change but will remain **moderate** adverse (significant); and
- view south-east from Ashley Road at Stock Farm (330-02-007). The effect will change but will remain **major** adverse (significant).

## Summary of removed effects as a result of the amendment

### Construction

#### Ecology and biodiversity

- 5.7.206 As a result of the amendment, the loss of 0.2ha at Ryecroft Covert AWI site will be avoided. This will result in the removal of a permanent residual effect at the national level reported in the main ES.

## 5.8 Change in Bill powers for the retention and realignment of Footpath Ashley 3/1 (AP2-006-007)

- 5.8.1 The Bill provides for the diversion of Footpath Ashley 3/1, up to 365m south-east of its current alignment for 1.1km. The footpath would connect with the diverted Footpath Rostherne 5/1, 100m west of Birkin Brook embankment crossing the HS2 route under Blackburn's Brook North viaduct, increasing the journey length by 624m (see Volume 2, MA06 Map Book: maps CT-06-353, H3 to J6 and CT-06-354, A5 to D6 in the main ES).
- 5.8.2 Since the main ES, design development has identified the requirement for an existing section of Footpath Ashley 3/1 between the junction with Footpath Ashley 2/1 and Footpath Ashley 2/3 to remain open. The retained footpath will connect with a separate section of Footpath Ashley 3/1 that will be diverted to the north of Birkin Brook embankment, up to 112m north of its current alignment for 613m, to join the existing Ashley Road on the northern side of the HS2 route. This will open up a circular route around the Ashley area and will allow users to reach the southern side of Ashley Road which will be permanently closed where it crosses the HS2 route.
- 5.8.3 The amendment will be constructed from the Birkin Brook satellite compound within the indicative construction programme for the compound provided in Section 6.
- 5.8.4 The land required for this amendment is within the limits of the Bill, but the amendment will require a change to Bill powers (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-353, G3 to J4 and CT-06-354, A3 to E5).

## Topics included in the AP2 assessment

- 5.8.5 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: landscape and visual; and traffic and transport.
- 5.8.6 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## Landscape and visual

### Scope, assumptions and limitations

- 5.8.7 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.8.8 This amendment has the potential to result in new or different construction and operational effects for the visual assessment only. Therefore, there is no construction or operational landscape assessment.
- 5.8.9 All visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during the construction phase are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03.

## Environmental baseline

### Existing baseline

- 5.8.10 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### Visual baseline

- 5.8.11 The amendment has the potential to significantly affect one viewpoint. This viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

#### **View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)**

- 5.8.12 This viewpoint is representative of views experienced by residents at Stock Farm, and Sycamore Cottage, guests at Stock Farm events, users of Footpath Ashley 6/5 and 3/1 and players and spectators at Ashley Cricket Club. In the near distance, there is a low boundary hedgerow bordering Ashley Road. The view is framed by a mature oak tree to the north and

a hedgerow along the boundary of Stock Farm to the south. In the middle distance are arable fields, divided by low hedgerows, with hedgerow oaks. There are expansive views across open farmland towards the wooded backdrop of the view where the land rises gently to the south-east. Dwellings on Ashley Road and Ashley Cricket Club Pavilion are visible to the east and north-east. Views from properties are partially filtered by intervening vegetation in gardens and along field boundaries. Views for users of the PRoW are similarly open over farmland towards the wooded backdrop with intervening hedgerows, where present, partially filtering views.

## Future baseline

- 5.8.13 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.8.14 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.8.15 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.8.16 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)

- 5.8.17 The main ES reported a **major** adverse (significant) effect for residents at Stock Farm and Sycamore Cottage and users of Footpath Ashley 6/5 of **high** susceptibility and guests at Stock Farm and players and spectators at Ashley Cricket Club of lower susceptibility with **medium** value views. This would be due to clear views of the construction of Birkin Brook embankment, Ashley embankment, Ashley IMB-R, and the diversion of overhead power lines.
- 5.8.18 The amendment will change the visual effect at this viewpoint as it will result in the retention of a stretch of Ashley Footpath 3/1, assumed to be closed in the main ES, and the construction of a new section of Footpath Ashley 3/1. This will run along the northern side of

the HS2 route between the retained stretch of the PRoW and Ashley Road. The retained stretch runs between Birkin Brook and the Birkin Brook embankment, passing through Rycroft Covert. The amendment will affect users of Footpath Ashley 3/1 who were not assessed in the main ES at this viewpoint, due to the closure of the PRoW. During construction, part of the retained stretch of the footpath will be diverted around the perimeter of the area required for construction. Footpath users on the diverted PRoW will have close views of construction activity, across the majority of the view. The construction of the new section of footpath will not be noticeable in views from Stock Farm, Sycamore Cottage or Ashley Cricket Club because it will be seen in the context of the large-scale construction activity associated with the HS2 route. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Other mitigation measures

- 5.8.19 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Summary of likely residual significant effects

- 5.8.20 The amendment will give rise to a different likely residual significant construction effect, after implementation of construction phase mitigation, at view south-east from Ashley Road at Stock Farm (330-02-007). The level of effect will remain **major** adverse as reported in the main ES.

### Cumulative effects

- 5.8.21 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.8.22 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View south-east from Ashley Road at Stock Farm (high sensitivity receptor) (330-02-007)

- 5.8.23 At year 1, the main ES reported a **major** adverse (significant) effect for residents at Stock Farm and Sycamore Cottage and users of Footpath Ashley 6/5 of **high** susceptibility and guests at Stock Farm and players and spectators at Ashley Cricket Club of lower susceptibility, all with **medium** value views. This would be due to Ashley IMB-R and Ashley



embankment forming a large-scale linear feature, highly visible and uncharacteristic of views over the existing farmed landscape.

- 5.8.24 At year 1, the amendment will change the visual effect at this viewpoint as it will result in the retention of a stretch of Ashley Footpath 3/1, assumed to be closed in the main ES, and the provision of a new section of Footpath Ashley 3/1 between the retained stretch of the PRoW and Ashley Road. The amendment will affect users of Footpath Ashley 3/1 who were not assessed in the main ES at this viewpoint, due to the closure of the PRoW. There will be clear views of the Ashley IMB-R and Birkin Brook embankment, partially screened by an intervening linear landscape earthwork, from the stretch of the retained PRoW south of Rycroft Covert. The new section of unsurfaced footpath will not be visible from Stock Farm, Sycamore Cottage or Ashley Cricket Club. Landscape mitigation planting and woodland habitat creation will not be sufficiently mature to provide any visual integration or screening. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.8.25 At year 15, the main ES reported a **major** adverse (significant) effect. This would be due to replacing existing views over the open farmland with near-distance views of woodland. The growth of the landscape mitigation planting on landscape earthworks would screen Birkin Brook embankment, Ashley IMB-R and Ashley embankment.
- 5.8.26 At year 15, the amendment will change the visual effect at this viewpoint. PRoW users on the section of retained footpath will see train movements and overhead line equipment above the maturing landscape mitigation planting on the landscape earthwork, but the Birkin Brook embankment and Ashley IMB-R will be screened from view. Existing views from the PRoW over the open landscape will be foreshortened by the planting. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.8.27 At year 30, the main ES reported a **moderate** adverse (significant) effect. This would be due to limiting existing views over the open landscape and the continued growth of the landscape mitigation planting, largely screening the original scheme.
- 5.8.28 At year 30, the amendment will change the visual effect at this viewpoint. Train movements and overhead line equipment in the Ashley IMB-R will be largely screened from the section of retained footpath by the further maturing of the landscape mitigation planting. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### **Other mitigation measures**

- 5.8.29 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.8.30 Significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to a different likely

residual significant operation effect, at view south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse as reported in the main ES.

## **Cumulative effects**

- 5.8.31 No new, removed or different significant cumulative effects have been identified.

## **Traffic and transport**

### **Scope, assumptions and limitations**

- 5.8.32 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 and the SMR of the main ES.
- 5.8.33 This amendment has the potential to result in new or different significant traffic operation effects only. Therefore, there is no construction assessment for traffic and transport.
- 5.8.34 The assessment of changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.
- 5.8.35 The assessment in this section considers the potential effects on PRoW and roadside footway users and changes in journey length for vehicle occupants. No effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## **Environmental baseline**

### **Existing baseline**

- 5.8.36 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.8.37 There are a number of PRoW and roadside footways in the Hulseheath to Manchester Airport area. The PRoW of relevance to the assessment of this amendment is Footpath Ashley 3/1. No survey information is available for Footpath Ashley 3/1; however, in the absence of information, the assessment is based on reasoned assumptions regarding usage.

### **Future baseline**

- 5.8.38 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2038.
- 5.8.39 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future

baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

## **Effects arising during operation**

### **Avoidance and mitigation measures**

- 5.8.40 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### **Assessment of impacts and effects**

- 5.8.41 The main ES reported that the original scheme would require the permanent diversion of Footpath Ashley 3/1. As a result, non-motorised users of Footpath Ashley 3/1 would be subject to a moderate adverse effect on non-traffic related severance, which is significant, due to an increase in journey length of up to 624m.
- 5.8.42 The amendment will extend the Footpath Ashley 3/1 (map reference CT-06-353 and CT-06-354<sup>25</sup>) diversion to join to Ashley Road north of the Birkin Brook embankment. This will give rise to a new minor beneficial effect on non-traffic related severance, which is significant, due to a decrease in journey length of up to 153m for users travelling between Footpath Ashley 3/1 and Ashley Road north of the HS2 route.
- 5.8.43 The amendment will not change the journey length for users travelling between Footpath Ashley 3/1 and Ashley Road south of the HS2 route. This increase in journey length is unchanged from the original scheme. As a result, this will not change the level of significance of the effect reported in the main ES, which remains moderate adverse.

### **Other mitigation measures**

- 5.8.44 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.8.45 The amendment will give rise to a new likely residual minor beneficial significant effect on non-traffic related severance for users travelling between Footpath Ashley 3/1 (map reference CT-06-353 and CT-06-354<sup>26</sup>) and Ashley Road north of the HS2 route, due to a decrease in journey length of up to 153m.

### **Cumulative effects**

- 5.8.46 No new, removed or different significant cumulative effects have been identified.

---

<sup>25</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

<sup>26</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

- 5.8.47 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

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

### Construction

#### Landscape and visual

- 5.8.48 The amendment will give result in a different likely residual significant construction effect at view south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse (significant) as reported in the main ES.

### Operation

#### Landscape and visual

- 5.8.49 The amendment will result in a different likely residual significant operation effect, at view south-east from Ashley Road at Stock Farm (330-02-007). The effect will remain **major** adverse (significant) as reported in the main ES.

#### Traffic and transport

- 5.8.50 The amendment will result in a new likely residual minor beneficial significant effect on non-traffic related severance for users travelling between Footpath Ashley 3/1 and Ashley Road north of the HS2 route, due to a decrease in journey length of up to 153m.

## 5.9 Additional land permanently required for the realignment of a maintenance access road from Ashley Road (AP2-006-008)

- 5.9.1 The Bill provides for a new public right of way (PRoW), 730m in length between Ashley Road and the diverted Ashley Road, crossing the HS2 route underneath the Mid-Cheshire (Railway) and Mobberley Road viaduct. A maintenance access road will also be provided from the diverted Ashley Road to the Ashley Road auto-transformer station (see Volume 2, MA06 Map Book: map CT-05-354, F6 to H6 and G2 to H7 in the main ES).
- 5.9.2 Since the main ES, design development has established the need to incorporate a cycle route with the new PRoW at Ashley Road to comply with recent design guidance<sup>20</sup>. The process of design development also identified an opportunity to merge the cycle route with the maintenance access road.

- 5.9.3 The amendment will result in the relocation of the HS2 maintenance access road, 463m in length, and 480m to the north of its alignment in the original scheme, connecting to the new PRoW between the existing and diverted sections of Ashley Road. The relocated road will provide access to:
- the western abutment of the Mid-Cheshire (Railway) and Mobberley Road viaduct from the Ashley Road auto-transformer station; and
  - a maintenance access strip and drainage ditch north of the HS2 route.
- 5.9.4 The amendment will require two existing overhead electricity lines to be diverted underground and underneath the access road, and localised protection and diversion works to existing utilities within the southern verge of Ashley Road.
- 5.9.5 The amendment will be constructed from the Birkenheath Covert satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.9.6 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for 0.8ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-354, F2 to J10 and CT-06-354-R1, G1 to I2).

## **Topics included in the AP2 assessment**

- 5.9.7 The assessment of this amendment has identified new, different or removed likely significant effects for landscape and visual.
- 5.9.8 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Landscape and visual**

### **Scope, assumptions and limitations**

- 5.9.9 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.9.10 This amendment has the potential to result in new or different visual effects for construction and operation only. Therefore, there is no construction or operational landscape assessment.
- 5.9.11 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

## Environmental baseline

### Existing baseline

- 5.9.12 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### Visual baseline

- 5.9.13 The amendment has the potential to significantly affect one viewpoint. This viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

#### **View south from Ashley Road bridge over the Mid-Cheshire Line (high sensitivity receptor) (330-02-009)**

- 5.9.14 This viewpoint is representative of views experienced by residents and road users on Ashley Road and residents on the southern edge of Ashley. There are expansive views over the landscape from the bridge over the Mid-Cheshire Line in Ashley. The existing railway line is a prominent feature in the view from this location. Elevated middle-distance views are over mainly flat, arable farmland separated by low hedgerows with hedgerow trees. Ashley Cricket Club pavilion and Stock Farm can be seen in views south-west, partially screened by intervening vegetation. There are also long views across open farmland, rising gently to the south, of woodland in the far distance. Pylons are discernible crossing the skyline.

### Future baseline

- 5.9.15 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.9.16 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.9.17 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising from construction

### Avoidance and mitigation measures

- 5.9.18 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View south from Ashley Road bridge over the Mid-Cheshire Line (high sensitivity receptor) (330-02-009)

- 5.9.19 The main ES reported a **major** adverse (significant) effect for residents on Ashley Road and the southern edge of Ashley of **high** susceptibility with **medium** value views. This would be due to clear views of the Ashley railhead and the construction of Ashley embankment and Mid-Cheshire (Railway) and Mobberley Road viaduct.
- 5.9.20 The amendment will slightly change the visual effect at this viewpoint as the construction of the maintenance access road will require two existing overhead electricity lines to be diverted underground within the southern verge of Ashley Road, with associated hedgerow and tree loss. This will increase the scale of construction in proximity to the viewpoint. In more distant views, the construction of the amendment will be partially screened by vegetation lining the Mid-Cheshire Line and will be seen in the context of large-scale construction activity associated with the HS2 route. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Other mitigation measures

- 5.9.21 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Summary of likely residual significant effects

- 5.9.22 The amendment will give rise to a different likely residual significant construction effect at view south from Ashley Road bridge over the Mid-Cheshire Line (330-02-009) after implementation of construction phase mitigation, but where the level of effect will be unchanged from that reported in the main ES. The effect will remain **major** adverse (significant).

### Cumulative effects

- 5.9.23 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.9.24 No avoidance or mitigation measures additional to those reported in the main ES are proposed.



## Assessment of impacts and effects

### Visual assessment

#### View south from Ashley Road bridge over the Mid-Cheshire Line (high sensitivity receptor) (330-02-009)

- 5.9.25 At year 1, the main ES reported a **moderate** adverse (significant) effect for residents on Ashley Road and the southern edge of Ashley of **high** susceptibility and road users of lower susceptibility with **medium** value views. This would be due to Ashley embankment, Mid-Cheshire (Railway) and Mobberley Road viaduct forming a high, linear feature which, along with the trains and overhead line equipment, would be visible across the majority of the view and be higher than the existing, distant skyline.
- 5.9.26 At year 1, the amendment will slightly change the visual effect at this viewpoint due to the addition of the new cycle path and maintenance access road and removal of hedgerows and hedgerow trees during construction. The verge on the southern side of Ashley Road will be widened to allow for the junction of the new maintenance access road with Ashley Road. The new maintenance access road will be visible from Ashley Road and properties west of the Mid-Cheshire Line, but mostly screened by intervening garden vegetation, hedgerows and hedgerow trees. The new maintenance access road will be barely perceptible in views from east of the Mid-Cheshire Line due to the intervening railway. The change to the hedge-lined rural character of Ashley Road due to the widened verge, new junction and the loss of a section of hedgerow during construction will be localised and only affect road users and residents immediately west of the Mid-Cheshire Line. A new hedgerow will be planted along the back of the widened verge but it will not be sufficiently mature to have any screening effect at year 1. The embankments and viaducts of the AP2 revised scheme will remain noticeable features in the view and the scale of change associated with the amendment will be slight in comparison. The amendment will give rise to a different significant effect; however, the level of significance of effect will remain as reported in the main ES.
- 5.9.27 At years 15 and 30, the main ES reported a **moderate** adverse (significant) effect. This would be due to the growth of landscape mitigation planting, partly on landscape earthworks, largely screening Ashley embankment but the Mid-Cheshire (Railway) and Mobberley Road viaduct, train movements and overhead line equipment remaining visible.
- 5.9.28 At years 15 and 30, the amendment will slightly change the visual effect at this viewpoint. The hedgerow planted as part of the amendment along the back of the widened verge at the junction of the maintenance access road and Ashley Road will restore the appearance of the hedge-lined rural road and integrate the amendment into the view. The AP2 revised scheme will remain a noticeable feature in the view and the scale of change associated with the amendment will be slight in comparison. The amendment will give rise to a different significant effect; however, the level of significance of effect will remain as reported in the main ES.

## Other mitigation measures

- 5.9.29 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 5.9.30 Significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to a different likely residual significant operation effect at view south from Ashley Road bridge over the Mid-Cheshire Line (330-02-009) but where the level of effect will be unchanged from that reported in the main ES. The effect will remain **moderate** adverse (significant).

## Cumulative effects

- 5.9.31 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Landscape and visual

- 5.9.32 The amendment will give rise to a different likely residual significant construction effect at view south from Ashley Road bridge over the Mid-Cheshire Line (330-02-009). The effect will remain **major** adverse (significant) as reported in the main ES.

### Operation

#### Landscape and visual

- 5.9.33 The amendment will give rise to a different likely residual significant operation effect at view south from Ashley Road bridge over the Mid-Cheshire Line (330-02-009). The effect will remain **moderate** adverse (significant) as reported in the main ES.

## 5.10 Additional land temporarily required for the provision of surface water drainage at Mobberley Road South satellite compound (AP2-006-009)

- 5.10.1 The Bill provides for the Mobberley Road South satellite compound for a period of eight years; however, no provision is made for temporary surface water drainage in the original

scheme (Volume 2, MA06 Map Book, maps CT-05-354, H10 to I10 and CT-05-354-R1, G2 to H3 in the main ES).

- 5.10.2 Since the main ES, additional design development has identified a temporary requirement for 0.12ha of additional land for Mobberley Road South satellite compound to allow for temporary surface water drainage outfall to Sugar Brook. The dimensions of the land required for the construction of the surface water drainage outfall from the construction compound to the outfall at Sugar Brook will be 112m in length and 10m wide, south-west of the Mobberley Road South satellite compound.
- 5.10.3 The amendment will follow the existing field boundary of Sugar Brook Farm to reduce the impact on the main farm access of Sugar Brook Farm.
- 5.10.4 The amendment will be constructed from and used within the period for which the Mobberley Road South satellite compound is operational, a period of eight years for the AP2 revised scheme. The drainage outfall will be removed and the land restored to its previous use once the construction compound is no longer required.
- 5.10.5 The land required for this amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for an additional 0.12ha of land (SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-354-R1, G3 to G4).

## **Topics included in the AP2 assessment**

- 5.10.6 The amendment is not considered to require a reassessment of the environmental effects or mitigation set out in the main ES with respect to any environmental topics.
- 5.10.7 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **5.11 Additional land permanently required for watercourse diversions at Mobberley Road (AP2-006-010)**

- 5.11.1 The Bill provides for permanent watercourse diversions to accommodate the realignment of Mobberley Road. This includes:
- the diversion of a section of Tributary of Birkin Brook 1 for 910m to the north and south of the realigned Mobberley Road (see Volume 2, MA06 Map Book, map CT-06-354, I8 to J6, and map CT-06-355, A7 to A9 in the main ES); and
  - Ashley Road offline east culvert for 250m south of Mid-Cheshire (Railway) and Mobberley Road viaduct (see Volume2: MA06 Map Book, map CT-06-354, H8 to J6 in the main ES).

- 5.11.2 Since the main ES, further studies have identified modifications to the hydrology design in the Mobberley area required by flood risk and drainage standards to provide increased resilience to climate change and to mitigate potential increase in flood risk. The following modifications are proposed:
- replacement of the existing south culvert under the Mid-Cheshire (Railway), 19m in length, with six permanent culverts, each 26.5m in length, 1.35m wide and 1.35m high, The culverts will be in parallel to provide sufficient flow capacity due to low height of the Mid-Cheshire (Railway) embankment. Three of the culverts will each be temporarily extended by a further 165m under Ashley railhead;
  - the excavation of an open overflow channel, 435m in length, connecting the Tributary of Birkin Brook 1 to the replacement of the south culvert under the Mid-Cheshire (Railway);
  - six permanent culverts under Mobberley Road, each 30m in length, 1.35m wide and 1.35m high, in parallel to provide sufficient flow capacity due to the low height of the Mobberley Road embankment;
  - construction of an overflow weir on the existing Tributary of Birkin Brook 1 alignment, 5m wide and up to 1m high, to form the flood overflow channel;
  - replacement of the existing north culvert under the Mid-Cheshire (Railway), 25m in length, with a new permanent culvert, 21m in length, 1.35m wide and 1.35m high, to connect to the three temporary culverts under the railhead;
  - installation of a new permanent culvert under the realigned Ashley Road, 22m in length, 1.8m wide and 1.5m high;
  - construction of a culverted access bridge, 16m in length and 4m wide, to cross Tributary of Birkin Brook 1 from Lower House Farm to an adjacent agricultural field; and
  - construction of a drainage ditch running between and parallel with the Mid-Cheshire (Railway) and Tributary of Birkin Brook, 1,340m long, 2m wide and 1m deep, discharging into the Tributary of Birkin Brook diversion.
- 5.11.3 The attenuation pond located south of the HS2 route, 200m north-east of Arden Lodge, will be moved approximately 4m west and the highway surface water discharge drain modified to avoid an adjacent existing pond. The outfall of the attenuation pond will be moved to the north-west to the realigned Tributary of Birkin Brook 1 open channel.
- 5.11.4 The works will result in the loss of 105m<sup>2</sup> in ancient woodland habitat at Arden House Wood. This loss is unavoidable due to the need for the overflow channel to connect to the Tributary of Birkin Brook 1 at this location. This loss will be compensated through soil translocation and woodland habitat creation immediately south of Arden House Wood (See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-354, H8).
- 5.11.5 The Tributary of Birkin Brook 2 realignment described in Additional land permanently required for the revised realignment of Tributary of Birkin Brook 2 south of Thorns Green embankment (AP2-006-012) is separate to the modifications described in AP2-006-010. There would be no changes to this amendment (AP2-006-010) if it is introduced without the AP2-006-012 amendment.

- 5.11.6 The amendment will be constructed from the Mobberley Road North satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.11.7 The additional land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for 0.8ha of additional land. See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-354, H4 to J10, CT-06-354-R1, G1 to J3 and CT-06-355, A4 to C9.

## **Local alternatives**

- 5.11.8 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

## **Topics included in the AP2 assessment**

- 5.11.9 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: ecology and biodiversity; traffic and transport; and water resources and flood risk.
- 5.11.10 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

- 5.11.11 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.11.12 This amendment has the potential to result in new or different significant construction effects for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.11.13 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.11.14 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## Environmental baseline

### Existing baseline

5.11.15 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### Designated sites

5.11.16 There is one AWI site of relevance to the assessment of the amendment. This is Arden House Wood AWI site, which is located partly within land required for the original scheme, and partly within land required for the amendment, and which is of national value.

5.11.17 There are two LWS each of county/metropolitan value. They are:

- Wood near Arden House LWS, which is located partly within land required for the original scheme, and partly within land required for the amendment; and
- Ashley Brickworks LWS, which is located within land required for the original scheme and the amendment.

### Habitats

5.11.18 In addition to the ancient woodland described above, the following habitats are also located within the land required for the amendment: semi-natural broadleaved woodland, plantation broadleaved woodland, hedgerow, poor semi-improved grassland, running water, and arable land. The habitats of relevance to this assessment of the amendment are described below.

5.11.19 Within the land required for the amendment, there is 30m of hedgerow that (based on aerial photography) are intact and contain trees, and that are assumed to be species rich. These hedgerows may qualify as a habitat of principal importance and as a conservation priority in the Cheshire BAP. The hedgerows contribute to a wider network across the Hulseheath to Manchester Airport area that is of county metropolitan value.

5.11.20 The main ES reported the Tributary of Birkin Brook 1 to provide a corridor for wildlife dispersal and was of up to district/borough value. Tributary of Birkin Brook 1 will be diverted as part of the amendment; however this does not change the value as reported within the main ES.

### Species

5.11.21 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts. The species of relevance to the assessment of the amendment are described in further detail below.

5.11.22 The SES2 reported an assumed great crested newt metapopulation of large size in a network of 177 ponds south of Thorns Green (GCNMP1.6.1). The land required for the amendment

includes terrestrial habitat associated with this metapopulation. This metapopulation is considered to be of up to county/metropolitan value.

- 5.11.23 The main ES reported the presence of a great crested newt population assumed to be of medium size in two ponds to the north of Arden House Wood (GCNMP1.6.8). The land required for the amendment includes terrestrial habitat associated with this metapopulation. This metapopulation is considered to be of up to county/metropolitan value.

### **Future baseline**

- 5.11.24 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.11.25 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.11.26 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.11.27 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## **Assessment of impacts and effects**

### **Designated sites**

- 5.11.28 The main ES reported a loss of 0.1ha (3%) of the Arden House Wood AWI site. This would have an adverse effect on the structure and function of the site that was considered to be significant at the national level. The amendment will result in additional loss of approximately 105m<sup>2</sup> of ancient woodland. The change in the loss of irreplaceable habitat will result in a different significant effect, but there will be no change in the level of significance reported in the main ES.
- 5.11.29 The main ES reported a loss of 0.3ha (10%) of Wood near Arden House LWS. The loss of the woodland would have an adverse effect on the structure and function of the site that was significant at the county/metropolitan level. The amendment will result in additional loss of approximately 105m<sup>2</sup> of woodland within the LWS (the same area of woodland as reported under Arden House Wood AWI site). This will result in a different significant effect on the LWS, but there will be no change in the level of significance reported in the main ES.



- 5.11.30 The main ES reported a complete loss of 3.1ha of the Ashley Brickworks LWS, that was considered to be a permanent adverse effect of county/metropolitan level. As part of the amendment, the diverted Tributary of Birkin Brook 1 will run through the LWS, however there will be no change in the level of significance reported within the main ES.

### **Habitats**

- 5.11.31 The main ES reported a diversion of the Tributary of Birkin Brook 1 to have a permanent adverse effect that was significant up to the district/borough level. The amendment will result in a different significant effect but does not change the level of significance as reported within the main ES.

### **Other mitigation measures**

- 5.11.32 The main ES reported a woodland habitat creation area of 0.9ha to the north of Arden House Wood AWI site to partly compensate for the loss of 0.1ha of ancient woodland in Arden House Wood AWI site. The amendment will result in an additional loss of approximately 105m<sup>2</sup> of ancient woodland which will be partly compensated through an additional area of woodland habitat creation of 0.2ha immediately adjacent to the south of Arden House Wood.
- 5.11.33 Woodland planting to partly compensate for the loss of ancient woodland will include further measures such as translocation of ancient woodland soil with its associated seed bank where appropriate. Other measures such as planting native trees and shrubs of local provenance and translocation of coppice stools and dead wood will be undertaken in accordance with the Ecological Principles of Mitigation within the SMR.

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

- 5.11.34 Ancient woodland is an irreplaceable habitat, and the additional loss of 105m<sup>2</sup> of ancient woodland habitat at Arden House Wood AWI site as a result of this amendment will result in a different residual effect at the national level.

### **Cumulative effects**

- 5.11.35 No new, removed or different significant cumulative effects have been identified.

### **Traffic and transport**

- 5.11.36 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 and the SMR of the main ES.
- 5.11.37 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operation assessment for traffic and transport.
- 5.11.38 The assessment of changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.

- 5.11.39 The assessment in this section considers the potential effects on railway users. No effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## **Environmental baseline**

### **Existing baseline**

- 5.11.40 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.11.41 There are a number of passenger and freight railways that run through the Hulseheath to Manchester Airport area. The railway of relevance to the assessment of this amendment is the Mid-Cheshire Line.

### **Future baseline**

- 5.11.42 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.11.43 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.11.44 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### **Assessment of impacts and effects**

- 5.11.45 The main ES reported that the original scheme would require a number of possessions in the Hulseheath to Manchester Airport area. The main ES reported that while individually these possessions were not considered significant, the possessions would occur over a lengthy period and their cumulative impact was considered to have a moderate adverse effect, which is significant.
- 5.11.46 The amendment will require two additional possessions of up to 54 hours on the Mid-Cheshire Line with 27 and 72 hour possessions unchanged. This will increase the number of possessions of up to 54 hours in the area from nine, as reported in the main ES, to 11. This will not in isolation result in any new or different significant effects. The combined effects of

all changes to possessions are reported in the SES2 and AP2 ES Volume 3, Route-wide effects.

## **Other mitigation measures**

- 5.11.47 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.11.48 There are no changes to the likely residual significant effects identified in the main ES as a result of the amendment.

## **Cumulative effects**

- 5.11.49 No new, removed or different significant cumulative effects have been identified.
- 5.11.50 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

# **Water resources and flood risk**

## **Scope, assumptions and limitations**

- 5.11.51 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1 and the SMR of the main ES.
- 5.11.52 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for water resources and flood risk.

## **Environmental baseline**

### **Existing baseline**

- 5.11.53 The baseline water resources and flood risk information is as shown in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. New baseline information is in Section 2 of this report. A summary of the baseline information relevant to the assessment of this amendment is provided below.

### **Surface water**

- 5.11.54 As set out in the main ES, all surface water bodies in the area fall within the Mersey Upper management catchment of the North West RBD.
- 5.11.55 There are three watercourses crossed by the HS2 route in the vicinity of this amendment. These are: Tributary of Birkin Brook 1, Tributary of Birkin Brook 2 and Tributary of Birkin

Brook 3. Tributary of Birkin Brook 1 has a moderate receptor value, whereas the other two watercourses have a low receptor value.

5.11.56 There are no surface water abstractions within the study area around this amendment.

## **Groundwater**

5.11.57 As set out in the main ES, the superficial geology that underlies the HS2 route in this area is glacial till. This is classified as a Secondary (Undifferentiated) aquifer which is defined as a moderate value receptor. The glacial till is part of the Weaver and Dane Quaternary Sand and Gravel Aquifers Water Framework Directive (WFD) water body. Under the 2019 WFD assessment cycle classification, the WFD water body has poor overall status due to its quality/chemical status.

5.11.58 The bedrock geology that underlies the HS2 route in this area consists of the Bollin Mudstone Member (part of the Sidmouth Formation within the Mercia Mudstone Group) and the Tarporley Siltstone Formation (also part of the Mercia Mudstone Group). Both are classified as Secondary B aquifers and are therefore considered to be moderate value receptors.

5.11.59 There are two potential unlicensed private groundwater abstractions located in the area of this amendment. The potential 'Abstraction west of Lower House Farm' is located approximately 450m south of the HS2 route and approximately 30m east of the land required for the construction of the amendment. It is used for non-domestic purposes and is classed as a moderate value receptor. The potential 'Well at Mobberley Road' is located approximately 520m south of the HS2 route and is within the land required for construction of the amendment. The purpose of the abstraction is unknown, so it is classed as a high value receptor on a precautionary basis. No surveys have been completed to confirm the use of these potential abstractions due to access restrictions.

## **Flood risk**

5.11.60 This amendment will cross the tributaries of Birkin Brook 1 to 3. The Environment Agency's Risk of flooding from surface water (RoFSW) dataset for the 1 in 1000 year flood event has been used to scope the baseline flood risk for surface water flooding. Hydraulic modelling has been carried out for this amendment area and is presented in the Hydraulic modelling report – Tributaries of Birkin Brook, SES2 and AP2 ES Volume 5, Appendix: WR-006-00011. The Environment Agency data indicates that the receptors at risk from surface water flow paths associated with these watercourses are:

- Mobberley Road (less vulnerable);
- Mid-Cheshire Line (essential infrastructure); and
- Undeveloped agricultural land (less vulnerable).

## **Future baseline**

- 5.11.61 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.11.62 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.11.63 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on water resources and flood risk.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.11.64 No further avoidance and mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Groundwater**

- 5.11.65 The proposed ditch on the eastern side of the Mid-Cheshire Line has the potential to permanently alter local shallow groundwater flows in the glacial till. It is unknown which aquifer the 'Abstraction at Lower House Farm' draws from, nor whether the proposed ditch will be within the zone of influence of the abstraction. Therefore, on a precautionary basis, it is considered that, without mitigation, there is a potential for a new moderate permanent adverse effect on this abstraction, which is significant.

#### **Flood risk**

- 5.11.66 In the main ES, it was reported that tributaries of Birkin Brook 1 to 3 would need to be realigned/diverted to allow for the presence of Ashley railhead. These watercourses would have passed under the Mid-Cheshire Line in the existing northern culvert. Hydraulic modelling used in the main ES and updated in SES2 shows that due to the increase in peak flow through this culvert there was the potential for increased depth of flooding of greater than 100mm. This would lead to major impacts on two receptors: agricultural land and the Mid-Cheshire Line. These impacts lead to moderate adverse effects on agricultural land and a major adverse effect on the Mid-Cheshire Line, both of which are significant. This AP2 amendment is proposed to remove these significant effects. Hydraulic modelling shows that with this AP2 amendment in place, there is a reduction to the flood levels to the east of the Mid-Cheshire Line. The reduction in flood risk to the Mid-Cheshire Line and adjacent fields is due to flood flow being diverted into the southern channel. During design development the flow balance will be adjusted to ensure no increase in flood flows downstream by adjusting

the height of the overflow weir to balance the flood flows between the two channels. Therefore, this amendment will remove the one permanent major adverse effect on flood risk to the Mid-Cheshire Line and one permanent moderate adverse effect on flood risk to agricultural land to the east reported in the main ES.

### **Other mitigation measures**

- 5.11.67 Further investigation of the 'Abstraction at Lower House Farm' through stakeholder engagement will be conducted to confirm whether this abstraction remains in use. If it is found to be in current use, and that the supply could be impacted by changes in groundwater flows due to the proposed amendment, mitigation will be considered. If mitigation is required, this may include deepening of the abstraction or provision of alternative water supply. Any mitigation will be designed in consultation with the Environment Agency and other stakeholders to ensure no significant adverse effect on groundwater.
- 5.11.68 Further modelling is required to refine the design of the mitigation embedded into the AP2 revised scheme. The design of these mitigation measures will be developed in consultation with the Environment Agency. The next stage of the design process will involve incorporation of topographical survey and structures information into the hydraulic model to improve the representation of existing watercourses. The mitigation measures will be refined during design development to ensure that there is no increase in flood flows downstream, and no increase in flood risk upstream of the Mid-Cheshire Line.

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

- 5.11.69 The amendment may cause local changes in groundwater flow leading to a potential new permanent moderate adverse effect on the potential 'Abstraction at Lower House Farm', which is significant.
- 5.11.70 The amendment will lead to the removal of one permanent major adverse effect on flood risk to the Mid-Cheshire Line and one permanent moderate adverse effect on flood risk to agricultural land to the east reported in the main ES.

### **Cumulative effects**

- 5.11.71 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Ecology and biodiversity

- 5.11.72 This amendment will result in a different permanent residual effect at the national level, on ancient woodland habitat at Arden House Wood AWI site.

#### Water resources and flood risk

- 5.11.73 This amendment will result in a potential new permanent residual effect on 'Abstraction at Lower House Farm'.

## Summary of removed likely residual significant effects as a result of the amendment

### Construction

#### Water resources and flood risk

- 5.11.74 The amendment will remove the following effects which were reported in the main ES:
- permanent major adverse effect on flood risk to the Mid-Cheshire Line; and
  - permanent moderate adverse effect on flood risk to agricultural land to the east.

## 5.12 Additional land temporarily required for the operation of Ashley railhead near Sugar Brook Ancient Woodland (AP2-006-011)

- 5.12.1 The Bill provides for Ashley railhead, located 300m south of Ashley (see Volume 2, MA06 Map Book, map CT-05-353, CT-05-354, CT-05-354-R1, CT05-355-R1, CT-05-355-R2 in the main ES). The temporary railhead would be used to receive and stockpile materials by rail for the construction of the railway tracks, signals and electrification systems for the original scheme.
- 5.12.2 Since the main ES, further design development has been carried out to reduce the impact on Sugar Brook Ancient Woodland by reconfiguring the operational area of the temporary railhead. The changes will comprise:
- the reduction of land required for the operation of the temporary railhead from 29ha to 28.76ha. A reduction of 0.24ha within the boundary of Sugar Brook Ancient Woodland (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-354-R1, J4 to J5); and



- the introduction of a 0.13ha strip of land, required for the operation of the railhead as a result of the reduction of operational area at Sugar Brook Ancient Woodland (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-354-R1, I4 to J5).

- 5.12.3 The amendment will be constructed from the Ashley railhead and will be completed within the indicative construction programme for this compound set out in the main ES.
- 5.12.4 The land required for this amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for an additional 0.125ha strip of land and a separate 0.24ha reduction in land required (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-354-R1, I4 to J5).

## **Local alternatives**

- 5.12.5 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

## **Topics included in the AP2 assessment**

- 5.12.6 The assessment of this amendment has identified new, different or removed likely significant effects for ecology and biodiversity.
- 5.12.7 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

- 5.12.8 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.12.9 This amendment has the potential to result in new or different significant construction effect for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.12.10 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.12.11 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## Environmental baseline

### Existing baseline

- 5.12.12 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### Designated sites

- 5.12.13 There is one LWS and one AWI site of relevance to the assessment of the amendment. Sugar Brook LWS, is located partly within land required for the original scheme, and partly within land required for the amendment, and now has a reduction in the land required. This site is of county/metropolitan value.
- 5.12.14 Sugar Brook AWI site is located partly within the land required for the original scheme, and partly within land required for the amendment, and now has a reduction in the land required. This ancient woodland is considered to be of national value.

### Habitats

- 5.12.15 In addition to the ancient woodland described above, the following habitats are located within the land required for the amendment: running water and poor semi-improved grassland.

### Species

- 5.12.16 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.12.17 The SES2 baseline reported a great crested newt metapopulation of medium size in a network of four ponds north of New Mills (GCNMP1.6.5). The amendment reduces the extent of terrestrial habitat that is within the land required for the AP2 revised scheme. This metapopulation is considered to be up to county/metropolitan value.

### Future baseline

- 5.12.18 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.12.19 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.12.20 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.12.21 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Designated sites**

- 5.12.22 The main ES reported a loss of 0.1ha (50%) of the Sugar Brook AWI site. This would have an adverse effect on the structure and function of the site that was considered to be significant at the national level. The amendment will result in a reduction of loss to 450m<sup>2</sup> of ancient woodland. The change in the loss of irreplaceable habitat will result in a different significant effect, but there will be no change in the level of significance reported in the main ES.
- 5.12.23 The main ES reported that the construction of the Ashley railhead would result in the loss of 0.2ha (7%) of Sugar Brook LWS. The loss of the habitat from the LWS was considered to have a permanent adverse effect which would be significant at the county/metropolitan level. The amendment will result in a reduction of loss of habitat to 0.1ha. This will result in a different significant effect on the LWS, but there will be no change in the level of significance reported in the main ES.

#### **Other mitigation measures**

- 5.12.24 The main ES reported that the loss of habitat at Sugar Brook AWI site and LWS would be partly compensated through the creation of 1.5ha woodland habitat to the north of Arden House Wood AWI site, of which 0.7ha would be directly to partly compensate for the loss of the AWI site. The amendment reduces the loss of ancient woodland habitat at these sites, and the subsequent compensation planting area has been reduced to 0.3ha; 0.2ha of which is located north of Arden House Wood AWI site and 0.1ha with soil translocation located adjacent to Ecclesfield Wood.
- 5.12.25 Woodland planting to partly compensate for the loss of ancient woodland will include further measures such as translocation of ancient woodland soil with its associated seed bank where appropriate. Other measures such as planting native trees and shrubs of local provenance and translocation of coppice stools and dead wood will be undertaken in accordance with the Ecological Principles of Mitigation within the SMR.

## Summary of likely residual significant effects

- 5.12.26 Ancient woodland is an irreplaceable habitat and, as a result of the amendment, there will be a reduction in the loss of ancient woodland at the Sugar Brook AWI site to 450m<sup>2</sup>. This will result in a permanent residual effect at national level.

## Cumulative effects

- 5.12.27 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Ecology and biodiversity

- 5.12.28 The amendment will result in a different permanent residual effect at the national level. on ancient woodland habitat at Sugar Brook AWI site.

## 5.13 Additional land permanently required for the revised realignment of Tributary of Birkin Brook 2 south of Thorns Green embankment (AP2-006-012)

- 5.13.1 The Bill provides for:
- the permanent realignment of Tributary of Birkin Brook 2 for 30m to the south of Thorns Green embankment (see map CT-06-355, A6 to A7 in Volume 2, MA06 Map Book of the main ES); and
  - the permanent diversion of Tributary of Birkin Brook 2 for 20m to the south of the realigned Mobberley Road (see map CT-06-354, I7 to J6 in Volume 2, MA06 Map Book of the main ES).
- 5.13.2 Since the main ES, further design development has identified that a section of the tributary is situated within the footprint of Thorns Green embankment, resulting in the requirement for an additional permanent realignment of Tributary of Birkin Brook 2. Tributary of Birkin Brook 2 will be realigned for 358m, to the south of Thorns Green embankment, routed around balancing pond for railway drainage. The tributary will then be culverted beneath the access track where the tributary will reconnect with the existing Birkin Brook 2 watercourse.
- 5.13.3 The main ES reported a 30m realignment and 20m diversion of Tributary of Birkin Brook 2. This will be amended through the additional land permanently required for watercourse

diversions at Mobberley Road (AP2-006-010). There would be no changes to this amendment (AP2-006-012) if it is introduced without the AP2-006-010 amendment.

5.13.4 The amendment will be constructed from the Mobberley Road North satellite compound and will be constructed within the indicative construction programme for the compound provided in Section 6.

5.13.5 The land required for this amendment is outside the limits of the Bill. The amendment will result the permanent requirement for an additional 0.18ha of land (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-355, B6 to D7).

## **Topics included in the AP2 assessment**

5.13.6 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: ecology and biodiversity; and water resources and flood risk.

5.13.7 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

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

5.13.9 This amendment has the potential to result in new or different significant construction for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.

5.13.10 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.

5.13.11 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## Environmental baseline

### Existing baseline

- 5.13.12 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### Designated sites

- 5.13.13 There is one LWS site of relevance to the assessment of the amendment. Ecclesfield Wood LWS covering an area of 3ha, lies partly within the land required for the original scheme, and an additional area is within the land required for the amendment. The LWS is of county/metropolitan value.

### Habitats

- 5.13.14 Habitats within land required for the amendment include lowland deciduous woodland, running water, dense scrub and arable land. The habitats of relevance to the assessment of the amendment are described further below.
- 5.13.15 As reported in the main ES, the lowland deciduous woodland within Ecclesfield Wood LWS is of county/metropolitan value.
- 5.13.16 The main ES reported the Tributary of Birkin Brook 2 to be of up to district/borough value.

### Species

- 5.13.17 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.13.18 The SES2 baseline reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees in the woodland within Ecclesfield Wood LWS, which are assumed to support roosting and foraging bats. The bat assemblage is considered to be of regional value.

### Future baseline

- 5.13.19 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.13.20 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.13.21 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.13.22 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Designated sites**

- 5.13.23 The main ES reported a permanent loss of 0.5ha (17%) of lowland deciduous woodland within Ecclesfield Wood LWS. The loss of habitat within the LWS was considered to have a permanent adverse effect that was significant at the county/metropolitan level for both the LWS and the lowland deciduous woodland for which the site is designated. The additional loss of 0.5ha of the LWS as a result of the amendment will result in a different significant effect, but there will be no change in the level of significance reported in the main ES.

#### **Species**

- 5.13.24 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat, and roosts, from within the bat assemblages bounded by the A556 and junction 6 of the M56 within the Hulseheath to Manchester Airport area. This would result in a permanent adverse effect that would be significant at a regional level. The amendment will result in the loss of trees, which on a precautionary basis are assumed to support roosting bats and foraging habitat. The amendment will result in a different significant effect on these bat assemblages, but there will be no change in the level of significance of the effect reported within the SES2. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26

#### **Other mitigation measures**

- 5.13.25 As reported in the main ES and in accordance with the Ecological Principles of Mitigation in the SMR, a route-wide, integrated strategic approach has been developed to compensate for the loss of woodland including that at Ecclesfield Wood LWS. The woodland habitat creation in this area is to compensate for the loss of woodland habitat in the local area as well as to ensure that the populations of protected and notable species including bats are maintained. An area of 1.1ha of woodland will be created adjacent to Ecclesfield Wood LWS as part of the original scheme. The planting will enhance connectivity of habitats in the location of Ecclesfield Wood LWS. As a result of the amendment, there will be an increase in the area of planting immediately adjacent to Ecclesfield Wood to approximately 1.3ha.



- 5.13.26 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on these bat assemblages will be reduced to a level that is not significant.

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

- 5.13.27 There are no changes to the likely residual significant effects identified in the main ES as a result of the amendment.

### **Cumulative effects**

- 5.13.28 No new, removed or different significant cumulative effects have been identified.

## **Water resources and flood risk**

### **Scope, assumptions and limitations**

- 5.13.29 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1, and the SMR of the main ES.
- 5.13.30 This amendment has the potential to result in new or different significant construction effects for water resources only. Therefore, there is no construction assessment for flood risk or operational assessment for water resources and flood risk.

## **Environmental baseline**

### **Existing baseline**

- 5.13.31 The baseline water resources and flood risk information is as shown in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, and in SES2. A summary of the baseline information relevant to the assessment of this amendment is provided below.

### **Surface water**

- 5.13.32 As set out in the main ES, all surface water bodies in this area fall within the Mersey Upper management catchment of the North West RBD. Tributary of Birkin Brook 2 will be realigned as part of this amendment. This watercourse is classified as a low value receptor.

### **Future baseline**

- 5.13.33 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

- 5.13.34 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.13.35 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on water resources and flood risk.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.13.36 No further avoidance and mitigation measures additional to those reported in the main ES and the CoCP are proposed.

### **Assessment of impacts and effects**

- 5.13.37 The main ES reported a moderate impact, resulting in a minor adverse effect, which is not significant, on Tributary of Birkin Brook 2. This was due to the loss of the upper reaches of Tributary of Birkin Brook 2 from the construction of Thorns Green embankment. This amendment involves the realignment of Tributary of Birkin Brook 2 to replace the lost watercourse. This realignment will remove the effect, which is not significant, reported in the main ES due to the loss of the watercourse.

### **Other mitigation measures**

- 5.13.38 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.13.39 No new, removed or different residual significant effects have been identified compared to the main ES.

### **Cumulative effects**

- 5.13.40 No new, removed or different significant cumulative effects have been identified.

## **5.14 Additional land required for the revised diversion of a Scottish Power 11kV overhead line, north of Brickhill Wood (AP2-006-013)**

- 5.14.1 The Bill provides for the permanent diversion of an existing Scottish Power 11kV overhead power line, 201m in length, located within approximately 150m<sup>2</sup> of Brickhill Wood Ancient

Woodland Inventory (AWI) site, approximately 340m south of the HS2 route. See Volume 2, MA06 Map Book, map CT-05-355, H9 to J10, in the main ES.

- 5.14.2 Since the main ES, the Scottish Power 11kV overhead power line diversion has been redesigned and the length of the diversion will be extended approximately 60m further west than the location identified in the original scheme. The diverted overhead power line will connect to an existing transmission pole on the boundary of the woodland. The works will also take place from outside the woodland ensuring that the land required during construction avoids encroaching on Brickhill Wood AWI and LWS.
- 5.14.3 The amendment will be constructed from Castle Mill Lane satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.14.4 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for an additional 0.15ha of land and a separate 0.086ha reduction in land required, a net increase of 0.06ha. See SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-355, H9 to I10.

## **Topics included in the AP2 assessment**

- 5.14.5 The assessment of this amendment has identified new, different or removed likely significant effects for ecology and biodiversity.
- 5.14.6 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

- 5.14.7 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.14.8 This amendment has the potential to result in new or different significant construction effects for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.14.9 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.

- 5.14.10 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.14.11 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### **Designated sites**

- 5.14.12 Brickhill Wood AWI site was located partly within the land required for the original scheme but is not within the land required for the amendment. This ancient woodland is considered to be of national value.
- 5.14.13 There is one LWS site of relevance to the assessment of the amendment. Brickhill Wood LWS is partly within the land required for the original scheme and partly within the land required for the amendment. This is of county/metropolitan value.

### **Future baseline**

- 5.14.14 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.14.15 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.14.16 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.14.17 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.14.18 The main ES described utility works within Brickhill Wood AWI site and Brickhill Wood LWS and reported that significant effects could be excluded as a result of the construction

method for these utility works. As a result of the amendment, the land within the Brickhill AWI site will no longer be required. An area of 70m<sup>2</sup> within Brickhill Wood LWS remains within the land required for this amendment. However significant effects can continue to be excluded at the LWS as a result of the construction method for this amendment.

### **Other mitigation measures**

- 5.14.19 No further mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.14.20 There are no changes to the likely residual significant effects identified in the main ES as a result of the amendment.

### **Cumulative effects**

- 5.14.21 No new, removed or different significant cumulative effects have been identified.

## **5.15 Additional land permanently required to reconfigure M56 junction 6 (AP2-006-014)**

- 5.15.1 The Bill provides for the HS2 route between the River Bollin East viaduct and the Manchester Airport High Speed Station, which would include construction of:
- River Bollin North embankment;
  - Ringway cutting;
  - M56 cutting retaining walls;
  - M56 East tunnel;
  - Manchester Airport High Speed Station cutting retaining wall south;
  - Manchester Airport High Speed Station cutting; and
  - Manchester Airport High Speed Station cutting retaining wall north.
- 5.15.2 Mitigation would be provided in the form of replacement floodplain storage areas, ecological mitigation ponds, grassland habitat creation, woodland habitat creation and landscape mitigation planting (see maps CT-06-356 to CT-06-357a in the main ES Volume 2, MA06 Map Book).
- 5.15.3 In the original scheme, the HS2 route would be located close to the M56. However, with the exception of realignment works to the slip roads at junction 6, there would be no permanent impact on the layout of the motorway.
- 5.15.4 The original scheme in this area would result in the loss of 0.17ha of ancient woodland across two locations in this area, at Bollin Bank Ancient Woodland Inventory (AWI) site and Hennersley Bank AWI site.

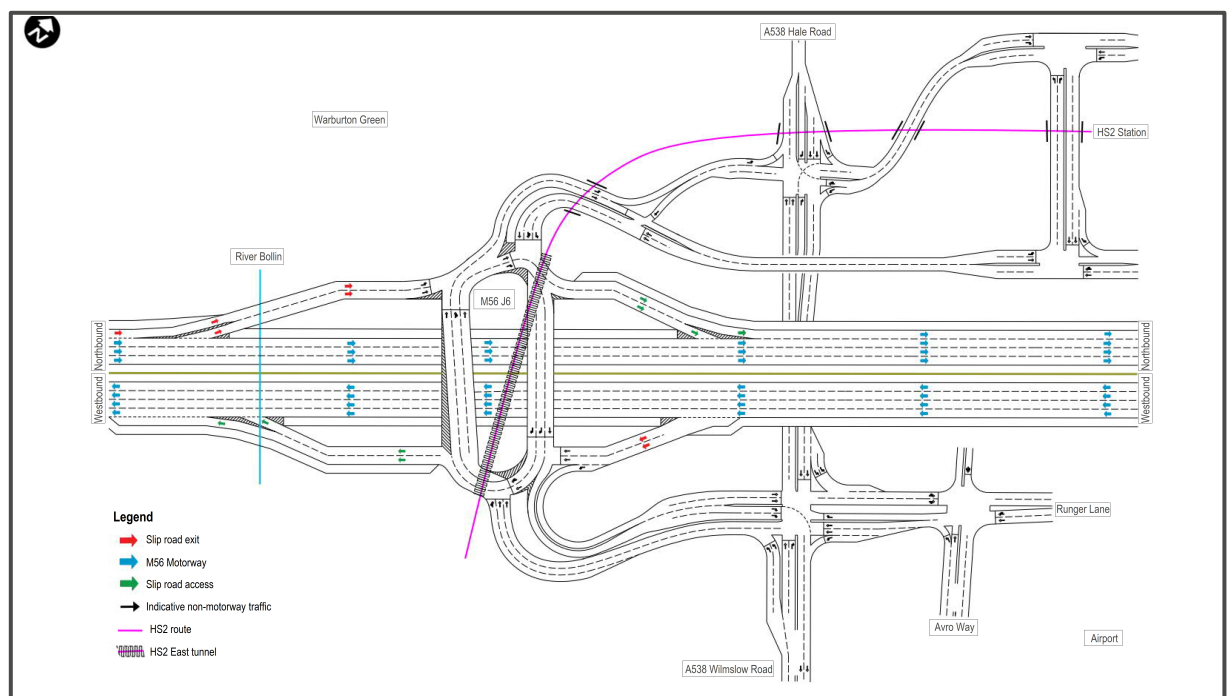
- 5.15.5 The Bill provides for the following overbridges in this area to enable access across the HS2 route (see the main ES Volume 2, MA06 Map Book):
- Sunbank Lane overbridge for the realigned Sunbank Lane (see map CT-06-356, C6);
  - A538 Hale Road overbridge (south) for westbound traffic on the A538 Hale Road (see map CT-06-356, H5); and
  - A538 Hale Road overbridge (north) for eastbound traffic on the realigned A538 Hale Road (see map CT-06-356, I5).
- 5.15.6 In the original scheme, the A538 Hale Road/Station Access gyratory would accommodate and provide access to the Manchester Airport High Speed station. The gyratory would consist of the following (see the main ES Volume 2, MA06 Map Book):
- reconfiguration of the A538 Hale Road/A538 Wilmslow Road/M56 northbound access junction (see map CT-06-356, H6);
  - reconfiguration of the A538 Wilmslow Road/Runger Lane/M56 westbound access junction (see map CT-06-356, H8 and H9);
  - M56/A538 Wilmslow Road offline underbridge, 49m in length and with a height clearance of 7m (see map CT-06-356, H7); and
  - M56/A538 Wilmslow Road non-motorised user underpass, 66m in length and 6m in width (see map CT-06-356, H7).
- 5.15.7 Since the main ES, through engagement with National Highways and in response to issues raised by local Greater Manchester stakeholders, the design of M56 junction 6 has been revised to improve forecast traffic flows associated with the Manchester Airport High Speed station. A 2.5km-long section of the M56 will be realigned up to 30m to the south of its current alignment (see map CT-06-355-L1, E9 to CT-06-356, I7 in the SES2 and AP2 ES Volume 2, MA06 Map Book). Junction 6 will be reconfigured with the introduction of a new grade-separated, six-arm gyratory located 600m to the south-west of the existing junction 6. Related works will include the introduction of a direct, grade-separated link to Manchester Airport High Speed station, a direct link to the A538 Wilmslow Road and the A538 Hale Road, and the construction of overbridges to accommodate the reconfigured junction.
- 5.15.8 The M56 junction 6 gyratory will manage traffic accessing and exiting the northbound and westbound M56 and will consist of a combination of the M56 junction 6 gyratory overbridge west and the M56 junction 6 gyratory overbridge east, both of which will be 63m in length (see map CT-06-356, D5 to E7 in the SES2 and AP2 ES Volume 2, MA06 Map Book). The gyratory will consist of the following (see the SES2 and AP2 ES Volume 2, MA06 Map Book):
- M56 junction 6 northbound exit slip road, 760m in length (see map CT-06-355, H2 to CT-06-356, D5);
  - M56 junction 6 northbound access slip road, 260m in length (see map CT-06-356, E6 to G7);
  - M56 junction 6 westbound exit slip road, 260m in length (see map CT-06-356, F7 to E7);

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

- M56 junction 6 westbound access slip road, 580m in length (see map CT-06-356, D6 to B2);
- M56 junction 6 Hale Road link road, 680m in length, which will run between the gyratory and the A538 Hale Road (see map CT-06-356, E5 to H6);
- M56 junction 6 station link road, 550m in length, which will provide access to the Manchester Airport High Speed Station (see map CT-06-356, E5 to I6); and
- M56 junction 6 Wilmslow Road link road, 720m in length, which will run between the gyratory and the A538 Wilmslow Road/Runger Lane junction (see map CT-06-356, E7 to H9).

5.15.9 Figure 4 identifies how traffic will navigate the gyratory and associated link roads.

**Figure 4: Schematic showing traffic flows in the vicinity of the gyratory**



5.15.10 In addition, the length of the following features included in the original scheme will be modified (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- Ringway cutting will be reduced by 198m, to a length of 232m (see map CT-06-356, B5 to C6);
- Sunbank Lane overbridge will be reduced by 10m, to a length of 60m and realigned 35m to the west where it crosses the HS2 route. The height above the ground will be reduced by 2m to 2m (see map CT-06-356, C5 to C6);
- M56 cutting retaining wall will be reduced by 33m to a length of 33m (see map CT-06-356, C5 and C6);
- M56 East tunnel will be extended by 259m, to a length of 392m (see map CT-06-356, C6 to E6);



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

- Manchester Airport High Speed station cutting retaining walls south will be extended by 348m, to a length of 434m. This will consist of two retaining walls, each 217m in length (see map CT-06-356, F6);
- Manchester Airport High Speed station cutting will be reduced by 172m, to a length of 83m (see map CT-06-356, F6 to G6); and
- the M56 Hasty Lane underpass extension will be increased by 13m to a length of 38m (see map CT-06-356, J6).

5.15.11 Additional features on the HS2 route will be required as follows (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- introduction of a portal building 18m by 43m and 6m in height at the southern end of the extended M56 East tunnel to the east of the HS2 route. A railway telecommunications mast up to 10m in height will be installed next to the building (see map CT-06-356, C6 to D6);
- M56 junction 6 Hale Road link overbridge, 18m in length and up to 1m below ground level and 12m above track level to provide access to the A538 Hale Road and the Manchester Airport High Speed station (see map CT-06-356, F6); and
- Hale Road Station link road, 330m in length to provide access between the A538 Hale Road/Station Access gyratory and the northern side of the Manchester Airport High Speed station. Access over the HS2 route will be provided by the Hale Road Station Link overbridge, 19m in length and up to 3m above ground level and 9m above track level (see map CT-06-356, H6 to I4).

5.15.12 The reconfiguration of M56 junction 6 will result in the following additional changes (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- realignment of the Thorns Green accommodation access, up to 105m west of its current alignment for 340m, crossing the M56 on the Thorns Green offline accommodation overbridge, which will be 67m in length. The existing accommodation overbridge will be demolished (see map CT-06-355, H1 to H2);
- M56 River Bollin underbridge will be widened by up to 13m on both sides of the carriageway for a length of 15m (see map CT-06-355, I2 to I3);
- realignment of Sunbank Lane, up to 180m to the west of its current alignment for 600m, crossing the M56 on the Sunbank Lane offline overbridge, 139m in length and 10m above ground level. The existing Sunbank Lane offline overbridge will be demolished (see map CT-06-356, C3 to C4);
- Sunbank Lane will be permanently closed to the east of Yewtree House to accommodate the M56 junction 6 Wilmslow Road link road and the M56 junction 6 westbound exit slip road, with access to properties retained on the southern side of the HS2 route (see map CT-06-356, D7). Users will be diverted along Chapel Lane, Green Gate, High Elm Road, the A538 Hale Road and the A538 Wilmslow Road, increasing the length of the journey by 3.3km;

- introduction of the A538 Wilmslow Road overbridge, 31m in length, which will carry the M56 junction 6 station link road over the A538 Wilmslow Road (see map CT-06-356, H7);
- a 75m connection from the northbound carriageway of the M56 junction 6 Wilmslow Road link road to the National Highways depot. Use of this route will be restricted to maintenance vehicles (see map CT-06-356, G8);
- realignment of Runger Lane up to 20m to the west for a length of 450m (see map CT-06-356, H9 to J8); and
- modifications to the Runger Lane/Avro Way junction, including the realignment of Avro Way and the widening of the carriageway at the junction of Runger Lane, and the creation of a new access off Runger Lane to the west to serve a surface car park (see map CT-06-356, I8 to I10).

5.15.13 The amendment will result in the following additional retaining walls (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- M56 junction 6 westbound access retaining wall, 444m in length and up to 10m above ground level (see map CT-06-356, D5 to B3);
- M56 junction 6 Wilmslow Road link road retaining wall, 131m in length and up to 14m above ground level (see map CT-06-356, D7);
- M56 junction 6 northbound access offline retaining wall, 48m in length and up to 4m above ground level (see map CT-06-356, E6 to F6);
- M56 junction 6 westbound exit retaining wall, 216m in length and up to 9m above ground level (see map CT-06-356, E7 to F7);
- M56 Junction 6 Hale Road Link overbridge retaining wall, 25m in length and up to 2m above ground level (see map CT-06-356, F6); and
- M56 junction 6 Wilmslow Road link road attenuation tank retaining wall, 40m in length and up to 4m above ground level (see map CT-06-356, F8).

5.15.14 The reconfiguration of M56 junction 6 will result in the removal of the following (see the main ES Volume 2, MA06 Map Book):

- M56/A538 Wilmslow Road underbridge (see map CT-06-356, H7); and
- M56/A538 Wilmslow Road non-motorised user underpass (see map CT-06-356, H7).

5.15.15 Figure 5 and Figure 6 show the main features of the reconfigured junction from two perspectives: west looking in a north-easterly direction; and north looking in a south-westerly direction.

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement  
 Volume 2: Community Area report  
 MA06 Hulseheath to Manchester Airport

Figure 5: Reconfiguration of M56 junction 6 – view from the west

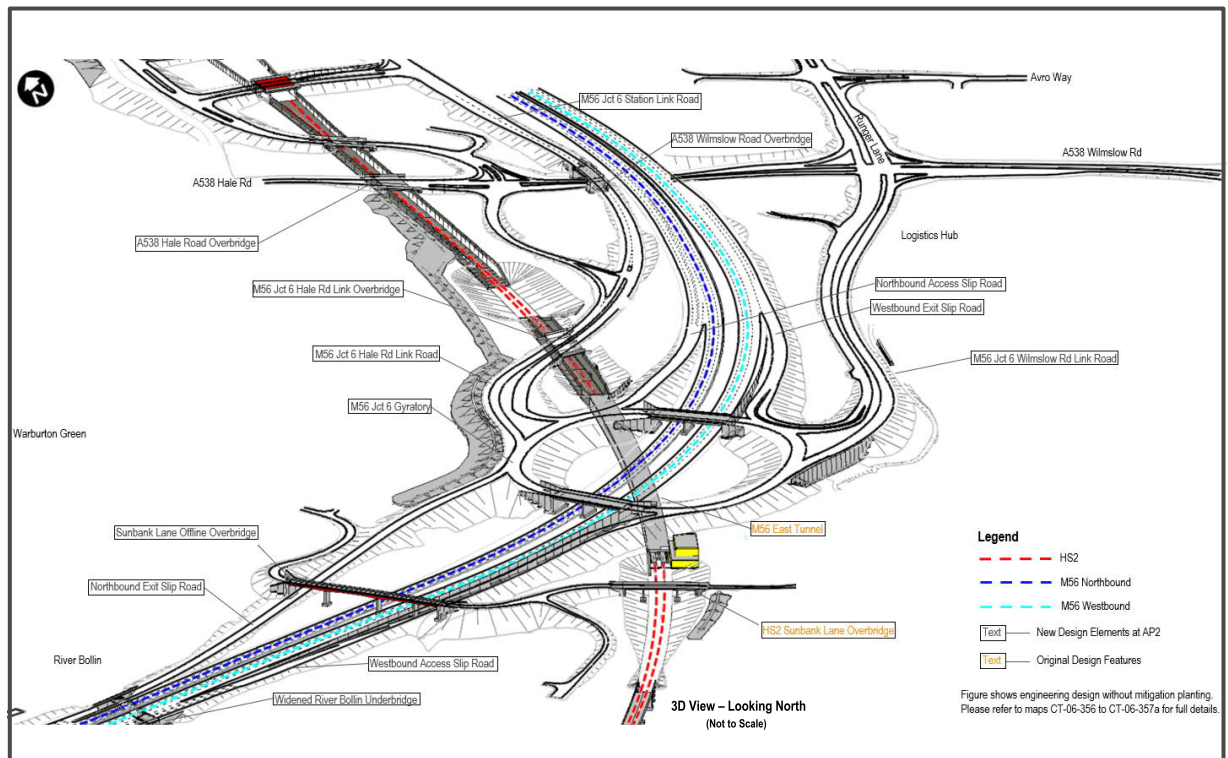
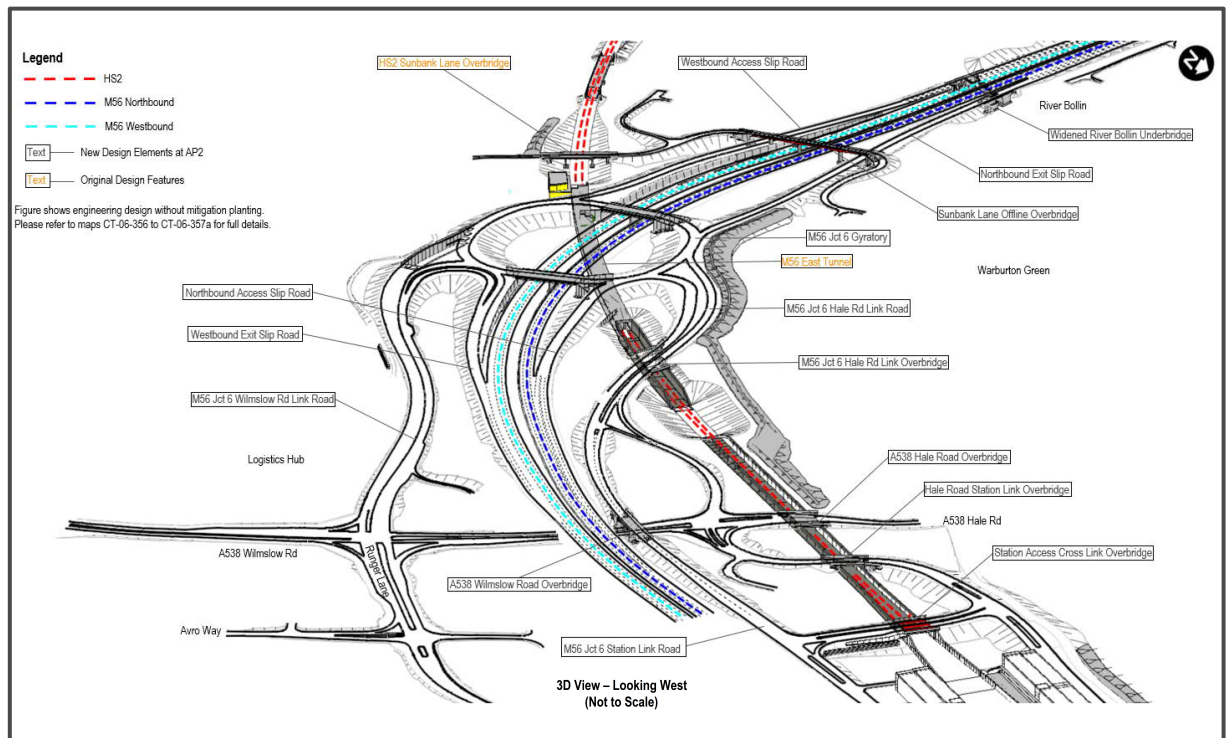


Figure 6: Reconfiguration of M56 junction 6 – view from the north



5.15.16 The amendment will result in the following additional mitigation (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- an area of woodland habitat creation to the south of the River Bollin to provide a receptor site for ancient woodland soils (see map CT-06-355 L1, G8 and G9);

- areas of woodland habitat creation between the Thorns Green accommodation overbridge and the River Bollin to mitigate for the loss of broadleaved woodland (see map CT-06-355-L1, F9 to I10). This includes an area of landscape mitigation planting on the top of an attenuation tank (see map CT-06-355 L1, I10);
- an area of landscape mitigation planting to the south of the M56 close to the Thorns Green accommodation overbridge, to replace vegetation lost on the south side of the M56 and to integrate the overbridge into the landscape (see map CT-06-355, G2 to H3);
- an area of woodland habitat creation east of the M56 and to the south of the River Bollin to partly compensate for the loss of part of Bollin Bank Wood ancient woodland (see map CT-06-355, I3 to I5);
- an area of woodland habitat creation to the east of the River Bollin East viaduct and to the south of the River Bollin to partly compensate for the loss of part of Hennesley Wood ancient woodland, and to provide a receptor site for ancient woodland soils (see map CT-06-356, A6);
- extension of an area of grassland habitat creation on the northern side of the River Bollin to the south of the M56, to replace the loss of grassland in this area (see map CT-06-356, B2 to C5);
- floodplain storage areas on both sides of the River Bollin between the M56 and the HS2 route to replace the loss of flood storage associated with the widening of the M56 River Bollin underbridge (see map CT-06-356, A2 to A4, B2, B3 to B4, and B5);
- an area of woodland habitat creation on the southern side of the River Bollin to the east of the River Bollin East viaduct, to partly compensate for the loss of part of Sunbank Wood ancient woodland, and to provide a receptor site for ancient woodland soils (see map CT-06-356, A9 to B7);
- extension of an area of woodland habitat creation to the east of the River Bollin North embankment, to partly compensate for the loss of part of Bollin Bank ancient woodland, and to provide a receptor site for ancient woodland soils (see map CT-06-356, B6 and B7);
- an area of landscape mitigation planting to the east of the realigned Sunbank Lane, to integrate the highway infrastructure into the landscape (see map CT-06-356, B7 to C7);
- an area of landscape mitigation planting to the east of the River Bollin, to mitigate for the loss of existing trees and hedgerows and to screen Sunbank Lane overbridge and the M56 junction 6 northbound exit slip road from residential properties in Warburton Green (see map CT-06-356, C2 and C3);
- an area of landscape mitigation planting between the realigned M56 and the M56 junction 6 northbound exit slip road to integrate the highway infrastructure into the landscape (see map CT-06-356, C3 to D5);
- a noise fence barrier, 221m in length and 3m in height located on the top of engineering earthworks between the realigned Sunbank Lane and the M56 junction 6 northbound exit slip road, to provide acoustic screening for properties in Warburton Green from operational highway noise (see map CT-06-356, C3 to D4);

- an area of landscape mitigation planting to the west of the M56 junction 6 northbound exit slip road and the M56 junction 6 Hale Road link road, for the loss of trees and hedgerows and to screen residential properties from the M56 junction 6 gyratory and associated slip roads (see map CT-06-356, D4 to E5);
- the extension of landscape earthworks from a location west of the Manchester Airport High Speed Station cutting to a location west of the M56 junction 6 Hale Road link road, to integrate the highway infrastructure into the landscape. The earthworks will also provide acoustic screening for properties in Warburton Green from operational highway noise (see map CT-06-356, D4 to E5);
- landscape mitigation planting within the M56 junction 6 gyratory, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, D6 to E5);
- an area of landscape mitigation planting on the eastern side of the M56 junction 6 Wilmslow Road link road, for the loss of vegetation and to screen properties in Ringway from the raised highway infrastructure (see map CT-06-356, D7 to E8);
- an area of landscape mitigation planting between the realigned M56 and the M56 junction 6 Wilmslow Road link road, for the loss of vegetation and to integrate the highway infrastructure into the landscape (see map CT-06-356, E7 to H7);
- an area of landscape mitigation planting between the Manchester Airport High Speed Station cutting retaining walls south and the M56 junction 6 Hale Road link road, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, E6);
- an area of landscape mitigation planting between the M56 junction 6 northbound access slip road and the M56 junction 6 Hale Road link road, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, F6 to G7);
- an area of woodland habitat creation between the Manchester Airport High Speed Station cutting and residential properties in Hale Barns, for the loss of broadleaved woodland in the area (see map CT-06-356, F4 to G5);
- an area of grassland habitat creation between the Manchester Airport High Speed Station cutting and residential properties in Hale Barns, for the loss of grassland in the area (see map CT-06-356, F4 to H5);
- an area of landscape mitigation planting on both sides of the HS2 route to the west of the M56 junction 6 Hale Road link road, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, F5 to H6);
- an area of landscape mitigation planting between the M56 junction 6 Hale Road link road and the M56 junction 6 station link road, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, G6 to H7);
- an area of landscape mitigation planting on the northern side of the A538 Wilmslow Road and Runger Lane junction, to integrate the highway infrastructure into the landscape (see map CT-06-356, H9);



- an area of landscape mitigation planting between the Hale Road station link road and the HS2 route, for the loss of trees and hedgerows and to integrate the highway infrastructure into the landscape (see map CT-06-356, H5 and H6);
- an area of landscape mitigation planting on the northern side of the A538 Hale Road to the west of the HS2 route, to screen residential properties on the southern side of the A538 Hale Road from Manchester Airport High Speed Station (see map CT-06-356, H5); and
- an area of landscape mitigation planting to the north of the Hale Road station link overbridge, to integrate the highway infrastructure into the landscape (see map CT-06-356, I5).

5.15.17 The reconfiguration of M56 junction 6 will result in the following changes to surface water features, which are shown on Figure 2 in the SES2 and AP2 ES Volume 5 Water Resources Assessment (WR-003-0MA06):

- realignment of Drain to M56 1 over a length of 354m from the M56 junction 6 gyratory to the River Bollin, including four new culverts (M56 junction 6 drain Sunbank Lane offline culverts 1-4) for access roads and footpath crossings;
- new culvert (Tributary of River Bollin 2 offline culvert) to carry the Tributary of River Bollin 2 under the M56 junction 6 gyratory, with associated upstream diversion, 64m in length;
- new culverts (Tributary of River Bollin 3 M56 offline culvert and M56 junction 6 drain Sunbank Lane offline culvert 5) to carry the Tributary of River Bollin 3 under the reconfigured M56 junction 6, with new upstream open channel for land drainage, 222m in length;
- new culverts (Tributary of River Bollin 4 offline culvert north and Tributary of River Bollin 4 offline culvert south) to carry the Tributary of River Bollin 4 adjacent to the widened M56, with associated realignment, 12m in length;
- realignment of Tributary of River Bollin 5, 205m in length, including a new culvert (Tributary of River Bollin 5 offline culvert) for a footpath crossing;
- a new culvert (Tributary of River Bollin 6 offline culvert) to carry the Tributary of River Bollin 6 under the M56, with associated realignment, 22m in length; and
- a new culvert (Tributary of River Bollin 7 offline culvert) to carry the Tributary of River Bollin 7 under the M56, with associated realignment, 48m in length.

5.15.18 The amendment will result in the following changes to PRoW (see the SES2 and AP2 ES Volume 2, MA06 Map Book):

- a new PRoW footpath, 530m in length will connect the retained section of Sunbank Lane with the Global Logistics Hub (see map CT-06-356, D7 to F8);
- the previously proposed diversion of Footpath Ringway 11 will be closed, with users diverted along the new PRoW linking Sunbank Lane with the Global Logistics Hub and the A538 Wilmslow Road. This will result in an additional increase in journey length of 801m (see map CT-06-356, D7 to F8);

- Footpath Ringway 10 will be closed, with users diverted along the new PRoW linking Sunbank Lane with the Global Logistics Hub, and the A538 Wilmslow Road. This will increase the journey length by 801m (see map CT-06-356, D7 to F8);
- the realignment of Footpath Ringway 12 will be reduced by 46m to 369m, reducing the increase in journey length identified in the original scheme to 96m (see map CT-06-356, B5 to C5);
- the diversion of Footpath Ringway 9 will be reduced by 10m to 365m, reducing the increase in journey length identified in the original scheme to 33m (see map CT-06-356, G4 to H5);
- the closure of a section of Footpath Hale 13, with users diverted along the Footpath Ringway 9 diversion, increasing the journey length by 33m. A new section of Footpath Hale 13 will be created between Marlfield Road and Bankside, which will be 410m in length (see map CT-06-356, E4 to F4);
- Footpath Hale 12 will be closed, with users diverted along the new section of Footpath Hale 13, resulting in a negligible change in journey length (see map CT-06-356, E4 and E5); and
- Footpath Hale 10 will be realigned under the M56 for 45m, increasing the journey length by 23m (see map CT-06-356, B2).

5.15.19 The reconfiguration of M56 junction will result in the following changes to utilities:

- the diversion of the United Utilities 102mm water main in Sunbank Lane will be reduced by 100m to a length of 1.3km;
- the permanent diversion of a Scottish Power 33kV below ground cable for 476m in length, across the M56 via the Sunbank Lane offline overbridge;
- permanent diversion of minor utilities to accommodate the Runger Lane realignment, including Electricity North West electricity cables, Openreach and Virgin telecommunications cables and a United Utilities water main;
- a change to the permanent diversion of minor utilities to accommodate the M56 junction 6 westbound exit slip road, including a Scottish Power electricity cable, an Openreach telecommunications cable and a United Utilities water main;
- a change to the permanent diversions and supplies of minor utilities to accommodate the Hale Road Station Link overbridge, including United Utilities water mains and sewers, Openreach telecommunications cables and a Scottish Power electricity cable; and
- a change to the permanent diversion of minor utilities to accommodate the A538 Hale Road overbridge, including a United Utilities water main and sewer, Cadent gas main, Openreach telecommunication cables and Scottish Power electricity cables.

5.15.20 Construction of all of the design elements associated with the amendment will take four years and six months to complete, commencing in 2028. Construction works will be managed from a number of satellite and main compounds, which are described below including an explanation of any changes from the original scheme. Further detail is provided in the indicative construction programme included in Section 6:



- M56 River Bollin satellite compound: this is a new compound which will operate for two years and six months. It will operate on a 24-hour basis (see map CT-05-355-L1, G9 to H10);
  - Castle Mill satellite compound: the duration will be the same as the original scheme (see map CT-05-355, I6 and I7 in the SES2 and AP2 ES Volume 2, MA06 Map Book);
  - River Bollin East Viaduct satellite compound: the duration will be extended by one year and three months (see map CT-05-356, B5 to C6 in the SES2 and AP2 ES Volume 2, MA06 Map Book);
  - Sunbank Lane satellite compound: the location of the compound will move 450m to the north-east, and the duration will be extended by six months (see map CT-06-356, F8 and G8 in the SES2 and AP2 ES Volume 2, MA06 Map Book);
  - M56 East satellite compound: the duration will be extended by nine months (see map CT-06-356, G5 and H5 in the SES2 and AP2 ES Volume 2, MA06 Map Book);
  - Manchester Airport High Speed Station South satellite compound: the duration will be the same as the original scheme, but this compound will now include railway system works. The location of the compound will move 160m to the north-west (see map CT-05-356, I4);
  - Manchester Airport High Speed Station main compound: no longer required and will be removed; and
  - Manchester Airport High Speed station North satellite compound: the duration will be extended by two years and it will become a main compound and therefore renamed the Manchester Airport High Speed Station main compound. To accommodate this change the size of the compound will increase by 1.6ha (see map CT-05-357a, A4 to C5).
- 5.15.21 As part of this amendment, changes need to be made between junctions 5 and 6 and junctions 6 and 7 to existing smart motorway infrastructure, such as the location of signage, gantries and emergency refuge areas. The works between junction 6 and junction 7 will take place at night-time between 21:00 and 05:00, Monday to Friday over a period of eight months. There will be a one-hour time period before (20:00 – 21:00) and after (05:00 – 06:00) this time for set up and demobilisation. This will include (but not be limited to) deliveries, movement to place of work, unloading, maintenance and general preparation works.
- 5.15.22 Some of the land required to reconfigure the M56 junction 6 is outside the limits of the Bill. The amendment will result in the permanent requirement for 74.4ha of additional land. (See the SES2 and AP2 ES Volume 2, MA06 Map Book).
- 5.15.23 The amendment will result in the additional loss of 0.42ha of ancient woodland across three locations: Hennersley Bank, Bollin Bank and Sunbank Wood AWI sites.
- 5.15.24 Table 12 identifies the additional demolitions that will be required as part of this amendment.

**Table 12: Additional demolitions**

Type	Description	Location	Feature resulting from demolition
Residential	One property on Sunbank Lane (Keepers Cottage), including two outbuildings	Sunbank Lane, Ringway	Realigned M56 and M56 junction 6 westbound exit slip road
Residential	Outbuilding of residential property on Sunbank Lane (Bollinbrook)	Sunbank Lane, Ringway	Realigned M56 and M56 junction 6 westbound exit slip road

## Local alternatives

5.15.25 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this amendment.

## Topics included in the AP2 assessment

5.15.26 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; community; ecology and biodiversity; health; historic environment; landscape and visual; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

5.15.27 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## Agriculture, forestry and soils

### Scope, assumptions and limitations

- 5.15.28 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES.
- 5.15.29 The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.15.30 All agriculture, forestry and soils effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

## Environmental baseline

### Existing baseline

5.15.31 The agricultural land associated with this amendment has soil in the Blackwood association, with some soil in the Salop association between Thorns Green and Warburton Green. Soils of the Blackwood association are commonly seasonally waterlogged (WC IV) and limited by

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

soil wetness to Subgrade 3b, unless the land is under-drained. Soils of the Salop association are developed in till and glaciofluvial sand and gravel deposits and are seasonally waterlogged soils (WC III to IV). The quality of the agricultural land is limited by soil wetness to mainly Subgrade 3a or Subgrade 3b.

5.15.32 Fifteen holdings, including some that were not impacted by the original scheme, will be affected by this amendment, as detailed in Table 13.

**Table 13: Summary characteristics of the holdings affected by the reconfiguration of M56 junction 6 (AP2-006-014)**

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/6 Millington Hall Farm	Arable and sheep	300	Commercial and residential properties let	CSS Mid-tier	Medium
MA06/8 Yarwood Heath Farm, inc. Cherry Tree Farm	Arable and livestock grazing	300	Commercial buildings lets	CSS Mid-tier	Medium
MA06/11 Ryecroft Farm*	Arable and grassland	54	Not known	None	Medium
MA06/19 Higher Thorns Green Farm	Arable, beef cattle and equestrian liveries	44	Care farm providing learning and support opportunities for adults and children	Entry Level Scheme (ELS)	Medium
MA06/24 Chapel House Farm	Non-commercial equestrian grazing	24	None	None	Low
MA06/25 Lower Thorns Green Farm	Livestock grazing	3.5	None	None	Low
MA06/26 Hale Bank Farm*	Livestock grazing	21	Not known	None	Medium
MA06/27 Higher Doles Farm*	Grassland	2.3	Not known	None	Low
MA06/28 Land at Hale Barns	Forage grassland	16	None	None	Low
MA06/29 Land at Warburton Green*	Forage grassland	5	Not known	None	Low
MA06/31 Land east of A538 Hale Road, Hale*	Grassland	8	Not known	None	Low
MA06/33 Land at Ash Farm*	Livestock grazing	108	Not known	None	Medium
MA06/35	Grassland	50	Not known	None	Medium

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
Tanyard Farm*					
MA06/36 Land at Mill Lane*	Grassland	1.1	Not known	None	Low
MA06/37 Land at Sunbank Lane*	Grassland	4.7	Not known	None	Low

\* It has not been possible to arrange farm impact assessment interviews with these holdings. Publicly available sources have been used to obtain the information presented.

## Future baseline

- 5.15.33 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.15.34 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.35 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on agriculture, forestry and soil.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.15.36 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

- 5.15.37 The amendment will require approximately 69ha of agricultural land in the Hulseheath to Manchester Airport area of which 65ha is Subgrade 3b and 4ha is Subgrade 3a.
- 5.15.38 The impacts on the holdings affected are set out in Table 14 and Table 15.

**Table 14: Temporary impacts and effects on holdings arising from reconfiguration of M56 Junction 6 (AP2-006-014)**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/6 Millington Hall Farm	The amendment will result in an increase in the area of land required of 2.9ha compared to the main ES.	Medium	Negligible	Moderate adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Holding reference/ name</b>	<b>Total area required from holding</b>	<b>Construction severance</b>	<b>Disruption</b>	<b>Scale of construction effect</b>	<b>Change in effect from main ES</b>
	The adoption of this amendment alone would increase the area of land required from this holding to 56.9ha (19%) Medium This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/8 Yarwood Heath Farm, inc. Cherry Tree Farm	The amendment will result in an increase in the area of land required of 9ha compared to the main ES. The adoption of this amendment alone would increase the area of land required from this holding to 83.7ha; 28% High This holding is affected by more than one AP2 amendment (see Section 5.26).	Low	Low	Major/ moderate adverse	No change
MA06/11 Ryecroft Farm	The amendment will result in an increase in the area of land required of 16.6ha compared to the main ES. The adoption of this amendment alone would increase the area of land required from this holding to 22.6ha; 42%. High This holding is affected by more than one AP2 amendment (see Section 5.26).	Low	Negligible	Major/ moderate adverse	Change from moderate adverse
MA06/19 Higher Thorns Green Farm	The amendment will result in an increase in the area of land required of 4.4ha compared to the main ES. The adoption of this amendment alone would increase the area of land required from this holding to 21.1ha; 48%. High This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	Low	Major/ moderate adverse	No change
MA06/24 Chapel House Farm	The amendment will result in an increase in the area of land required of 1.2ha compared to the main ES. The adoption of this amendment alone would increase the area of	Negligible	Low	Minor adverse	Change from negligible

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Holding reference/ name</b>	<b>Total area required from holding</b>	<b>Construction severance</b>	<b>Disruption</b>	<b>Scale of construction effect</b>	<b>Change in effect from main ES</b>
	land required from this holding to 3.1ha; 13%. Medium This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/25 Lower Thorns Green Farm	The amendment will result in an increase in the area of land required of 2.8ha compared to the main ES. The total area required from this holding is 3.4ha; 97%. High	Negligible	Negligible	Moderate adverse	New significant effect, change from minor adverse
MA06/26 Hale Bank Farm	The amendment will result in an increase in the area of land required of 0.7ha compared to the main ES. The total area required from this holding is 21.1ha; 100%. High	Negligible	Negligible	Major/moderate adverse	No change
MA06/27 Higher Doles Farm	The amendment will result in an increase in the area of land required of 1.6ha compared to the main ES. The total area required from this holding is 2.2ha; 95%. High	Negligible	Negligible	Moderate adverse	No change
MA06/28 Land at Hale Barns	The amendment will result in an increase in the area of land required of 1.5ha compared to the main ES. The total area required from this holding is 16ha; 100%. High	Negligible	Negligible	Moderate adverse	No change
MA06/29 Land at Warburton Green	The amendment will result in an increase in the area of land required of 2.9ha compared to the main ES. The total area required from this holding is 4.9ha; 98%. High	Negligible	Negligible	Moderate adverse	No change
MA06/31 Land east of A538 Hale Road, Hale	The amendment will result in a marginal increase in the area of land required of <0.1ha compared to the main ES. With the adoption of this amendment alone, and, factoring in rounding, the total area	Negligible	Negligible	Moderate adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
	required from this holding will remain 7.7ha; 96%. High This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/33 Land at Ash Farm	The amendment will result in an increase in the area of land required of 0.1ha compared to the main ES. The adoption of this amendment alone would increase the area of land required from this holding to 10.7ha; 10%. Low This holding is affected by more than one AP2 amendment (see Section 5.26).	Negligible	Negligible	Minor adverse	No change
MA06/35 Tanyards Farm	This is a newly affected holding and the amendment will require 19.6ha (32%) of the holding. High	Medium	Low	Major/ moderate adverse due to the proportion of land required.	New holding affected - new significant effect.
MA06/36 Land at Mill Lane	This is a newly affected holding and the amendment will require 1ha (93%) of the holding. High	Negligible	Low	Moderate adverse due to the proportion of land required.	New holding affected - new significant effect.
MA06/37 Land at Sunbank Lane	This is a newly affected holding and the amendment will require 4.5ha (95%) of the holding. High	Negligible	Low	Moderate adverse due to the proportion of land required.	New holding affected - new significant effect.

**Table 15: Permanent impacts and effects on holdings arising from reconfiguration of M56 Junction 6 (AP2-006-014)**

Holding reference/ name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/6 Millington Hall Farm	The adoption of this amendment alone will reduce the area of land permanently required by 0.1ha compared to the main ES. The total land required permanently will be 19.3ha (6%) Low	Medium	Negligible	Moderate adverse	No change



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Holding reference/ name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
	This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/8 Yarwood Heath Farm including Cherry Tree Farm	The adoption of this amendment alone will increase the area of land permanently required by 0.3ha compared to the main ES. The total land required permanently will be 31ha (>10%) Medium This holding is affected by more than one AP2 amendment (see Section 5.26).	Low	High	Major/ moderate adverse	No change
MA06/11 Ryecroft Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 0ha; 0% Negligible	Negligible	Negligible	Negligible	No change
MA06/19 Higher Thorns Green Farm	The adoption of this amendment alone will increase the area of land permanently required by 1.6ha compared to the main ES. The total land required permanently will be 14.9ha (34%) High This holding is affected by more than one AP2 amendment (see Section 5.26).	Medium	High	Major/ moderate adverse	No change
MA06/24 Chapel House Farm	The amendment will increase the area of land permanently required by 1.1ha compared to the main ES. The total land required permanently will be 1.2ha (5%) Negligible	Negligible	Negligible	Negligible	No change
MA06/25 Lower Thorns Green Farm	The amendment will increase the area of land permanently required by 0.9ha compared to the main ES. The total land required permanently will be 1.1ha (30%) High	Negligible	Negligible	Moderate adverse	New significant effect. Change from negligible
MA06/26 Hale Bank Farm	The amendment will increase the area of land permanently required by 2.9ha compared to the main ES. The total land required permanently will be 20.3ha (97%) High	Negligible	High	Major/ moderate adverse	No change

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Holding reference/ name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/27 Higher Doles Farm	The amendment will increase the area of land permanently required by 1.6ha compared to the main ES. The total land required permanently will be 2.2ha (96%) High	Negligible	Negligible	Moderate adverse	New significant effect. Change from minor adverse
MA06/28 Land at Hale Barns	The amendment will increase the area of land permanently required by 3.1ha compared to the main ES. The total land required permanently will be 12.1ha (75%) High	Negligible	Negligible	Moderate adverse	No change
MA06/29 Land at Warburton Green	The amendment will increase the area of land permanently required by 3.6ha compared to the main ES. The total land required permanently will be 4.9ha (98%) High	Negligible	Negligible	Moderate adverse	No change
MA06/31 Land east of A538 Hale Road, Hale	The adoption of this amendment alone will increase the area of land permanently required by 0.1ha compared to the main ES. The total land required permanently will be 7.4ha (93%) High This holding is affected by more than one AP2 amendment (see Section 5.26).	Negligible	Negligible	Moderate adverse	No change
MA06/33 Land at Ash Farm	The adoption of this amendment alone will increase the area of land permanently required by 0.1ha compared to the main ES. The total land required permanently will be 7.3ha (7%) Low This holding is affected by more than one AP2 amendment (see Section 5.26).	Negligible	Negligible	Minor adverse	No change
MA06/35 Tanyards Farm	The total land required permanently will be 10.3ha (17%) Medium	Negligible	Negligible	Moderate adverse	New holding affected - new significant effect.
MA06/36 Land at Mill Lane	The total land required permanently will be 1ha (93%) High	Negligible	Negligible	Moderate adverse	New holding affected - new significant effect.

<b>Holding reference/ name</b>	<b>Land required from holding</b>	<b>Severance</b>	<b>Infrastructure</b>	<b>Scale of effect</b>	<b>Change in effect from main ES</b>
MA06/37 Land at Sunbank Lane	The total land required permanently will be 4.3ha (92%) High	Negligible	Negligible	Moderate adverse	New holding affected - new significant effect.

### **Other mitigation measures**

5.15.39 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation has been identified.

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

5.15.40 The amendment will result in the following new or different temporary significant effects:

- a different major/moderate adverse (significant) effect for Ryecroft Farm (MA06/11) from moderate adverse as reported in the main ES;
- a new moderate adverse (significant) effect for Lower Thorns Green Farm (MA06/25);
- a new major/moderate adverse (significant) effect at Tanyards Farm (MA06/35);
- a new moderate adverse (significant) effect at Land at Mill Lane (MA06/36); and
- a new moderate adverse (significant) effect at Land at Sunbank Lane (MA06/37).

5.15.41 The following new or different permanent significant effects will also arise:

- a new moderate adverse (significant) effect for Lower Thorns Green Farm (MA06/25);
- a new moderate adverse (significant) effect for Higher Doles Farm (MA06/27);
- a new moderate adverse (significant) effect at Tanyards Farm (MA06/35);
- a new moderate adverse (significant) effect at Land at Mill Lane (MA06/36); and
- a new moderate adverse (significant) effect at Land at Sunbank Lane (MA06/37).

### **Cumulative effects**

5.15.42 No new, removed or different significant cumulative effects have been identified.

## **Community**

### **Scope, assumptions and limitations**

5.15.43 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.

- 5.15.44 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for community.

## **Environmental baseline**

### **Existing baseline**

- 5.15.45 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.15.46 This area covers the settlements of Warburton Green, Hale Barns, Davenport Green and surrounds, from the M56 in the south to Davenport Green in the north.
- 5.15.47 Hale Barns and Warburton Green (a settlement within Hale Barns) lie on the south-west outskirts of Altrincham and comprise approximately 1,500 residential properties. The nearest residential properties are adjacent to the AP2 revised scheme.
- 5.15.48 Davenport Green is a settlement comprising approximately 30 residential properties. The nearest residential properties are located 400m north-west of the AP2 revised scheme.

### **Future baseline**

- 5.15.49 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.15.50 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.51 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for community.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.15.52 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.15.53 This amendment will result in the demolition of one residential property on Sunbank Lane, Ringway. This residential property will be permanently lost.

- 5.15.54 The main ES reported a major adverse in-combination effect on approximately 40 residential properties on the eastern side of Warburton Green. Significant noise effects were expected to combine with significant visual effects for approximately four years and five months.
- 5.15.55 This amendment will increase the number of properties affected by significant noise and visual effects by 45 to 85 properties. The duration of the noise effects is expected to increase to four years and 11 months as a result of construction works. This change will result in a different major adverse in-combination effect on amenity for residents of approximately 85 properties on the eastern side of Warburton Green, which is significant.
- 5.15.56 The main ES reported a major adverse in-combination effect on approximately 30 residential properties in Hale Barns (in the vicinity of the A538 Hale Road and Hasty Lane). Significant noise effects were expected to combine with significant visual effects for approximately four years and two months.
- 5.15.57 This amendment will result in an increase in duration of significant noise effects on 30 residential properties in Hale Barns (in the vicinity of the A538 Hale Road and Hasty Lane) to approximately four years and 10 months. In addition, the A538 Hale Road will experience a significant increase in HGV traffic, resulting in a new significant HGV traffic effect. There will be a different significant adverse visual effect to that which was reported in the main ES, however the significance will remain the same. This change will result in a different major adverse in-combination effect on amenity for residents of 30 residential properties in Hale Barns (in the vicinity of the A538 Hale Road and Hasty Lane), which is significant.
- 5.15.58 The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Community Map Book: Map Series CM-01.

### **Other mitigation measures**

- 5.15.59 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.15.60 The amendment will result in:
- a different major adverse in-combination significant effect on approximately 85 residential properties in Warburton Green due to different noise and visual effects; and
  - a different major adverse in-combination significant effect on approximately 30 residential properties in Hale Barns due to different noise and visual effects and new HGV traffic effects.

### **Cumulative effects**

- 5.15.61 No new, removed or different significant cumulative effects have been identified.

## Ecology and biodiversity

### Scope, assumptions and limitations

- 5.15.62 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.15.63 This amendment has the potential to result in new or different significant construction effects for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.15.64 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.15.65 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

### Environmental baseline

#### Existing baseline

- 5.15.66 The baseline ecology and biodiversity information is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

#### Designated sites

- 5.15.67 There are three AWI sites of relevance to the assessment of the amendment; these are each of national value. There are also five sites designated as LWS or SBI, most of which overlap with the AWI sites; these are each of county/metropolitan value. These are:
- Hennersley Bank AWI site, which is located within Wood near Chapel Lane SBI, partly within the land required for the original scheme, with an additional area required for the amendment;
  - Bollin Bank AWI site, which is located within Sunbank Wood and Ponds SBI, partly within the land required for the original scheme, with an additional area required for the amendment;
  - Sunbank Wood AWI site, which is located within Sunbank Wood and Ponds SBI, within 10m of the land required for the original scheme, and partly within the land required for the amendment;
  - Jackson Bank East LWS, which is located 500m from the land required for the original scheme, and partly within the land required for the amendment;

- Rossmill SBI, which is located immediately adjacent to the land required for the original scheme, and partly within the land required for the amendment;
- Wood near Chapel Lane SBI, which is located partly within the land required for the original scheme, with an additional area required for the amendment;
- Sunbank Wood and Ponds SBI, which is located partly within the land required for the original scheme, with an additional area required for the amendment; and
- Mill Wood, Castle Wood LWS, which is located partly within the land required for the original scheme, with an additional area required for the amendment.

## **Habitats**

- 5.15.68 In addition to the ancient woodland described above, the following habitats are also located within the land required for the amendment: semi-natural broadleaved woodland, broadleaved plantation woodland, mixed plantation woodland, dense scrub, scattered scrub, scattered trees, hedgerows, semi-improved neutral grassland, improved grassland, poor semi-improved grassland, bracken and tall ruderal vegetation, standing and running water, arable, amenity grassland and buildings. The habitats of relevance to this assessment of the amendment are described below.
- 5.15.69 The main ES reported that lowland mixed deciduous woodland located within and adjacent to Mill Wood, Castle Mill LWS and along the River Bollin, at Sunbank Wood and Ponds SBI, at Jackson Bank East LWS, and at Rossmill SBI was of county/metropolitan value. Deciduous woodland at Mill Wood, Castle Mill LWS and along the River Bollin, and at Sunbank Wood and Ponds SBI was partially within the land required for the original scheme and all are partially within the land required for the amendment.
- 5.15.70 The SES2 reported 23 woodlands (likely to qualify as habitat of principal importance, each up to 1.5ha and none within wildlife site designations) at various locations throughout the Hulseheath to Manchester Airport area. These woodland habitats are of up to local/parish value. The land required for the amendment includes an additional 7.2ha of woodlands of which a large proportion are along the M56 corridor, that are also of value at up to the local/parish level.
- 5.15.71 Within the land required for the amendment, there is 5.2km of hedgerow. These hedgerows include 713m of species-rich hedgerow and 1km of species-poor hedgerow, and 3.5km of un-surveyed hedgerow that (based on aerial photography) are intact and contain trees, and that are assumed to be species rich. These hedgerows may qualify as a habitat of principal importance and as a conservation priority in the Cheshire BAP. The hedgerows contribute to a wider network across the Hulseheath to Manchester Airport area that is of county/metropolitan value.
- 5.15.72 The main ES reported semi-improved grassland covering 2.1ha between the River Bollin and Hale Bank Farm, and 3.5ha between Hale Bank Farm and Keepers Cottage within land required for the original scheme, as being of district/borough value. The land required for the amendment contains an additional 7.1ha of semi-improved neutral grassland. The



additional area of semi-improved grassland does not change the value of this habitat reported within the main ES.

- 5.15.73 The main ES reported species-poor semi-improved and marshy grassland covering 111.7ha within land required for the original scheme in the Hulseheath to Manchester Airport area to be of local/parish value. Within land required for the amendment, there is an additional 6.1ha of species-poor semi-improved grassland. The additional area of species-poor semi-improved and marshy grassland does not change the value of this habitat reported within the main ES.
- 5.15.74 The SES2 reported 43 ponds within or partly within land required for the construction of the original scheme. On a precautionary basis, all ponds were assumed to support habitats of principal importance or local Biodiversity Action Plan (BAP) habitats and were each of up to district/borough value. Within the land required for the amendment, there are an additional 12 ponds that are also each of up to district/borough value.
- 5.15.75 The main ES reported the presence of ancient and veteran trees within Mill Wood and Castle Mill LWS, partly within land required for the original scheme. Ancient and veteran trees were each considered to be of national value. An additional area of this LWS is within the land required for the amendment, and any ancient and veteran trees present in these areas would also each be of national value.

## **Species**

- 5.15.76 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.15.77 There are seven great crested newt populations or metapopulations within the land required for the amendment:
- the main ES reported an assumed great crested newt population of medium size within a network of two ponds (GCNP1.6.11). The land required for the construction of the amendment contains a small area of sub-optimal terrestrial habitat. The population is of up to county/metropolitan value;
  - the main ES reported an assumed great crested newt population of medium size in a network of two ponds east of Ashley (GCNP1.6.12). The land required for the construction of the amendment contains a small area of terrestrial habitat. The population is of up to county/metropolitan value;
  - the main ES reported an assumed great crested newt population of medium size in one pond (GCNP1.6.13). The land required for the construction of the amendment contains a small area of sub-optimal terrestrial habitat. The population is of up to county/metropolitan value;
  - the main ES reported an assumed great crested newt metapopulation of medium size in a network of seven ponds north of Ashley (GCNMP1.6.14). The land required for the

construction of the amendment contains one pond assumed to support great crested newts, and terrestrial habitat. The metapopulation is of up to county/metropolitan value;

- the main ES reported an assumed great crested newt population of medium size in one pond (GCNP1.6.15). The land required for the construction of the amendment contains terrestrial habitat associated with this population. The population is of up to county/metropolitan value;
- the SES2 reported an assumed great crested newt metapopulation of medium size in a network of four ponds west of Ashley (GCNMP1.6.17). The land required for the construction of the amendment contains terrestrial habitat and one pond in which the presence of great crested newt has been confirmed. This metapopulation is of up to county/metropolitan value; and
- the SES2 reported an assumed great crested newt metapopulation of medium size within a network of 39 ponds west of Manchester Airport (GCNMP1.6.33). The land required for the construction of the amendment contains five ponds, including one where the presence of great crested newt has been confirmed, and terrestrial habitat. This metapopulation is of up to county/metropolitan value.

5.15.78 The SES2 reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56. The SES2 identified Sunbank Wood as providing high roosting potential and the River Bollin providing key foraging for Myotis species. The land required for the amendment contains numerous trees in woodland areas and hedgerows, and an additional 150m length of the River Bollin and adjacent trees. The bat assemblage is considered to be of regional value.

5.15.79 The SES2 reported a bat assemblage of at least 10 species between junction 6 of the M56 and Manchester Airport. The land required for the amendment is situated primarily along the M56 and to the south in discrete areas around industrial units in sub-optimal habitat for this assemblage. The bat assemblage is considered to be of regional value.

## **Future baseline**

5.15.80 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

5.15.81 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

5.15.82 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.15.83 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Designated sites

- 5.15.84 The main ES reported a permanent loss of 700m<sup>2</sup> (10%) of Hennesley Bank AWI site. This would have an adverse effect on the structure and function of the site that was considered to be significant at the national level. The amendment will result in additional loss of approximately 0.3ha of ancient woodland. The change in the loss of irreplaceable habitat will result in a different significant effect, but there will be no change in the level of significance reported in the main ES.
- 5.15.85 The main ES reported a permanent loss of 700m<sup>2</sup> (9%) of woodland habitat from Wood near Chapel Lane SBI. The loss of habitat was significant at up to the county/metropolitan level. The amendment will result in the additional loss of 0.3ha of woodland within the SBI (the same area of woodland as reported under Hennesley Bank AWI site). The amendment will result in a different significant effect on the SBI, but there will be no change in the level of significance reported in the main ES.
- 5.15.86 The main ES reported a permanent loss of 0.1ha (17%) of Bollin Bank AWI site. This would have an adverse effect on the structure and function of the site that was considered to be significant at the national level. The amendment will result in additional loss of approximately 450m<sup>2</sup> of ancient woodland. The change in the loss of irreplaceable habitat will result in a different significant effect, but there will be no change in the level of significance reported in the main ES.
- 5.15.87 The amendment will result in the permanent loss of 800m<sup>2</sup> (6%) of Sunbank Wood AWI site. This would have an adverse effect on the structure and function of the site. The amendment will result in a new permanent adverse effect on Sunbank Wood AWI site that will be significant at the national level.
- 5.15.88 The main ES reported a permanent loss of 0.3ha (1%) of Sunbank Wood and Ponds SBI,. The loss of habitat was significant at up to the county/metropolitan level. The amendment will result in the additional loss of 0.54ha of Sunbank Wood and Ponds SBI. The amendment will result in a different significant effect on the SBI, but there will be no change in the level of significance reported in the main ES.
- 5.15.89 The amendment will result in the permanent loss of 0.22ha (11%) of woodland within Jackson Bank East LWS. The loss of the woodland habitat will result in a new adverse effect on the structure and function of the site which will be significant at county/metropolitan level.

- 5.15.90 The amendment will result in the permanent loss of 0.36ha (6%) of woodland within Rossmill SBI. The loss of the woodland habitat will result in a new adverse effect on the structure and function of the site which will be significant at the county/metropolitan level.
- 5.15.91 The main ES reported a permanent loss of 0.4ha (11%) of Mill Wood, Castle Mill LWS. The loss of habitats was considered to have an adverse effect on the structure and function of the site that was significant at county/metropolitan level. The amendment will result in an additional loss of 0.24ha of this LWS. This will result in a different significant effect but there will be no change in the level of significance of the effect reported in the main ES.

## **Habitats**

- 5.15.92 The main ES reported the loss of broadleaved woodland along the River Bollin, within Mill Wood, Castle Mill LWS and Sunbank Woods and Ponds SBI, which would be significant at county/metropolitan level. The amendment will result in a combined additional loss of 1.36ha of broadleaved deciduous woodland at these sites. The loss of broadleaved woodland will result in a different significant effect in each case, but there will be no change in the level of significance of the effect reported in the main ES.
- 5.15.93 On a precautionary basis, the SES2 reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the Hulseheath to Manchester Airport area, which would be significant at county/metropolitan level. The amendment will result in the additional loss of 5.2km of hedgerow. This will result in a different significant effect but there will be no change in the level of significance of the effect reported in the SES2.
- 5.15.94 The main ES reported the permanent loss of two areas of semi-improved neutral grassland, 0.5ha between River Bollin and Hale Bank Farm, and 3.2ha between Hale Bank Farm and Keepers Cottage. These losses resulted in an adverse effect, significant at district/borough level. The amendment will result in the additional loss of 7.1ha of semi-improved neutral grassland. This will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES.
- 5.15.95 The SES2 reported the assumed permanent loss of 43 ponds within the Hulseheath to Manchester Airport area, which were significant in each case up to district/borough value. The amendment will result in the loss of a further 12 ponds, this will result in an additional significant effect in each case, but there will be no change in the level of significance of the effect reported in the main ES.

## **Species**

- 5.15.96 The SES2 reported habitat loss from within metapopulations and populations of great crested newts, as a result of construction of the SES2 scheme, that would result in significant adverse effects up to the county/metropolitan level. The amendment will result in additional effects to four populations and three metapopulations of great crested newt. These will result in a different significant effect but there will be no change in the level of significance of the effect. The affected metapopulations are as follows:

- GCNP1.6.11: in a network of three ponds, and from which there is loss of terrestrial habitat;
- GCNP1.6.12: present in two ponds, and from which there is loss of one pond with confirmed presence and terrestrial habitat;
- GCNP1.6.13: present in a single pond, and from which there is loss of terrestrial habitat;
- GCNMP1.6.14: in a network of seven ponds, and from which there is loss of one pond with assumed presence and terrestrial habitat;
- GCNP1.6.15: present in a single pond, and from which there is loss of terrestrial habitat;
- GCNMP1.6.17: in a network of five ponds, and from which there is loss of one pond with confirmed presence and terrestrial habitat. This metapopulation is affected by more than one AP2 amendment; and
- GCNMP1.6.33: in a network of 39 ponds, and from which there is loss of five ponds, including one with confirmed presence, and terrestrial habitat.

5.15.97 The SES2 reported that the construction of the original scheme would result in fragmentation of foraging and commuting habitat and loss of roost sites within the bat assemblage between the A556 and junction 6 of the M56, which would be significant at regional level. The amendment will result in an increase in the fragmentation of habitats along the River Bollin during construction, including the potential loss of roosts and disturbance of retained roosts, when compared to the original scheme. This is likely to have a greater effect on the bats, resulting in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26.

## **Other mitigation measures**

### **Woodland**

- 5.15.98 The main ES reported a combined loss of 0.17ha of ancient woodland as a result of the original scheme at Hennersley Bank and Bollin Bank, for which two areas of woodland habitat creation of 0.6ha and 0.9ha were provided to the east of the River Bollin. The amendment will result in an additional loss of approximately 0.43ha of ancient woodland for which 3.9ha of the following areas of woodland habitat creation and translocation will be provided:
- 2ha in four areas to the south of the M56, and to the east of the River Bollin (previously partly identified in the main ES for Hancock's Bank and Hennersley Bank). This will partly compensate for the total loss of 0.37ha of ancient woodland at Hennersley Bank;
  - 1.3ha to the south of the amendment to the east of the River Bollin (previously partly identified in the main ES for Bollin Bank). This will partly compensate for the total loss of 0.14ha of ancient woodland at Bollin Bank; and
  - 0.6ha to the east of the River Bollin, adjacent to Sunbank Wood. This will partly compensate for the loss of 800m<sup>2</sup> of ancient woodland at Sunbank Wood.

- 5.15.99 Woodland planting to partly compensate for the loss of ancient woodland will include further measures such as translocation of ancient woodland soil with its associated seed bank where appropriate. Other measures such as planting native trees and shrubs of local provenance and translocation of coppice stools and dead wood will be undertaken in accordance with the Ecological Principles of Mitigation within the SMR.
- 5.15.100 As part of the amendment, further woodland compensation planting of approximately 15ha will be included to compensate for the loss of areas of broadleaved woodland as a result of this amendment. This will link up retained habitat along the AP2 revised scheme and new compensation planting. A temporary adverse effect as reported in the main ES will remain until these habitats become mature, after which these measures will reduce the effect on broadleaved woodland to a level that is not significant.

### **Grassland**

- 5.15.101 The main ES reported the creation of 5.2ha of species-rich and marshy grassland in three locations, south of Ashley, to the east of the River Bollin and south of Davenport Green Wood. This is in response to the loss of 0.5ha between the River Bollin and Hale Bank Farm, 3.2ha between Hale bank Farm and Keepers Cottage and 1.2ha marshy grassland at Warburton Green. As part of the amendment, a further 2.4ha of species-rich grassland will be provided to the west of the A538 and north of the reconfigured junction to partly compensate for the loss of semi-improved neutral grassland. Once established, and in conjunction with other grassland mitigation areas, these measures will reduce the effects on grassland to a level that is not significant.

### **Ponds**

- 5.15.102 The main ES reported that at least one pond would be created for every pond lost within the original scheme. This principle will be applied to the ponds located within the land required for the amendment. Once the new ponds are established, it is anticipated that any adverse effect on the conservation status of pond habitats will be reduced to a level that is not significant.

### **Amphibians**

- 5.15.103 Ponds, species-rich grassland and broadleaved woodland included as part of the AP2 revised scheme in this area will be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newts and other amphibians. Compensation will be provided within ecological habitat creation areas east of the River Bollin. Ponds, grassland and woodland will be established in accordance with the Ecological Principles of Mitigation within the SMR. Following implementation, the adverse effects on amphibian populations affected by the amendment will be reduced to a level that is not significant. HS2 Ltd will continue to survey ponds for great crested newt populations, and where it is confirmed that populations are absent then pond and terrestrial habitat provision will be reassessed.

## **Bats**

5.15.104 The SES2 reported that the loss of foraging and commuting habitat used by the bat assemblage between the A556 and junction 6 of the M56 would be addressed through the provision of woodland planting, hedgerows, grassland habitats and ponds throughout the area. The additional loss of foraging and commuting habitat caused by the amendment will be addressed through further woodland creation south of Warburton Wood, adjacent to Sunbank Wood and to the east of the River Bollin. Areas of grassland and pond creation, as well as landscape planting along the AP2 revised scheme, will provide additional habitat. To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. Following implementation of these measures, the effects on the bat assemblage in this area will be reduced to a level that is not significant.

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

5.15.105 Ancient woodland is an irreplaceable habitat, and as a result of the amendment there will be an increase in the loss of ancient woodland habitat of 0.43ha, taking the total to 0.59ha at the following locations:

- an additional loss of 0.3ha at Hennersley Bank AWI site, an increase from 700m<sup>2</sup>, resulting in a total loss of 0.37ha;
- an additional loss of 450m<sup>2</sup> at Bollin Bank, an increase from 0.1ha, resulting in a total loss of 0.14ha; and
- a new loss of 800m<sup>2</sup> at Sunbank Wood.

5.15.106 The additional loss of ancient woodland will result in a different permanent residual effect that will remain at the national level in each case.

5.15.107 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 5.2km. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level. In addition to the mitigation described above, opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## **Cumulative effects**

5.15.108 No new, removed or different significant cumulative effects have been identified.

## **Health**

### **Scope, assumptions and limitations**

5.15.109 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.



- 5.15.110 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for health.

## **Environmental baseline**

### **Existing baseline**

- 5.15.111 The baseline community information is as described in Section 8 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.15.112 This area covers the settlements of Warburton Green, Hale Barns, Davenport Green and surrounds, from the M56 in the south to Davenport Green in the north.
- 5.15.113 Hale Barns and Warburton Green (a settlement within Hale Barns) lie on the south-west outskirts of Altrincham and comprise approximately 1,500 residential properties. The nearest residential properties are adjacent to the AP2 revised scheme.
- 5.15.114 Davenport Green is a settlement comprising approximately 30 residential properties. The nearest residential properties are located 400m north-west of the AP2 revised scheme.

### **Future baseline**

- 5.15.115 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.15.116 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.117 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for health.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.15.118 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.15.119 The main ES reported an adverse neighbourhood quality effect for residents on the eastern side of Warburton Green. Construction noise was expected to be noticeable in the area for approximately four years and five months. Construction activities were expected to be

visible from street level. People in this community were likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, diminishing the amenity of the settlement.

- 5.15.120 Changes to the sound, noise and vibration and landscape and visual assessments as a result of the amendment will result in an increase in the number of residents affected, and will increase the duration of the noise effect to approximately four years and 11 months. This will result in a different adverse neighbourhood quality effect for residents on the eastern side of Warburton Green.
- 5.15.121 The main ES reported an adverse neighbourhood quality effect for residents in Hale Barns (in the vicinity of the A538 Hale Road and Hasty Lane). Construction noise was expected to be noticeable in the area for approximately four years and two months. Construction activities were expected to be visible from street level. People in this community were likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, diminishing the amenity of the settlement.
- 5.15.122 Changes to the sound, noise and vibration assessment as a result of the amendment will result in an increase in duration of the noise effect to approximately four years and 10 months. In addition, the A538 will experience a significant increase in HGV traffic. There will be a different significant adverse visual effect to that which was reported in the main ES, however the significance will remain the same. This will result in a different adverse neighbourhood quality effect for residents in Hale Barns (in the vicinity of the A538 Hale Road and Hasty Lane).

### **Other mitigation measures**

- 5.15.123 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Cumulative effects**

- 5.15.124 No new, removed or different cumulative effects have been identified.

## **Historic environment**

### **Scope, assumptions and limitations**

- 5.15.125 The assessment scope, key assumptions and limitations for historic environment are as set out in Volume 1 and the SMR of the main ES.
- 5.15.126 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for historic environment.

## Environmental baseline

### Existing baseline

- 5.15.127 The baseline historic environment information is as described in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. A summary of the baseline information relevant to the assessment of this amendment is provided below.
- 5.15.128 There is one designated heritage asset relevant to the assessment of the amendment. Yewtree House, Sunbank Lane (MA06\_0016) is a Grade II listed building of moderate value. The heritage value of the asset lies in its architectural and historic interest. Its setting, including small agricultural fields and its relationship with other buildings in a small hamlet, contributes to its heritage value.
- 5.15.129 There are two non-designated heritage assets relevant to the assessment of the amendment, which lie within the land required for the construction.
- 5.15.130 Keeper's Cottage, Sunbank Lane (MA06\_0345) is a non-designated asset of low value. The heritage value of the asset lies within its architectural and historic interest as a surviving post-medieval dwelling, in an area that has undergone extensive development.
- 5.15.131 Pigleystair Bridge across River Bollin (site of) (MA06\_0097) is a non-designated asset of low value. The modern footbridge has no heritage value. The heritage value of the asset lies within its archaeological interest, as the site of the former bridge. The heritage value of the asset also lies within its historic interest as a maintained public right of way, across the River Bollin between Halebank and Pigley Stair Cottages (MA06\_0101), since the late 19th century.
- 5.15.132 There is one Historic Landscape Character Area (HLCA) relevant to the assessment of the amendment. Ringway (MA06\_HLCA02) is a historic landscape of moderate value, partially located within the land required for construction of the amendment. The heritage value of the HLCA lies within the capacity to illustrate and provide evidence of a relatively unaltered historic rural landscape from the medieval period onwards despite the proximity to the M56 and Manchester Airport.

### Future baseline

- 5.15.133 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.15.134 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.135 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on historic environment.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.15.136 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Temporary effects

- 5.15.137 The main ES reported that the setting of Yewtree House, Sunbank Lane (MA06\_0016) would be temporarily altered by the presence of machinery associated with the construction of Ringway cutting, Sunbank Lane overbridge and Sunbank Lane. The amendment will introduce additional changes to the setting of the asset due to the presence of machinery associated with the construction of the M56 junction 6 gyratory overbridge west and the M56 junction 6 gyratory overbridge east. This will reduce the contribution that setting makes to the heritage value of the asset. This will introduce a different temporary adverse medium impact on a moderate value asset but will not change the level of the temporary moderate adverse significant effect reported in the main ES.

#### Permanent effects

- 5.15.138 The main ES reported that the setting of Yewtree House, Sunbank Lane (MA06\_0016) would be permanently altered by the removal of farmland and demolition of properties in the west of the hamlet in which it is located. The amendment will introduce additional changes to the setting from the construction of the M56 junction 6 roundabout overbridge west and the M56 junction 6 roundabout overbridge east. This will further reduce the amount of farmland around the former farmhouse, and its legibility as a former farmhouse in a small hamlet. This will reduce the contribution that setting makes to the heritage value of the asset. This will introduce a different permanent medium adverse impact on a moderate value asset. However, this will not change the level of the permanent moderate adverse significant effect reported in the main ES.
- 5.15.139 The main ES reported no significant effects for Pigleystair Bridge across River Bollin (site of) (MA06\_0097) and Keeper's Cottage, Sunbank Lane (MA06\_0345).
- 5.15.140 Pigleystair Bridge across River Bollin (site of) (MA06\_0097), is located within land required for the amendment. The heritage value of the asset lies within the archaeological remains of the 19th century footbridge and its historic interest as a maintained crossing of the river. The archaeological remains will be removed. This will constitute a new high adverse impact on a low value asset, resulting in a permanent moderate adverse significant effect.
- 5.15.141 Keeper's Cottage, Sunbank Lane (MA06\_0345) is located within the land required for the construction of the amendment and the asset will be demolished. This will constitute a new

high adverse impact on a low value asset, resulting in a permanent moderate adverse significant effect.

- 5.15.142 Ringway (MA06\_HLCA02) is a historic landscape of moderate value, located partially within the land required for the construction of the original scheme. The original scheme runs through the centre of the HLCA and involves the demolition of several properties within Ringway and removal of stretches of field boundaries including some of apparent medieval date and small parts of woodland. This would adversely impact the HLCA by removing elements of its historic field systems, affecting how its historic character can be perceived and understood. A permanent moderate adverse significant effect was reported for Ringway HLCA in the main ES.
- 5.15.143 The amendment will remove additional areas of piecemeal enclosure, ancient fields and woodland within the HLCA. This will adversely impact the HLCA by removing additional elements of its historic field systems and the demolition of Keeper's Cottage, affecting how its historic character can be perceived and understood. This will introduce a different medium adverse impact to the moderate value historic landscape. However, this will not change the level of the permanent moderate adverse significant effect reported in the main ES.

### **Other mitigation measures**

- 5.15.144 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.15.145 The amendment will give rise to a different adverse impact on the heritage value of Yewtree House, Sunbank Lane (MA06\_0016). However, this will not change the level of the permanent moderate adverse residual significant effect reported in the main ES.
- 5.15.146 The amendment will give rise to new permanent moderate adverse residual significant effects on Pigleystair Bridge across River Bollin (site of) (MA06\_0097) and Keeper's Cottage, Sunbank Lane (MA06\_0345).
- 5.15.147 The amendment will give rise to a different medium adverse impact on the heritage value of Ringway HLCA (MA06\_HLCA02). However, this will not change the level of permanent moderate adverse residual significant effect reported in the main ES.

### **Cumulative effects**

- 5.15.148 No new, removed or different significant cumulative effects have been identified.

## Landscape and visual

### Scope, assumptions and limitations

- 5.15.149 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.15.150 This amendment has the potential to result in new or different construction and operational landscape and visual effects.
- 5.15.151 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

### Environmental baseline

#### Existing baseline

- 5.15.152 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the baseline information relevant to the assessment of the amendment is provided below.

#### Landscape baseline

- 5.15.153 The amendment has the potential to affect four landscape character areas (LCA). These are described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. Of these, the amendment has the potential to significantly affect three LCA which are summarised below.

#### Ringway Lower Wooded Farmland LCA

- 5.15.154 The Ringway Lower Wooded Farmland LCA is a low lying, rural landscape predominantly used for arable and dairy farming. The area is characterised by farmland, hedgerows, tree-lined streams and narrow country lanes. There are many fine mature trees, especially hedgerow oaks. Overall, the area is well wooded, but the landscape in the north of the LCA has a more open character than in the south. Settlements include Ashley, New Mills and Thorns Green, with isolated farms and residential properties present throughout the area. There is an extensive PRoW network and National Cycle Network Route 70 passes through the centre of the LCA. The infrastructure of Manchester Airport is well screened from the area, but planes are frequently visible and audible in the sky above. Rural roads are narrow and tree-lined but often busy with traffic. The Mid-Cheshire Line runs north-south through Ashley and the M56 passes close to the north of the village, effectively severing it from the landscape to the north. Noise, movement and light generated by traffic, trains and aircraft reduce tranquillity in much of the LCA. Overhead power lines are prominent in both the eastern and western parts of the LCA.

- 5.15.155 The Ringway Lower Wooded Farmland LCA is assessed as having an overall **medium** landscape value based on its partly rural character, recreational route network, landscape severance and the presence of transport infrastructure.

#### **The River Bollin Broad Urban Fringe Valley LCA**

- 5.15.156 The River Bollin Broad Urban Fringe Valley LCA comprises the River Bollin valley, farms and farmland and a small settlement of dwellings along Sunbank Lane. The valley is steep sided in the east, broadening out north of Thorns Green. It is well wooded, with areas of ancient woodland, including Sunbank Wood and Cotterill Clough. There is a comprehensive PRoW network, with footpaths along the river valley and between Hale and Bowden. Other recreational uses include a golf course and sports pitches. There is a scheduled monument (Watch Hill motte and bailey castle) just east of the A56 Dunham Road. The area feels secluded, despite the proximity of the M56 (which crosses the River Bollin north of Thorns Green), Manchester Airport, the global logistics hub (west of the airport) and the urban edge of Greater Manchester. The sound of traffic on the M56 and planes is audible in much of the LCA, but the screening provided by existing woodland and tree belts between the infrastructure elements and the wider landscape creates a degree of separation between the LCA and neighbouring urban and infrastructure elements. On the PRoW along the River Bollin and west of the motorway and airport, the landscape feels tranquil. The LCA is largely unlit, but the M56 (east of Sunbank Lane) and the urban areas to the north are lit, contributing to the general skyglow above Greater Manchester.
- 5.15.157 The River Bollin Broad Urban Fringe Valley LCA is assessed as having an overall **medium** landscape value based on its wooded, rural character, recreational route network, landscape severance and the presence of transport infrastructure.

#### **Altrincham and Hale Urban Fringe Farmland LCA**

- 5.15.158 The Altrincham and Hale Urban Fringe Farmland LCA is surrounded by urban areas that have experienced substantial change since the mid-20th century with the expansion of Greater Manchester and Manchester Airport. Urban development on its boundaries is apparent almost everywhere in the LCA but despite this, due to its predominantly agricultural land use, it retains a rural character. Arable and pasture fields are small to medium in size and surrounded by tree-lined hedgerows and woodland. The land is low-lying, with clay soils and a high water table which feeds the numerous streams and watercourses, including Timperley Brook and Fairywell Brook. The LCA is well-wooded including along the M56 corridor and around Davenport Green and this gives the area a secluded character. Davenport Green Wood is partly ancient woodland. The built form includes the settlement of Davenport Green and individual farmhouses and dwellings. The timber framed 17th century Davenport Green Hall, in wooded grounds, is Grade II listed. There is an extensive PRoW network north of Davenport Green. Other recreational land uses include a golf course and a cricket ground. The M56 and Manchester Airport are sources of noise and activity, reducing tranquillity throughout much of the LCA. The proximity of Greater Manchester and the airport means that the night sky is not dark.



- 5.15.159 The Altrincham and Hale Urban Fringe Farmland LCA is assessed as having an overall **medium** landscape value based on the presence of important habitats including Davenport Green ancient woodland and the contribution to the secluded character of parts of the LCA that the farmland and associated woodland creates. The M56 and surrounding development are detracting features around the boundaries of the LCA which are more typical of an urban fringe area.

### **Visual baseline**

- 5.15.160 The amendment has the potential to affect 15 viewpoints, of which six are new viewpoints. These viewpoints are described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. Of these, the amendment has the potential to significantly affect 12 viewpoints which are summarised below.

#### **View south from Tanyard Lane (high sensitivity receptor) (331-02-003)**

- 5.15.161 This viewpoint is representative of views experienced by residents around the junction of Tanyard Lane and Castle Mill Lane. Views south are over pasture fields surrounded by parkland fencing. Tree-lined hedgerows screen the farmland beyond. The narrow, rural roads of Castle Mill Lane and Tanyard Lane stretch away to the east and south-west respectively. Ecclesfield Wood and Back Lane Farm are visible in the far distance. The M56, to the north, is in cutting and moving vehicles and gantries are screened by the cutting and intervening vegetation. Residential properties east of the viewpoint have more open views looking north than properties to the west, where garden vegetation and outbuildings filter or screen near-distance views.

#### **View north from Castle Mill Lane (high sensitivity receptor) (331-02-007)**

- 5.15.162 This viewpoint is representative of views experienced by residents on Castle Mill Lane and Footpaths Ashley 15/1 and 11/1. The narrow, hedge-lined Castle Mill Lane occupies the near-distance view, with Chapel House Farm and paddocks, separated by post and wire fencing, in the middle distance. Cottages on Castle Mill Lane are visible in filtered, distant views beyond. Woodland along the River Bollin valley forms the backdrop to views to the east. Chapel House Farm and intervening vegetation screens distant views to the north and west from this location.

#### **View north-west from Footpath Ringway 13, near Pigleystair Bridge (high sensitivity receptor) (332-03-001)**

- 5.15.163 This viewpoint is representative of views experienced by users of Footpaths Ringway 12, 13 and 14 and Ashley 10/1 and 11/1. The view is over rough pasture with naturalised scrub vegetation in the near distance. Beyond, woodland lining the River Bollin screens views west, but the south-western side of the river valley is discernible through the trees. Woodland belts along small watercourses form the backdrop to the view and screen the M56 to the north-west. Telegraph poles and a power line are visible across the view. The presence of woodland and scrub and valley landform associated with the River Bollin contain views for the majority of the PRoW.

**View west by Yew Tree House on Sunbank Lane (high sensitivity receptor) (332-02-003)**

- 5.15.164 This viewpoint is representative of views experienced by residents and road users on Sunbank Lane. Sunbank Lane, lined with trees and hedgerows, occupies the near distance of the view. A gap in the hedge reveals a small pasture field surrounded by hedgerows in the middle distance. A power line crosses the western boundary of the field. Evergreen and deciduous trees growing in gardens and along Sunbank Lane form the backdrop of the view. A property on Sunbank Lane is visible through the trees, whilst existing hedgerows along field boundaries filter views from properties to the north and west.
- 5.15.165 At night, near-distance views are relatively dark. There is skyglow from lighting along the M56 and the urban areas to the west.

**View east from Burnside, Warburton Green (high sensitivity receptor) (332-02-005)**

- 5.15.166 This viewpoint is representative of views experienced by residents on the south-eastern edge of Warburton Green and users of Footpath Hale 13 and Footpath Ringway 9. The view is over a flat, tussocky grass field. Tree belts partially screen or filter views of and from residential properties on Warburton Close and on A538 Hale Road and the hotel north of A538 Hale Road. Trees bordering the boundary between the field and the M56 screen views of the motorway, in cutting at this point. Vehicles on the slip road, rising to leave the motorway at junction 6, and motorway lighting are visible in the far distance. A large distribution warehouse and a mobile phone mast are apparent above the trees in the east.

**View east from the A538 Hale Road (high sensitivity receptor) (332-02-006)**

- 5.15.167 This viewpoint is representative of views experienced by residents and road users of the A538 Hale Road. The view is of a tree-lined suburban road, bordered by the hedges, fences and walls of the residential properties along the road. The properties are generally set back from the road and many are screened from view by garden vegetation. The junction of the A538 Hale Road and Hasty Lane is visible in the middle distance of the view along with a large house, typical in scale of the houses along the road. Hale Road curves to the south-east and mature trees fill much of the skyline and screen more distant views to the south.
- 5.15.168 At night, the A538 Hale Road is brightly lit by street lighting and there is light spill from buildings.

**View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)**

- 5.15.169 This viewpoint is representative of views experienced by residents of Brooks Drive and users of Footpath Hale 16. Near-distance views over grassland are framed by a hedgerow running parallel to Footpath Hale 16 and partially screened by vegetation in back gardens of properties on Brooks Drive. In the middle distance, open farmland divided by hedgerows slopes gently down towards Timperley Brook. In views south, Flaxhigh Covert screens the A538 Hale Road, but a property on Hasty Lane can be discerned adjacent to the woodland. Davenport Green Wood screens views north towards Thorley Lane. The lights and overhead

gantries of the M56 are visible in gaps between the intervening vegetation in views east, as are the hotels and buildings in the Manchester Airport logistics zone beyond.

- 5.15.170 At night, near and middle-distance views are relatively dark, but lighting on the M56 and in the Manchester Airport area is intermittently visible in the far distance where there are gaps in the tree cover.

**View north from Castle Mill Lane, west of Thorns Green (high sensitivity receptor) (331-02-013)**

- 5.15.171 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced by residents at or close to Lower Thornsgreen Farm and Little Thorns Green Farm and at Barley Brow Cottage and Barley Well Cottage. Low hedgerows with occasional hedgerow trees allow clear views from Castle Mill Lane across the open farmland to the north. Overhead telegraph lines are visible across much of the view. Woodland along the M56 screens views towards the M56. The land rises in the far distance, with woodland to the north and west of the M56 forming the skyline.
- 5.15.172 At night, the area is rural and relatively dark with outdoor lighting limited to farmyards and isolated properties in the landscape.

**View south from Footpath Hale 10 (high sensitivity receptor) (331-03-014)**

- 5.15.173 This new viewpoint is located in an area where there would changes from the original scheme. It represents the views experienced by users of Footpath Hale 10 north of the M56. Long views south from the PRoW and along the river corridor are largely screened by woodland and trees lining the River Bollin. However, close to the motorway, there is a narrow, framed view of the M56 River Bollin underbridge and moving traffic from the PRoW.

**View north-east from Footpath Hale 10 (high sensitivity receptor) (331-03-015)**

- 5.15.174 This new viewpoint is located in an area where there would be changes from the original scheme. It represents the views experienced by users of Footpath Hale 10 south of the M56. Near-distance views are of the tree-lined River Bollin and an area of gently rising rough grassland with scattered trees. In the middle distance there are views of the M56 River Bollin underbridge which largely screens views to the countryside to the north of the motorway. Footpath Hale 10 crosses the river under the bridge. Views of moving traffic on the M56 are filtered by roadside vegetation.

**View south from Chapel Lane (high sensitivity receptor) (332-02-009)**

- 5.15.175 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced by residents on Rivershill Gardens and Ridge Avenue. The view is over a gated field entry from the roadside verge of Chapel Lane at the edge of Hale. Roadside vegetation along Chapel Lane, garden boundary fences and garden vegetation frame views of pasture enclosed by timber post and rail fencing. The land falls towards the tree-lined M56 road corridor, with traffic movements and road signage clearly visible in the middle distance of the view. Beyond the M56, distant views are over the River

Bollin valley with areas of pasture and the wooded course of the River Bollin and tributary streams.

- 5.15.176 At night, Chapel Lane is unlit in this location but lighting along the M56 and from adjacent properties is visible.

**View south-east from Bankside (high sensitivity receptor) (332-02-010)**

- 5.15.177 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced by residents on Bankside, Warburton Drive and Warburton Close. Near-distance views are along the road, which is lined by residential properties with front gardens to the north and a tree belt to the south which delineates the boundary between the urban and rural landscapes. The tree belt largely screens views of the farmland to the south and the M56 motorway, which is in cutting at this point.

- 5.15.178 At night, street lighting and light spill from residential properties are visible in the near distance. The motorway in cutting at this location and combined with the screening effect of intervening vegetation limits views of car headlights, the M56 being unlit.

**Future baseline**

- 5.15.179 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.15.180 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.181 The committed development of relevance to the landscape and visual assessment that would materially alter the future baseline during construction and operation of the AP2 revised scheme in this area, is set out in Table 16.

**Table 16: Committed developments of relevance to landscape and visual amenity**

Map book reference <sup>27</sup>	Planning reference	Description	How this is considered in the assessment
MA06/271S	Policy JP Allocation 3.2	Allocation for Timperley Wedge - site allocated for 2400 residential units, 60,000sqm of employment land and a new local centre.	Informing future landscape baseline.

- 5.15.182 The Places for Everyone Joint Development Plan for Greater Manchester (submitted to the Secretary of State in February 2022) includes the Timperley Wedge allocation (JPA 3.2) for

<sup>27</sup> SES2 and AP2 ES Volume 5, Appendix: CT-004-00000, *Planning Data/Committed Development Map Book: Maps CT-13-321 to CT-13-322a-L1..*

residential and commercial development. There is no information on the likely design of any of the proposed developments in the allocation area. Therefore the allocation has been included as part of the future baseline and considered within this assessment for landscape, however it has not been included in the future baseline for the visual assessment or considered within the visual assessment.

### Construction (2025)

- 5.15.183 Construction on the Timperley Wedge allocation could potentially start before 2025, in the northern part of the allocation area near Timperley. In this case it will diminish the rural character of the Altrincham and Hale Urban Fringe Farmland LCA, in which the allocation area lies, with the introduction of construction compounds and equipment, construction activity, noise and lighting into what is currently farmland.

### Operation (2038)

- 5.15.184 The Timperley Wedge allocation will comprise a residential and mixed-use development of 2,500 homes, 6ha of employment land, community facilities, enhanced green infrastructure and new public rights of way. A new local centre, with 0.3ha of retail space, will be provided close to Manchester Airport High Speed station and Metrolink Davenport Green station. The residential development density around the stations will be higher than in the northern part of the allocation area. A substantial part of the allocation is assumed to be developed by the time the HS2 scheme becomes operational, diminishing the rural character of the Altrincham and Hale Urban Fringe Farmland LCA with the introduction of built development on what is currently farmland, a reduction in tranquillity and an increase in the level of street lighting in the area.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.15.185 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Landscape assessment

#### Ringway Lower Wooded Farmland LCA

- 5.15.186 The main ES reported a **major** adverse (significant) effect for the Ringway Lower Wooded Farmland LCA of **medium-high** susceptibility and **medium** value. This would be due to the introduction of construction activity, machinery and satellite compounds into a predominantly rural landscape, diversions and closures of the PRow network and a reduction in tranquillity throughout the LCA.

5.15.187 As a result of the amendment, there will be an increased effect on the LCA because the amendment will result in an enlargement of the area of land required for construction within the LCA. There will also be a substantial increase in the area of land required for construction in the adjoining River Bollin Broad Urban Fringe Valley LCA and Manchester Airport LCA. The direct effects of the amendment on the Ringway Lower Wooded Farmland LCA will arise from the construction of the Thorns Green Farm accommodation offline overbridge and construction activity along the M56 corridor. However, the amendment will be inconspicuous in the context of the large-scale construction works associated with the HS2 route taking place in the LCA. The LCA will also be indirectly affected by the construction of the M56 River Bollin underbridge widening, the M56 junction 6 northbound exit slip road and the M56 junction 6 westbound access slip road, further reducing tranquillity in a small part of the LCA. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

#### **The River Bollin Broad Urban Fringe Valley LCA**

5.15.188 The main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect for the River Bollin Broad Urban Fringe Valley LCA of **medium** susceptibility and **medium** value. This would be due to the introduction of construction activity, machinery and satellite compounds into a wooded river valley, the demolition of buildings, the removal of vegetation along the River Bollin and PRoW diversions. However, only a small proportion of the LCA would be affected.

5.15.189 As a result of the amendment there will be an increased effect on the LCA because the amendment will result in an enlargement of the area of land required for construction within the LCA. The construction of the M56 River Bollin underbridge widening, the M56 junction 6 northbound exit slip road, the M56 junction 6 westbound access slip road, the Sunbank Lane overbridge and M56 junction 6 gyratory will affect land along River Bollin Valley, north and south of the M56. The amendment will result in a noticeable change to the character of the landscape of the eastern end of the LCA, with changes to the local landform due to large-scale earthworks, temporary PRoW diversions and a reduction in tranquillity. However, a relatively small proportion of the LCA will be affected as existing woodland, outside the area required for construction, and variations in the landform will screen construction activity from the wider LCA. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **Altrincham and Hale Urban Fringe Farmland LCA**

5.15.190 The main ES reported a **high** magnitude of change and **major** adverse (significant) effect for the Altrincham and Hale Urban Fringe Farmland LCA of **medium-high** susceptibility and **medium** value, due to the introduction of large-scale construction activity associated with: Manchester Airport High Speed station, car parks and cutting, Manchester tunnel south portal (in the adjoining Davenport Green to Ardwick area (MA07)) and Thorley Lane overbridge, into a partly rural, wooded landscape. Tranquillity, already low due to the noise and activity generated by Manchester Airport and the M56, would be further reduced.



- 5.15.191 The amendment will increase the landscape effect on the LCA. Changes will result from the realignment of Sunbank Lane and the construction of the M56 junction 6 gyratory, Hale Road station link road and M56 junction 6 Hale Road overbridge. The construction of the new structures will largely take place within the land already required for the construction of the original scheme, but additional construction activity will be apparent in the area south of Warburton Green, with increased changes to the local landform due to large-scale earthworks. There will also be a change in the nature of the extensive construction activity associated with the original scheme in this area. In addition, the Manchester Airport High Speed station south satellite compound will be moved north-west, enlarging the area of land required for construction. Therefore, the amendment will give rise to a **high** magnitude of change. Despite the reduction in the sensitivity of the LCA as a result of the inclusion of the Timperley Wedge allocation in the future baseline, the large scale of the construction activity taking place and the enlargement of the area required for construction in the LCA will result in a **major** adverse (significant) effect. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

## Visual assessment

### View south from Tanyard Lane (high sensitivity receptor) (331-02-003)

- 5.15.192 The main ES reported a **moderate** adverse (significant) effect for residents near the junction of Tanyard Lane and Castle Mill Lane of **high** susceptibility and with **medium** value views. This would be due to views of construction traffic on Tanyard Lane, Castle Mill Lane and Back Lane and partially screened views of the construction of the Thorns Green embankment and Back Lane farm accommodation overbridge in the far distance.
- 5.15.193 The amendment will slightly change the visual effect at this viewpoint. While the majority of construction activity associated with it will be screened by intervening vegetation, a stretch of vegetation lining the motorway will be removed east and west of the Castle Mill Lane bridge, opening up views of the removal of an existing emergency refuge area and overhead gantry from the M56 corridor and the construction of two new emergency refuge areas and three new overhead gantries along the same stretch of the motorway. The motorway is in cutting at this point and only the tops of taller machinery in use during construction will be visible. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### View north from Castle Mill Lane (high sensitivity receptor) (331-02-007)

- 5.15.194 The main ES reported a **major** adverse (significant) effect for residents on Castle Mill Lane and Footpaths Ashley 15/1 and 11/1 of **high** susceptibility and with **medium** value views. This would be due to the demolition of Higher Thorns Green Farm and cottages on Castle Mill Lane, the construction of Thorns Green cutting, Castle Mill Lane realignment, Castle Mill Lane overbridge, Castle Mill Lane telecommunications site and Brickhill Lane diversion and the removal of boundary vegetation close to Chapel House Farm which will open up views to the north and west. The amendment will change the visual effect at this viewpoint. An additional area of land will be required for woodland habitat creation and consequently



there will be views of ground preparation and tree planting from Footpath Ashley 11/1. The existing vegetation within this area of land will be retained, maintaining the screening of the Castle Mill Lane satellite compound immediately to the north. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View north-west from Footpath Ringway 13, near Pigleystair Bridge (high sensitivity receptor) (332-03-001)**

5.15.195 The main ES reported a **major** adverse (significant) effect for footpath users of **high** susceptibility and with **medium** value views. This would be due to near views of the construction of River Bollin South embankment, River Bollin East viaduct and River Bollin North embankment and removal of vegetation which would open up wide views of the construction works. The amendment will change the visual effect at this viewpoint because the River Bollin East viaduct satellite compound will be relocated east of the River Bollin North embankment and the land required for construction will be increased to accommodate areas for additional planting. Footpaths Ringway 12, Ringway 14 and Footpath Ashley 10/1 will be closed during construction and Footpath Ringway 13 will be temporarily diverted. Footpath Ashley 11/1 will remain open. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View west by Yew Tree House on Sunbank Lane (high sensitivity receptor) (332-02-003)**

5.15.196 The main ES reported a **major** adverse (significant) effect for residents on Sunbank Lane of **high** susceptibility and road users of lower susceptibility with **medium** value views. This would be due to near views of the Sunbank Lane satellite compound and temporary material stockpiles and of the construction of Ringway cutting, Sunbank Lane overbridge and Sunbank Lane realignment beyond. The removal of vegetation would open up wide views of construction.

5.15.197 The amendment will change the visual effect at this viewpoint. The area covered by temporary material stockpiles in the original scheme will be extended southwards, affecting views from properties on the north side of Sunbank Lane. The construction of the elevated M56 Junction 6 gyratory will be visible beyond the stockpiles. The Sunbank Lane satellite compound will be relocated to the north-east and will no longer be visible but the River Bollin east viaduct satellite compound will be moved to a new location immediately south-west of Sunbank Lane and will be prominent in the view from the lane. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**Night-time**

5.15.198 The main ES reported a **major** adverse (significant) effect for residents on Sunbank Lane. This would be due to clear, near-distance views of the lighting for Sunbank Lane satellite compound.

5.15.199 The amendment will relocate the satellite compound to the north-east, away from receptors, and existing intervening woodland will screen it from Sunbank Lane at night. However, the lighting associated with the relocated River Bollin east viaduct satellite compound will be visible from residential properties on the lane. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View east from Burnside, Warburton Green (high sensitivity receptor) (332-02-005)**

5.15.200 The main ES reported a **major** adverse (significant) effect for residents on the south-eastern edge of Warburton Green, and users of Footpath Hale 13 and Footpath Ringway 9 of **high** susceptibility and with **medium** value views. This would be due to near-distance views of the M56 east satellite compound and temporary material stockpiles, the demolition of houses on Hale Road and the construction of the M56 East tunnel, Manchester Airport High Speed station cutting and the A538 Hale Road overbridge (south).

5.15.201 The amendment will slightly change the visual effect at this viewpoint. The view will remain one of large-scale construction activity as in the original scheme, as the area of land required for construction will occupy the same extent required for construction of the original scheme and construction of the M56 Junction 6 Hale Road link road and overbridge, will take place beyond the intervening M56 east satellite compound and an area of temporary material stockpiles. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View east from the A538 Hale Road (high sensitivity receptor) (332-02-006)**

5.15.202 The main ES reported a **major** adverse (significant) effect for residents of Hale Road of **high** susceptibility and users of A538 Hale Road of lower susceptibility and with **medium** value views. This would be due to the construction of the A538 Hale Road service roads (south and north) and A538 Hale Road realignment and the construction of Manchester Airport High Speed station cutting and A538 Hale Road overbridges (south and north) in the background. There would also be views of the M56 East and Manchester Airport High Speed station south satellite compounds.

5.15.203 The amendment will change the visual effect at this viewpoint because the service roads will not be constructed and changes to the A538 Hale Road will take place further from the viewpoint. Consequently, the front gardens of the A538 Hale Road will retain their screening vegetation. The M56 junction 6 station link road and overbridge will be constructed in the area which would have been occupied by the Manchester Airport High Speed station south satellite compound in the original scheme. The satellite compound will be relocated to the east of Hale Barns Cricket Club and will be visible from residential properties on the north side of the A538 Hale Road and Hasty Lane. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Night-time

- 5.15.204 The main ES reported a **moderate** adverse (significant) effect. This would be due to the M56 East and Manchester Airport High Speed station south satellite compounds increasing existing high light levels in the urban environment at night.
- 5.15.205 The amendment will result in the relocation of the Manchester Airport High Speed station south satellite compound onto land east of the cricket club and will, along with the M56 East satellite compound, be a source of night-time lighting for residential properties on the north side of the A538 Hale Road and Hasty Lane. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)

- 5.15.206 The main ES reported a **major** adverse (significant) effect for residents of Brooks Drive of **high** susceptibility and with **medium** value views. This would be due to the introduction of construction activity into middle-distance views, in association with construction of Manchester Airport High Speed station and the car parks and western access road beyond. Manchester Airport High Speed station north satellite compound will occupy the middle-distance of the view.
- 5.15.207 As a result of the amendment, the amendment will slightly change the visual effect at this viewpoint because the Manchester Airport High Speed station south satellite compound will be moved to a site east of Hale Barns Cricket Club. Construction will be slightly closer to visual receptors at the southern end of Brooks Drive than in the original scheme, but views will be filtered by intervening vegetation. Views of the construction compound from residential properties further north along Brooks Drive will be screened by a tree belt along the eastern boundary of the gardens and Flaxhigh Covert. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Night-time

- 5.15.208 The main ES reported a **moderate** adverse (significant) effect. This would be due to the introduction of the lit Manchester Airport High Speed station north satellite compound into the middle distance of the view and the removal of vegetation opening up distant views of the lighting along the M56 and at Manchester Airport.
- 5.15.209 The amendment will slightly change the visual effect at this viewpoint because the Airport High Speed station south satellite compound will be relocated west from A538 Hale Road to a site immediately east of Hale Barns Cricket Club, introducing lighting into currently unlit agricultural land, which will be visible from the southern end of Brooks Drive. Residents' views will be filtered or screened by intervening vegetation and the additional lighting will be seen against the lit backdrop of street lighting on the M56 and Manchester Airport. The controls on light spill set out in the draft CoCP will limit the change these new light sources

introduce to the wider view. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View north from Castle Mill Lane, west of Thorns Green (high sensitivity receptor) (331-02-013)**

- 5.15.210 This new viewpoint is located in an area where there would be changes from the original scheme. Residents at or adjacent to Lower Thorns Green Farm and Thorns Green Farm and at Barley Brow Cottage and Barley Well Cottage of **high** susceptibility and with **medium** value views will experience substantial changes to views as a result of the amendment during the construction of the Thorns Green accommodation offline overbridge over the M56 north of Lower Thorns Green Farm. In addition, a substantial area of farmland north, east and west of the farm will be required for construction of the M56 Junction 6 westbound access slip road and the M56 River Bollin underbridge widening, resulting in the removal of woodland and the replacing of existing framed views over the tree-lined River Bollin and grassland by widespread views of construction activity. The removal of two existing overhead gantries and of an existing emergency refuge area within the M56 corridor will be screened by the construction works for the new overbridge and slip road. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

**Night-time**

- 5.15.211 Lighting associated with the M56 River Bollin satellite compound, north of the M56, and lighting required for the removal of the existing overhead gantries and emergency refuge area within the motorway corridor will introduce lighting into open views looking north over currently unlit farmland. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

**View south from Footpath Hale 10 (high sensitivity receptor) (331-03-014)**

- 5.15.212 This new viewpoint is located in an area where there would be changes from the original scheme. Users of Footpath Hale 10 of **high** susceptibility and with **medium** value views will experience substantial changes to views as a result of the amendment. Mature vegetation along both sides of the River Bollin and on the farmland bordering the M56 will be removed. Existing views of woodland and the tree-lined River Bollin will be replaced by views of construction activity including the construction of the M56 Junction 6 northbound exit slip road, the M56 River Bollin underbridge widening and the Thorns Green accommodation offline overbridge and of the M56 River Bollin satellite compound. Views of moving traffic on the elevated M56 to the south will also be opened up. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **View north-east from Footpath Hale 10 (high sensitivity receptor) (331-03-015)**

5.15.213 This new viewpoint is located in an area where there would be changes from the original scheme. Users of Footpath Hale 10 of **high** susceptibility with **medium** value views will experience substantial changes to views. Mature vegetation along both sides of the River Bollin and from the farmland east and west of the river will be removed. Existing framed views over the tree-lined River Bollin and grassland will be replaced by extensive views of construction activity including the construction of the M56 Junction 6 westbound access slip road and the M56 River Bollin underbridge widening. Views of moving traffic on the elevated M56 to the north will also be opened up. The PRoW will pass through an area of land potentially required for mitigation planting where the existing grassland and vegetation lining tributaries of the River Bollin will be retained. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **View south from Chapel Lane (high sensitivity receptor) (332-02-009)**

5.15.214 This new viewpoint is located in an area where there will be changes from the original scheme. Residents on Rivershill Gardens and Ridge Avenue of **high** susceptibility and road users of lower susceptibility, all with **medium** value views will experience substantial change to the composition of near and middle-distance views due to the construction of Sunbank Lane offline overbridge, immediately adjacent to the property boundaries. Removal of vegetation along Chapel Lane will open views of construction of the M56 Junction 6 northbound exit slip road and gyratory and M56 East tunnel in the middle-distance. Construction activity will be uncharacteristic and highly visible across the majority of the view. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **View south-east from Bankside (high sensitivity receptor) (332-02-010)**

5.15.215 This new viewpoint is located in an area where there will be changes from the original scheme. Residents on Bankside, Warburton Drive and Warburton Close of **high** susceptibility with **medium** value views will experience substantial changes to the view. Removal of vegetation along Bankside and Chapel Lane will allow unobstructed and near-distance views of construction activity associated with Tributary of River Bollin 3 M56 drain offline culvert and maintenance access road in the near distance. Beyond these elements, the construction of the M56 Junction 6 gyratory, M56 Junction 6 northbound exit slip road and M56 Junction 6 Hale Road link overbridge on embankment will be visible in the middle-distance. To the west, there will be near to middle-distance views of construction of the Sunbank Lane offline overbridge. There will be a **high** magnitude of change and **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **Other mitigation measures**

5.15.216 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Summary of likely residual significant effects

- 5.15.217 The amendment will give rise to different likely residual significant construction effects after implementation of construction phase mitigation for the following LCA, but where the level of effect will be unchanged from that reported in the main ES:
- Ringway Lower Wooded Farmland LCA. The effect will remain **major** adverse (significant); and
  - Altrincham and Hale Urban Fringe Farmland LCA. The effect will remain **major** adverse (significant).
- 5.15.218 The amendment will give rise to a new likely residual significant construction effect after implementation of construction phase mitigation for the River Bollin Broad Urban Fringe Valley LCA. The effect will increase to **moderate** adverse (significant).
- 5.15.219 The amendment will give rise to different likely residual significant construction effects after implementation of construction phase mitigation at the following viewpoints, but where the level of effect will be unchanged from that reported in the main ES:
- view south from Tanyard Lane (331-02-003). The effect will remain **moderate** adverse (significant);
  - view north from Castle Mill Lane (331-02-007). The effect will remain **major** adverse (significant);
  - view north-west from Footpath Ringway 13, near Pigleystair Bridge (332-03-001). The effect will remain **major** adverse (significant);
  - view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **major** adverse (significant);
  - view east from Burnside, Warburton Green (332-02-005). The effect will remain **major** adverse (significant);
  - view east from the A538 Hale Road (332-02-006). The effect will remain **major** adverse (significant); and
  - view south-east from Brooks Drive (332-02-008). The effect will remain **major** adverse (significant).
- 5.15.220 The amendment will give rise to new likely residual significant construction effects, after implementation of construction phase mitigation, at the following new viewpoints:
- view north from Castle Mill Lane, west of Thorns Green (331-02-013). The effect will be **major** adverse (significant);
  - view south from Footpath Hale 10 (331-03-014). The effect will be **major** adverse (significant);
  - view north-east from Footpath Hale 10 (331-03-015). The effect will be **major** adverse (significant);
  - view south from Chapel Lane (332-02-009). The effect will be **major** adverse (significant); and



- view south-east from Bankside (332-02-010). The effect will be **major** adverse (significant).
- 5.15.221 The amendment will give rise to different likely residual significant construction night-time effects after implementation of construction phase mitigation, at the following viewpoints but where the level of effect will be unchanged from that reported in the main ES:
- view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **major** adverse (significant);
  - view east from the A538 Hale Road (332-02-006). The effect will remain **moderate** adverse (significant); and
  - view south-east from Brooks Drive (332-02-008). The effect will remain **moderate** adverse (significant).
- 5.15.222 The amendment will give rise to new likely residual significant construction night-time effects after implementation of construction phase mitigation, at the new viewpoint: view north from Castle Mill Lane, west of Thorns Green (331-02-013). The effect will be **moderate** adverse (significant).

### Cumulative effects

- 5.15.223 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.15.224 Substantial changes have been made to the environmental mitigation to reflect the M56 junction 6 changes. The landscape mitigation planting proposed east and west of the HS2 route in the original scheme has been expanded to reflect the new highway alignment. The proposed planting has been integrated with additional ecological woodland habitat creation areas, notably along the River Bollin.

## Assessment of impacts and effects

### Landscape assessment

#### Ringway Lower Wooded Farmland LCA

- 5.15.225 At year 1, the main ES reported a **major** adverse (significant) effect for the Ringway Lower Wooded Farmland LCA of **medium-high** susceptibility and **medium** value. This would be due to the introduction of large-scale infrastructure into the rural landscape and a loss of characteristic landscape features including farmland, trees and hedgerows. The infrastructure introduced to the landscape would include the Rostherne embankment and box structure, Blackburn's Brook North viaduct, Mid-Cheshire (Railway) and Mobberley Road viaduct, Mobberley Road off-line overbridge, Thorns Green embankment, Castle Mill Lane overbridge and Brickhill Lane diversion.



- 5.15.226 At year 1, the amendment will slightly change the landscape effect on the Ringway Lower Wooded Farmland LCA. The Thorns Green Farm accommodation offline overbridge will be a new structure in the landscape but will not be uncharacteristic of the LCA where farm overbridges are a common feature. The loss of vegetation along the M56 corridor during construction, as a result of the amendment, will increase the prominence of the M56 in the landscape. A small proportion of the character area will be affected. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.227 At year 15 the main ES reported a **major** adverse (significant) effect. This would be due to the continued presence of large-scale infrastructure in the LCA, despite maturing mitigation planting partly integrating the original scheme into the landscape.
- 5.15.228 At year 15, the amendment will slightly change the effect on the Ringway Lower Wooded Farmland LCA. Landscape mitigation planting along both sides of the M56 and woodland habitat creation along the northern side of the motorway will restore the tree-lined character of the road corridor and reduce its prominence in the landscape. Landscape mitigation planting and new hedgerow will help integrate the Thorns Green Farm accommodation offline overbridge into its landscape setting, but it will remain apparent above the vegetation. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.229 At year 30, the amendment will not change the visual effect at this viewpoint, as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### The River Bollin Broad Urban Fringe Valley LCA

- 5.15.230 The main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect for the River Bollin Broad Urban Fringe Valley LCA of **medium** susceptibility and **medium** value. This would be due to the loss of trees and woodland along the M56 and River Bollin during construction, reducing the verdant character of the LCA and increasing the influence of the M56 on the area. Large-scale infrastructure including the River Bollin South embankment, River Bollin North embankment, River Bollin East viaduct and Ringway cutting would be uncharacteristic of the wooded River Bollin valley landscape and traffic using the new road network would reduce tranquillity.
- 5.15.231 At year 1, the amendment will change the landscape effect on the LCA. Large-scale infrastructure including the Sunbank Lane offline overbridge, elevated M56 junction 6 gyratory and associated slip roads and widened M56 River Bollin underbridge will be prominent and uncharacteristic additions to the eastern end of the LCA. The loss of vegetation along the river and the M56 during construction, including from Sunbank Wood, will result in a noticeable change to the character of this area, making it less wooded and more open. This will increase the prominence of the M56, traffic on the elevated Sunbank Lane offline overbridge and M56 junction 6 gyratory and the AP2 revised scheme in the landscape. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

- 5.15.232 At year 15, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect. This would be due to landscape mitigation planting partly screening River Bollin South embankment, River Bollin North embankment and River Bollin East viaduct and fully screening the Ringway cutting from the LCA. Trains crossing the viaduct would continue to reduce tranquillity in a small area of the LCA.
- 5.15.233 At year 15, the amendment will change the landscape effect on the LCA. Maturing landscape mitigation planting will screen much of the new road infrastructure and begin to restore the wooded character of the LCA. This will assist in the integration of the slip roads and the widened M56 River Bollin underbridge into the landscape. However, the elevated Sunbank Lane offline overbridge, M56 junction 6 gyratory and traffic using the reconfigured junction and associated roads will remain apparent in the eastern end of the LCA. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.234 At year 30, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect. This would be due to landscape mitigation planting largely screening River Bollin South embankment, River Bollin North embankment and River Bollin East viaduct. Trains crossing the viaduct would continue to reduce tranquillity to a small area of the LCA.
- 5.15.235 At year 30, the amendment will change the landscape effect on the LCA. Maturing landscape mitigation planting will screen the majority of the new road infrastructure and associated traffic and will restore the wooded character of sections of the River Bollin valley, but the elevated Sunbank Lane offline overbridge and M56 junction 6 gyratory will continue to be prominent structures in the landscape. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

### **Altrincham and Hale Urban Fringe Farmland LCA**

- 5.15.236 At year 1, the main ES reported a **moderate** adverse (significant) effect for the Altrincham and Hale Urban Fringe Farmland LCA of **medium-high** susceptibility and **medium** value. This would be due to loss of farmland, woodland, trees and hedgerows during construction and the introduction of substantial new structures, including Manchester Airport High Speed station and car parks, Thorley Lane overbridge and Manchester tunnel south portal, into a rural landscape. Here, buildings are predominantly two and three storey residential properties and roads are narrow country lanes.
- 5.15.237 At year 1, the amendment will change the landscape effect on the LCA. The elevated M56 junction 6 gyratory and Hale Road station link road will be apparent to the south of Warburton Green, replacing pasture fields bordered by hedgerows with new road infrastructure. The amendment will remove the need to widen Hasty Lane at the junction with the A538 Hale Road but, overall, the amendment will increase the proportion of the LCA affected. The amendment will give rise to a different significant effect. Despite the reduction in the sensitivity of the LCA as a result of the inclusion of the Timperley Wedge allocation in

the future baseline, the level of significance of the effect will remain as reported in the main ES.

- 5.15.238 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to maturing landscape mitigation planting and woodland habitat creation which would provide some integration of the station, car parks, access roads, bridges and tunnel portal building into the landscape. However, the new large-scale structures would remain uncharacteristic elements in the landscape.
- 5.15.239 At year 15, the amendment will slightly change the effect on the LCA. Landscape mitigation planting and woodland habitat creation south of Warburton Green will partially screen the new elevated M56 junction 6 gyratory and Hale Road station link road, but traffic using the roads will remain apparent in the area. The woodland habitat creation east of the Hale Barns Cricket Club will partly restore the wooded character of the LCA. The amendment will give rise to a different significant effect. Despite the reduction in the sensitivity of the LCA as a result of the inclusion of the Timperley Wedge allocation in the future baseline, the level of significance of the effect will remain as reported in the main ES.
- 5.15.240 At year 30, the main ES reported **moderate** adverse (significant) effect. This would be due to maturing landscape mitigation planting and woodland habitat creation providing further integration and screening of the station, car parks, access roads, bridges and tunnel portal building into the landscape.
- 5.15.241 At year 30, the amendment will slightly change the effect on the LCA. The further maturing of the woodland habitat creation and landscape mitigation planting will largely screen the new road infrastructure of the amendment from the wider LCA, but it will change the character of the area south of Warburton Green to one that is more wooded and less open. The amendment will give rise to a different significant effect. Despite the reduction in the sensitivity of the LCA as a result of the inclusion of the Timperley Wedge allocation in the future baseline, the level of significance of the effect will remain as reported in the main ES.

## Visual assessment

### View north from Castle Mill Lane (high sensitivity receptor) (331-02-007)

- 5.15.242 At year 1, the main ES reported a **major** adverse (significant) effect for residents on Castle Mill Lane and users of Footpaths Ashley 15/1 and 11/1 of high susceptibility and with medium value views. This would be due to the introduction of Castle Mill Lane telecommunications site, Thorns Green cutting, Castle Mill Lane realignment, Castle Mill Lane overbridge and Brickhill Lane diversion into existing views over farmland.
- 5.15.243 At year 1, the amendment will change the visual effect at this viewpoint as it will replace farmland with a new area of woodland habitat creation between Footpath Ashley 11/1 and Thorns Green cutting and River Bollin south embankment. A new hedge will border a maintenance access track parallel to the HS2 route. The new planting will not be sufficiently mature to provide any visual screening or integration at this stage. The amendment will give

rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

- 5.15.244 At year 15, the main ES reported a moderate adverse (significant) effect. This would be due to maturing woodland habitat creation and landscape mitigation planting screening views of Brickhill Lane diversion, Thorns Green cutting and Castle Mill Lane overbridge and partially screening Castle Mill Lane telecommunications site.
- 5.15.245 At year 15, the amendment will slightly change the visual effect at this viewpoint as it will increase the depth of mitigation planting between Footpath Ashley 11/1 and the Thorns Green cutting and River Bollin south embankment. Since the new area of planting will be immediately adjacent to woodland habitat creation proposed in the original scheme, there will not be a noticeable increase in the screening of the new elements of the AP2 revised scheme. However, the view from the PRow will become slightly more wooded in character. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.246 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View north-west from Footpath Ringway 13, near Pigleystair Bridge (high sensitivity receptor) (332-03-001)**

- 5.15.247 At year 1, the main ES reported a **major** adverse (significant) effect for users of Footpaths Ringway 12, 13 and 14 and Ashley 10/1 and 11/1 of **high** susceptibility and **medium** value views. This would be due to the loss of vegetation, removed during construction, opening up clear views of River Bollin South embankment, River Bollin East viaduct, River Bollin North embankment and overhead line equipment. These elements would combine to form a high and wide linear structure across the narrow, enclosed and wooded River Bollin Valley.
- 5.15.248 At year 1, the amendment will change the visual effect at this viewpoint. The amendment will be partially screened by the River Bollin North embankment in views north-west. However, the elevated and realigned Sunbank Lane offline overbridge and a maintenance access road will be visible in the middle distance, beyond the Ringway cutting in views north. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.249 At years 15 and 30, the amendment will not give rise to a different significant effect, as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View west by Yew Tree House on Sunbank Lane (high sensitivity receptor) (332-02-003)**

- 5.15.250 At year 1, the main ES reported a **major** adverse (significant) effect for residents on Sunbank Lane of **high** susceptibility and road users of lower susceptibility, all with **medium** value views. This would be due to the removal of all vegetation between Sunbank Lane and Ringway cutting during construction, which would open up views north-west to the cutting, Sunbank Lane overbridge, Sunbank Lane realignment and the M56 in the far distance. The

new structures, due to their large scale, would be out of character with existing views over a narrow, tree-lined lane and wooded farmland.

- 5.15.251 At year 1, the amendment will change the visual effect at this viewpoint as it will introduce a balancing pond and associated fencing into existing near-distance views over the fields adjacent to residential properties on Sunbank Lane. The large-scale elevated M56 Junction 6 gyratory will be visible beyond. Views of the Ringway cutting and Sunbank Lane realignment will remain largely unchanged, but the Sunbank Lane offline overbridge will be apparent in far-distant views, beyond the cutting. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.252 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to maturing landscape mitigation planting on landscape earthworks and hedgerow planting along the realigned Sunbank Lane partially filtering or screening Ringway cutting, Sunbank Lane realignment, Sunbank Lane overbridge and the M56 from views.
- 5.15.253 At year 15, the amendment will change the visual effect at this viewpoint. Maturing mitigation planting around the new balancing pond will screen the pond and fencing and largely screen views of the M56 Junction 6 gyratory, Ringway cutting, Sunbank Lane realignment and the Sunbank Lane offline overbridge. The character of the view will become more wooded and less open, with landscape mitigation planting replacing fields with pasture. High-sided vehicles using the elevated gyratory will be visible above the intervening vegetation. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.254 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-OMA06.

### Night-time

- 5.15.255 At year 1, the main ES did not assess effects at night-time in operation as there was no requirement for continuous operational lighting in this location in the original scheme.
- 5.15.256 At year 1, although there will be no requirement for continuous operational lighting along the HS2 route in this location, the amendment will introduce streetlighting around the elevated M56 junction 6 gyratory and M56 junction 6 Wilmslow Road link road. The M56 is already lit along this stretch, but the amendment will bring street lighting closer to residential properties in Sunbank Lane. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.257 At years 15 and 30, the night-time effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-OMA06.

### View east from Burnside, Warburton Green (high sensitivity receptor) (332-02-005)

- 5.15.258 At year 1, the main ES reported a **major** adverse (significant) effect for residents on the south-eastern edge of Warburton Green, and users of Footpath Hale 13 and Footpath

Ringway 9 of **high** susceptibility with **medium** value views. This would be due to views of the Manchester Airport High Speed station cutting, partly screened by a landscape earthwork and loss of vegetation in construction opening up longer views towards Junction 6 of the M56, the A538 Hale Road realignment and overbridge, the raised A538 Hale Road overbridge (north) and the car parks at Manchester Airport High Speed station.

- 5.15.259 At year 1, the amendment will slightly change the visual effect at this viewpoint. The Manchester Airport High Speed station cutting will be shorter than in the original scheme and M56 Junction 6 Hale Road link road and overbridge will be new road infrastructure in distant views, although both will be largely screened from view by a landscape mitigation earthwork which will be higher than the road and top of the cutting. Traffic using the M56 Junction 6 Hale Road link road will be apparent above the intervening landscape mitigation earthwork between the road and the viewpoint. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.260 At year 15, the main ES reported a **moderate** adverse (significant) effect. This would be due to maturing landscape mitigation planting on landscape earthworks largely screening Manchester Airport High Speed station cutting and the A538 Hale Road realignment and partially screening views of traffic on the raised A538 Hale Road overbridge (north) and car parks at the southern end of Manchester Airport High Speed station.
- 5.15.261 At year 15, the amendment will slightly change the visual effect at this viewpoint. The amendment will introduce additional landscape mitigation planting and woodland habitat creation along the M56 junction 6 Hale Road link road and overbridge and the A538 Hale Road. In combination with the landscape mitigation planting of the original scheme, the additional planting will largely screen Manchester Airport High Speed station cutting, M56 junction 6 Hale Road link road and overbridge and Manchester Airport High Speed station car parks. The additional woodland habitat creation will extend planting closer to Warburton Green, replacing some existing pasture fields bordered by hedgerows, and consequently views will become more wooded and foreshortened. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.
- 5.15.262 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View east from the A538 Hale Road (high sensitivity receptor) (332-02-006)**

- 5.15.263 At year 1, SES2 reported a **major** adverse (significant) effect for residents of Hale Road of **high** susceptibility and users of A538 Hale Road of lower susceptibility all with **medium** value views. This would be due to a design change to raise the overall height of the Manchester Airport High Speed station car parks, to accommodate an additional level of parking on the roof of the car parks, and the loss of land and vegetation from the gardens of residential properties in Hale Road during construction which would open up near-distance views of A538 Hale Road service roads (south and north) and A538 Hale Road realignment.



**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

There would also be more distant views of the large-scale elements of the SES2 scheme including the A538 Hale Road overbridges (south and north) and the Manchester Airport High Speed station car parks.

- 5.15.264 At year 1, the amendment will change the visual effect at this viewpoint because the A538 Hale Road will not be widened west of the Hasty Lane junction and fewer properties will lose land and screening vegetation from their front gardens than in the SES2 scheme. In addition, Hasty Lane will no longer be widened at the junction with A538 Hale Road and instead, a new highways link road will connect the Manchester Airport High Speed station access road (west) with the A538 Hale Road to the east of the A538 Hale Road overbridge (south), rather than to the west. This will reduce the extent of changes to the road network in near-distance views. In more distant views the large-scale elements of the SES2 scheme will be visible from properties on Hale Road and Hasty Lane due to the removal of vegetation during construction. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in SES2.
- 5.15.265 At years 15 and 30, SES2 reported a **high** magnitude of change and a **major** adverse (significant) effect. This would be due to the large-scale elements of the SES2 scheme and of traffic using the A538 Hale Road service roads (south and north) and A538 Hale Road realignment remaining visible in much of the view above the retained vegetation and maturing landscape mitigation planting.
- 5.15.266 At years 15 and 30, the amendment will change the visual effect at this viewpoint because maturing landscape mitigation planting along the A538 Hale Road will screen an area of land to be returned for suitable development use and mostly screen the more distant large-scale structures of the AP2 revised scheme from properties on the southern side of the A538 Hale Road. Woodland habitat creation immediately north of properties on the northern side of the A538 Hale Road and Hasty Lane will largely screen views of the Manchester Airport High Speed station access road (west) and the Manchester Airport High Speed station west car park. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a different significant effect.

**View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)**

- 5.15.267 At year 1, SES2 reported a **major** adverse (significant) effect for residents of Brooks Drive of **high** susceptibility and users of A538 Hale Road of lower susceptibility, all with **medium** value views. This would be due to the introduction of Manchester Airport High Speed station car parks and access road (west), cars and buses at the transport interchange and Manchester Airport High Speed station into farmland beyond the intervening woodland habitat creation to be planted during construction.
- 5.15.268 At year 1, the amendment will slightly change the visual effect at this viewpoint. Although the amended highways arrangement will be of a similar height and in the same location as in the SES2 scheme, the loss of vegetation removed during construction will reduce the intervening screening for residents at the southern end of Brooks Drive. The amendment will be screened by Flaxhigh Covert from the majority of the residents further north along Brooks



Drive. The amendment will give rise to a different significant effect, however, and the level of significance of the effect will remain as reported in the SES2.

- 5.15.269 A photomontage illustrating this scenario from representative viewpoint 332-02-008 is included in the SES2 and AP2 ES, Volume 5, Appendix: LV-001-006, Part 3.
- 5.15.270 At year 15, the SES2 reported a **moderate** adverse (significant) effect. This would be due to maturing woodland habitat creation screening the view of Manchester Airport High Speed station and car parks from Brooks Drive and the change in the view from some properties from a view over open farmland to one of woodland.
- 5.15.271 At year 15, the amendment will slightly change the visual effect at this viewpoint as the additional maturing woodland habitat creation east of the Hale Barns Cricket Club will partially screen views of the SES2 scheme from the southern end of Brooks Drive. The amendment will be screened by Flaxhigh Covert from the majority of properties on Brooks Drive and Footpath Hale 16, which are north of the woodland. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the SES2.
- 5.15.272 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View north from Castle Mill Lane, west of Thorns Green (high sensitivity receptor) (331-02-013)**

- 5.15.273 This new viewpoint is located in an area where there will be changes from the original scheme. At year 1, residents at or adjacent to Lower Thornsgreen Farm and Thorns Green Farm and at Barley Brow Cottage and Barley Well Cottage of **high** susceptibility and with **medium** value views will experience an alteration to the view due to the introduction of the Thorns Green accommodation offline overbridge over the M56 north-west of Lower Thornsgreen Farm and a new access track and balancing pond south-west of the farm into views. The bridge will replace an existing farm access overbridge north of the farm but the new overbridge will be a more substantial structure, with longer approach embankments. The new overbridge will occupy a relatively small proportion of the view and will not be an uncharacteristic feature of the rural farmland, but the removal of vegetation during construction will make it more prominent in the view compared with the existing overbridge. The removal of woodland and hedgerows from the surrounding farmland and along the M56 during construction will also increase the openness of the view and open up views of the tops of gantries on the M56. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give rise to a new significant effect.
- 5.15.274 At year 15 and 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### View south from Footpath Hale 10 (high sensitivity receptor) (331-03-014)

- 5.15.275 This new viewpoint is located in an area where there would changes from the original scheme. At year 1, users of Footpath Hale 10 of **high** susceptibility with **medium** value views will experience a substantial alteration as a result of the amendment. The removal of mature vegetation along both sides of the River Bollin and on the farmland bordering the M56 during construction will change existing views of woodland and the tree-lined River Bollin, to open views of the landscape to the south and moving traffic on the M56. The amendment will introduce additional transport infrastructure, including the M56 Junction 6 northbound exit slip road and the M56 River Bollin underbridge widening, into the view. The Thorns Green accommodation offline overbridge will replace an existing farm access overbridge north of the farm, but the new overbridge will be a more substantial structure than the existing overbridge, with longer approach embankments. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will give rise to a new significant effect.
- 5.15.276 At year 15, maturing landscape mitigation planting and woodland habitat creation will largely restore the existing views of the tree-lined River Bollin and will screen the M56 Junction 6 northbound exit slip road, the M56 River Bollin underbridge widening and the Thorns Green accommodation offline overbridge from most locations along the footpath. Traffic using the new road and widened M56 bridge over the River Bollin will remain visible above the vegetation. The magnitude of change will reduce to **medium** and there will be a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.277 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-OMA06.

### View north-east from Footpath Hale 10 (high sensitivity receptor) (331-03-015)

- 5.15.278 This new viewpoint is located in an area where there would changes from the original scheme. At year 1, users of Footpath Hale 10 of **high** susceptibility with **medium** value views will experience a substantial alteration as a result of the amendment. The amendment will result in the introduction of additional transport infrastructure, including the M56 junction 6 westbound access slip road and the widened M56 River Bollin underbridge into existing framed views of the tree-lined River Bollin and grassland. The removal of vegetation during construction along the River Bollin and the landscape east and west of the river, will open up wide views over the landscape and increase the visibility of the M56 and moving traffic. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.279 At year 15, maturing landscape mitigation planting and woodland habitat creation will largely restore the existing views of the tree-lined River Bollin and will partially screen the widened M56 River Bollin underbridge. Traffic using the new M56 junction 6 westbound access slip road and underbridge will remain visible above the vegetation. The magnitude of

change will reduce to **medium** and there will be a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

- 5.15.280 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### **View south from Chapel Lane (high sensitivity receptor) (332-02-009)**

- 5.15.281 This new viewpoint is located in an area where there would be changes from the original scheme. At year 1, residents on Rivershill Gardens and Ridge Avenue of **high** susceptibility and road users of lower susceptibility, all with **medium** value views will experience substantial changes to near and middle-distance views. The character of the views will be substantially altered due to the presence of the Sunbank Lane offline overbridge as it rises to the west on embankment and due to the M56 junction 6 northbound exit slip road, which will be visible in the middle distance on embankment to the south. The new large-scale structures will screen long, distant views over the River Bollin valley. Traffic movements, signage and fencing along the realigned Sunbank Lane will be introduced into near-distance, elevated views. Mitigation planting will not provide any screening effect at year 1. There will be a **high** magnitude of change and **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.282 At year 15, maturing landscape mitigation planting close to receptors, will partially screen the new structures of the Sunbank Lane offline overbridge and M56 junction 6 northbound exit slip road, although traffic movements and signage will remain visible. This will change the character of the view from an open view over farmland to a view enclosed by woodland. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.283 At year 30, further maturing of mitigation planting will mostly screen views of the new structures and traffic movements and change the open character of the view to a view enclosed by woodland. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **Night-time**

- 5.15.284 At year 1, lighting and traffic movements along the new Sunbank Lane offline overbridge and M56 junction 6 northbound exit slip road will introduce a wide and elevated area of illumination across a currently relatively dark near and middle distance. Mitigation planting will not be sufficiently mature to screen views of the lighting. There will be a **high** magnitude of change and **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.285 At year 15, maturing mitigation planting will partially screen the lighting along the elevated Sunbank Lane offline overbridge and M56 junction 6 northbound exit slip road, but some lighting will remain visible above the mitigation planting. There will be a **medium** magnitude

of change and a **moderate** adverse effect. The amendment will give therefore rise to a new significant effect.

- 5.15.286 At year 30 at night-time, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### **View south-east from Bankside (high sensitivity receptor) (332-02-010)**

- 5.15.287 This new viewpoint is located in an area where there would be changes from the original scheme. At year 1, residents on Bankside, Warburton Drive and Warburton Close of **high** susceptibility with **medium** value views will experience substantial changes to near and middle-distance views. Vegetation removed during construction will allow near-distance views of Tributary of River Bollin 3 M56 drain offline culvert and maintenance access road which will connect to a new field entrance on Bankside. In the middle-distance, the landscape earthworks running along the elevated M56 junction 6 gyratory and M56 junction 6 northbound exit slip road will form a new horizon and enclose the view. The Sunbank Lane offline overbridge will be visible rising to cross the realigned M56 from the southern end of Bankside. Traffic movements, street lighting columns, signage and fencing will be visible on or along the new, elevated roads. Mitigation planting will not be sufficiently mature to provide screening in year 1, but the earthworks north of the M56 junction 6 gyratory will provide some screening to the traffic movements on the gyratory. There will be a **high** magnitude of change and **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

- 5.15.288 At years 15 and 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### **Night-time**

- 5.15.289 At year 1, lighting and traffic movements along the new Sunbank Lane offline overbridge, M56 junction 6 gyratory, M56 junction 6 Hale Road link overbridge and M56 junction 6 northbound exit slip road will introduce a wide and elevated area of illumination into views across the near and middle distance. This will be seen in the context of the existing street lighting along Bankside. Mitigation planting will not be sufficiently mature to contain light spill from the new roads. There will be a **medium** magnitude of change and **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.15.290 At years 15 and 30 night-time, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### **Other mitigation measures**

- 5.15.291 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 5.15.292 In many cases, significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to different likely residual significant operation effects for the following LCAs, but where the level of effect will be unchanged from that reported in the main ES:
- Ringway Lower Wooded Farmland LCA. The effect will be **major** adverse (significant); and
  - Altrincham and Hale Urban Fringe Farmland LCA. The effect will be **moderate** adverse (significant).
- 5.15.293 The amendment will give rise to a new likely residual significant operation effect, for the River Bollin Broad Urban Fringe Valley LCA. The effect will increase to **moderate** adverse (significant) from a **minor** adverse (non-significant) effect reported in the main ES.
- 5.15.294 The amendment will give rise to different likely residual significant operation effects at the following viewpoints, but where the level of effect will be unchanged from that reported in the main ES:
- view north from Castle Mill Lane (331-02-007). The effect will remain **moderate** adverse (significant);
  - view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **moderate** adverse (significant); and
  - view east from Burnside, Warburton Green (332-02-005). The effect will remain **moderate** adverse (significant).
- 5.15.295 The amendment will give rise to different likely residual significant operation effects at view south-east from Brooks Drive (332-02-008), but where the level of effect will be unchanged from that reported in SES2. The effect will remain moderate adverse (significant).
- 5.15.296 The amendment will give rise to different likely residual significant operation effects at view east from the A538 Hale Road (332-02-006). The effect will reduce to **moderate** adverse (significant).
- 5.15.297 The amendment will give rise to a new likely residual significant operation effect, at the following new viewpoints:
- view south from Footpath Hale 10 (331-03-014). The effect will be **moderate** adverse (significant);
  - view north-east from Footpath Hale 10 (331-03-015). The effect will be **moderate** adverse (significant); and
  - view south from Chapel Lane (332-02-009). The effect will be **moderate** adverse (significant).
- 5.15.298 The amendment will give rise to a new likely residual significant operation night-time effect at new viewpoint: view south from Chapel Lane (332-02-009). The effect will be **moderate** adverse (significant).

## Cumulative effects

5.15.299 No new, removed or different significant cumulative effects have been identified.

## Socio-economics

### Scope, assumptions and limitations

5.15.300 The assessment scope, key assumptions and limitations for socio-economics are as set out in Volume 1 and the SMR of the main ES.

5.15.301 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for socio-economics.

## Environmental baseline

### Existing baseline

5.15.302 The baseline socio-economics information is as described in the SES2 and AP2 ES Volume 5, Appendix: SE-001-00000, Updated socio-economic baseline information.

### Future baseline

5.15.303 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

5.15.304 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

5.15.305 The committed development of relevance to the socio-economic assessment during construction of the amendment is set out in Table 17.

**Table 17: Committed developments of relevance to socio-economics**

Map book reference <sup>28</sup>	Planning reference	Description	How this is considered in the assessment
MA06/287S	122112/MO/2018	Location: Land at Sunbank Lane, Manchester, WA15 8XN. Creation of a 163 space overspill car park, with associated access, landscaping and boundary treatment, to be used in connection with The Hut Group office complex on Sunbank Lane.	Informing future baseline. Will not be implemented.

<sup>28</sup> SES2 and AP2 ES Volume 5, Appendix: CT-004-00000, Planning Data/Committed Development Map Book: Maps CT-13-321 to CT-13-322a-L1..

- 5.15.306 Implementation of MA06/287S implies the creation of additional employment. Using an upper limit of one additional job per car parking space results in 160 jobs associated with the additional parking facilities at The Hut Group. Committed development MA06/287S lies wholly within the land required for construction of the AP2 revised scheme and is therefore not implementable. MA06/287S has been included as part of the future baseline.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.15.307 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.15.308 The construction of the amendment will result in a committed development for a 163 space car park for The Hut Group (MA06/287S) on Sunbank Lane not being implementable. The sensitivity of the resource is assessed as medium. Whilst there are other car parking facilities available, alternative car parking expansion may not be possible due to site constraints and the potential requirement for further planning permission. As a worst case, the magnitude is high based on the number of potential jobs associated with the additional car parking. The effect on committed development for The Hut Group (MA06/287S) is assessed to be major adverse and will therefore be a new significant effect.
- 5.15.309 The construction of the amendment will require the use of approximately 44 heavy goods vehicle (HGV) parking spaces (approximately 48% of the overall total of 90) at the Amazon Fulfilment Centre on Sunbank Lane for two years and six months. Approximately 15 HGV parking spaces (approximately 17% of the overall total of 90) will be required permanently. The operation of the business at this location could be affected by this parking loss. The sensitivity of the resource is assessed as medium given its strategic location next to the M56 and that relocation is unlikely given the size and cost of the current infrastructure. The magnitude is high based on the number of jobs located at the site. The effect on the Amazon Fulfilment Centre is assessed to be major adverse and will therefore be a new significant effect.
- 5.15.310 The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Socio-economics Map Book: Map Series SE-01.
- 5.15.311 It is estimated that, as a result of this amendment, 490 jobs are assumed to be displaced or lost within the Hulseheath to Manchester Airport area, in addition to those reported for the construction of the original scheme. The socio-economic effects on jobs displaced or lost are assessed at a route-wide level in SES2 and AP2 ES Volume 3, Route-wide effects (Section 12).

### **Other mitigation measures**

- 5.15.312 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.



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

- 5.15.313 The amendment will require land resulting in loss of parking at a committed development for The Hut Group (MA06/287S) and the existing Amazon Fulfilment Centre on Sunbank Lane. Therefore, both these receptors will be subject to new major adverse residual effects, which are significant.

## **Cumulative effects**

- 5.15.314 No new, removed or different significant cumulative effects have been identified.

## **Sound, noise and vibration**

### **Scope, assumptions and limitations**

- 5.15.315 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1 and the SMR of the main ES.
- 5.15.316 This amendment has the potential to result in new or different significant construction and operational effects for sound, noise and vibration.

## **Environmental baseline**

### **Existing baseline**

- 5.15.317 In the Hulseheath to Manchester Airport area, the updated sound modelling described in Section 2 has resulted in updates to the existing baseline sound levels at receptors adjacent to Sunbank Lane and Runger Lane. Further information on the updated baseline sound levels relevant to the assessment is provided in the SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. Where no updates to the baseline sound levels are required, the baseline sound, noise and vibration information is as described in Section 13 of Volume 2, Community Area report: Hulseheath to Manchester Airport area (MA06) of the main ES.
- 5.15.318 The works associated with the amendment are closer to several dwellings on Chapel Lane, Bankside, Ridge Avenue and Castle Mill Lane than works associated with the original scheme. Additional assessment locations have been added, which represent dwellings which were previously represented by other assessment locations in the main ES. The baseline sound levels at the additional assessment locations are presented in SES2 and AP2 ES Volume 5, Appendix: SV-002-00000.

### **Future baseline**

- 5.15.319 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.15.320 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5,

Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.15.321 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on sound, noise and vibration.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.15.322 To avoid or reduce likely community significant effects as a result of this amendment, taller screening (provided by solid temporary hoarding, temporary stockpiles, screening close to activities or other means to provide equivalent noise reductions), as described in the draft CoCP, has been assumed at the following construction sites and compounds or land required for construction of the amendment:

- Sunbank Lane satellite compound near the M56 junction 6 Wilmslow Road link road;
- M56 East satellite compound near Warburton Green;
- River Bollin East Viaduct satellite compound near Ringway;
- M56 River Bollin satellite compound near Warburton Green;
- Manchester Airport High Speed Station South satellite compound; and
- around works associated with the tributary of River Bollin 3 M56 offline culvert, A538 Hale Road overbridge (south) and highway works near Hale Barns.

- 5.15.323 Otherwise, no additional avoidance or mitigation measures, compared to those reported in main ES, are proposed.

### **Assessment of impacts and effects**

#### **Residential receptors: direct effects – individual dwellings**

- 5.15.324 Taking account of the avoidance and mitigation measures as outlined in the main ES, the following 14 properties in addition to those identified in the main ES are forecast to experience noise levels above the eligibility criteria for noise insulation, as defined in the draft CoCP:

- three properties (Bryn Bollin, Rose Cottage and Yew Tree Cottage) on Sunbank Lane, Ringway (assessment location ref.: 613048);
- 4, 5, 6 and 7 Bankside, Hale Barns, Altrincham (assessment location ref.: 612773); and
- seven properties (Westwind, 1 Lane End Cottages, 2 Lane End Cottages, Willow Cottage, Tanyard Cottage and two dwellings at Tanyard Farm) on Castle Mill Lane, Ashley (assessment location ref.: 613311).

- 5.15.325 For daytime construction, the threshold for eligibility for noise insulation is 75dB measured outdoors as specified in the draft CoCP. For evening and night-time construction, the

corresponding thresholds for eligibility for noise insulation are 65dB and 55dB measured outdoors.

- 5.15.326 The mitigation measures, including noise insulation, will reduce noise inside all dwellings such that it does not reach a level where it will significantly affect residents.

### **Residential receptors: direct effects – communities**

- 5.15.327 The amendment has the potential to give rise to different temporary adverse noise effects which may be considered to be significant on a community basis. The potential different likely significant effects are discussed in the following paragraphs and summarised in Table 18. In the table, the duration of impact is the period where the relevant assessment category is exceeded. The predicted monthly construction noise level will vary throughout this period and as a guide the typical and highest monthly noise levels at the closest properties in the community identified are presented in the 'cause' column of this table.
- 5.15.328 The main ES identified a significant adverse construction noise effect at approximately ten dwellings on Sunbank Lane, Ringway for a duration of up to two years and three months. This was denoted as MA06-C-C1 in Table 34 of the Volume 2, Community Area report MA06, in Volume 5, Appendix: SV-002-0MA06 and Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. The changes to the construction programme as a result of the amendment will increase the duration of impact at this community to four years and 11 months, which will give rise to a different likely significant effect on the residential community.
- 5.15.329 The main ES identified a significant adverse construction noise and vibration effect at approximately 40 dwellings in the vicinity of Hale Road, Burnside, Warburton Close and Warburton Drive for a duration of up to four years and five months. This was denoted as MA06-C-C2 in Table 34 of the Volume 2, Community Area report MA06, in Volume 5, Appendix: SV-002-0MA06 and Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. The amendment will increase the number of properties affected at this community to approximately 85 dwellings. The additional dwellings are located in the vicinity of Chapel Lane, Bankside and Ridge Avenue. These changes in the number of dwellings affected will give rise to a different likely significant noise and vibration effect on the residential community.
- 5.15.330 The main ES identified a significant adverse construction noise effect at a residential community of approximately 30 dwellings in Hale Barns in the vicinity of the A538 Hale Road and Hasty Lane for a duration of up to four years and two months. This was denoted as MA06-C-C3 in Table 34 of the Volume 2, Community Area report MA06, in Volume 5, Appendix: SV-002-0MA06 and Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. In the main ES, while the approximate duration of impact was up to four years and two months, the majority of the impacted dwellings in the community would have substantially lower impact duration as shown in Volume 5, Appendix: SV-002-0MA06 of the main ES. The amendment will increase the duration of impact at the dwellings represented by assessment location 612832 close to the Manchester Airport High Speed

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Station South satellite compound from up to one year and three months in the main ES to up to four years and six months<sup>29</sup>. Further details are shown in the SES2 and AP2 ES Volume 5 Appendix: SV-002-00000. These changes in duration of impact will give rise to a different likely significant noise effect on the residential community.

- 5.15.331 The main ES also identified a significant adverse construction noise and vibration effect at the residential community in Hale Barns in the vicinity of the A538 Hale Road and Hasty Lane. The predicted duration of the noise impact was up to four years and two months and the duration of the vibration impact was for a duration of up to three months. This was denoted as MA06-C-C3 in Table 34 of the Volume 2, Community Area report MA06, in Volume 5, Appendix: SV-002-0MA06 and Volume 5, Sound, noise and vibration Map Book: Map Series SV-03 in the main ES. The noise and vibration effect was identified at approximately 30 dwellings; however only approximately 20 of these dwellings were likely to be subject to adverse vibration effects as shown in Volume 5, Appendix: SV-002-0MA06 of the main ES. The amendment will increase the number of properties adversely affected by vibration to approximately 30 dwellings. These changes in the number of dwellings affected will give rise to a different likely significant noise and vibration effect on the residential community.
- 5.15.332 The amendment has the potential to give rise to a new adverse noise effect at approximately ten dwellings in the vicinity of Castle Mill Lane and Tanyard Lane junction where no noise effect was identified in the main ES. The predicted duration of the construction noise impact is up to three months during the night-time. This may be considered by the local community as an effect on the acoustic character of the area and hence be perceived as a change in the quality of life for that community. This effect is likely to be considered as significant when assessed on a community basis (denoted by MA06-C-C7).

**Table 18: Direct adverse construction effects on residential communities and shared open areas that are considered to be significant on a community basis and are new to those reported in the main ES**

Significant effect number (and map reference) <sup>30</sup>	Type of significant effect	Time of day	Location	Cause (construction activities) <sup>31</sup>	Assumed approximate duration of impact
MA06-C-C1 (SV-03-321)	Construction noise (Different)	Daytime	Ringway: Approximately ten dwellings in the vicinity of Sunbank Lane.	M56 junction works. The typical and highest monthly noise levels will be approximately 70dB to 75dB and 75dB to 80dB <sup>32</sup> .	Up to four years and 11 months.

<sup>29</sup> Up to four years and 10 months at the worst affected assessment location within this community.

<sup>30</sup> See SES2 and AP2 ES Volume 5, Appendix: SV-002-00000 and SES2 and AP2 ES Volume 5, Sound, noise and vibration Map Book: Map Series SV-03.

<sup>31</sup> The construction activity giving rise to the highest predicted noise or vibration level is reported. Multiple construction activities may contribute to the typical noise levels and the approximate duration of impact.

<sup>32</sup> Equivalent continuous sound level at the facade, L<sub>pAeq,0700-1900</sub>.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Significant effect number (and map reference)<sup>30</sup></b>	<b>Type of significant effect</b>	<b>Time of day</b>	<b>Location</b>	<b>Cause (construction activities)<sup>31</sup></b>	<b>Assumed approximate duration of impact</b>
MA06-C-C2 (SV-03-321)	Construction noise and vibration (Different)	Daytime	Warburton Green: Approximately 85 dwellings in the vicinity of Hale Road, Burnside, Warburton Close, Warburton Drive, Chapel Lane, Bankside and Ridge Avenue.	M56 junction works. The typical and highest monthly noise levels will be approximately 60dB to 70dB and 70dB to 75dB <sup>33</sup> . Vibratory rollers associated with site set-up are predicted to create a moderate vibration impact at properties near to the amendment.	Noise for up to four years and 11 months. Vibration for up to two months.
MA06-C-C3 (SV-03-321)	Construction noise and vibration (Different)	Daytime	Hale Barns: Approximately 30 dwellings in the vicinity of the A538 Hale Road and Hasty Lane	M56 junction works. The typical and highest monthly noise levels will be approximately 65dB and 75dB <sup>34</sup> . Vibratory rollers associated with site set-up are predicted to create a moderate vibration impact at properties along the A538 Hale Road.	Noise for up to four years and 10 months. Vibration for up to three months.
MA06-C-C7 (SV-03-320)	Construction noise (New)	Night-time	Castle Mill Lane, Ashley: Approximately ten dwellings in the vicinity of Castle Mill Lane and Tanyard Lane junction.	Highway works associated with changes to the smart motorway infrastructure between junctions 6 and 7. The typical and highest monthly night-time noise levels will be approximately 60dB and 65dB <sup>35</sup> .	Up to three months

5.15.333 For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000 and SES2 and AP2 ES Volume 5, Sound, noise and vibration Map Book.

### **Non-residential receptors: direct effects**

5.15.334 The amendment will give rise to predicted airborne construction noise levels which exceed both the relevant screening criteria and the noise change criterion (typically a change of

<sup>33</sup> Equivalent continuous sound level at the facade, L<sub>pAeq,0700-1900</sub>.

<sup>34</sup> Equivalent continuous sound level at the facade, L<sub>pAeq,0700-1900</sub>.

<sup>35</sup> Equivalent continuous sound level at the facade, L<sub>pAeq,2300-0700</sub>.

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

greater than 3dB<sup>36</sup> compared with the existing baseline sound level) at the following non-residential receptors:

- Holiday Inn Express Manchester Airport, an IHG Hotel, Runger Lane, Manchester and committed development (Map book ref.: MA06/073) (assessment location ref.: 613302);
- Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel, Manchester (assessment location ref.: 613301);
- Premier Inn Manchester Airport (M56/J6) Runger Lane South Hotel, Manchester (assessment location ref.: 612816); and
- World Cargo Centre and Freight Terminal, Manchester Airport, Manchester (assessment location ref.: 612800 and 612814).

5.15.335 These locations are identified in the Hulseheath to Manchester Airport area, as shown in SES2 and AP2 ES, Volume 5, Sound, noise and vibration Map Book, Map Series SV-03. An assessment has been undertaken at the non-residential receptors identified above to determine if this impact would result in a significant effect, using the significance criteria set out in Annex A of Volume 5, Appendix: SV-001-00000 of the main ES.

5.15.336 The main ES as corrected in the SES2 and AP2 ES Volume 5, Appendix: CT-009-00000 identified, on the basis of a precautionary assessment, a significant adverse construction noise effect at Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) located on Runger Lane in Manchester for a duration of up to five months. This is denoted as MA06-C-N7 in Table 1 of the SES2 and AP2 ES Volume 5, Appendix: CT-009-00000. The amendment will increase the duration of impact to 15 months. This will give rise to a different likely significant effect on the non-residential receptor.

5.15.337 Premier Inn Manchester Airport (M56/J6) North hotel is located on Runger Lane in Manchester. The receptor is approximately 30m to the north of the land required for construction of the amendment. The seven-storey clad building has windows that appear to be openable. It is assumed that the building is provided with alternative means of ventilation to openable windows. The building has been assessed against the criteria for hotel use. The typical and highest predicted daytime monthly construction noise levels are 20dB and 24dB respectively above the screening criteria defined in the SMR for this use<sup>37</sup> for a period of up to 18 months. Premier Inn Manchester Airport (M56/J6) North hotel is identified, on the basis of a precautionary assessment, as being subject to a new likely significant adverse effect (denoted by MA06-C-N8 in Table 23 SES2 and AP2 ES Volume 5, Appendix: SV-002-00000). This temporary adverse effect from construction site noise may take the form of activity disturbance to guests of the hotel.

5.15.338 Premier Inn Manchester Airport (M56/J6) South hotel is located on Runger Lane in Manchester. The receptor is approximately 80m to the east of the land required for

---

<sup>36</sup> The exception is where the use and sensitivity of the receptor or land use is very sensitive to noise and have been included in the detailed assessment where there is a change less than 3dB. Further information can be found in the SES2 and AP2 ES, Volume 5, Appendix: SV-002-00000.

<sup>37</sup> 50 dB L<sub>pAeq,2300-0700</sub> (free-field) during the day, which is equivalent to 53 dB L<sub>pAeq,2300-0700</sub> (façade).

construction of the amendment. The seven-storey clad building has windows that appear to be openable. It is assumed that the building is provided with alternative means of ventilation to openable windows. The building has been assessed against the criteria for hotel use. The typical and highest predicted daytime monthly construction noise levels are 16dB and 23dB respectively above the screening criteria defined in the SMR for this use<sup>38</sup> for a period of up to two months. Premier Inn Manchester Airport (M56/J6) South hotel is identified, on the basis of a precautionary assessment, as being subject to a new likely significant adverse effect (denoted by MA06-C-N9 in Table 23 SES2 and AP2 ES Volume 5, Appendix: SV-002-00000). This temporary adverse effect from construction site noise may take the form of activity disturbance to guests of the hotel.

- 5.15.339 World Cargo Centre and Freight Terminal are located along Runger Lane in Manchester. The receptors are approximately 20m to the east of the land required for construction of the amendment. The two-storey brick buildings have windows that appear to be openable. It is assumed that the buildings are not provided with alternative means of ventilation to openable windows. World Cargo Centre and Freight Terminal have been assessed against the lower sensitivity office criteria. The typical and highest predicted daytime monthly construction noise levels at these buildings are 3dB to 5dB and 7dB to 10dB respectively above the screening criteria defined in the SMR for this use<sup>39</sup> for up to a period of one year and five months. World Cargo Centre and Freight Terminal are identified, on the basis of a precautionary assessment, as being subject to a new likely significant adverse effect (denoted by MA06-C-N10 in Table 23 SES2 and AP2 ES Volume 5, Appendix: SV-002-00000). This temporary adverse effect may take the form of activity disturbance to office users.

### **Other mitigation measures**

- 5.15.340 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.15.341 The amendment will give rise to a different likely temporary residual adverse significant construction noise effect on the residential community on Sunbank Lane, Ringway due to an increased impact duration.
- 5.15.342 The amendment will give rise to a different likely temporary residual adverse significant construction noise and vibration effect on the residential communities at Warburton Green due to an increased number of properties affected at this community.
- 5.15.343 The amendment will give rise to a different likely temporary residual adverse significant construction noise effect on the residential community in Hale Barns, in the vicinity of the

---

<sup>38</sup> 50 dB L<sub>pAeq,2300-0700</sub> (free-field) during the day, which is equivalent to 53 dB L<sub>pAeq,2300-0700</sub> (façade).

<sup>39</sup> 65 dB L<sub>pAeq,0700-2300</sub> (façade) during the day.



A538 Hale Road and Hasty Lane, due to an increased duration of impact at several of the impacted dwellings within the community.

- 5.15.344 The amendment will give rise to a different likely temporary residual adverse significant construction vibration effect on the residential community in Hale Barns, in the vicinity of the A538 Hale Road and Hasty Lane, due to an increased number of properties affected at this community.
- 5.15.345 The amendment will give rise to a new likely temporary residual adverse significant construction noise effect on the residential community on Castle Mill Lane, Ashley, in the vicinity of Castle Mill Lane and Tanyard Lane junction.
- 5.15.346 The amendment will give rise to a different likely temporary residual adverse significant construction noise effect at the Holiday Inn Express Manchester Airport hotel and committed development (Map book ref.: MA06/073) located on Runger Lane in Manchester, due to an increased impact duration.
- 5.15.347 The amendment will give rise to a new likely temporary residual adverse significant construction noise effect on the following non-residential buildings:
- Premier Inn Manchester Airport (M56/J6) North (hotel), Runger Lane;
  - Premier Inn Manchester Airport (M56/J6) South (hotel), Runger Lane; and
  - World Cargo Centre and Freight Terminal (lower sensitivity offices), Runger Lane.

### **Cumulative effects**

- 5.15.348 No new, removed or different significant cumulative effects have been identified.

## **Effects arising from operation**

### **Avoidance and mitigation measures**

- 5.15.349 Due to the amendment, noise barriers have been incorporated into the AP2 revised scheme to avoid or reduce adverse effects due to airborne noise at Warburton Green. The envisaged noise barrier locations based upon the currently available information are shown on Map Series SV-05 (SES2 and AP2 ES Volume 2, MA06 Map Book). Otherwise, no additional avoidance or mitigation measures, compared to those reported in main ES, are proposed.

### **Assessment of impacts and effects**

#### **Non-residential receptors: direct effects**

- 5.15.350 As a result of the amendment the assessment has identified airborne sound levels greater than the screening criteria relevant to the particular building use and a change of greater than 3dB compared to the future baseline sound level at The Hut Group (THG) Icon (offices and studio), Sunbank Lane (assessment location ref.: 613219). An assessment has been

undertaken to determine if this impact will result in a significant effect using the significance criteria defined in the main ES Volume 5, Appendix: SV-001-00000.

- 5.15.351 THG Icon, Sunbank Lane is a creative hub including studios and office space. An adverse operational noise effect has been identified at THG Icon, Sunbank Lane based on the change in operational airborne sound level outside of the receptor of up to 5dB compared to the future baseline sound level. Daytime operational noise levels at the studio are predicted to exceed the impact screening criterion for studios of 50dB LpAeq,16hr by 13dB. The site comprises an office building and warehouse building including studio use. The office building has glazing formed in a curtain walling system and the warehouse building has walls constructed of cladding panels with no windows facing the AP2 revised scheme. Publicly accessible information has indicated that the studios are located within the warehouse building not on the facades facing the AP2 revised scheme and with corridors between the outer wall and studio walls. The existing sound insulation provided by the external façade and layout of the buildings on site are likely to reduce noise levels inside office and studio spaces so that they are not significantly affected. The THG Icon (offices and studio), Sunbank Lane is therefore not identified as being subject to a likely significant adverse effect.

### **Other mitigation measures**

- 5.15.352 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.15.353 There are no new or different residual significant effects from operational noise or vibration.

### **Cumulative effects**

- 5.15.354 No new, removed or different significant cumulative effects have been identified.

## **Traffic and transport**

### **Scope, assumptions and limitations**

- 5.15.355 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 (Section 8) and the SMR of the main ES.
- 5.15.356 This amendment has the potential to result in new or different significant construction and operational effects for traffic and transport.
- 5.15.357 The assessment of changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.
- 5.15.358 The assessment in this section considers the potential effects on PRoW and roadside footway users, parking and loading and changes in journey lengths for vehicle occupants. No

effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## **Environmental baseline**

### **Existing baseline**

- 5.15.359 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.15.360 The M56 is a motorway in the Hulseheath to Manchester Airport area. The M56 provides east to west connections between Greater Manchester and Ellesmere Port/Chester. The M56 follows an east-west alignment through the Hulseheath to Manchester Airport area between Warrington and M56 junction 6 and follows a north-south alignment between M56 junction 6 and the end of the motorway south of Manchester City Centre. The existing M56 junction 6/A538 Wilmslow Road/Runger Lane/A538 Hale Road network incorporates a signal-controlled roundabout on the eastern side of the junction and a priority-controlled (give way) roundabout on the western side of the junction.
- 5.15.361 The main local roads of relevance to the assessment of this amendment are:
- A538 Wilmslow Road;
  - A538 Hale Road;
  - Sunbank Lane; and
  - Chapel Lane.
- 5.15.362 The local road network in this area generally operates well, although some localised delays can be experienced, particularly at peak times.
- 5.15.363 There are a number of roadside footways in the Hulseheath to Manchester Airport area. The roadside footways of relevance to the assessment of this amendment are:
- Sunbank Lane; and
  - Chapel Lane.
- 5.15.364 No survey information is available for Sunbank Lane and Chapel Lane; however, in the absence of information, the assessment is based on reasoned assumptions regarding usage.
- 5.15.365 The PRoW of relevance to the assessment of this amendment are:
- Footpath Ringway 10;
  - Footpath Ringway 11;
  - Footpath Ringway 12;
  - Footpath Ringway 13;
  - Footpath Ringway 9;

- Footpath Ringway 8;
- Footpath Hale 10; and
- Footpath Hale 13.

5.15.366 No survey information is available for Footpath Ringway 10, Footpath Ringway 11, Footpath Ringway 12, Footpath Ringway 13, Footpath Ringway 9, Footpath Ringway 8, Footpath Hale 10, and Footpath Hale 13; however, in the absence of information, the assessment is based on reasoned assumptions regarding usage.

5.15.367 There is off-street parking within the Hulseheath to Manchester Airport area. The off-street parking areas of relevance to the assessment of this amendment are located at:

- Amazon Fulfilment Centre, off Sunbank Lane;
- ANA Aviation, off York Drive; and
- Holiday Inn Express Manchester Airport, off Runger Lane.

### **Future baseline**

5.15.368 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.

5.15.369 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

5.15.370 The future baseline scheme of relevance to the assessment of this amendment is the planning application to create a 163 space overspill car park at The Hut Group (THG) on Sunbank Lane.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

5.15.371 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### **Assessment of impacts and effects**

5.15.372 The original scheme included no temporary change to the M56 junction 6 westbound off-slip. The amendment will result in the temporary closure of the M56 junction 6 westbound off-slip for a duration of up to three months to construct the new slip lane connections to the new M56 junction 6 gyratory. Users will be diverted via the temporary slip roads, the new M56 junction 6 gyratory and the A538 Hale Road junction, increasing journey length by 1.9km. This will give rise to a new moderate adverse effect, which is significant, because of an increase in journey length for vehicle occupants.

- 5.15.373 The original scheme included no temporary change to Footpath Ringway 13. The amendment will result in the temporary diversion of Footpath Ringway 13 (map reference CT-05-356<sup>40</sup>) for a duration of up to one year and two months. Users will be diverted along Sunbank Lane, the unnamed path opposite Yew Tree Cottage and Footpath Ringway 14, resulting in an increase in journey length of up to 197m. This will give rise to a new minor adverse effect, which is significant.
- 5.15.374 The original scheme included no temporary change to Footpath Ringway 8. The amendment will result in the temporary diversion of Footpath Ringway 8 (map reference: CT-05-356<sup>41</sup>) for a duration of up to one year and eight months. Users will be diverted along Runger Lane and the A538 Wilmslow Road, resulting in an increase in journey length of up to 232m. This will give rise to a new minor adverse effect, which is significant.
- 5.15.375 The original scheme included no temporary change to Footpath Hale 13 and Footpath Ringway 9. The amendment will result in the temporary closure of Footpath Hale 13 (map reference: CT-05-356<sup>42</sup>) and Footpath Ringway 9 (map reference CT-05-356<sup>43</sup>) for a duration of up to three years and six months. Users will be diverted along Marlfield Road, Greengate, High Elm Road and the A538 Hale Road, resulting in an increase in journey length of up to 840m. This will give rise to a new moderate adverse effect, which is significant.
- 5.15.376 The original scheme included no temporary change to Footpath Hale 10. The amendment will result in the temporary closure of Footpath Hale 10 (map reference CT-05-356<sup>44</sup>) for a duration of up to five years and five months. There is no viable alternative route during the temporary closure, and therefore this amendment will give rise to a new major adverse effect, which is significant.
- 5.15.377 The original scheme included no temporary change to Footpath Ringway 10. The amendment will result in the closure of Footpath Ringway 10 (map reference CT-05-356<sup>45</sup>) for a duration of up to five years and five months. There is no viable alternative route during the temporary closure, and therefore this amendment will give rise to a new major adverse effect, which is significant.
- 5.15.378 The main ES reported the temporary closure of Footpath Ringway 11 resulting in a major adverse effect on non-traffic related severance, which is significant, due to there being no viable alternative route for a period of three years and three months. The amendment will result in an increase in the duration of the Footpath Ringway 11 (map reference CT-05-356<sup>46</sup>) closure, from three years and three months, as reported in the main ES, to five years and five months. The increase in closure duration will give rise to a different (increased)

---

<sup>40</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>41</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>42</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>43</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>44</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>45</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>46</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

significant effect; however, this will not change the level of significance of the effect reported in the main ES, which remains major adverse.

- 5.15.379 The main ES reported the temporary closure of Sunbank Lane resulting in a moderate adverse effect on non-traffic related severance, which is significant, due to an increase in journey length for non-motorised users of up to 2.8km. The amendment will result in changes to the increase in journey length for non-motorised users for the temporary diversion of Sunbank Lane, from 2.8km, as reported in the main ES, to 2.9km. The amendment will also result in changes to the duration of the Sunbank Lane temporary closure, from six years and three months, as reported in the main ES, to two years. The reduction in closure duration will give rise to a different (decreased) significant effect; however, this will not change the level of significance of the effect reported in the main ES, which remains moderate adverse.
- 5.15.380 The main ES reported no temporary change to the off-street parking at Amazon Fulfilment Centre. The amendment will result in the temporary loss of 44 off-street HGV parking spaces for a duration of up to two years and six months. This will give rise to a new major adverse effect on parking and loading, which is significant.
- 5.15.381 The main ES reported no temporary change to the off-street parking at ANA Aviation. The amendment will result in the temporary loss of all seven off-street parking spaces from ANA Aviation for a duration of up to two years and six months. This will give rise to a new major adverse effect on parking and loading, which is significant.
- 5.15.382 The main ES reported that the original scheme would require the temporary loss of 79 off-street parking spaces for a period of four years at Holiday Inn Express Manchester Airport, resulting in a major adverse effect, which is significant. The amendment will reduce the number of off-street parking spaces temporarily lost, from 79, as reported in the main ES, to 46. The amendment will decrease the duration of the temporary loss from four years, as reported in the main ES, to three years and nine months. This will give rise to a different (decreased) significant effect; however, this will not change the level of significance of the effect reported in the main ES, which remains major adverse.

### **Other mitigation measures**

- 5.15.383 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.15.384 The amendment will give rise to the following new likely residual temporary significant effects:

- major adverse effect to non-traffic related severance for users of Footpath Hale 10 (map reference CT-05-356<sup>47</sup>) as a result of there being no viable alternative route during the temporary closure;
- major adverse effect to non-traffic related severance for users of Footpath Ringway 10 (map reference CT-05-356<sup>48</sup>) as a result of there being no viable alternative route during the temporary closure;
- major adverse effect to parking and loading at Amazon Services Ltd due to the temporary loss of 44 off-street HGV parking spaces;
- major adverse effect to parking and loading at ANA Aviation due to the temporary loss of seven off-street parking spaces;
- moderate adverse effect on journey length for vehicle occupants at the M56 junction 6 westbound off-slip due to the increase in journey length of up to 1.9km;
- moderate adverse effect to non-traffic related severance for users of Footpath Hale 13 (map reference CT-05-356<sup>49</sup>) and Footpath Ringway 9 (map reference CT-05-356<sup>50</sup>) due to the increase in journey length of up to 840m;
- minor adverse effect to non-traffic related severance for users of Footpath Ringway 8 (map reference CT-05-356<sup>51</sup>) due to the increase in journey length of up to 232m; and
- minor adverse effect to non-traffic related severance for users of Footpath Ringway 13 (map reference CT-05-356<sup>52</sup>) due to the increase in journey length of up to 197m.

5.15.385 The amendment will give rise to the following different likely residual temporary significant effects:

- major adverse effect (increased) on non-traffic related severance for non-motorised users due to the increase in duration of the Footpath Ringway 11 closure (map reference CT-05-356<sup>53</sup>), from three years and three months, as reported in the main ES, to five years and five months;
- moderate adverse effect (decreased) on non-traffic related severance for non-motorised users due to the reduction in duration of the Sunbank Lane closure, from six years and three months, as reported in the main ES, to two years; and
- major adverse effect (decreased) on parking and loading at Holiday Inn Express Manchester Airport due to the reduction in the number of parking spaces temporarily lost from 79, as reported in the main ES, to 46.

---

<sup>47</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>48</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>49</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>50</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>51</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>52</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.

<sup>53</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-05 – Construction Phase.



## Cumulative effects

- 5.15.386 No new, removed or different significant cumulative effects have been identified.
- 5.15.387 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

## Effects arising during operation

### Avoidance and mitigation measures

- 5.15.388 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

- 5.15.389 The main ES reported that the original scheme would require the permanent realignment of Sunbank Lane, up to 20m west of its current alignment for 316m, crossing the route of the original scheme on Sunbank Lane overbridge, resulting in a negligible change in journey length for vehicle occupants and non-motorised users. The amendment will result in a change to the realignment of Sunbank Lane/Chapel Lane, which will increase the journey length from a negligible change, as reported in the main ES, to 220m. This will not give rise to a new or different significant effect with regards to journey length for vehicle occupants, but will give rise to a new minor adverse effect for non-motorised users, which is significant.
- 5.15.390 The amendment will also require the permanent closure of a separate section of Sunbank Lane between Yewtree House and the Global Logistics Hub to accommodate the M56 junction 6 Wilmslow Road link road and the M56 junction 6 westbound exit slip road. Vehicle users will be diverted along Chapel Lane, Green Gate, High Elm Road, the A538 Hale Road and the A638 Wilmslow Road. This will give rise to a new minor adverse effect on journey length for vehicle occupants, which is significant, due to an increase in journey length of up to 3.3km.
- 5.15.391 The main ES reported that the original scheme would require the permanent realignment of Footpath Ringway 12, resulting in a minor adverse effect on non-traffic related severance, which is significant, due to an increase in journey length of up to 142m. The amendment will result in changes to the Footpath Ringway 12 (map reference CT-06-356<sup>54</sup>) realignment. This will reduce the increase in journey length for non-motorised users from 142m, as reported in the main ES, to 96m, which will remove the minor adverse effect on non-traffic related severance reported in the main ES.
- 5.15.392 The main ES reported that the original scheme would require the permanent diversion of Footpath Ringway 11, resulting in a minor adverse effect on non-traffic related severance,

---

<sup>54</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

which is significant, due to an increase in journey length of up to 303m. The amendment will require the permanent closure of Footpath Ringway 11 (map reference CT-06-356<sup>55</sup>). Users of Footpath Ringway 11 will be diverted via Sunbank Lane west of the reconfigured M56 junction 6, along a new PRow connecting to Sunbank Lane in the Global Logistics Hub, and the A538 Wilmslow Road. The amendment will extend the increase in journey length for non-motorised users from 303m, as reported in the main ES, to 801m. This will give rise to a different effect on non-traffic related severance, which will increase from a minor adverse effect to a moderate adverse effect, which is significant.

- 5.15.393 The main ES reported no significant effects on non-motorised users of Footpath Ringway 10. The amendment will require the permanent closure of Footpath Ringway 10 (map reference CT-06-356<sup>56</sup>). Users of Footpath Ringway 10 will be diverted via Sunbank Lane west of the reconfigured M56 junction 6, along a new PRow connecting to Sunbank Lane in the Global Logistics Hub, and the A538 Wilmslow Road. This will give rise to a new moderate adverse effect on non-traffic related severance, which is significant, due to an increase in journey length of up to 801m.
- 5.15.394 The original scheme included no permanent change to the off-street parking at Amazon UK Services Ltd. The amendment will result in the permanent loss of 15 HGV parking spaces from Amazon UK Services Ltd. This will give rise to a new moderate adverse effect on parking and loading, which is significant.
- 5.15.395 The original scheme included no permanent change to the off-street parking at The Hut Group (THG) overspill car park (committed development). The amendment will prevent 163 car parking spaces being implemented from the THG overspill car park. This will give rise to a new major adverse effect on parking and loading, which is significant.

## **Other mitigation measures**

- 5.15.396 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.15.397 The amendment will give rise to the following new likely residual permanent significant effects:
- minor adverse effect on journey length for vehicle occupants on Sunbank Lane due to an increase in journey length of up to 3.3km;
  - moderate adverse effect on non-traffic related severance for users of Footpath Ringway 10 (map reference CT-06-356<sup>57</sup>) due to an increase in journey length of up to 801m;
  - minor adverse effect on non-traffic related severance for non-motorised users on Sunbank Lane/Chapel Lane due to an increase in journey length of up to 220m;

---

<sup>55</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

<sup>56</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

<sup>57</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

- moderate adverse effect on parking and loading at Amazon Services Ltd due to the permanent loss of 15 off-street parking spaces; and
- major adverse effect on parking and loading at The Hut Group (THG) overspill (committed development) car park due to the prevention of 163 off-street parking spaces being implemented.

5.15.398 The amendment will give rise to a different likely residual permanent effect on non-traffic related severance for users of Footpath Ringway 11 (map reference CT-06-356<sup>58</sup>). The effect will increase from a minor adverse significant effect to moderate adverse significant effect.

## **Cumulative effects**

5.15.399 No new, removed or different significant cumulative effects have been identified.

5.15.400 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

## **Water resources and flood risk**

### **Scope, assumptions and limitations**

5.15.401 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1 and the SMR of the main ES.

5.15.402 This amendment has the potential to result in new or different significant temporary and permanent construction effects only. Therefore, there is no operational assessment for water resources and flood risk.

### **Environmental baseline**

#### **Existing baseline**

5.15.403 The baseline water resources and flood risk information is as shown in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. New baseline information is provided in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.

#### **Surface water**

5.15.404 As set out in the main ES, all surface water bodies in the area fall within the Mersey Upper management catchment of the North West RBD.

---

<sup>58</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

5.15.405 There are ten watercourses in proximity to this amendment. These are:

- very high value receptor: River Bollin;
- moderate value receptors: Tributaries of River Bollin 1, 2, 3, 4, 5, 6 and 7; and
- low value receptors: Drain to the M56 1 and Drain to the M56 2.

## Groundwater

5.15.406 As set out in the main ES, the superficial geology that underlies the area of this amendment is dominated by glacial till. This is classified as a Secondary (Undifferentiated) aquifer and is therefore classified as a moderate value receptor. Alluvium and glaciofluvial deposits follow the valley of the River Bollin. The glaciofluvial deposits may also extend beneath the glacial till in some areas. Both are classified as Secondary A aquifers and are therefore considered to be moderate value receptors. These superficial deposits form part of the Weaver and Dane Quaternary Sand and Gravel Aquifer WFD water body. Under the 2022 River Basin Management Plan cycle 3 WFD assessment classification, it has poor overall status due to its quality/chemical status.

5.15.407 The bedrock geology that underlies this area consists of the Bollin Mudstone Member (part of the Sidmouth Formation within the Mercia Mudstone Group) and the Tarporley Siltstone Formation (also part of the Mercia Mudstone Group). Both are classified as Secondary B aquifers and are therefore considered to be moderate value receptors.

## Groundwater – surface water interactions

5.15.408 Table 19 sets out the groundwater – surface water interaction features relevant to the amendment, their distance and direction from the amendment, and their assigned receptor value.

**Table 19: Groundwater – surface water interaction features relevant to the AP2 revised scheme**

Feature Name	Approximate distance and direction from route	Receptor value
Spring at Keepers Cottage, Sunbank Lane (south)	140m south-east of the HS2 route (within land required for construction of the AP2 revised scheme)	High
Potential spring 127m south-east of Keepers Cottage, Sunbank Lane	270m south-east of the HS2 route (within land required for construction of the AP2 revised scheme)	High
Potential spring 120m east of Keepers Cottage, Sunbank Lane	250m south-east of the HS2 route (within land required for construction of the AP2 revised scheme)	High

## Water dependent habitats

5.15.409 Sunbank Wood and Ponds including Bollin Bank AWI site is a habitat that is at least partially groundwater dependent. It is crossed by the HS2 route and partially within the additional land required for construction of this amendment.

## Flood risk

5.15.410 The Environment Agency's flood map for planning (rivers and sea)<sup>59</sup> has been used to scope the baseline flood risk for fluvial flooding from main rivers and ordinary watercourses. These plans define Flood Zone 2 (land assessed as having between a 1 in 100 (1%) and 1 in 1,000 (0.1%) annual probability of river flooding) and Flood Zone 3 (land assessed as having a 1 in 100 (1%) or greater annual probability of river flooding). The land required for the construction of this amendment includes areas of floodplain associated with the River Bollin. Hydraulic modelling of the River Bollin has been completed and is set out in Hydraulic modelling report – River Bollin, SES2 and AP2 ES Volume 5, Appendix: WR-006-00011. Table 20 shows the receptors that will potentially be affected by any changes in the level and extent of flooding from the AP2 revised scheme. The value of these receptors, based on the definitions in Section 21 of the SMR, is also indicated. The location description and figure/coordinate is the location at which the source intersects this amendment, as indicated by the grid coordinates in the relevant SES2 and AP2 ES Volume 5, Water resources and flood risk Map Book: Map Series WR-01 – Surface water baseline.

**Table 20: River flood risk sources and receptors**

Source	Location description and figure/coordinate	Receptor potentially affected	Receptor value/ sensitivity to flooding
River Bollin	WR-01-309a B6	Undeveloped agricultural land	Moderate
River Bollin	WR-01-309a B6	Woodland	Low
River Bollin	WR-01-309a B6	Undeveloped agricultural land	Moderate
River Bollin	WR-01-309a B6	Undeveloped agricultural land	Moderate
River Bollin	WR-01-309a B7	Undeveloped agricultural land	Moderate
River Bollin	WR-01-309a B7	Woodland	Low

## Future baseline

- 5.15.411 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.15.412 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.15.413 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on water resources and flood risk.

<sup>59</sup> Environment Agency (2021), *Flood map for planning*. Available online at: <https://flood-map-for-planning.service.gov.uk>.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.15.414 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

#### Surface water

- 5.15.415 The additional land permanently required to reconfigure M56 junction 6 will include extension of the existing motorway crossing of the River Bollin and numerous crossings (with associated culverts) of the tributaries of River Bollin 2, 3, 4, 5, 6 and 7.
- 5.15.416 The widening of the M56 River Bollin underbridge over the River Bollin has the potential to lead to minor impacts on the high value River Bollin related to increased shading, resulting in a moderate adverse effect, which is significant.
- 5.15.417 In order to facilitate the reconfiguration of the M56 junction 6, a proposed realignment of Tributary of River Bollin 3 will include: a new 298m long culvert, to pass beneath the gyratory; a short section of realignment (22m); and a new section of open channel (223m). The presence of this long culvert has the potential to lead to a deterioration in habitat and hydromorphology of the surface watercourse. This is assessed to be a moderate impact on this moderate value receptor, resulting in a moderate adverse effect, which is significant. Where reasonably practicable, measures will be introduced to improve the channel morphology and habitats, in the realigned and new open channel sections of the watercourse.
- 5.15.418 This amendment crosses numerous tributaries of the River Bollin. The effects of these culvert crossings on the hydromorphology of the individual watercourses are not generally significant. However, the combination of these watercourse crossings leads to the loss of approximately 450m to 500m of open channel. Between 500m to 550m of watercourse realignments are proposed which could help offset the impacts of these culverts. However, due to physical constraints in the area, on a precautionary basis it is considered that hard engineering is likely to be required for some watercourse realignments. Therefore, when considered together, the impact of these numerous culverts is assessed to be minor on the hydromorphology of the high value River Bollin catchment, leading to a moderate adverse effect, which is significant.
- 5.15.419 The Drain to M56 1 and Drain to M56 2 will be lost beneath the reconfigured M56 junction. The approximately 300m of existing open channel of these watercourses will be replaced by a new 354m long open channel (with 5 short culverts). This is assessed to be a minor impact on watercourse flow and morphology, resulting in negligible effects, which are not significant.

## Groundwater

- 5.15.420 The M56 junction 6 westbound exit slip road will be built over the 'Spring at Keeper's Cottage, Sunbank Lane (south)', which will lead to the loss of this feature. Furthermore, the M56 junction 6 westbound exit offline retaining wall will be located 25m north-west of the spring, which will form a permanent barrier to shallow groundwater flow. The loss of this feature is assessed to be a new permanent major impact, resulting in a major adverse effect which is significant.
- 5.15.421 The 'Spring at Keepers Cottage Sunbank Lane (south)' currently flows into Tributary of River Bollin 2. The loss of this spring will lead to a reduction in flow in this watercourse. Groundwater flow to this spring feature will be intercepted by a filter drain in front of the M56 junction 6 southbound diverge offline retaining wall along the eastern side of the M56. To ensure no loss of flow in the Tributary of River Bollin 2, this drainage will be channelled downstream and discharged back into Tributary of River Bollin 2, east of the new PRoW (Sunbank Lane to Global Logistics Hub). With this mitigation in place the impact of the reduction in flow in the Tributary of River Bollin 2 is considered to be minor, leading to a new minor adverse effect, which is not significant.
- 5.15.422 The main ES reported no permanent effects on the 'Potential spring 120m east of Keepers Cottage, Sunbank Lane' or the 'Potential spring 127m south-east of Keepers Cottage, Sunbank Lane' due to any features of the original scheme. M56 Junction 6 Wilmslow Road link road attenuation tank retaining wall is immediately adjacent to the 'Potential spring 120m east of Keepers Cottage, Sunbank Lane' and the 'Potential spring 127m south-east of Keepers Cottage, Sunbank Lane', and is likely to be within their groundwater capture zones. This retaining wall will form a partial barrier to natural groundwater flow and may permanently alter groundwater flow to these springs. Due to the proximity of these springs to this retaining wall, on a precautionary basis it is assumed that a new minor permanent impact on these high value springs will occur, leading to a moderate adverse effect, which is significant.

## Flood risk

- 5.15.423 In the main ES, it was reported that the River Bollin East viaduct would lead to highly localised changes in peak flood levels due to the presence of the viaduct piers in the floodplain. This effect remains unchanged following the updates to the SES2 baseline climate change allowances.
- 5.15.424 In the main ES, the original scheme consisted of a viaduct crossing of the River Bollin that would not affect the floodplain other than at viaduct piers. Therefore, it was determined that modelling was not required, since the viaduct would not appreciably interfere with the hydraulic processes in the flood zone. The reconfiguration of M56 junction 6 will involve the widening of the existing M56 River Bollin underbridge including embankments and wingwalls within the floodplain. Therefore, for the AP2 revised scheme hydraulic modelling has been carried out of the River Bollin East viaduct crossing and M56 River Bollin underbridge widening. The hydraulic modelling indicates that, with embedded replacement



floodplain storage in place, a potential minor to moderate impact on peak flood levels will occur affecting low value woodland or moderate value disused agricultural land. This will result in a new minor adverse flood risk effect which is not significant.

- 5.15.425 The design of the amendment will, as far as reasonably practicable, mitigate surface water runoff from the roads. Balancing ponds for new sections of highway drainage have been sized on a precautionary basis, pending more detailed information about the permeability and runoff characteristics of existing and proposed ground surfaces. Highways drainage for the amendment is designed to ensure that there will be no significant increases in flood risk due to road runoff, during storms up to and including the 1 in 100 (1%) annual probability design event, with an allowance for climate change.

### **Other mitigation measures**

- 5.15.426 Additional mitigation options for the permanent impact on the hydromorphology of the River Bollin catchment will be identified, discussed and agreed with the Environment Agency, in order to ensure no deterioration of the River Bollin water body, as far as reasonably practicable. Mitigation options could include the improvement of existing watercourse habitats or full/partial removal of existing culverts in other parts of the River Bollin catchment. On a precautionary basis, until such time as these investigations are complete, a residual significant adverse effect will remain.
- 5.15.427 Mitigation measures are required to address the impacts of the M56 junction 6 Wilmslow Road link road attenuation tank retaining wall on the Potential spring 120m east of Keepers Cottage, Sunbank Lane and the Potential spring 127m south-east of Keepers Cottage, Sunbank Lane. If the site visits confirm the springs are present and of sufficiently high value, mitigation measures will be implemented, where practicable, to re-establish the springs or spring flows in a manner that ensures any adverse impacts are mitigated. During design development, any such additional measures will be designed in consultation with the Environment Agency. On a precautionary basis, until such time as these investigations are carried out, a residual significant adverse effect will remain.
- 5.15.428 During design progression topographical survey information will be incorporated into the existing hydraulic model to improve the representation of existing watercourses. Designs for the viaduct, culverts and underbridge will be incorporated into the hydraulic model along with the identified replacement floodplain storage (RFS). At this stage a scour assessment will also be undertaken to ensure that there are no significant increases in stream velocity which could lead to scour downstream of the extended M56 crossing structure. If scour is likely to occur, scour protection will be included downstream. The mitigation measures will be refined during design development to ensure no potential significant effects on flood risk.

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

- 5.15.429 Implementation of the other mitigation measures described will reduce a number of the identified effects to a level that is not significant. However, on a precautionary basis, until

mitigation has been identified and included within the design, it is anticipated that the following significant residual effects will remain:

- a permanent moderate adverse effect on shading and hydromorphology of the River Bollin due to the widening of the M56 River Bollin underbridge;
- a permanent moderate adverse effect on flow and hydromorphology of Tributary of River Bollin 3, due to the culverting of this watercourse beneath the M56;
- a permanent moderate adverse effect on the River Bollin catchment due to the combined loss of open channel from culverting of numerous tributaries;
- a permanent major adverse effect from the loss of 'Spring at Keepers Cottage Sunbank Lane (south)'; and
- a permanent moderate adverse effect on flows in the 'Potential spring 120m east of Keepers Cottage, Sunbank Lane' and the 'Potential spring 127m south-east of Keepers Cottage, Sunbank Lane', due to the M56 Junction 6 Wilmslow Road link road attenuation tank retaining wall.

### **Cumulative effects**

5.15.430 No new, removed or different significant cumulative effects have been identified.

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

### **Construction**

#### **Agriculture, forestry and soils**

5.15.431 The amendment will result in a different temporary major/moderate adverse (significant) effect for Ryecroft Farm (MA06/11), increased from moderate adverse as reported in the main ES.

5.15.432 The amendment will result in the following new temporary residual significant effects:

- a new moderate adverse (significant) effect for Lower Thorns Green Farm (MA06/25);
- a new major/moderate adverse (significant) effect at Tanyards Farm (MA06/35);
- a new moderate adverse (significant) effect at Land at Mill Lane (MA06/36); and
- a new moderate adverse (significant) effect at Land at Sunbank Lane (MA06/37).

5.15.433 The amendment will result in the following new permanent residual significant effects:

- a new moderate adverse (significant) effect for Lower Thorns Green Farm (MA06/25);
- a new moderate adverse (significant) effect for Higher Doles Farm (MA06/27);
- a new moderate adverse (significant) effect at Tanyards Farm (MA06/35);
- a new moderate adverse (significant) effect at Land at Mill Lane (MA06/36); and
- a new moderate adverse (significant) effect at Land at Sunbank Lane (MA06/37).

## Community

5.15.434 The amendment will result in:

- a different major adverse in-combination significant effect on approximately 85 residential properties in Warburton Green due to different noise and visual effects; and
- a different major adverse in-combination significant effect on approximately 30 residential properties in Hale Barns due to different noise and visual effects and new HGV traffic effects.

## Ecology and biodiversity

5.15.435 There will be an increase in the loss of ancient woodland habitat at the following locations:

- an additional loss of 0.3ha at Henneslery Bank AWI site, an increase from 700m<sup>2</sup> reported in the main ES, resulting in a total loss of 0.37ha;
- an additional loss of 450m<sup>2</sup> at Bollin Bank, an increase from 0.1ha reported in the main ES, resulting in a total loss of 0.14ha; and
- a new loss of 800m<sup>2</sup> at Sunbank Wood.

5.15.436 The additional loss of ancient woodland will result in a different permanent residual effect that will remain at the national level in each case.

5.15.437 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 5.2km. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level.

## Historic environment

5.15.438 The amendment will give rise to a different permanent moderate adverse residual significant effect on Yewtree House, Sunbank Lane (MA06\_0016).

5.15.439 The amendment will give rise to new permanent moderate adverse residual significant effects on Pigleystair Bridge across River Bollin (site of) (MA06\_0097) and Keepers Cottage, Sunbank Lane (MA06\_0345).

5.15.440 The amendment will give rise to a different permanent moderate adverse residual significant effect on Ringway HLCA (MA06\_HLCA02).

## Landscape and visual

5.15.441 The amendment will give rise to a different likely residual significant effect at the following LCAs:

- Ringway Lower Wooded Farmland LCA. The effect will remain **major** adverse (significant); and

- Altrincham and Hale Urban Fringe Farmland LCA. The effect will remain **major** adverse (significant).
- 5.15.442 The amendment will give rise to a new likely residual significant effect for the River Bollin Broad Urban Fringe Valley LCA. The effect will increase to **moderate** adverse (significant) from minor adverse reported in the main ES.
- 5.15.443 The amendment will give rise to a different likely residual significant effect at the following viewpoints:
- view south from Tanyard Lane (331-02-003). The effect will remain **moderate** adverse (significant);
  - view north from Castle Mill Lane (331-02-007). The effect will remain **major** adverse (significant);
  - view north-west from Footpath Ringway 13, near Pigleystair Bridge (332-03-001). The effect will remain **major** adverse (significant);
  - view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **major** adverse (significant);
  - view east from Burnside, Warburton Green (332-02-005). The effect will remain **major** adverse (significant);
  - view east from the A538 Hale Road (332-02-006). The effect will remain **major** adverse (significant); and
  - view south-east from Brooks Drive (332-02-008). The effect will remain **major** adverse (significant).
- 5.15.444 The amendment will give rise to a new likely residual significant effect at the following new viewpoints:
- view north from Castle Mill Lane, west of Thorns Green (331-02-013). The effect will be **major** adverse (significant);
  - view south from Footpath Hale 10 (331-03-014). The effect will be **major** adverse (significant);
  - view north-east from Footpath Hale 10 (331-03-015). The effect will be **major** adverse (significant);
  - view south from Chapel Lane (332-02-009). The effect will be **major** adverse (significant); and
  - view south-east from Bankside (332-02-010). The effect will be **major** adverse (significant).
- 5.15.445 The amendment will give rise to a different likely residual significant night-time effect at the following viewpoints:
- view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **major** adverse (significant);

- view east from the A538 Hale Road (332-02-006). The effect will remain **moderate** adverse (significant); and
- view south-east from Brooks Drive (332-02-008). The effect will remain **moderate** adverse (significant).

5.15.446 The amendment will give rise to a new likely residual significant construction night-time effect at the new viewpoint: view north from Castle Mill Lane, west of Thorns Green (331-02-013). The effect will be **moderate** adverse (significant).

### Socio-economics

5.15.447 The amendment will result in new major adverse residual significant effects at a committed development for The Hut Group (MA06/287S) and the existing Amazon Fulfilment Centre on Sunbank Lane.

### Sound noise and vibration

5.15.448 The amendment will result in a different likely temporary residual adverse significant noise effect on the residential community of Sunbank Lane, Ringway.

5.15.449 The amendment will result in a different likely temporary residual adverse significant noise and vibration effect on the residential communities at Warburton Green.

5.15.450 The amendment will result in a different likely temporary residual adverse significant noise effect on the residential community in Hale Barns, in the vicinity of the A538 Hale Road and Hasty Lane.

5.15.451 The amendment will result in a different likely temporary residual adverse significant noise effect on the residential community in Hale Barns, in the vicinity of the A538 Hale Road and Hasty Lane.

5.15.452 The amendment will result in a new likely temporary residual adverse significant noise effect on the residential community on Castle Mill Lane, Ashley, in the vicinity of Castle Mill Lane and Tanyard Lane junction.

5.15.453 The amendment will result in a different likely temporary residual adverse significant noise effect at the Holiday Inn Express Manchester Airport hotel and committed development (Mapbook ref.: MA06/073) located on Runger Lane.

5.15.454 The amendment will result in a new likely temporary residual adverse significant noise effect on the following non-residential buildings:

- Premier Inn Manchester Airport (M56/J6) North (hotel), Runger Lane;
- Premier Inn Manchester Airport (M56/J6) South (hotel), Runger Lane; and
- World Cargo Centre and Freight Terminal (lower sensitivity offices), Runger Lane.

## Traffic and transport

- 5.15.455 The amendment will give rise to the following new likely residual temporary significant effects:
- major adverse effect to non-traffic related severance for users of Footpath Hale 10 as a result of there being no viable alternative route during the temporary closure;
  - major adverse effect to non-traffic related severance for users of Footpath Ringway 10 as a result of there being no viable alternative route during the temporary closure;
  - major adverse effect to parking and loading at Amazon Services Ltd due to the temporary loss of 44 off-street HGV parking spaces;
  - major adverse effect to parking and loading at ANA Aviation due to the temporary loss of seven off-street parking spaces;
  - moderate adverse effect on journey length for vehicle occupants at the M56 junction 6 westbound off-slip due to the increase in journey length of up to 1.9km;
  - moderate adverse effect to non-traffic related severance for users of Footpath Hale 13 and Footpath Ringway 9 due to the increase in journey length of up to 840m;
  - minor adverse effect to non-traffic related severance for users of Footpath Ringway 8 due to the increase in journey length of up to 232m; and
  - minor adverse effect to non-traffic related severance for users of Footpath Ringway 13 due to the increase in journey length of up to 197m.
- 5.15.456 The amendment will give rise to the following different likely residual temporary significant effects:
- major adverse effect (increased) on non-traffic related severance for non-motorised users due to the increase in duration of the Footpath Ringway 11 closure, from three years and three months to five years and five months;
  - moderate adverse effect (decreased) on non-traffic related severance for non-motorised users due to the reduction in duration of the Sunbank Lane closure, from six years and three months to two years; and
  - major adverse effect (decreased) on parking and loading at Holiday Inn Express Manchester Airport due to the reduction in the number of parking spaces temporarily lost from 79 to 46.

## Water resources and flood risk

- 5.15.457 The amendment will result in the following residual significant effects on a precautionary basis:
- a permanent moderate adverse effect on shading and hydromorphology of the River Bollin due to the widening of the M56 River Bollin underbridge;
  - a permanent moderate adverse effect on flow and hydromorphology of Tributary of River Bollin 3, due to the culverting of this watercourse beneath the M56;

- a permanent moderate adverse effect on the River Bollin catchment due to the loss of open channel from culverting of numerous tributaries;
- a permanent major adverse effect from the loss of 'Spring at Keepers Cottage Sunbank Lane (south)'; and
- a permanent moderate adverse effect on flows in the 'Potential spring 120m east of Keepers Cottage, Sunbank Lane' and the 'Potential spring 127m south-east of Keepers Cottage, Sunbank Lane', due to the M56 Junction 6 Wilmslow Road link road attenuation tank retaining wall.

## Operation

### Landscape and visual

- 5.15.458 The amendment will give rise to a different likely residual significant operation effect for the following LCAs:
- Ringway Lower Wooded Farmland LCA. The effect will be **major** adverse (significant); and
  - Altrincham and Hale Urban Fringe Farmland LCA. The effect will be **moderate** adverse (significant).
- 5.15.459 The amendment will give rise to a new likely residual significant operation effect at The River Bollin Broad Urban Fringe Valley LCA. The effect will increase to **moderate** adverse (significant) from minor as reported in the main ES.
- 5.15.460 The amendment will give rise to a different likely residual significant operation effect at the following viewpoints:
- View north from Castle Mill Lane (331-02-007). The effect will remain moderate adverse (significant);
  - view west by Yew Tree House on Sunbank Lane (332-02-003). The effect will remain **moderate** adverse (significant); and
  - view east from Burnside, Warburton Green (332-02-005). The effect will remain **moderate** adverse (significant).
- 5.15.461 The amendment will give rise to different likely residual significant effects at view south-east from Brooks Drive (332-02-008). The effect will remain **moderate** adverse.
- 5.15.462 The amendment will give rise to different likely residual significant effects at view east from the A538 Hale Road (332-02-006). The effect will reduce to **moderate** adverse.
- 5.15.463 The amendment will give rise to a new likely residual significant operation effect at the following new viewpoints:
- view south from Footpath Hale 10 (331-03-014). The effect will be **moderate** adverse (significant);
  - view north-east from Footpath Hale 10 (331-03-015). The effect will be **moderate** adverse (significant); and



- view south from Chapel Lane (332-02-009). The effect will be **moderate** adverse (significant).

5.15.464 The amendment will give rise to a new likely residual significant night-time effect at a new viewpoint: view south from Chapel Lane (332-02-009). The effect will be **moderate** adverse.

### Traffic and transport

5.15.465 The amendment will give rise to the following new likely residual permanent significant effects:

- minor adverse effect on journey length for vehicle occupants on Sunbank Lane due to an increase in journey length of up to 3.3km;
- moderate adverse effect on non-traffic related severance for users of Footpath Ringway 10 (map reference CT-06-356) due to an increase in journey length of up to 801m;
- minor adverse effect on non-traffic related severance for non-motorised users on Sunbank Lane/Chapel Lane due to an increase in journey length of up to 220m;
- moderate adverse effect on parking and loading at Amazon Services Ltd due to the permanent loss of 15 off-street parking spaces; and
- major adverse effect on parking and loading at The Hut Group (THG) overspill (committed development) car park due to the prevention of 163 off-street parking spaces being implemented.

5.15.466 The amendment will give rise to a different likely residual permanent effect on non-traffic related severance for users of Footpath Ringway 11. The effect will increase from a minor adverse significant effect to moderate adverse significant effect.

## Summary of removed likely residual significant effects as a result of the amendment

### Operation

#### Traffic and transport

5.15.467 The amendment will remove the likely residual permanent minor adverse significant effect on non-traffic related severance for non-motorised users of Footpath Ringway 12.

## 5.16 Additional land permanently required for modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)

5.16.1 The Bill provides for construction traffic routes and construction compounds in the Hulseheath to Manchester Airport area. The main ES reported that movement of excavated

or fill material and construction vehicles accessing construction compounds during the construction of the original scheme together with temporary road closures and diversions is expected to result in changes in daily traffic flows. These activities would result in significant delays (a major adverse effect) in traffic flows for users of A538 Altrincham Road and Mobberley Road. The main ES did not propose any mitigation works in this location for road users.

- 5.16.2 Since the main ES, further design development has identified a need for traffic management to mitigate the impact of the construction traffic movements on existing road users. The traffic management measures will permanently remain in place following construction of the AP2 revised scheme to ensure the junction has sufficient operational capacity. The permanent junction modifications will include:
- construction of a junction in a new position to the north of the existing junction. The existing junction will remain open during this period;
  - closure of the existing junction upon completion of the new junction;
  - signalisation of the new junction with left and right turn controls on new traffic islands.
  - realignment of the footway in both directions to the new kerb line with a minimum 2m width;
  - provision of a pedestrian crossing across the junction in both directions; and
  - relocation of an existing bus stop for route 88, approximately 140m west of its existing location on Mobberley Road.
- 5.16.3 Minor utility diversions will be required to enable works to the carriageway.
- 5.16.4 Permanent modifications to the existing kerb lines and road markings will be required. Highway drainage will need to be relocated along the new kerb lines. Temporary traffic signals will be installed to control movements at the junction during construction.
- 5.16.5 In addition, this amendment will result in the removal of approximately 230m of existing hedgerow. Approximately 240m of hedgerow with hedgerow trees will be planted along the new kerb line, either side of the new highway on Mobberley Road.
- 5.16.6 The modification of the A538 Altrincham Road and Mobberley Road junction will be managed locally within the highway.
- 5.16.7 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for an additional 1ha of land (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-356-R2, B5 to C6).

## **Topics included in the AP2 assessment**

- 5.16.8 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; ecology and biodiversity; landscape and visual; and traffic and transport.

5.16.9 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## Agriculture, forestry and soils

### Scope, assumptions and limitations

- 5.16.10 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES. The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.16.11 All agriculture, forestry and soils effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

### Environmental baseline

#### Existing baseline

- 5.16.12 The agricultural land associated with this amendment has soil in the Salop association. These soils are developed in reddish glacial deposits (i.e., till and glaciofluvial sand and gravel deposits) and are slowly permeable and seasonally waterlogged soils (WC III to IV). The quality of the agricultural land is limited by soil wetness to mainly Subgrade 3a or Subgrade 3b.
- 5.16.13 One agricultural holding that was not impacted by the original scheme will be affected by this amendment, as detailed in Table 21.

**Table 21: Summary characteristics of the holding affected by the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)**

Holding reference/ name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/40 Land at Altrincham Road*	Grassland holding	2.1	Not known	None	Medium

\* It has not been possible to arrange farm impact assessment interviews with these holdings. Publicly available sources have been used to obtain the information presented.

#### Future baseline

- 5.16.14 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.

- 5.16.15 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.16.16 None of the identified developments affect the assessment of the AP2 revised scheme’s likely impacts on agriculture, forestry and soil.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.16.17 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

- 5.16.18 The amendment will require a further 0.4ha of agricultural land in the Hulseheath to Manchester Airport area, which is classified as Subgrade 3b.
- 5.16.19 The impacts on the holding affected are set out in Table 22 and Table 23.

**Table 22: Temporary impacts and effects on holdings arising from the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)**

Holding reference/name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/40 Land at Altrincham Road	This is a newly affected holding. The amendment will require 0.4ha (17%) of the holding. Medium	Negligible	Negligible	Moderate adverse due to the proportion of land required.	New holding affected - new significant effect.

**Table 23: Permanent impacts and effects on holdings arising from the modifications to A538 Altrincham Road and Mobberley Road junction (AP2-006-015)**

Holding reference/name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/40 Land at Altrincham Road	0.2ha (7%) Low	Negligible	Negligible	Minor adverse	New holding affected – no significant effect

### Other mitigation measures

- 5.16.20 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling,

storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation is proposed.

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

- 5.16.21 The adoption of this amendment will result in a new temporary moderate adverse significant effect at Land at Altrincham Road (MA06/40).

## **Cumulative effects**

- 5.16.22 No new, removed or different significant cumulative effects have been identified.

## **Ecology and biodiversity**

- 5.16.23 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.16.24 This amendment has the potential to result in new or different significant construction for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.16.25 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.16.26 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

- 5.16.27 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

## **Existing baseline**

### **Designated sites**

- 5.16.28 There is one designated site of relevance to the assessment of the amendment. This is Lindow Common SSSI, which is of national value as reported in the main ES. The land required for the original scheme and for the amendment are both within the Impact Risk Zone<sup>60</sup> relevant to railway infrastructure as identified by Natural England for this SSSI.

---

<sup>60</sup> The Impact Risk Zones are a GIS tool developed by Natural England to make a rapid initial assessment of the potential risks to SSSIs posed by development proposals and indicate the types of development proposal which could potentially have adverse impacts.

## **Habitats**

- 5.16.29 The following habitats are located within the land required for the amendment: improved grassland, poor semi-improved grassland, amenity grassland, and hedgerow. The habitats of relevance to this assessment of the amendment are described further below.
- 5.16.30 Within the land required for the amendment, there is 400m of hedgerow that (based on aerial photography) are intact and are assumed to be species-rich. These hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire Biodiversity Action Plan (BAP). These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester Airport area that is of county/metropolitan value.

## **Future baseline**

- 5.16.31 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.16.32 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.16.33 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.16.34 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Designated sites**

- 5.16.35 The main ES reported the redistribution of traffic as a result of the original scheme would not give rise to an adverse effect on the Lindow Common SSSI as the critical loads of nitrogen deposition would not be exceeded in the SSSI. The amendment redesigns this junction; however, this will not result in an increase in traffic and there will be no change to the level of significance reported in the main ES.

#### **Habitats**

- 5.16.36 On a precautionary basis, the SES2 reported a net loss 44.9km of hedgerow habitat, taking account of mitigation, within the land required for construction of the SES2 scheme, resulting in a permanent adverse effect significant at the county/metropolitan level. The

amendment will result in an additional loss of 400m of assumed species-rich hedgerow. This will give rise to a different significant effect on the hedgerow network but there will be no change in the level of significance of the effect reported in the SES2.

## **Other mitigation measures**

- 5.16.37 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.16.38 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 400m. This will result in a different permanent adverse residual effect that will remain significant at the county/metropolitan level. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## **Cumulative effects**

- 5.16.39 No new, removed or different significant cumulative effects have been identified.

# **Landscape and visual**

## **Scope, assumptions and limitations**

- 5.16.40 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.16.41 This amendment has the potential to result in new significant construction and operational effects for the visual assessment only. Therefore, there is no construction or operational landscape assessment.
- 5.16.42 All landscape and visual effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

## **Environmental baseline**

### **Existing baseline**

- 5.16.43 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.



## Visual baseline

- 5.16.44 The amendment has the potential to result in new significant effects for one new viewpoint. This viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

### View south-east from Mobberley Road (high sensitivity receptor) (332-02-014)

- 5.16.45 This new viewpoint is located in an area which would not be affected by the original scheme. It represents the views experienced by residents and road users on Mobberley Road and A538 Altrincham Road. The view is along Mobberley Road with oblique views across low roadside hedgerows to open pasture on both sides in the near distance. Low hedgerows and mature trees, street lighting, telegraph poles and buildings line the A538 Altrincham Road in the middle distance, with evergreen hedgerows and mixed planting at residential and commercial property boundaries. To the east, an open recreation area is visible beyond the A538 Altrincham Road, and woodland at its boundary forms the background of the view.

## Future baseline

- 5.16.46 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.16.47 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.16.48 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.16.49 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View south-east from Mobberley Road (high sensitivity receptor) (332-02-014)

- 5.16.50 This new viewpoint is located in an area which would not be affected by the original scheme. Residents of **high** susceptibility and road users of lower susceptibility, both with **medium** value views, will experience near-distance views of the construction of a new road junction between Mobberley Road and the A538 Altrincham Road and the reconfiguration of a short

section of Mobberley Road. The works will also include the realignment of overhead and underground utilities. Garden vegetation within property boundaries will partially filter views of construction activity for residents of Sandiway, Merry Winds, Holly Cottages and Pownall Cottages but where they are visible, the works will occupy a large proportion of the view. Removal of roadside vegetation will increase the visibility of construction. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

### Other mitigation measures

- 5.16.51 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Summary of likely residual significant effects

- 5.16.52 The amendment will give rise to a new likely residual significant construction effect, after implementation of construction phase mitigation, at new viewpoint: view south-east from Mobberley Road (332-02-014). The effect will be **major** adverse (significant).

### Cumulative effects

- 5.16.53 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.16.54 New hedgerow planting is proposed adjacent to the revised road junction.

## Assessment of impacts and effects

### Visual assessment

#### View south-east from Mobberley Road (high sensitivity receptor) (332-02-014)

- 5.16.55 This new viewpoint is located in an area that would be affected by the original scheme. At year 1, residents of **high** susceptibility and road users of lower susceptibility, both with **medium** value views, will experience a noticeable change to near and middle-distance views as a result of the amendment. A short section of Mobberley Road and the new Mobberley Road/A538 Altrincham Road junction will be realigned further from Holly Cottages and Pownall Cottages, but closer to Merry Winds. The new junction will be wider than the existing one and the associated road signage, traffic lights and pedestrian crossing will be new elements in views partially filtered by existing garden vegetation from residential properties on Mobberley Road and the A538 Altrincham Road. The land occupied by the existing road and junction will be restored to farmland, with new hedgerows planted along the road boundaries to replace roadside vegetation removed during construction. These hedgerows

will be insufficiently mature to restore the character of the realigned Mobberley Road in year 1. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

- 5.16.56 At years 15 and 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### **Night-time**

- 5.16.57 At years 1, 15 and 30 at night-time, the effect will be non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### **Other mitigation measures**

- 5.16.58 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.16.59 No likely residual significant operation effects are reported at year 15 operation after implementation of proposed mitigation planting.

### **Cumulative effects**

- 5.16.60 No new, removed or different significant cumulative effects have been identified.

## **Traffic and transport**

### **Scope, assumptions and limitations**

- 5.16.61 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 and the SMR of the main ES.
- 5.16.62 This amendment has the potential to result in new or different significant operation effects only. Therefore, there is no construction assessment for traffic and transport.
- 5.16.63 The assessment of changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.
- 5.16.64 The assessment in this section considers the potential effects on PRow and roadside footway users. No effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## Environmental baseline

### Existing baseline

- 5.16.65 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.16.66 The A538 Altrincham Road/Mobberley Road junction is a three-arm priority controlled (give way) T-junction with no controlled pedestrian crossing facilities. The local road network in this area generally operates well, although some localised delays can be experienced, particularly at peak times.
- 5.16.67 Roadside footways are provided adjacent to the western carriageway of the A538 Altrincham Road, and adjacent to a short section of Mobberley Road to provide access to the southbound bus stop.
- 5.16.68 The A538 Altrincham Road and Mobberley Road are served by one bus service, route 88 (Altrincham – Wilmslow – Mobberley – Knutsford – Macclesfield).

### Future baseline

- 5.16.69 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2038.
- 5.16.70 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

## Effects arising during operation

### Avoidance and mitigation measures

- 5.16.71 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

- 5.16.72 The main ES reported no significant effects on non-motorised users or changes to journey length for vehicle occupants and delays to public transport users on Mobberley Road or the A538 Altrincham Road as a result of the original scheme.
- 5.16.73 The amendment will result in the permanent realignment of Mobberley Road to form a new signalised junction with the A538 Altrincham Road. This will result in a negligible change in

journey length for vehicle occupants and bus passengers and will not give rise to a new or different significant effect.

- 5.16.74 The amendment will also result in the permanent relocation of the existing bus stop on Mobberley Road to approximately 140m further west of its current location. The footway will be realigned and extended linking the relocated bus stop on Mobberley Road with the A538 Altrincham Road. This will give rise to a new minor adverse effect on non-traffic related severance, which is significant, because of an increase in journey length of up to 176m for non-motorised users travelling between the relocated bus stop on the realigned Mobberley Road and continuing south on the A538 Altrincham Road.

### **Other mitigation measures**

- 5.16.75 No mitigation measures additional to those reported in the main ES are proposed.

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

- 5.16.76 The amendment will give rise to a new likely residual permanent minor adverse significant effect on non-traffic related severance as a result of the relocated bus stop on Mobberley Road, resulting in an increase in journey length for users of up to 176m.

### **Cumulative effects**

- 5.16.77 No new, removed or different significant cumulative effects have been identified.
- 5.16.78 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

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

### **Construction**

#### **Agriculture, forestry and soils**

- 5.16.79 The amendment will result in a new temporary moderate adverse significant effect at Land at Altrincham Road (MA06/40).

#### **Ecology and biodiversity**

- 5.16.80 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2, taking account of mitigation, and the amendment will result in a further loss of 400m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level.

## Landscape and visual

- 5.16.81 The amendment will give rise to a new likely residual significant construction effect, after implementation of construction phase mitigation, at view south-east from Mobberley Road (332-02-014). The effect will be **major** adverse (significant).

## Operation

### Traffic and transport

- 5.16.82 The amendment will give rise to a new likely residual permanent minor adverse significant effect on non-traffic related severance as a result of the relocated bus stop on Mobberley Road, resulting in an increase in journey length for users of up to 176m.

## 5.17 Additional land permanently required for the realignment of an 11kv underground power line diversion along Shay Lane (AP2-006-016)

- 5.17.1 The Bill provides for the permanent diversion of a Scottish Power transmission 11kV overhead power line, for 1.4km in length, along Brooks Drive (see Volume 2, MA06 Map Book: maps CT-06-356 and CT-06-357a in the main ES).
- 5.17.2 Since the main ES, a realignment of the utility diversion route has been identified to avoid use of a private road. The amendment will be an underground cable with the start and end points of the diversion remaining the same as in the original scheme. However, the underground cable will continue west along the A538 Hale Road until the junction with Shay Lane in Hale Barns, instead of being routed along Brooks Drive. The diverted underground cable will then follow Shay Lane before re-joining the diversion route at the junction between Shay Lane and Roaring Gate Lane (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-356, H1 to J2, CT-05-356-L1, H3 to J10 and CT-05-357a, A2 to E3).
- 5.17.3 In addition to the realigned diversion route, an additional working area is required along the existing Scottish Power electrical network, to allow access and non-intrusive modifications to take place to the existing pylon, as well as the re-stringing of the existing overhead line where the diversion connects back onto the overhead power line system via a new transformer pole (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-357a, E3 to F2).
- 5.17.4 The new diversion route will be located within the highway boundary of the A538 Hale Road and Shay Lane. Vegetation loss is anticipated to be limited to the temporary loss of grass along the highway verge. The additional land required will be restored to its existing condition, as agreed with the relevant highway authority once construction works are complete.

- 5.17.5 The amendment will be constructed from the Manchester Airport High Speed station main compound within the indicative construction programme for the compound provided in Section 6.
- 5.17.6 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement for an additional 2.5ha of land and a separate 1.05ha reduction in land required, which will be a net increase of 1.45ha (SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-356, H1 to J2, CT-05-356-L1, H3 to J10 and CT-05-357a, B2 to E3 and E3 to F2 and CT-06-356, H1 to J4, CT-06-356-L1, G2 to J10 and CT-06-357a, A1 to F4).

## **Local alternatives**

- 5.17.7 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

## **Topics included in the AP2 assessment**

- 5.17.8 The amendment is not considered to require a reassessment of the environmental effects or mitigation set out in the main ES with respect to any environmental topics.
- 5.17.9 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **5.18 The provision of access to land parcels in the Manchester Airport High Speed station area (AP2-006-017)**

- 5.18.1 The Bill provides for the permanent closure of a section of Hasty Lane to enable access to Manchester Airport High Speed station. The A538 Hale Road service road (north) would be provided to maintain access to residential properties (see Volume 2, MA06 Map Book: map CT-06-356, H4 to J6 in the main ES).
- 5.18.2 Since the main ES, design development no longer requires the re-routing of Hasty Lane and has identified the need to provide access to two areas of land cut off by the original scheme using the retained Hasty Lane. This includes agricultural land between the Hale Barns cricket club and Hasty Lane, and agricultural land between Manchester Airport High Speed station and Brooks drive properties. New access to these two areas of land will be provided by extending Hasty Lane by approximately 147m in length.



- 5.18.3 The amendment is dependent on the modifications to the Manchester Airport High Speed station access being implemented as part of the amendment to the M56 junction 6 (AP2-006-014). The amendment would require design modifications, but no additional land, if not introduced in conjunction with amendment AP2-006-014.
- 5.18.4 The amendment will be managed from the Manchester Airport High Speed station south satellite compound and will be completed within the indicative construction programme for the compound provided in Section 6.
- 5.18.5 The amendment is outside the limits of the Bill as the alignment of the new access road has changed. The amendment will not result in the requirement for additional land as it falls within the land required for a construction worksite (See SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-356 I4).

## **Topics included in the AP2 assessment**

- 5.18.6 The amendment is not considered to require a reassessment of the environmental effects or mitigation set out in the main ES with respect to any environmental topics.
- 5.18.7 A combined assessment of new or different significant traffic and traffic related effects, as a result of changes in traffic flows, is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **5.19 Additional land permanently required for modifications to mitigation for Timperley Brook (AP2-006-018)**

- 5.19.1 The Bill provides for the permanent realignment of Timperley Brook for 330m in a west-east direction, replacement habitat and a replacement floodplain storage area, located to the west of Brooks Drive, partially within the Ringway Golf Club golf course (see map CT-06-357a, B1 to C3, in the main ES Volume 2, MA06 Map Book).
- 5.19.2 Since the main ES, engagement with the Environment Agency has identified that the culvert assumed to be located to the west of Brooks Drive does not exist. It is now understood that Timperley Brook crosses the HS2 route from Davenport Green Wood, passes under Brooks Drive in a short culvert and then re-emerges on the western side of Brooks Drive at the boundary of Ringway Golf Club golf course. Therefore, the channel realignment proposed in the original scheme would not remove an existing culvert and would not create an additional open channel to provide the required Water Framework Directive (WFD) mitigation. Therefore, the additional WFD mitigation for the amendment comprises the following changes:

- Flaxhigh Covert: to the north and south of Flaxhigh Covert the Tributary of Timperley Brook 1 is in culvert beneath agricultural fields and housing before re-emerging as an open channel in Humphreys Wood. This change will create an open channel between the proposed Manchester Airport High Speed station and Flaxhigh Covert and between Flaxhigh Covert and properties along Brooks Drive. The open channels will mainly be located in the land required for construction, as proposed in the original scheme. An additional area of land to the north (345m<sup>2</sup>) and south (285m<sup>2</sup>) will also be required in Flaxhigh Covert to provide access to the culvert headwalls which will allow the culverts to be opened (see SES and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, A5 to A3);
- Brooks Drive to Shay Lane: to the west of Brooks Drive, Timperley Brook is straightened along the Ringway Golf Club field boundary. This amendment will require an additional 0.27ha of land along the field boundary to re-meander the channel to improve channel morphology (see SES and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, C2 to C3); and
- Shay Lane: Timperley Brook and tributary of Timperley Brook 1 run in a north-western direction between Brooks Drive and Shay Lane. The existing channels are straight and form the verges of Shay Lane. The amendment will modify the design so that the channels are relocated 10m from the highway to create meandering channels. The realignment of Timperley Brook will require 0.19ha of additional land within the fields to the north-west of Shay Lane. The realignment of tributary of Timperley Brook 1 will require 0.27ha of additional land from within the boundary of Ringway Golf Club (see SES and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a-L1, C7 to C8).

5.19.3 The amendment will be constructed from the Manchester Airport High Speed station main compound and will be completed within the indicative construction programme for the compound provided in Section 6.

5.19.4 The land required for this amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for an additional 0.8ha of land (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-356, J3, CT-06-357a, A5 to A3, CT-06-357a, C2 to C3 and CT-06-357a-L1, C7 to C8).

## **Local alternatives**

5.19.5 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

## **Topics included in the AP2 assessment**

5.19.6 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; ecology and biodiversity; landscape and visual; sound, noise and vibration; and water resources and flood risk.

5.19.7 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## Agriculture, forestry and soils

### Scope, assumptions and limitations

- 5.19.8 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES. The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.19.9 All agriculture, forestry and soils effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

### Environmental baseline

#### Existing baseline

- 5.19.10 The agricultural land associated with this amendment has soil in the Salop association. These soils are developed in reddish glacial deposits (i.e., till and glaciofluvial sand and gravel deposits) and are slowly permeable and seasonally waterlogged soils (WC III to IV). The quality of the agricultural land is limited by soil wetness to mainly Subgrade 3a or Subgrade 3b.
- 5.19.11 Three agricultural holdings will be affected by this amendment, as detailed in Table 24.

**Table 24: Summary characteristics of the holdings affected by the changes to mitigation at Timperley Brook (AP2-006-018)**

Holding reference/ name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/31 Land east of A538 Hale Road, Hale*	Grassland	8.0	Not known	None	Low
MA06/33 Land at Ash Farm*	Livestock grazing	108	Not known	None	Medium
MA06/39 Land at Brooks Drive*	Grassland	2.6	Not known	None	Low

\* It has not been possible to arrange farm impact assessment interviews with these holdings. Publicly available sources have been used to obtain the information presented.

## Future baseline

- 5.19.12 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.19.13 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.14 None of the identified developments affect the assessment of the AP2 revised scheme’s likely impacts on agriculture, forestry and soil.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.19.15 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

- 5.19.16 The amendment will require 1.1ha of agricultural land in the Hulseheath to Manchester Airport area, which is classified as Subgrade 3b.
- 5.19.17 The impacts on the holdings affected are set out in Table 25 and Table 26.

**Table 25: Temporary impacts and effects on holdings arising from the changes to mitigation at Timperley Brook (AP2-006-018)**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of constructi on effect	Change in effect from main ES
MA06/31 Land east of A538 Hale Road, Hale	The amendment will result in a marginal increase in the area of land required of <0.1ha compared to the main ES.  With the adoption of this amendment alone, and, factoring in rounding, the total area required from this holding will remain 7.7ha (96%)  High This holding is affected by more than one AP2 amendment (see Section 5.26).	Negligible	Negligible	Moderate adverse	No change
MA06/33 Land at Ash Farm	The amendment will result in an increase in the area of land required of 0.3ha compared to the main ES.	Negligible	Negligible	Moderate adverse	New significant effect. Change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of constructi on effect	Change in effect from main ES
	The adoption of this amendment alone would increase the area of land required from this holding to 10.9ha (10%). Medium This holding is affected by more than one AP2 amendment (see Section 5.26).				from minor adverse
MA06/39 Land at Brooks Drive This is a newly affected holding	This is a newly affected holding and the amendment will require 0.9ha (38%) of the holding. High	Low	Negligible	Moderate adverse due to the proportion of land required.	New holding affected, new significant effect.

**Table 26: Permanent impacts and effects on holdings arising from the changes to mitigation at Timperley Brook (AP2-006-018)**

Holding reference/ name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/31 Land east of A538 Hale Road, Hale	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 7.5ha; 94%. High	Negligible	Negligible	Moderate adverse due to the proportion of land required.	No change
MA06/33 Land at Ash Farm	The amendment will not alter the area of land permanently required compared to the main ES. The total land required permanently will remain 7.2ha; 7%. Medium	Negligible	Negligible	Minor adverse	No change
MA06/39 Land at Brooks Drive	The total land required permanently will be 0.8ha (30%) High	Low	Negligible	Moderate adverse due to the proportion of land required.	New holding affected, new significant effect.

### Other mitigation measures

5.19.18 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation is proposed.

## Summary of likely residual significant effects

- 5.19.19 The adoption of this amendment will result in:
- a new temporary moderate adverse (significant) effect at Land at Ash Farm (MA06/33), changed from minor adverse; and
  - new temporary and permanent moderate adverse (significant) effects at Land at Brooks Drive (MA06/39).

## Cumulative effects

- 5.19.20 No new, removed or different significant cumulative effects have been identified.

## Community

### Scope, assumptions and limitations

- 5.19.21 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.
- 5.19.22 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for community.

## Environmental baseline

### Existing baseline

- 5.19.23 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the SES change is provided below.
- 5.19.24 This area covers the settlements of Warburton Green, Hale Barns, Davenport Green and surrounds, from the M56 in the south to Davenport Green in the north.
- 5.19.25 Hale Barns lies on the south-west outskirts of Altrincham and comprises approximately 1,500 residential properties. The nearest residential properties are adjacent to the HS2 route.

### Future baseline

- 5.19.26 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.19.27 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a

future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.19.28 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for community.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.19.29 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.19.30 This amendment will result in a new moderate adverse in-combination effect on approximately 15 residential properties on Brooks Drive, Hale Barns. New significant noise effects are expected to combine with new significant visual effects for approximately four months. Together, these noise and visual effects will result in a new moderate adverse in-combination effect on amenity for residents at these properties, which is significant. The locations of significantly affected resources are shown in the SES2 and AP2 ES Volume 5, Community Map Book: Map Series CM-01.

### **Other mitigation measures**

- 5.19.31 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.19.32 The amendment will result in a new residual moderate adverse significant in-combination effect on approximately 15 residential properties on Brooks Drive, Hale Barns, due to new noise and visual effects.

### **Cumulative effects**

- 5.19.33 No new, removed or different significant cumulative effects have been identified.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

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



- 5.19.35 This amendment has the potential to result in new or different significant construction for ecology and biodiversity only. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.19.36 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.19.37 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.19.38 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### **Habitats**

- 5.19.39 The following habitats are located within the land required for the amendment: semi-natural broadleaved woodland, mixed plantation woodland, hedgerow, dense scrub, improved grassland, poor semi-improved grassland, running water, water body, arable land, and amenity grassland. The habitats of relevance to this assessment of the amendment are described further below.
- 5.19.40 As reported in the SES2, there are 23 woodlands (each up to 1.5ha and none within wildlife site designations, but likely to qualify as habitat of principal importance) at various locations throughout the Hulseheath to Manchester Airport area. Woodland within the land required for the amendment is assumed to be semi-natural broadleaved woodland and mixed plantation woodland. They are primarily located along Shay Lane and adjacent to Timperley Brook. This is considered to be of up to local/parish value.
- 5.19.41 Within the land required for the amendment, there is 441m of hedgerow that (based on aerial photography) are intact and are assumed to be species-rich. These hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire Biodiversity Action Plan (BAP). These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester Airport area that is of county/metropolitan value. The main ES reported that tributaries of main watercourses, including Timperley Brook, provide corridors for wildlife dispersal and are of up to district/borough value.

## **Species**

- 5.19.42 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.19.43 The SES2 baseline reported an assumed great crested newt metapopulation of medium size in a network of 42 ponds east of Altrincham (GCNMP1.6.27). The land required for the amendment includes one pond containing a confirmed population of great crested newt and areas of terrestrial habitat associated with this metapopulation. This metapopulation is of county/metropolitan value.
- 5.19.44 The main ES reported an assumed medium sized great crested newt metapopulation in a single pond located adjacent to Flaxhigh Covert (GCNP1.6.25). The land required for the amendment includes terrestrial habitat associated with this metapopulation. This metapopulation is considered to be up to county/metropolitan value.
- 5.19.45 The SES2 baseline reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees which, on a precautionary basis, are assumed to support roosting bats. The bat assemblage is considered to be of regional value.
- 5.19.46 The main ES reported Timperley Brook, including areas that will be realigned by the amendment, to be suitable for use by otter, although no evidence of use was reported. The otter population using watercourses in the Hulseheath to Manchester Airport area is of up to district/borough value.
- 5.19.47 The main ES reported the aquatic macro-invertebrate assemblage of Timperley Brook, including areas that will be realigned by the amendment, to be of district/borough value.

## **Future baseline**

- 5.19.48 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.19.49 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.50 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.19.51 The realignment of Timperley Brook will be undertaken in a manner to reduce the impact on trees along its current course. Where possible, the channel will be re-meandered along Shay Lane to avoid large trees, and to the south of Shay Lane the channel will be positioned to avoid the line of trees.

### Assessment of impacts and effects

#### Habitats

- 5.19.52 On a precautionary basis, the SES2 reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the land required for construction of the scheme within the Hulseheath to Manchester Airport area, resulting in a permanent adverse effect, significant at the county/metropolitan level. The amendment will result in the loss of an additional 441m of assumed species-rich hedgerow. This will result in a different significant effect on hedgerow, but there will be no change in the level of significance of the effect reported in the SES2.
- 5.19.53 The main ES reported the permanent realignment of Timperley Brook would reduce connectivity of the habitat corridor that follows the watercourse. It was considered to have a permanent adverse effect that was significant up to the district/borough level. The construction of the amendment will increase the extent of habitat corridor loss along the watercourse during construction. This will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES.

#### Species

- 5.19.54 The SES2 reported an adverse effect on a metapopulation of great crested newt within a network of 42 east of Altrincham (GCNMP1.6.27), which would be significant at the county/metropolitan level. The amendment will result in the loss of one pond, confirmed to support great crested newts and terrestrial habitat associated with this metapopulation. The amendment will result in a different significant effect, but there will be no change in the level of significance of the effect reported in SES2. This metapopulation is affected by more than one AP2 amendment. The combined effects on this metapopulation are reported in Section 5.26.
- 5.19.55 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat, and roosts, from within the bat assemblages between M56 junction 6 and Manchester Airport, which would result in a permanent adverse effect that was significant at regional level. The amendment will result in the loss of trees which, on a precautionary basis, are assumed to support roosting and foraging bats. The amendment will result in a different significant effect on the bat assemblage; but there will be no change in the level of significance of the effect reported

within the SES2. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26.

## **Other mitigation measures**

- 5.19.56 The SES2 reported significant adverse effects on the great crested newt populations within the Hulseheath to Manchester Airport area would be addressed by creating areas of suitable habitat. These measures would comprise provision of ponds and grassland that would be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newt and other amphibian species. The mitigation measures will take account of the different significant effects identified above. Therefore, following implementation of these measures, the effects on the amphibian populations in the Hulseheath to Manchester Airport area will be reduced to a level that is not significant.
- 5.19.57 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on the bat assemblage will be reduced to a level that is not significant.

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

- 5.19.58 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 441m. This will result in a different permanent adverse residual effect that will remain significant at the county/metropolitan level. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## **Cumulative effects**

- 5.19.59 No new, removed or different significant cumulative effects have been identified.

## **Health**

### **Scope, assumptions and limitations**

- 5.19.60 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.
- 5.19.61 This amendment has the potential to result in new or different construction effects only. Therefore, there is no operational assessment for health.

## **Environmental baseline**

### **Existing baseline**

- 5.19.62 The baseline community information is as described in Section 8 of the main ES Volume 2, Community Area report Hulseheath to Manchester Airport (MA06). A summary of the baseline information relevant to the assessment of the SES change is provided below.
- 5.19.63 This area covers the settlements of Warburton Green, Hale Barns, Davenport Green and surrounds, from the M56 in the south to Davenport Green in the north.
- 5.19.64 Hale Barns lies on the south-west outskirts of Altrincham and comprise approximately 1,500 residential properties. The nearest residential properties are adjacent to the HS2 route.

### **Future baseline**

- 5.19.65 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025.
- 5.19.66 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.67 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for health.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.19.68 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.19.69 This amendment will result in a new adverse neighbourhood quality effect for residents of Brooks Drive, Hale Barns. Construction noise is expected to be noticeable for approximately four months. Construction activities will also be visible from street level. People in this community are likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, in diminishing the amenity of the settlement.

## Other mitigation measures

- 5.19.70 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Cumulative effects

- 5.19.71 No new, removed or different cumulative effects have been identified.

## Landscape and visual

### Scope, assumptions and limitations

- 5.19.72 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.19.73 This amendment has the potential to result in new or different construction and operational effects for the visual assessment only. Therefore, there is no construction or operational phase landscape assessment.
- 5.19.74 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

## Environmental baseline

### Existing baseline

- 5.19.75 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### Visual baseline

- 5.19.76 The amendment has the potential to affect four viewpoints of which three are new viewpoints. These viewpoints are described, see SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. Of these, the amendment has the potential to significantly affect one new viewpoint which is summarised below.

#### **View from Shay Lane and Davenport Green (high sensitivity receptor) (333-02-011)**

- 5.19.77 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced by residents at Davenport Green and road users on Shay Lane. The view is over pasture through a dilapidated field gate opposite the residential properties along Shay Lane. The gated field entrance, a roadside hedgerow with mature trees and residential properties along Shay Lane form the near distance view. A

timber agricultural building is visible to the east, within the pasture field. A mix of mature coniferous and deciduous trees along field boundaries to the south-west and south-east form the skyline and heavily filter views beyond. Residential properties and mature garden trees are visible across Shay Lane to the west.

## **Future baseline**

- 5.19.78 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.19.79 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.80 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.19.81 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Visual assessment**

##### **View from Shay Lane and Davenport Green (high sensitivity receptor) (333-02-011)**

- 5.19.82 This new viewpoint is located in an area where there will be changes from the original scheme. Residents at Davenport Green of **high** susceptibility, and road users of lower susceptibility, all with **medium** value views, will experience a noticeable change to middle-distance views. The amendment will result in the removal of roadside trees and hedges along Shay Lane and mature oaks along field boundaries to the south-west of the viewpoint. This will open up views of construction activity for residents at the west end of Shay Lane. Views for properties to the east on Shay Lane will largely be screened by mature roadside vegetation. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### **Other mitigation measures**

- 5.19.83 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.



## Summary of likely residual significant effects

- 5.19.84 The amendment will give rise to a new likely residual significant construction effect, after implementation of construction phase mitigation, at new viewpoint: view from Shay Lane and Davenport Green (333-02-011). The effect will be moderate adverse (significant).

## Cumulative effects

- 5.19.85 No new, removed or different significant cumulative effects have been identified.

## Effects arising during operation

### Avoidance and mitigation measures

- 5.19.86 Woodland and wetland habitat creation areas are proposed between Brooks Drive and Shay Lane.

## Assessment of impacts and effects

### Visual assessment

#### View from Shay Lane and Davenport Green (high sensitivity receptor) (333-02-011)

- 5.19.87 This new viewpoint is located in an area where there will be changes from the original scheme. At year 1, residents at Davenport Green of **high** susceptibility, and road users of lower susceptibility, all with **medium** value views, will experience a noticeable change middle-distance view. Woodland habitat creation to the north of Brooks Drive and planting along Shay Lane, as part of the amendment, will not be sufficiently mature to reinstate the vegetation seen in the baseline view. Residents at the west end of Shay Lane will have more open views to the south across Shay Lane, to the field beyond. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.19.88 At year 15 and 30, the level of significance of the effect will reduce to non-significant as reported in the AP2 ES Volume 5, Appendix: LV-001-0MA06.

### Other mitigation measures

- 5.19.89 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 5.19.90 No likely residual significant operation effects are reported at year 15 operation after implementation of proposed mitigation planting.

## Cumulative effects

- 5.19.91 No new, removed or different significant cumulative effects have been identified.

## Sound, noise and vibration

### Scope, assumptions and limitations

- 5.19.92 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1 and the SMR of the main ES. This amendment has the potential to result in new or different likely significant construction effects only. Therefore, there is no assessment of operational effects for sound, noise and vibration.

### Environmental baseline

#### Existing baseline

- 5.19.93 In the Hulseheath to Manchester Airport area, the updated sound modelling described in Section 2 has resulted in updates to the existing baseline sound levels at receptors adjacent to Brooks Drive and in the community of Hale Barns. Further information on the updated baseline sound levels relevant to the assessment is provided in the SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. Where no updates to the baseline sound levels are required, the baseline sound, noise and vibration information is as described in Section 13 of Volume 2, Community Area report: Hulseheath to Manchester Airport area (MA06) of the main ES.
- 5.19.94 The works associated with the amendment are closer to several dwellings on Brooks Drive than works associated with the original scheme. Additional assessment locations have been added, which represent dwellings that were previously represented by other assessment locations in the main ES. The baseline sound levels at the additional assessment locations are presented in SES2 and AP2 ES Volume 5, Appendix: SV-002-00000.

#### Future baseline

- 5.19.95 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.19.96 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.97 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on sound, noise and vibration.

## Effects arising during construction

### Avoidance and mitigation measures

5.19.98 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Residential receptors: direct effects – communities

5.19.99 The amendment has the potential to give rise to new temporary adverse noise effects which may be considered significant on a community basis. The potential new likely significant effect is discussed in the following paragraph and summarised in Table 27. In the table, the duration of impact is the period where the relevant assessment category is exceeded. The predicted monthly construction noise level will vary throughout this period and as a guide the typical and highest monthly noise levels at the closest properties in the community identified are presented in the ‘cause’ column of this table.

5.19.100 The amendment has the potential to give rise to a new adverse noise effect at approximately 15 dwellings in the vicinity of Timperley Brook (MA06-C-C6) where no noise effect was identified in the main ES. The predicted duration of the construction noise impact is up to four months during the daytime. This may be considered by the local community as an effect on the acoustic character of the area and hence be perceived as a change in the quality of life for that community. This effect is likely to be considered as significant when assessed on a community basis.

**Table 27: Direct adverse construction effects on residential communities and shared open areas that are considered to be significant on a community basis and are new compared to those reported in the main ES**

Significant effect number (and map reference) <sup>61</sup>	Type of significant effect	Time of day	Location	Cause (construction activities) <sup>62</sup>	Assumed approximate duration of impact
MA06-C-C6 (SV-03-322a)	Construction noise (New)	Daytime	Brooks Drive, Hale Barns: approximately 15 dwellings in the vicinity of Timperley Brook.	Timperley Brook modification works. The typical and highest monthly noise levels will be approximately 60dB and 70dB <sup>63</sup> .	Up to four months.

<sup>61</sup> See SES2 and AP2 ES Volume 5, Appendix: SV-002-00000 and SES2 and AP2 ES Volume 5, Sound, noise and vibration Map Book, Map Series SV-03.

<sup>62</sup> The construction activity giving rise to the highest predicted noise or vibration level is reported. Multiple construction activities may contribute to the typical noise levels and the approximate duration of impact.

<sup>63</sup> Equivalent continuous sound level at the facade,  $L_{pAeq,0700-1900}$ .

## Other mitigation measures

- 5.19.101 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Summary of likely residual significant effects

- 5.19.102 The amendment will give rise to a new likely temporary residual adverse significant construction noise effect on the residential community on Brooks Drive in Hale Barns in the vicinity of Timperley Brook.

## Cumulative effects

- 5.19.103 No new, removed or different significant cumulative effects have been identified.

## Water resources and flood risk

### Scope, assumptions and limitations

- 5.19.104 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1, and the SMR of the main ES.
- 5.19.105 This amendment has the potential to result in new or different significant construction effects for surface water only. Therefore, there is no construction assessment for groundwater or flood risk and no operational assessment for water resources and flood risk.

## Environmental baseline

### Existing baseline

- 5.19.106 The baseline water resources and flood risk information is described in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. New SES2 baseline information is provided in Section 2 of this report. A summary of the baseline information relevant to the assessment of this amendment is provided below.
- 5.19.107 As set out in the main ES, all surface water bodies in this area fall within the Mersey Upper management catchment of the North West RBD.
- 5.19.108 There are two watercourses affected by this amendment: Timperley Brook and Tributary of Timperley Brook 1. Timperley Brook and Tributary of Timperley Brook 1 have been classified as moderate value receptors.
- 5.19.109 Since the main ES, water quality data has been collected from Timperley Brook and Tributary of Timperley Brook 1.

## **Future baseline**

- 5.19.110 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.19.111 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.19.112 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on water resources and flood risk.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.19.113 No further avoidance and mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

- 5.19.114 The Manchester Airport High Speed station will be located over Timperley Brook, and an inverted siphon is proposed to allow the watercourse to pass beneath the station footprint. The main ES reported this to be a moderate impact on a moderate value receptor, resulting in a moderate adverse effect, which is significant. In the original scheme, mitigation for the loss of open channel was provided through the removal of a possible culvert along Brooks Drive, to be replaced with a new open channel habitat.
- 5.19.115 Since the main ES, additional consultation with the Environment Agency concluded that the culvert along Brooks Drive does not exist. As reported in the SES2, this would lead to a moderate adverse effect, which is significant. This amendment provides alternative mitigation to offset the loss of Timperley Brook beneath Manchester Airport High Speed station. With the inclusion of this amendment, the effect reported in SES2 will be reduced to a minor adverse effect, which is not significant. Therefore, this amendment will lead to the removal of the significant effect reported in SES2.
- 5.19.116 There will be no new, different, or removed permanent significant effects on surface water due to this amendment.

### **Other mitigation measures**

- 5.19.117 This amendment will form mitigation for WFD effects on Timperley Brook. No other mitigation measures, additional to those reported in the main ES and draft CoCP are proposed.

## Summary of likely residual significant effects

- 5.19.118 In the SES2, a moderate adverse significant effect was reported on Timperley Brook due to the loss of open channel from the presence of HS2 Manchester Airport Station. This amendment will provide mitigation for the loss of open channel and will lead to the removal of this permanent residual significant effect on Timperley Brook.

## Cumulative effects

- 5.19.119 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Agriculture, forestry and soils

- 5.19.120 The amendment will result in:
- a new temporary moderate adverse (significant) effect at Land at Ash Farm (MA06/33), changed from minor adverse; and,
  - new temporary and permanent moderate adverse (significant) effects at Land at Brooks Drive (MA06/39).

#### Community

- 5.19.121 The amendment will result in a new residual moderate adverse significant in-combination effect on approximately 15 residential properties on Brooks Drive, Hale Barns, due to new noise and visual effects.

#### Ecology and biodiversity

- 5.19.122 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 441m. This will result in a different permanent adverse residual effect that will remain significant at the county/metropolitan level.

#### Health

- 5.19.123 The amendment will result in a new adverse neighbourhood quality effect for residents of Brooks Drive, Hale Barns.

## Landscape and visual

- 5.19.124 The amendment will give rise to a new likely residual significant construction effect, after implementation of construction phase mitigation, at new viewpoint: view from Shay Lane and Davenport Green (333-02-011). The effect will be moderate adverse (significant).

## Sound noise and vibration

- 5.19.125 The amendment will give rise to a new likely temporary residual adverse significant construction noise effect on the residential community on Brooks Drive in Hale Barns in the vicinity of Timperley Brook.

## 5.20 Change in Bill powers for the retention of Footpath Hale 16 from Brooks Drive to the Manchester Airport High Speed station (AP2-006-019)

- 5.20.1 The Bill provides for the permanent closure of Footpath Hale 16 where it crosses the HS2 route. Users would be diverted via Brooks Drive, the realigned Thorley Lane and the realigned A538 Hale Road, increasing journey length by 676m (see Volume 2, MA06 Map Book: map CT-06-357a, B7 to C3 in the main ES).
- 5.20.2 Since the main ES, design development has enabled Footpath Hale 16 to be permanently retained from Brooks Drive to the Manchester Airport High Speed station with some alterations to its alignment for the AP2 revised scheme. The amended Footpath Hale 16 will be diverted up to 375m south of its current alignment for 300m. The diverted footpath will cross over the landscaped earthworks for the Manchester Airport High Speed station. The earthworks for the Manchester Airport High Speed station proposed as part of the original scheme will be widened by 1.5m as part of the amendment to accommodate a ramp and stairs. The length of the ramp up the landscaped embankment will be 150m.
- 5.20.3 The permanent retention of this section of Footpath Hale 16 will result in it affecting an area of ecological mitigation planting proposed as part of the original scheme to the east of Brooks Drive and west of the Manchester Airport High Speed station. The approximate loss of mitigation planting would be 256m<sup>2</sup>.
- 5.20.4 The area of woodland habitat creation provided for screening in the original scheme to the east of Brooks Drive will be extended by 260m<sup>2</sup> on the eastern edge of the plantation area. The additional mitigation planting will compensate for the loss of planting in an area now required for the retained section of Footpath Hale 16 (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, B4 to C5).



- 5.20.5 The amendment will be constructed from the Manchester Airport High Speed station main compound within the indicative construction programme for the compound provided Section 6.
- 5.20.6 This amendment is within the limits of the Bill but a change to Bill powers is required to divert the existing section of footpath Hale 16 (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-06-357a, B5 to C3).

## **Topics included in the AP2 assessment**

- 5.20.7 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: landscape and visual; and traffic and transport.
- 5.20.8 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## **Landscape and visual**

### **Scope, assumptions and limitations**

- 5.20.9 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.20.10 This amendment has the potential to result in new or different operational effects for the visual assessment only. Therefore, there is no construction visual assessment and no construction or operational landscape assessment.
- 5.20.11 All visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during the operational phase are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-04.

## **Environmental baseline**

### **Existing baseline**

- 5.20.12 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### **Visual baseline**

- 5.20.13 The amendment has the potential to significantly affect one viewpoint. This viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

### View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)

- 5.20.14 This viewpoint is representative of views experienced by residents of Brooks Drive and users of Footpath Hale 16. There are wide views over a pasture in the near distance, framed by a hedgerow running parallel to Footpath Hale 16 and vegetation growing in the back gardens of properties on Brooks Drive. The middle distance is occupied by open farmland which slopes gently down towards the valley of Timperley Brook. Flaxhigh Covert screens long views towards the A538 Hale Road. The roof of a property on Hasty Lane can be discerned adjacent to Flaxhigh Covert in views south. Davenport Green Wood is visible above the intervening hedgerow in the near distance, and screens views north towards Thorley Lane. The M56 is screened by intervening vegetation but the lights and overhead gantries of the motorway are visible in gaps between the trees. On the skyline, hotels and buildings in the Manchester Airport logistics zone can be seen. Property boundaries along Brooks Drive have variable tree cover, filtering views to the south and east.

### Future baseline

- 5.20.15 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.20.16 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.20.17 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during operation

### Avoidance and mitigation measures

- 5.20.18 No avoidance or mitigation measures, additional to those reported in the main ES, are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View south-east from Brooks Drive (high sensitivity receptor) (332-02-008)

- 5.20.19 At year 1, the SES2 reported a **major** adverse (significant) effect on views experienced by residents of Brooks Drive of **high** susceptibility and with **medium** value. This would be due to a substantial change to the view as a result of the introduction of Manchester Airport High Speed station car parks and access road (west), cars and buses at the transport interchange and Manchester Airport High Speed station beyond the intervening advance planting of

woodland habitat creation. The majority of views would be filtered through intervening vegetation.

- 5.20.20 At year 1, the amendment will change the visual effect at this viewpoint due to the retention and diversion of Footpath Hale 16, which was to be closed in the original scheme. This will affect users of Footpath Hale 16 which were not assessed in the main ES due to the closure of the PRow. Footpath Hale 16 will pass through the establishing woodland habitat creation south-east of the viewpoint, but the resulting gap in the planting will be too narrow to noticeably reduce the screening provided by the planting of the lower parts of Manchester Airport High Speed station, west car park and access road (west) from residential properties on Brooks Drive. From this location, the upper parts of the structures will remain visible above the vegetation and across a large proportion of the view. There will be clear views of the new structures from the stretch of the retained east of the woodland habitat creation. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in SES2.
- 5.20.21 A photomontage illustrating this scenario from representative viewpoint 332-02-008 is included in the SES2 and AP2 ES, Volume 5, Appendix: LV-001-006, Part 3.
- 5.20.22 At year 15, the SES2 reported a **moderate** adverse (significant) effect. This would be due to maturing woodland habitat creation screening the view of Manchester Airport High Speed station and car parks from Brooks Drive and the change in the view from some properties from a view over open farmland to one of woodland.
- 5.20.23 At year 15, the amendment will change the visual effect at this viewpoint. Maturing woodland habitat creation will screen views of Manchester Airport High Speed station and west car park from residential properties in Brooks Drive and from the majority of Footpath Hale 16. Landscape mitigation planting along the access road and around the station forecourt will filter views of the new structures from the stretch of the PRow east of the woodland habitat creation. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in SES2.
- 5.20.24 At year 30, the SES2 reported a **low** magnitude of change and a **minor** adverse (significant) effect. This would be due to further growth of the woodland habitat creation largely screening views of the Manchester Airport High Speed station and car parks from Brooks Drive.
- 5.20.25 At year 30, the amendment will change the visual effect at this viewpoint. The further maturing of the woodland habitat creation will largely screen views of Manchester Airport High Speed station and west car park from residential properties in Brooks Drive and from the majority of Footpath Hale 16. From the stretch of the PRow east of the woodland habitat creation, these structures, along with the access road (west), will remain clearly visible but the further maturing of the landscape mitigation planting along the access road and around the station forecourt will partially integrate the new structures in the view. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

## Other mitigation measures

- 5.20.26 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 5.20.27 Significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to different likely residual significant operation effects, at view south-east from Brooks Drive (332-02-008). The level of effect will remain moderate adverse (significant) as reported in SES2.

## Cumulative effects

- 5.20.28 No new, removed or different significant cumulative effects have been identified.

## Traffic and transport

### Scope, assumptions and limitations

- 5.20.29 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1 and the SMR of the main ES.
- 5.20.30 This amendment has the potential to result in new or different significant operation effects only. Therefore, there is no construction assessment for traffic and transport.
- 5.20.31 The assessment of changes to traffic flows during construction and operation as a result of all AP2 amendments in combination with all SES2 changes is reported in Section 7.
- 5.20.32 The assessment in this section considers the potential effects on PRoW users. No effects on other traffic and transport topics, with the exception of traffic-related effects reported in Section 7, are considered to require reassessment as a result of the amendment.

## Environmental baseline

### Existing baseline

- 5.20.33 The baseline traffic and transport information is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.20.34 There are a number of PRoW and roadside footways in the Hulseheath to Manchester Airport area. The PRoW of relevance to the assessment of this amendment are Footpath Hale 16 and Footpath Ringway 7.
- 5.20.35 Surveys undertaken to inform the assessment of the original scheme showed that Hale 16 recorded 72 users (46 pedestrians and 26 cyclists) on the day of the survey. Footpath Ringway 7 was used by 10 pedestrians and 11 cyclists on the day of the survey.

## Future baseline

- 5.20.36 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2038.
- 5.20.37 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

## Effects arising during operation

### Avoidance and mitigation measures

- 5.20.38 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

- 5.20.39 The main ES reported that the original scheme would require the permanent closure of Footpath Hale 16 and Footpath Ringway 7 where it crosses the HS2 route. Users would be diverted along Brooks Drive, the A538 Hale Road and the diverted Hasty Lane. As a result, non-motorised users of Footpath Hale 16 and Footpath Ringway 7 would be subject to a moderate adverse effect on non-traffic related severance, which is significant, because of an increase in journey length of up to 676m and 640m respectively.
- 5.20.40 The amendment will result in the retention of a section of Footpath Hale 16 (map reference CT-06-357a and CT-06-357b<sup>64</sup>) from Brooks Drive to the Manchester Airport High Speed station. A new ramp and steps will connect the retained section of Footpath Hale 16 with the active travel route proposed parallel to the north of the Manchester Airport High Street station northern access road. Non-motorised users will be able to use controlled crossings to join the active travel infrastructure provided adjacent to the east of the cross-airport link road and thereafter use a new ramp to access the extended Hasty Lane underpass. This will remove the need for non-motorised users of Footpath Hale 16 and Footpath Ringway 7 (map reference CT-06-357a and CT-06-357b<sup>65</sup>) to divert via Brooks Drive and the A538 Hale Road, to reach either the Manchester Airport High Street Station or the Hasty Lane underpass. The amendment will reduce the increase in journey length for some users of Footpath Hale 16 and Footpath Ringway 7 to 264m for both PRoW. This will change the level of significance of the effect reported in the main ES, which will reduce from a moderate adverse effect to a minor adverse effect on non-traffic related severance for users of Footpath Hale 16 and Footpath Ringway 7, which is significant.

---

<sup>64</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

<sup>65</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

## Other mitigation measures

- 5.20.41 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 5.20.42 The amendment will give rise to a different likely residual significant effect for non-motorised users of Footpath Hale 16 (map reference CT-06-357a and CT-06-357b<sup>66</sup>) and Footpath Ringway 7 (map reference CT-06-357a and CT-06-357b<sup>67</sup>), which will reduce from a moderate adverse effect, as reported in the main ES, to a minor adverse effect.

## Cumulative effects

- 5.20.43 No new, removed or different significant cumulative effects have been identified.
- 5.20.44 The assessment of combined effects associated with changes in traffic flows as a result of this amendment in combination with all SES2 changes and AP2 amendments is reported in Section 7.

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

### Operation

#### Landscape and visual

- 5.20.45 The amendment will give rise to a different likely residual significant operation effect, after implementation of operation phase mitigation, at view south-east from Brooks Drive (332-02-008). The effect will change but will remain **moderate** adverse (significant) as reported in the SES2.

#### Traffic and transport

- 5.20.46 The amendment will give rise to a different likely residual significant effect for non-motorised users of Footpath Hale 16 and Footpath Ringway 7, which will reduce from a moderate adverse effect, as reported in the main ES, to a minor adverse effect.

---

<sup>66</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

<sup>67</sup> See SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series CT-06 – Operation Phase.

## 5.21 Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020)

- 5.21.1 The Bill provides for the realignment of Timperley Brook for 330m in a west-east direction and for a replacement floodplain storage area, located to the west of Brooks Drive, partially within the Ringway Golf Club golf course. As part of these works the existing culvert at Brooks Drive would need to be upgraded or replaced to accommodate the proposed hydrological changes (see Volume 2, MA06 Map Book: maps CT-05-357a, C3 in the main ES).
- 5.21.2 As part of the original scheme, an area of land was required during construction which allowed for works associated with the culvert at Brooks Drive as it connects into the realigned Timperley Brook.
- 5.21.3 Since the main ES, design development has identified that not enough land was provided for the construction and maintenance of the replacement culvert at Brooks Drive. Approximately 0.06ha of additional land is required.
- 5.21.4 The amendment will be constructed from the Manchester Airport High Speed station main compound within the indicative construction programme for the compound provided in Section 6. Construction traffic will access the area via the Ringway Golf Course, required as part of the proposed amendment for additional land permanently required for modifications to mitigation for Timperley Brook (AP2-006-018).
- 5.21.5 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for 0.06ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-05-357a C3).

### Local alternatives

- 5.21.6 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

### Topics included in the AP2 assessment

- 5.21.7 The assessment of this amendment has identified new, different or removed likely significant effects for the ecology and biodiversity topic.
- 5.21.8 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.



## Ecology and biodiversity

### Scope, assumptions and limitations

- 5.21.9 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.21.10 This amendment has the potential to result in new or different significant construction for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.21.11 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.21.12 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

### Environmental baseline

#### Existing baseline

- 5.21.13 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

#### Designated sites

- 5.21.14 There is one SBI and one AWI site of relevance to the assessment of this amendment. Davenport Green Wood SBI, is located partly within land required for the original scheme. An additional area is required for the amendment. The site is of county/metropolitan value.
- 5.21.15 Davenport Green Wood AWI site is located within Davenport Green Wood SBI, but approximately 120m from the land required for the amendment. There is no loss from this AWI site as a result of this amendment. This ancient woodland is considered to be of national value.

#### Habitats

- 5.21.16 The land required for the amendment contains areas of broadleaved semi-natural woodland, and dense scrub. It is also located immediately adjacent to Timperley Brook. The habitats of relevance to this assessment of the amendment are described further below.
- 5.21.17 The main ES reported broadleaved semi-natural woodland covering 2.3ha within the Davenport Green Wood SBI, partly within the land required for the original scheme and with an additional area required for the amendment. This is of county/metropolitan value.

## **Species**

- 5.21.18 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.21.19 The SES2 baseline reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees which, on a precautionary basis, are assumed to support roosting bats. The bat assemblage is considered to be of regional value.

## **Future baseline**

- 5.21.20 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.21.21 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.21.22 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.21.23 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Designated sites**

- 5.21.24 The main ES reported a permanent loss of 1.7ha (50%) of Davenport Green Wood SBI, that was considered to be an adverse effect that would be significant up to county/metropolitan level. The amendment will increase the loss from the SBI by 220m<sup>2</sup>. This will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES. This site is affected by more than one AP2 amendment. The combined effects on site are reported in Section 5.26.

#### **Habitats**

- 5.21.25 The main ES reported a permanent loss of 1ha (43%) of semi-natural broadleaved woodland from within Davenport Green Wood SBI. The permanent loss of woodland would have a permanent adverse effect that would be significant at the county/metropolitan level. The

amendment will result in a total additional loss of 400m<sup>2</sup> of semi-natural broadleaved woodland, of which 220m<sup>2</sup> will be from within the SBI and an additional loss of 180m<sup>2</sup> of located immediately adjacent to, but outside of the SBI. This will result in a different significant effect on this habitat, but there will be no change in the level of significance of the effect reported in the main ES.

## **Species**

- 5.21.26 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat and roosts, from within the bat assemblage between the M56 junction 6 and Manchester Airport, which would result in a permanent adverse effect that was significant at regional level. The amendment will result in the loss of trees which, on a precautionary basis, are assumed to support roosting bats that are associated with the bat assemblage between M56 junction 6 and Manchester Airport. The amendment will result in a different significant effect on the bat assemblage; but there will be no change in the level of significance of the effect reported within the SES2.

## **Other mitigation measures**

- 5.21.27 The main ES reported the provision of 1.1ha of woodland habitat creation in four locations near Fairywell Brook. The planting will enhance connectivity of habitat between Fairywell Brook and Davenport Green Wood. The additional loss of 400m<sup>2</sup> of semi-natural broadleaved woodland within and adjacent to Davenport Green Wood SBI caused by this amendment will be mitigated for through the provision of 0.11ha of additional woodland habitat creation. This woodland habitat creation will also compensate for the loss of 150m<sup>2</sup> from Davenport Green Wood SBI caused by the amendment. Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022). Once established the additional planting will reduce to the effect on semi-natural broadleaved woodland to a level that is not significant.
- 5.21.28 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on the bat assemblage will be reduced to a level that is not significant.

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

- 5.21.29 There are no changes to the likely residual significant effects identified in the main ES as a result of the amendment.

## **Cumulative effects**

- 5.21.30 No new, removed or different significant cumulative effects have been identified.

## 5.22 Additional Bill powers for construction traffic route along Enterprise Way (AP2-006-021)

- 5.22.1 The Bill provides for a temporary construction vehicle access route along Enterprise Way. The route is along the main construction traffic route to and from the A555 and M56 junction 5 (See Volume 2, MA06 Map Book: map CT-05-357a-R1, D7 to F10 and CT-05-357a-R2, E7 in the main ES).
- 5.22.2 Since the main ES, stakeholder engagement has identified that a section of Enterprise Way between Thorley Lane and the Terminal 2 roundabout is not included within the limits of the Bill. The amendment will provide for a change to Bill powers to include this section of Enterprise Way within the limits of the Bill. There are no proposed changes to the construction traffic vehicle access route compared to the original scheme.
- 5.22.3 The amendment is outside the limits of the Bill and additional Bill powers are required (see SES2 and AP2 ES Volume 2, MA06 Map Book: map CT-05-357a-R1, E7).

### Topics included in the AP2 assessment

- 5.22.4 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.
- 5.22.5 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## 5.23 Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)

- 5.23.1 The Bill provides for:
- the Manchester Airport High Speed station central concourse with four levels. The Metrolink level would provide access to future Metrolink services. Provisions would be made for escalators and lifts to access the Metrolink level from the central concourse; and
  - a section of viaduct, 216m in length and up to 15m above existing ground level, to enable future provision of a Metrolink station. Approaches to the viaduct from the west and east

would not be constructed as part of the original scheme (see Volume 2, MA06 Map Book: map CT-06-357a, D5 to D7 in the main ES).

5.23.2 Since the main ES, further engagement with Transport for Greater Manchester (TfGM) has identified that the location of the proposed Manchester Airport High Speed station would lead to a gap in Bill powers between the original scheme and plan areas identified in the TfGM Transport and Works Act Order (TWAO)<sup>68</sup> for the potential airport extension of Metrolink from Roundthorn to Manchester Airport via Davenport Green. Following discussions with TfGM, HS2 Ltd has agreed to seek to extend the powers in the AP2 revised scheme to accommodate the TfGM TWAO for Metrolink by including an additional 6.51ha of land. The areas are described below and shown on Figure 7:

- an additional 1.89ha will be required to the west of the M56 comprising:
  - an area west of M56 (1/2) located to the east Roaring Gate Lane and is a total of 1.46ha; and
  - an area west of M56 (2/2) located to the east of Brooks drive and is a total of 0.43ha.
- an additional 1.42ha will be required for the M56 crossing; and
- an additional 3.2ha will be required to the east of the M56.

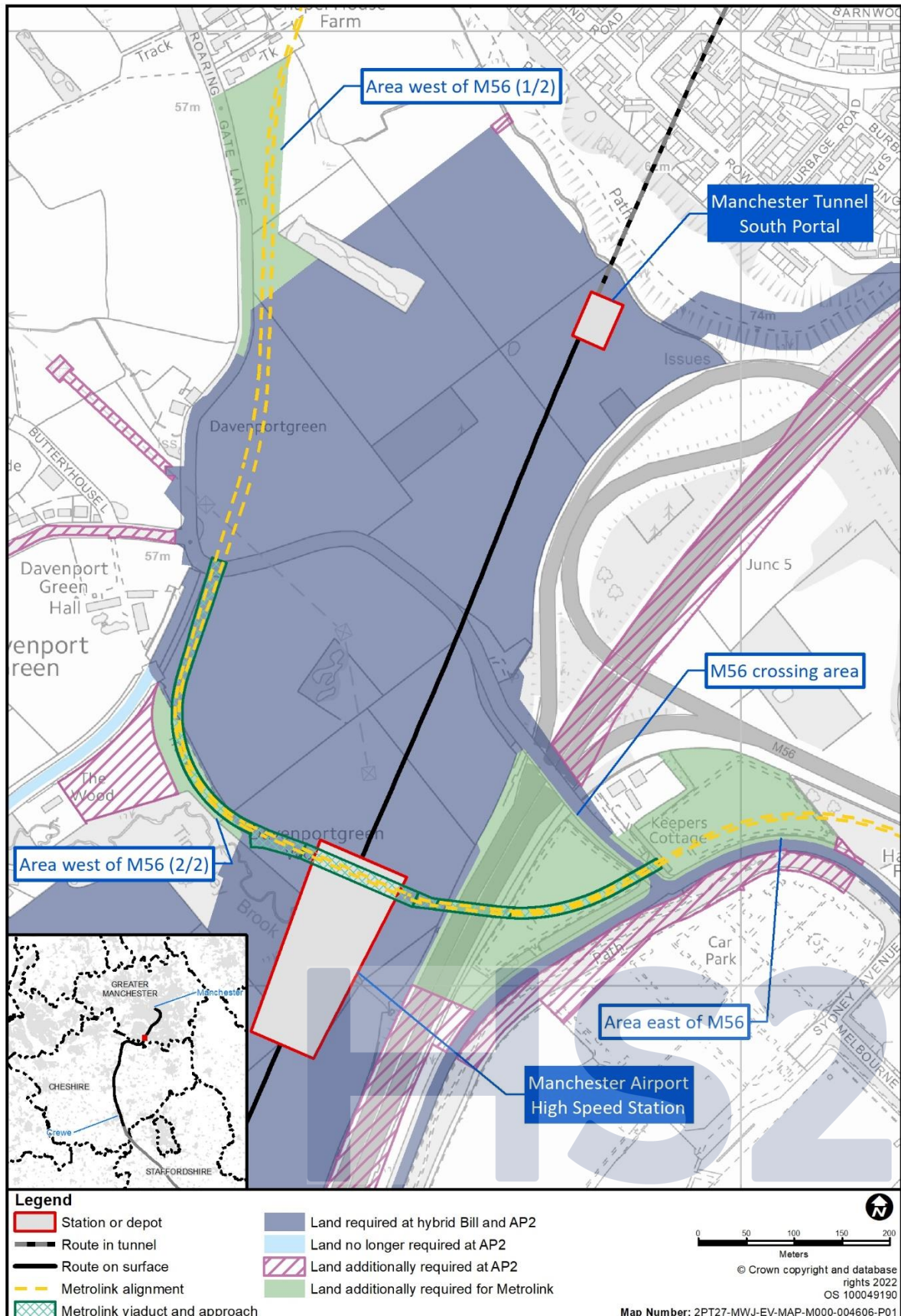
5.23.3 The amendment will not impact the HS2 route.

---

<sup>68</sup> The Greater Manchester (Light Rapid Transit System) (Airport Extension) Order 1997.



Figure 7: Illustration showing additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station



5.23.4 The additional land described above is required to accommodate the following Metrolink engineering changes that will form part of the wider Metrolink scheme to be delivered by TfGM. The engineering changes are included within the AP2 revised scheme as additional powers are required to connect Metrolink to the Manchester Airport High Speed station. The engineering changes are described from west of the Manchester Airport High Speed station to the east:

- Roaring Gate Lane retaining wall, 130m in length and up to 3m above ground level, supporting an embankment. The area will also have a turnback facility to provide service operation between the station and airport. The turnback facility will include a third track between the running lines and associated switches and crossings. The area also provides for:
  - an attenuation tank with a maintenance access route. The drainage outflows to the tributary of Timperley Brook 3; and
  - a driver walkway and welfare facility, with a substation and utility connection.
- Thorley Lane west approach viaduct, 320m in length and up to 17m above existing ground level;
- Metrolink Station approach bridge west, 60m in length and up to 17m above existing ground level to the west of the Metrolink stop and above the station access road with passive provision for a future turnout;
- Metrolink Station viaduct, 130m in length and up to 15m above ground level, a reduction of 86m compared to the original scheme. Maintenance provisions and user access to the stop will be unchanged from the original scheme. An additional mechanical and electrical equipment room will be added to the station as part of the amendment;
- Metrolink Station approach east bridge, 22m in length and up to 13m above ground level, to the east of the stop and above the station access road;
- M56 viaduct, 80m in length and up to 14m above ground level with a pier in the central reserve;
- Thorley lane east approach viaduct, 170m in length and up to 10m above ground level; and
- Thorley Lane east approach east retaining wall, 127m in length and up to 7m above ground level, with an embankment on the adjacent side. The area will also provide for an attenuation tank with a maintenance access route. The attenuation tank will outflow to the future TfGM drainage network.

5.23.5 The power requirements for the Metrolink stop will be provided via a new low voltage (LV) cable from Thorley Lane substation, proposed as part of the original scheme. The cables will be routed along Thorley Lane to the Metrolink Stop Equipment Room (SER) on the southern side of the Manchester Airport High Speed station. As part of this amendment, the following utility modifications will be required:



- power supply will be provided from Thorley Lane to a new driver welfare facility located off Roaring Gate Lane. A new substation will be required to transform a 6.6kV supply to LV for the Metrolink drivers welfare facility;
- all water and foul sewer connections for the Metrolink station will connect to the HS2 system via the Manchester Airport High Speed stations internal pipework network;
- water connection for the driver welfare facility will be provided from the proposed connection to the Manchester tunnel south portal, off Thorley Lane; and
- the foul sewer connection from the driver welfare facility will require pumping (via a package pumping station, rising main and gravity sewer) to the new foul pumping station located to the south of the tunnel portal.

5.23.6 The Metrolink drainage provisions will be split across two surface water catchments.

5.23.7 The west catchment will comprise a 2ha area. The Metrolink alignment will be drained by carrier drains on the viaduct and into ditches on the embankment. Flows will be attenuated by a 1,105m<sup>3</sup> attenuation tank and then discharged to the Tributary of Timperley Brook 3.

5.23.8 The east catchment will comprise a 1.1ha area. The Metrolink alignment will be drained by carrier drains on the viaduct and into ditches on the embankment. The flows will be attenuated by a 605m<sup>3</sup> attenuation tank and it is assumed that the tank will then discharge to the TfGM drainage network.

5.23.9 The amendment will result in the loss of approximately 0.11ha of priority habitat woodland, approximately 150m<sup>2</sup> of which is within the Davenport Green Wood Site of Biological Importance (SBI). Replacement woodland planting (0.11ha) will be provided to the east of Brooks Drive (see SES2 and AP2 ES Volume 2, MA06 Map Book: CT-06-357a, B3 to E4).

5.23.10 The amendment will be constructed from two new compounds proposed as part of the AP2 revised scheme. The first compound will be established within the area designated in the original scheme as the Manchester tunnel south portal main compound transfer node. The second compound will be the Runger Lane Metrolink satellite compound and will be established at the junction of Thorley Lane/Runger Lane. This compound will be used to support the works on the east side of the M56 and proposed M56 crossing. The indicative construction programme is provided in Section 6.

5.23.11 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for an additional 6.51ha of land (see SES2 and AP2 ES Volume 2, MA06 Map Book: CT-05-357a, C2 to H9 and CT-05-357a-R1, D1 to E2).

## **Potential future operation of Metrolink**

5.23.12 The amendment will enable Metrolink services to connect to the Manchester Airport High Speed station following implementation of TfGM's existing TWAO powers for an extension of Metrolink from Manchester Airport to Manchester Victoria. These Metrolink services would be delivered by TfGM or other third parties in the future. Based on the planning, funding and scheduling information available, it has been assumed that future Metrolink services in the Hulseheath to Manchester Airport area would not commence operation within the

assessment period. Given that the first year of operation of the AP2 revised scheme will be 2039 and taking account of the temporal scope set out in the SMR, it has been assumed, for the purposes of the assessment, that access to Manchester Airport High Speed station will be by road or via other existing public transport modes. The effects reported elsewhere in this assessment are based on this assumption.

- 5.23.13 On a precautionary basis, however, the future operation of Metrolink services in this area could result in new, removed or different significant effects to those presented in this report.
- 5.23.14 Once Metrolink is operational, it is likely that the split of users accessing the Manchester Airport High Speed station via road and public transport would change, with a substantial reduction in road based access. This would change the impacts of road traffic during operation. Whilst the scale of any change would to a degree be dependent on the operational service pattern of the future Metrolink service, it is expected that there would be a general reduction in traffic and transport related impacts. A reduction in road traffic could reduce air quality impacts, which in turn could reduce impacts on ecological receptors from road traffic. A reduction in road traffic could also reduce airborne noise impacts.
- 5.23.15 There is the potential for noise impacts from trams using the Metrolink line during operation. Depending on the scale of these impacts, there is the potential that mitigation such as noise barriers would be required to mitigate any such effects. The amendment includes land provision for future noise fence barriers to be delivered by third parties to enable mitigation to be provided, if required.
- 5.23.16 The presence of operational trams on the Metrolink line, and associated infrastructure such as lighting, overhead lines and potential noise fence barriers, could introduce new impacts for landscape and visual receptors and the setting of historic environment assets. The presence of this infrastructure could also impact on ecological species, including birds and bats.
- 5.23.17 Creation of new noise and visual effects during operation could result in new permanent socio-economic in-combination effects on businesses within the vicinity. An alteration of significant effects related to road traffic during construction could alter the socio-economic isolation assessment.
- 5.23.18 These new noise and visual effects may also result in a new permanent community and neighbourhood quality effect on nearby residential properties. However, these may be mitigated against if noise barriers are installed.

## **Local alternatives**

- 5.23.19 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this amendment.

## Topics included in the AP2 assessment

- 5.23.20 The assessment of the amendment has identified new, different or removed likely significant effects for the following topics: agriculture, forestry and soils; ecology and biodiversity; historic environment; landscape and visual; socio-economics and sound, noise and vibration.
- 5.23.21 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## Agriculture, forestry and soils

### Scope, assumptions and limitations

- 5.23.22 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1 and the SMR of the main ES. The amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for agriculture, forestry and soils.
- 5.23.23 All agriculture, forestry and soils effects, arising from this amendment, are reported in SES2 and AP2 ES Volume 5, Appendix: AG-001-00000.

## Environmental baseline

### Existing baseline

- 5.23.24 The agricultural land associated with this amendment has soils in the Salop association. These soils are developed in reddish glacial deposits (i.e., till and glaciofluvial sand and gravel deposits) and are slowly permeable and seasonally waterlogged soils (WC III to IV). The quality of the agricultural land is limited by soil wetness to mainly Subgrade 3a or Subgrade 3b.
- 5.23.25 Two agricultural holdings will be affected by this amendment, as detailed in Table 28.

**Table 28: Summary characteristics of the holdings affected by the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)**

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
MA06/33 Land at Ash Farm*	Livestock grazing	108	Not known	None	Medium
MA06/34	Livestock grazing	26	Not known	None	Low

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/name	Holding type	Holding size (ha)	Diversification	Agri-environment scheme	Sensitivity to change
Land at Davenport Green*					

\* It has not been possible to arrange farm impact assessment interviews with these holdings. Publicly available sources have been used to obtain the information presented.

### Future baseline

- 5.23.26 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.23.27 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.23.28 None of the identified developments affect the assessment of the AP2 revised scheme’s likely impacts on agriculture, forestry and soil.

### Effects arising during construction

#### Avoidance and mitigation measures

- 5.23.29 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

#### Assessment of impacts and effects

- 5.23.30 The amendment will require a further 1.4ha of agricultural land in the Hulseheath to Manchester Airport area, which is classified as Subgrade 3b.
- 5.23.31 The impacts on the holdings affected are set out in Table 29 and Table 30.

**Table 29: Temporary impacts and effects on holdings arising from the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)**

Holding reference/name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
MA06/33 Land at Ash Farm	This amendment will result in an increase in the area of land required of 0.1ha.  The adoption of this amendment alone, would increase the area of land required to 10.7ha compared to the main ES (10%).	Negligible	Negligible	Minor adverse	No change

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/ name	Total area required from holding	Construction severance	Disruption	Scale of construction effect	Change in effect from main ES
	Low This holding is affected by more than one AP2 amendment (see Section 5.26).				
MA06/34 Land at Davenport Green	This amendment will result in an increase in the area of land required of 1.3ha. The adoption of this amendment will increase the area of land required to 15.2ha compared to the main ES (58%) High	Negligible	Negligible	Moderate adverse	No change

**Table 30: Permanent impacts and effects on holdings arising from the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)**

Holding reference/ name	Land required from holding	Severance	Infrastructure	Scale of effect	Change in effect from main ES
MA06/33 Land at Ash Farm	The adoption of this amendment alone will increase the area of land permanently required by 3.2ha compared to the main ES. The total land required permanently will be 10.4ha (10%) Low This holding is affected by more than one AP2 amendment (see Section 5.26).	Negligible	Negligible	Minor adverse	No change
MA06/34 Land at Davenport Green	The adoption of this amendment will increase the area of land permanently required by 0.8ha compared to the main ES. The total land required permanently will be 4ha (15%) Medium	Negligible	Negligible	Minor adverse	No change

### Other mitigation measures

5.23.32 The land required temporarily for construction will be restored to its former agricultural condition once the works are completed, following good practice techniques in handling, storing and reinstating soils on that land, as set out in the draft CoCP. No other mitigation has been identified.

### Summary of likely residual significant effects

5.23.33 No new, removed or different likely residual significant effects have been identified.

## Cumulative effects

- 5.23.34 No new, removed or different significant cumulative effects have been identified.

## Ecology and biodiversity

### Scope, assumptions and limitations

- 5.23.35 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.23.36 This amendment has the potential to result in new or different significant construction effects for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.23.37 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.23.38 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## Environmental baseline

### Existing baseline

- 5.23.39 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

### Designated sites

- 5.23.40 There is one SBI and one AWI site of relevance to the assessment of this amendment. Davenport Green Wood SBI, is located partly within land required for the original scheme and partly within the land required for the amendment. The site is of county/metropolitan value.
- 5.23.41 Davenport Green Wood AWI site is located partly within land required for the original scheme and adjacent to the land required for the amendment. This ancient woodland is considered to be of national value.

### Habitats

- 5.23.42 The following habitats are located within the land required for the amendment: semi-natural broadleaved woodland, broadleaved plantation woodland, mixed plantation woodland, dense scrub, scattered trees, hedgerows, poor semi-improved grassland, arable land,

amenity grassland, and hard standing. The habitats of relevance to this assessment of the amendment are described further below.

- 5.23.43 The main ES reported broadleaved semi-natural woodland covering 2.3ha within the Davenport Green Wood SBI, partly within the land required for the original scheme. An additional area of 150m<sup>2</sup> is required for the amendment. This is of county/metropolitan value.
- 5.23.44 As reported in the SES2 there are 23 woodlands (each up to 1.5ha and none within wildlife site designations, but likely to qualify as habitat of principal importance) at various locations throughout the Hulseheath to Manchester Airport area, that are of up to local/parish value. The land required for the construction of the amendment includes less than 0.2ha of broadleaved semi-natural and plantation woodland that is also considered to be of local/parish value.
- 5.23.45 Within the land required for the amendment, there is 358m of hedgerow that (based on aerial photography) are intact and are assumed to be species-rich. These hedgerows may qualify as a habitat of principal importance and a conservation priority of the Cheshire Biodiversity Action Plan (BAP). These hedgerows contribute to a wider hedgerow network across the Hulseheath to Manchester Airport area that is of county/metropolitan value.

## **Species**

- 5.23.46 Protected and notable species that are known or assumed to occur within the land required for construction of the amendment include great crested newts and bats. The species of relevance to the assessment of the amendment are described in further detail below.
- 5.23.47 The main ES reported an assumed great crested newt population of medium size within two ponds located east of Davenport Green (GCNP1.6.26). The land required for the amendment includes terrestrial habitat associated with this metapopulation. This population is considered to be of up to county/metropolitan value.
- 5.23.48 The SES2 reported an assumed metapopulation of medium size in a network of 42 ponds east of Altrincham (GCNMP1.6.27). The land required for the amendment includes areas of terrestrial habitat associated with this metapopulation. This metapopulation is up to county/metropolitan value.
- 5.23.49 The SES2 reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees which, on a precautionary basis, are assumed to support roosting bats. Davenport Green Wood is considered to offer moderate potential for roosting bats as reported at SES2. The bat assemblage is considered to be of regional value.

## **Future baseline**

- 5.23.50 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.



- 5.23.51 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.23.52 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.23.53 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Designated sites**

- 5.23.54 The main ES reported a permanent loss of 1.7ha (50%) of Davenport Green Wood SBI, of which 0.7ha (54%) is ancient woodland habitat from the Davenport Green Wood AWI site. The loss of habitat was significant up to the county/metropolitan level for Davenport Green Wood SBI, and national level for Davenport Green AWI site. The amendment will result in the additional loss of 150m<sup>2</sup> of woodland from the SBI; however, it will not result in any additional loss of ancient woodland. The amendment will result in a different significant effect on the Davenport Green Wood SBI, but there will be no change in the level of significance of the effect reported in the main ES.
- 5.23.55 This site is affected by more than one AP2 amendment. The combined effects on this site are reported in Section 5.26.

#### **Habitats**

- 5.23.56 The main ES reported the permanent loss of 1ha (43%) of semi-natural broadleaved woodland from within Davenport Green Wood SBI which would have a permanent adverse effect that would be significant at the county/metropolitan level. The additional loss of 150m<sup>2</sup> of semi-natural broadleaved woodland within the amendment will result in a different significant effect, but there will be no change in the level of significance of the effect reported in the main ES.
- 5.23.57 On a precautionary basis, the SES2, reported a net loss of 44.9km of hedgerow habitat taking into account mitigation, within the land required for construction of the SES2 scheme, resulting in a permanent adverse effect significant at the county/metropolitan level. The land required for the amendment includes an additional 358m of assumed species-rich hedgerow that will be removed. This will result in a different significant effect on the hedgerow

network, but there will be no change in the level of significance of the effect reported in the SES2.

## **Species**

5.23.58 The SES2 reported an adverse effect on a metapopulation of great crested newt within a network of 42 ponds east of Altrincham (GCNMP1.6.27), which would be significant at the county/metropolitan level. The amendment will result in the loss of 1.3ha of terrestrial habitat associated with this metapopulation. The amendment will result in a different significant effect, but there will be no change in the level of significance of the effect reported in SES2. This metapopulation is affected by more than one AP2 amendment. The combined effects on this metapopulation are reported in Section 5.26.

5.23.59 The SES2 reported that the construction of the SES2 scheme would result in the loss of maternity and occasional roosts within the bat assemblage between junction 6 of the M56 and Manchester Airport. This was considered to be significant at regional level. The amendment will result in the loss of trees, which on a precautionary basis, are assumed to support roosting bats, and loss of foraging and commuting habitat. This will result in a different significant effect on the bat assemblage between M56 junction 6 and Manchester Airport, but there will be no change in the level of significance of the effect reported within the SES2. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26.

## **Other mitigation measures**

5.23.60 The main ES reported the provision of 1.1ha of woodland habitat creation in four locations near Fairywell Brook. The planting will enhance connectivity of habitat between Fairywell Brook and Davenport Green Wood. As part of the amendment, an area of 0.11ha will be provided to mitigate for the additional loss of 150m<sup>2</sup> of woodland from Davenport Green Wood SBI. This woodland habitat creation will also mitigate for the loss of 400m<sup>2</sup> from Davenport Green Wood SBI caused by the amendment Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020). Once established the additional planting will reduce the effect on semi-natural broadleaved woodland to a level that is not significant.

5.23.61 The SES2 reported significant adverse effects on the great crested newt populations within the Hulseheath to Manchester Airport area would be addressed by creating areas of suitable habitat. These measures would comprise provision of ponds and grassland that would be designed to compensate for the loss of breeding sites, foraging habitat and places of shelter used by great crested newt and other amphibian species. The mitigation measures will take account of the different significant effects identified above. Therefore, following implementation of these measures, the effects on the amphibian populations in the Hulseheath to Manchester Airport area will be reduced to a level that is not significant.

5.23.62 The amendment will result in the loss of trees that are on a precautionary basis assumed to provide roosting and foraging habitat for the bat assemblage between M56 junction 6 and Manchester Airport. Additional woodland habitat creation will provide alternative foraging

resources alongside the habitat creation provided in the main ES. To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. Following the implementation of these measures, adverse effects on the bat assemblage will be reduced to a level that is not significant.

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

- 5.23.63 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 358m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level. Opportunities will be sought for additional retention and replacement of hedgerow within the land required for the temporary works.

## **Cumulative effects**

- 5.23.64 No new, removed or different significant cumulative effects have been identified.

## **Historic environment**

### **Scope, assumptions and limitations**

- 5.23.65 The assessment scope, key assumptions and limitations for historic environment are as set out in Volume 1 and the SMR of the main ES.
- 5.23.66 This amendment has the potential to result in new or different significant construction effects only. Therefore, there is no operational assessment for historic environment.

## **Environmental baseline**

### **Existing baseline**

- 5.23.67 The baseline historic environment information is as shown in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. A summary of the baseline information relevant to the assessment of the amendment is provided below.
- 5.23.68 Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011) is a Grade II listed building of moderate value and lies west of the land required for the amendment. The heritage value of the asset lies within its architectural and archaeological interest, as the interior of the barn retains elements of its original construction and craftsmanship. Heritage value also lies within the association between the heritage asset, Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013).
- 5.23.69 Davenportgreen Farmhouse (MA06\_0012) is a Grade II listed building of moderate value and lies west of the land required for construction of the amendment. The heritage value of the asset lies within its architectural and archaeological interest, from the survival of construction materials pre-dating the 18th century and in illustrating the form of a historic

farm complex in the region. Heritage value also lies within the association between the heritage asset, the Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), and Paddy's Hut, Roaring Gate Lane (MA06\_0013).

- 5.23.70 Paddy's Hut, Roaring Gate Lane (MA06\_0013) is a Grade II listed building of moderate value and lies west of the land required for the amendment. The heritage value of the asset lies within its architectural and archaeological interest, as the building is a fine example of late 17th century Irish farm labourer's sleeping quarters. Heritage value also lies within the association between the heritage asset, Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011) and Davenportgreen Farmhouse (MA06\_0012).
- 5.23.71 There are no non-designated heritage assets relevant to the assessment of the amendment.

### **Future baseline**

- 5.23.72 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.23.73 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.23.74 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on historic environment.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.23.75 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Temporary effects**

- 5.23.76 The main ES reported temporary significant effects on the Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013), Grade II listed buildings of moderate value. The assets lie adjacent to the land required for the construction of the original scheme. The construction of the Manchester tunnel south portal main compound would have impacted the value of the assets through the temporary removal of agricultural fields which form part of the assets setting and contribute to their heritage value. A temporary moderate adverse significant effect was reported for each heritage asset in the main ES.

- 5.23.77 The amendment will result in the extension of the Metrolink track on a viaduct south of Roaring Gate Lane and the Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013). This will introduce the presence of machinery into the setting of the assets during the construction of the Metrolink track and viaduct. The proximity of this machinery will further diminish the contribution made by the agricultural fields to understanding the heritage value of the former farmhouse and associated buildings. This will result in a different temporary medium adverse impact for each moderate value asset. The level of effect will remain a temporary moderate adverse significant effect, as reported in the main ES.

### **Permanent effects**

- 5.23.78 The main ES reported no permanent significant effects on the Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013), Grade II listed buildings of moderate value.
- 5.23.79 The permanent presence of the Metrolink track on a viaduct will alter the setting of the heritage assets. It will introduce new infrastructure and permanently remove agricultural fields, which form the setting of Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013). This will further diminish the contribution their setting makes to the heritage value of these assets. It will become more difficult to understand the association between the surrounding agricultural farmland, the former farmhouse and farm buildings. This will constitute three new permanent medium adverse impacts on each moderate value asset. This will result in three new permanent moderate adverse significant effects.

### **Other mitigation measures**

- 5.23.80 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 5.23.81 The amendment will result in the permanent presence of the Metrolink track on a viaduct which will alter the setting of Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013). This will give rise to a new permanent moderate adverse residual significant effect on each of these heritage assets.

### **Cumulative effects**

- 5.23.82 No new, removed or different cumulative effects have been identified.

## Landscape and visual

### Scope, assumptions and limitations

- 5.23.83 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.23.84 This amendment has the potential to result in new or different construction and operational effects for the visual assessment only. Therefore, there is no construction or operational landscape assessment.
- 5.23.85 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

### Environmental baseline

#### Existing baseline

- 5.23.86 The baseline landscape and visual information is as described SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

#### Visual baseline

- 5.23.87 The amendment has the potential to result in significant effects at four viewpoints. These viewpoints are described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

#### **View east from Davenport Green Hall on Brooks Drive (high sensitivity receptor) (333-02-001)**

- 5.23.88 This viewpoint is representative of views experienced by residents of Davenportgreen Farmhouse on Roaring Gate Lane and guests at Davenport Green Hall. A thin, tree-lined hedge bordering Brooks Drive partially screens views of open farmland to the east. A gently sloping landscape of pasture with individual trees, probably on the line of former hedgerows, occupies the middle distance. Davenport Green Wood screens views south. Planting along the M56 and Runger Lane provide a wooded backdrop to the view. Pylons are visible to the east in the far distance. Manchester Airport is not visible from this location. The overgrown hedgerow along Roaring Gate Lane filters views from Davenportgreen Farmhouse on Roaring Gate Lane.
- 5.23.89 At night, the near and middle distance are relatively dark, but lighting on the M56 and in the Manchester Airport area is intermittently visible in the far distance where there are gaps in the tree cover.

**View south-east from Footpath Hale 26 (high sensitivity receptor) (333-02-003)**

- 5.23.90 This viewpoint is representative of views experienced by residents of Roaring Gate Lane and users of Footpath Hale 26. The view is over a rough pasture, with bramble and areas of scrub. The line of Footpath Hale 26 is visible to the north-east of the view. The close-board boundary fence of Tileyard Cottage is visible to the west. Longer views to the south and east over pasture are framed by individual trees and tree belts. Woodland screens the M56 and urban edge of Wythenshawe nearby. Views south and east are largely filtered by vegetation within the property boundaries on Roaring Gate Lane or screened by intervening buildings.
- 5.23.91 At night, Roaring Gate Lane is unlit and the farmland surrounding the viewpoint is relatively dark. There is skyglow from lighting along the M56 and in the urban area to the east and north.

**View south from Davenport Green (medium-high sensitivity receptor) (333-03-009)**

- 5.23.92 This viewpoint is representative of views experienced by footpath users along the local unnamed, but well-used, permissive path between Crowland Road and Thorley Lane. In the near distance is a field south-east of Chapel House Farm. There are broad and relatively uninterrupted views to the south. In the middle distance the landform slopes gently upwards to the south towards the adjacent field where scrub is gradually establishing. A permissive path is visible within the adjacent field and broad open views continue beyond. The background of the view is made up of layers of hedgerows and planting associated with woodland and planting along the M56 to the south-east, forming a wooded skyline that is punctuated by distinctive pine trees.

**View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)**

- 5.23.93 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced by residents at Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) and road users on Runger Lane and Thorley Lane. The view north-west is along Thorley Lane as it rises towards the bridge over the M56 corridor, which is not visible. Tall coniferous trees in the middle distance frame the entrance to Keepers Cottage and largely screen the building from the road. Thorley Lane and Runger Lane are bordered by mature deciduous trees which filter views of a car park in the middle distance to the south. Hedgerows and hedgerow trees along Thorley Lane filter views of another car park to the east of Keepers Cottage. Mature vegetation north of this car park forms a skyline feature and screens views of the more distant landscape beyond.
- 5.23.94 At night, the area is lit by street lighting along Thorley Lane and Runger Lane and in the nearby car parks. Skyglow from the nearby urban areas, along the M56 and at major road junctions is also apparent in the background of the view.



## Future baseline

- 5.23.95 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.23.96 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.23.97 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.23.98 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Visual assessment

##### View east from Davenport Green Hall on Brooks Drive (high sensitivity receptor) (333-02-001)

- 5.23.99 The main ES reported a **major** (significant) effect during construction for residents of Davenportgreen Farmhouse and guest at Davenport Green Hall of **high** susceptibility and **medium** value views. This would be due to the presence of the Manchester tunnel south portal main compound and an area of temporary material stockpiles in near-distance, filtered views and more distant views of the construction of Manchester Airport High Speed station and cutting and Manchester tunnel south portal beyond.
- 5.23.100 The amendment will change the visual effect at this viewpoint because the construction of Thorley Lane west approach viaduct and embankment and Roaring Gate retaining wall will take place close to or adjacent to the northern end of Brooks Drive and Roaring Gate Lane. The area of temporary material stockpiles of the original scheme will now be occupied by Manchester tunnel south portal satellite compound. The amendment will slightly increase the extent of the view affected by the AP2 revised scheme along Roaring Gate Lane and the nature of construction activity will differ from the original scheme with views of the construction of large-scale structures, rather than of the typical activity that takes place in a construction compound. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### Night-time

- 5.23.101 The main ES reported a **moderate** (significant) effect. Lighting at Manchester tunnel south portal main compound would introduce a lit area into the middle distance of filtered views, adding to the existing lighting in the surrounding urban area.
- 5.23.102 The amendment will slightly change the visual effect at this viewpoint because the unlit area of temporary material stockpiles of the original scheme will now be occupied by Manchester tunnel south portal satellite compound which will be lit at night. Views of the compound will be filtered by intervening vegetation and will be seen in the context of Manchester Airport High Speed Station main compound and the Manchester tunnel south portal main compound, both lit at night and to the south and north respectively. The controls on light spill set out in the draft CoCP will limit the change these new light sources introduced to the wider view. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

### View south-east from Footpath Hale 26 (high sensitivity receptor) (333-02-003)

- 5.23.103 The main ES reported a **low** magnitude of change and a **minor** (non-significant) effect during construction for residents of Roaring Gate Lane and users of Footpaths Hale 26 and Hale 23, of **high** susceptibility, all with **medium** value experiencing slight changes to views as a result of the construction of the original scheme. Residents and footpath users would have filtered views of Manchester tunnel south portal main compound and taller machinery such as cranes used for the construction of Manchester Airport High Speed station and cutting, Manchester tunnel south portal and auto-transformer feeder station as well as Thorley Lane overbridge, above existing intervening vegetation.
- 5.23.104 The amendment will change the visual effect at this viewpoint as construction activity in the south-west, will be brought closer to the viewpoint. Mature roadside vegetation along Roaring Gate Lane will be removed, up to the property boundary of Tileyard Cottage. Residents will consequently have near-distance views, partially screened by garden boundary fencing, of the construction of a maintenance access track and more distant views of the construction of the Roaring Gate retaining wall and Thorley Lane west approach embankment beyond. The removal of roadside vegetation will also result in near and middle-distance views of construction activity on the maintenance access track and Roaring Gate retaining wall from a stretch of Footpath Hale 23. Views from Footpath Hale 26 will be partially filtered by intervening vegetation and screened by intervening buildings. There will be a **medium** magnitude of change and a **moderate** adverse (significant). The amendment will give rise to a new significant effect.

### Night-time

- 5.23.105 The main ES reported a **low** magnitude of change and a **minor** (non-significant) effect. Lighting at Manchester tunnel south portal main compound would introduce a lit area into the middle distance of filtered views but would be seen in the context of existing lit areas in the far distance to the east and north. The controls on light spill set out in the draft CoCP would limit the change these new light sources introduced to the wider view.

- 5.23.106 The amendment will change the visual effect at this viewpoint. The removal of intervening roadside vegetation will increase the visibility of lighting associated with the Manchester tunnel south portal main compound in views from Tileyard Cottage. The controls on light spill set out in the draft CoCP will limit the change these new light sources introduced to the wider view. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give rise to a new significant effect.

**View south from Davenport Green (medium-high sensitivity receptor) (333-03-009)**

- 5.23.107 The main ES reported a **major** adverse (significant) effect for footpath users of the local unnamed, but well-used, permissive path between Crowland Road and Thorley Lane of **medium-high** susceptibility and with **medium** value view. This would be due to near-distance views of large-scale construction work, including the movement of materials and tall construction plant, removal of existing hedgerow features and construction of Manchester tunnel south portal. During construction, the amendment will result in a slight change to the visual effect at this viewpoint. The construction of the Thorley Lane west approach viaduct and embankment and Roaring Gate retaining wall will be visible in views east from a short section of the permissive path between Crowland Road and Thorley Lane. Construction activity and machinery will be largely screened by the intervening Manchester tunnel south portal main compound and a belt of vegetation retained in the AP2 revised scheme. The amendment will give rise to a different significant effect; however, the level of significance of the effect will remain as reported in the main ES.

**View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)**

- 5.23.108 This new viewpoint is located in an area where there will be changes from the original scheme. Residents of Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) of **high** susceptibility, and road users on Runger Lane and Thorley Lane of lower susceptibility, all with **medium** value views, will experience a substantial change to views during construction of the amendment due to the removal of mature trees and vegetation from the grounds of Keepers Cottage and the loss of hedgerows and mature trees bordering Runger Lane and Thorley Lane. This will open up views of the construction of Thorley Lane East approach viaduct, retaining wall and embankment to the south and east. The Runger Lane Metrolink satellite compound and the construction of the M56 viaduct will also be visible in views south beyond Thorley Lane. Existing near-distance views of garden vegetation and car parks will be replaced by views of construction activity partially filtered through retained garden vegetation. There will be substantial changes to the composition of near and middle-distance views across the majority of the view from Keepers Cottage. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

### Night-time

5.23.109 For residents at Keepers Cottage, the removal of vegetation from along Runger Lane, Thorley Lane and from the garden of Keepers Cottage during construction of the amendment, will allow filtered, near-distance views of lighting associated with the Runger Lane Metrolink satellite compound. Controls on light spill set out in the draft CoCP will limit the change these new light sources will introduce to the wider view. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

### Other mitigation measures

5.23.110 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Summary of likely residual significant effects

5.23.111 The amendment will give rise to a different likely residual significant construction effect after implementation of construction phase mitigation at view east from Davenport Green Hall on Brooks Drive (333-02-001). The effect will remain **major** adverse (significant) as reported in the main ES.

5.23.112 The amendment will give rise to a new likely residual significant construction effect after implementation of construction phase mitigation, at view south-east from Footpath Hale 26 (333-02-003). The effect will increase to **moderate** adverse (significant).

5.23.113 The amendment will give rise to a different likely residual significant construction effect after implementation of construction phase mitigation at view south from Davenport Green (333-03-009). The effect will remain **major** adverse (significant) as reported in the main ES.

5.23.114 The amendment will give rise to a new likely residual significant construction effect after implementation of construction phase mitigation, at new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **major** adverse (significant).

5.23.115 The amendment will give rise to a different likely residual significant construction night-time effect after implementation of construction phase mitigation at view east from Davenport Green Hall on Brooks Drive (333-02-001), but where the level of effect will be unchanged to that reported in the main ES. The effect will remain **moderate** adverse (significant).

5.23.116 The amendment will give rise to a new likely residual significant construction night-time effect after implementation of construction phase mitigation, at the following viewpoints:

- view south-east from Footpath Hale 26 (high sensitivity receptor) (333-02-003). The effect will increase to **moderate** adverse (significant); and
- view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

## Cumulative effects

- 5.23.117 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.23.118 Minor changes have been made to the environmental mitigation to incorporate landscape mitigation planting along the proposed embankments and maintenance access road.

## Assessment of impacts and effects

### Visual assessment

#### View east from Davenport Green Hall on Brooks Drive (high sensitivity receptor) (333-02-001)

- 5.23.119 At year 1, the main ES reported a **medium** magnitude of change and a **moderate** adverse (significant) effect for residents of Davenportgreen Farmhouse on Roaring Gate Lane and guests at Davenport Green Hall of **high** susceptibility, and with **medium** value views. This would be due to the loss of trees and woodland removed during construction, which would allow more open views over wooded farmland towards Manchester Airport High Speed station central concourse building, a section of viaduct to enable the future provision of Metrolink, Manchester tunnel south portal building and auto-transformer station and Thorley Lane overbridge in the distance. Views for residents would be partially screened by intervening garden vegetation.
- 5.23.120 The amendment will change the visual effect at this viewpoint. Views towards the structures of the AP2 revised scheme, including Manchester Airport High Speed station and Manchester tunnel south portal building, will be partially screened by Thorley Lane west approach viaduct and embankment and Roaring Gate retaining wall. The view from Davenportgreen Farmhouse will be foreshortened by the embankment as it rises to join the viaduct over Thorley Lane. The viaduct, embankment and retaining wall will be prominent additions to existing views over open farmland; however, views of the new structures will be partially filtered through vegetation growing in the gardens of Davenport Green Hall and Davenportgreen Farmhouse. Woodland habitat creation along Brooks Drive and landscape mitigation planting along Roaring Gate Lane will not be sufficiently mature to contribute to any visual integration or screening of the amendment at year 1. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will, therefore, give rise to a different significant effect.
- 5.23.121 At year 15, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect. This would be due to maturing mitigation planting filtering and partially screening views of the original scheme.

- 5.23.122 At year 15, the amendment will change the visual effect at this viewpoint. Maturing woodland habitat creation will screen the lower levels of the Thorley Lane west approach viaduct, apart from where the viaduct crosses Thorley Lane where it will remain clearly visible. Landscape mitigation planting will similarly partially screen the lower levels of the Thorley Lane west approach embankment. Due to the lack of screen planting between the Roaring Gate Lane retaining wall and the lane, it will remain a prominent feature in views from the lane. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.23.123 At year 30, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect. This would be due to the greater maturity of mitigation planting further filtering and screening views of the original scheme.
- 5.23.124 At year 30, the amendment will change the visual effect at this viewpoint. The greater maturity of the additional woodland habitat creation and landscape mitigation planting will further filter and screen views of the Thorley Lane west approach viaduct and embankment but the viaduct will remain clearly visible where it crosses Thorley Lane. The Roaring Gate Lane retaining wall will also remain visible from a stretch of the lane due to the lack of intervening planting. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### Night-time

- 5.23.125 At year 1, the main ES reported a **moderate** adverse (significant) effect. This would be due to lighting along the elevated Manchester Airport High Speed station access road (west) and in the station building which would introduce an illuminated area into a currently relatively dark and unlit view. The Thorley Lane west approach viaduct and embankment and Roaring Gate retaining wall will partially screen some views of lighting associated with the AP2 revised scheme. In the context of the lighting associated with the HS2 route, the amendment will not give rise to a different effect and the level of significance of the effect will remain as reported in the main ES.
- 5.23.126 At years 15 and year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### View south-east from Footpath Hale 26 (high sensitivity receptor) (333-02-003)

- 5.23.127 At year 1, the main ES reported a **low** magnitude of change and a **minor** adverse (non-significant) effect for residents of Roaring Gate Lane and users of Footpath Hale 26 and Hale 23, of **high** susceptibility, all with **medium** value views. This would be due to the introduction of Manchester tunnel south portal and auto-transformer feeder station which would be visible in the far distance of the view for residents and footpath user. Views would be partially filtered through intervening vegetation.
- 5.23.128 At year 1, the amendment will change the visual effect at this viewpoint. The loss of mature roadside vegetation along Roaring Gate Lane during construction will open up views from a stretch of Footpath Hale 23 of a new access road off Roaring Gate Lane and Roaring Gate



retaining wall and Thorley Lane west approach embankment beyond. For residents at Tileyard Cottage, the loss of vegetation to the south of the property will allow middle-distance views of the taller elements of Metrolink, above garden boundary fencing. Views for users of Footpath Hale 26 and residents to the north of the footpath, will be partially filtered by intervening vegetation and screened by intervening buildings. At year 1, replacement planting along Roaring Gate Lane, landscape mitigation planting and woodland habitat creation will not be sufficiently mature to contribute to any visual integration or screening. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

5.23.129 At year 15, the main ES reported a **low** magnitude of change and a **minor** (non-significant) effect due to the growth of mitigation planting and restoration of hedgerows and hedgerow trees removed during construction which would further screen views of the Manchester tunnel south portal and auto-transformer feeder station.

5.23.130 At year 15, the amendment will change the visual effect at this viewpoint. Views of the amendment will be largely filtered from Footpath Hale 23 as a result of maturing replacement planting along Roaring Gate Lane and maturing landscape mitigation planting around the new maintenance access road and along Thorley Lane west approach embankment. For residents of Tileyard Cottage, vegetation in views to the south, beyond the property boundary, will partially screen views. However, the taller elements of Metrolink will remain visible in middle-distance views above the maturing vegetation. Views for users of Footpath Hale 26 and residents to the north of Roaring Gate Lane, will continue to be partially filtered by intervening vegetation and screened by intervening buildings. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

5.23.131 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

#### **View south from Davenport Green (medium-high sensitivity receptor) (333-03-009)**

5.23.132 In year 1, the main ES reported a **moderate** adverse (significant) effect on footpath users of the local unnamed, but well-used, permissive path between Crowland Road and Thorley Lane of **medium-high** susceptibility and with **medium** value. This would be due to the loss of existing mature vegetation during construction which would reduce screening and allow views of the Manchester tunnel south portal building, access roads to Manchester tunnel south portal auto-transformer station and Thorley Lane overbridge to the south. There would be a substantial change to middle-distance views. Landscape mitigation planting would not be sufficiently established to provide any screening or integration of the original scheme.

5.23.133 At year 1, the amendment will slightly change the visual effect at this viewpoint. Vegetation lost to the east of Roaring Gate Lane during construction, will be perceptible in the background of the view to the west. Intervening, mature vegetation and intervening infrastructure elements forming part of the original scheme, will largely screen views to the



amendment to the south-west. The amendment will be viewed in the context of large-scale infrastructure elements introduced as part of the original scheme. The amendment will give rise to a different significant effect, however, the level of significance of the effect will remain as reported in the main ES.

- 5.23.134 At years 15 and year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)**

- 5.23.135 This new viewpoint is located in an area that would be affected by the original scheme. At year 1, the amendment will result in a substantial change to views experienced by residents at Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) of **high** susceptibility, and road users on Runger Lane and Thorley Lane of lower susceptibility, all with **medium** value views. For residents at Keepers Cottage, the loss of vegetation during construction will substantially change the enclosed character of the view and will open up views of the Thorley Lane East approach viaduct and embankment to the south and east. The new Metrolink infrastructure will replace views of mature garden vegetation and car parks in near and middle distance. Cyclists and road users will have close views of Metrolink on embankment and viaduct and of the Thorley Lane East approach retaining wall. Landscape mitigation planting will be immature and will not contribute to the visual integration of the AP2 revised scheme. There will be a **high** magnitude of change and a **major** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.
- 5.23.136 At year 15, the amendment will result in the partial restoration of the vegetated boundary of Keepers Cottage. However, residents will have near and middle-distance views, across the majority of the view, of Thorley Lane East approach viaduct and embankment. Cyclists and road users will have close views of Thorley Lane East approach retaining wall and the viaduct and embankment across a large proportion of the view. Some views may be partially filtered through intervening and maturing landscape mitigation planting. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give rise to a new significant effect.
- 5.23.137 At year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

**Night-time**

- 5.23.138 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.
- 5.23.139 At year 1, the amendment will slightly increase the extent of lighting in the view from Keepers Cottage. The loss of vegetation along Runger Lane, Thorley Lane and the M56 corridor during construction, will open up views to the lit M56 and Manchester Airport High Speed station. These areas of light source will be seen in the context of existing lighting

within the view. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect not reported in the main ES. The amendment will therefore give rise to a new significant effect.

5.23.140 At years 15 and year 30, the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### Other mitigation measures

5.23.141 No mitigation measures additional to those reported in the main ES are proposed.

### Summary of likely residual significant effects

5.23.142 In many cases, significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention. However, the amendment will give rise to a new likely residual significant operation effect at the following viewpoints:

- view east from Davenport Green Hall on Brooks Drive (333-02-001). The effect will increase to **moderate** adverse (significant); and
- view south-east from Footpath Hale 26 (333-02-003). The effect will increase to **moderate** adverse (significant)

5.23.143 The amendment will give rise to a new likely residual significant operation effect at new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

### Cumulative effects

5.23.144 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Ecology and biodiversity

5.23.145 On a precautionary basis, it is assumed that there will be a net loss in hedgerows of 44.9km at SES2 taking account of mitigation, and the amendment will result in a further loss of 358m. This will remain a permanent adverse residual effect that is significant at the county/metropolitan level.

## Historic environment

- 5.23.146 The amendment will give rise to new permanent moderate adverse residual significant effects at Barn, Roaring Gate Lane (also known as Davenportgreen Barn) (MA06\_0011), Davenportgreen Farmhouse (MA06\_0012) and Paddy's Hut, Roaring Gate Lane (MA06\_0013).

## Landscape and visual

- 5.23.147 The amendment will give rise to a different likely residual significant construction effect at view east from Davenport Green Hall on Brooks Drive (333-02-001). The effect will remain **major** adverse (significant) as reported in the main ES.
- 5.23.148 The amendment will give rise to a new likely residual significant construction effect at view south-east from Footpath Hale 26 (333-02-003). The effect will increase to **moderate** adverse (significant) from minor reported in the main ES.
- 5.23.149 The amendment will give rise to a different likely residual significant construction effect at View south from Davenport Green (333-03-009). The effect will remain **major** adverse (significant) as reported in the main ES.
- 5.23.150 The amendment will give rise to a new likely residual significant construction effect at new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **major** adverse (significant).
- 5.23.151 The amendment will give rise to a different likely residual significant construction night-time effect at view east from Davenport Green Hall on Brooks Drive (333-02-001). The effect will remain **moderate** adverse (significant) as reported in the main ES.
- 5.23.152 The amendment will give rise to a new likely residual significant construction night-time effect, at the following viewpoints:
- view south-east from Footpath Hale 26 (high sensitivity receptor) (333-02-003). The effect will increase to **moderate** adverse (significant); and
  - view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

## Operation

### Landscape and visual

- 5.23.153 The amendment will give rise to a new likely residual significant operation effect after implementation of operation phase mitigation at the following viewpoints:
- view east from Davenport Green Hall on Brooks Drive (333-02-001). The effect will increase to **moderate** adverse (significant); and
  - view south-east from Footpath Hale 26 (333-02-003). The effect will increase to **moderate** adverse (significant).

- 5.23.154 The amendment will give rise to a new likely residual significant operation effect at the new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

## 5.24 Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)

- 5.24.1 The Bill provides for realignment works to the slip roads at junction 6 of the M56. There would be no permanent impact on the layout of the motorway. Works to modify the junction of Thorley Lane and Runger Lane are required to accommodate the construction traffic and increased traffic flows associated with the construction works. For the main ES it was assumed that the modification of the Thorley Lane and Runger Lane junction would be delivered by Manchester Airports Group before the start of construction of the original scheme (see Volume 2, MA06 Map Book: map CT-05-359b, D8 in the main ES).
- 5.24.2 Since the main ES, a requirement has been identified to include the modifications to the Thorley Lane and Runger Lane junction within the AP2 revised scheme. This will enable HS2 Ltd to undertake these modification works should they not be in place before the start of construction works to M56 junction 6.
- 5.24.3 The existing Thorley Lane and Runger Lane junction requires widening to accommodate dedicated right turn lanes and additional through lanes. The existing layout for non-motorised users will be reconfigured in line with the changes to the junction. Additional signalised crossing facilities for non-motorised users will also be provided. The existing highway drainage will be replaced to reflect the junction modifications. The replacement drainage will connect into the existing drainage network located on Runger Lane.
- 5.24.4 The amendment will require the diversion of ten existing utilities on Thorley Lane and Runger Lane, including 11kV cables, water mains, telecom cables and a mobile phone mast and associated equipment. The utilities will be diverted along the verge of the junction modification works.
- 5.24.5 The amendment will be constructed from the Manchester tunnel south portal main compound and will be completed within the indicative construction programme for this compound provided in Section 6.
- 5.24.6 The land required for the amendment is outside the limits of the Bill. The amendment will result in the permanent requirement for 1.3ha of additional land (see SES2 and AP2 ES Volume 2, MA06 Map Book: maps CT-06-357a, C7 to E10 and CT-06-357a-R1, D1 to E3).

## **Local alternatives**

- 5.24.7 The SES2 and AP2 ES Alternatives report (see SES2 and AP2 ES Volume 5, Appendix: CT-003-00000) describes the local alternatives considered as part of the design development of this AP2 amendment.

## **Topics included in the AP2 assessment**

- 5.24.8 The assessment of this amendment has identified new, different or removed likely significant effects for the following topics: ecology and biodiversity; and landscape and visual.
- 5.24.9 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and water resources and flood risk.

## **Ecology and biodiversity**

### **Scope, assumptions and limitations**

- 5.24.10 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 5.24.11 This amendment has the potential to result in new or different significant construction for ecology and biodiversity. Therefore, there is no operational assessment for ecology and biodiversity.
- 5.24.12 Where there are limitations in data, a precautionary baseline has been taken following the approach set out in the SMR which constitutes a 'reasonable worst-case' scenario for the subsequent assessment.
- 5.24.13 Ecology and biodiversity effects that result from the assessment of the changes to traffic flows as a result of all amendments in combination with all SES2 changes are reported in Section 7.

## **Environmental baseline**

### **Existing baseline**

- 5.24.14 The baseline ecology and biodiversity is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES and SES2. A summary of baseline information relevant to the assessment of the amendment is provided below.

## **Habitats**

- 5.24.15 The habitats within the land required for the amendment are: broadleaved semi-natural and plantation woodland, mixed plantation woodland, mixed scattered trees, poor semi-improved grassland and amenity grassland. The habitats of relevance to the assessment of this amendment are described further below.
- 5.24.16 As reported in the SES2 there are 23 woodlands (each up to 1.5ha and none within wildlife site designations, but likely to qualify as habitat of principal importance) at various locations throughout the Hulseheath to Manchester Airport area, that are of up to local/parish value. The land required for the construction of the amendment includes 1.31ha of broadleaved semi-natural and plantation woodland that are also considered to be of local/parish value, as well as small areas of mixed plantation.

## **Species**

- 5.24.17 The SES2 baseline reported a bat assemblage of at least 11 species between the A556 and junction 6 of the M56, within the Hulseheath to Manchester Airport area. The land required for the amendment contains trees which, on a precautionary basis, are assumed to support roosting bats associated with this assemblage, and an area of linear woodland may also provide foraging and commuting resources. The bat assemblage is considered to be of regional value.

## **Future baseline**

- 5.24.18 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025.
- 5.24.19 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 5.24.20 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 5.24.21 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Assessment of impacts and effects

### Species

- 5.24.22 The SES2 reported that the construction of the SES2 scheme would result in the loss and fragmentation of foraging and commuting habitat, and roosts, from within the bat assemblages between M56 junction 6 and Manchester Airport, which would result in a permanent adverse effect that was significant at regional level. The amendment will result in the loss of trees which, on a precautionary basis, are assumed to support roosting bats that are associated with the bat assemblage between M56 junction 6 and Manchester Airport. The amendment will result in a different significant effect on the bat assemblage; but, there will be no change in the level of significance of the effect reported in the SES2. This assemblage is affected by more than one AP2 amendment. The combined effects on this assemblage are reported in Section 5.26.

### Other mitigation measures

- 5.24.23 To replace roosts that will be lost to construction, artificial roosts will be provided in retained areas as close to the roost being lost as possible, in accordance with the Ecological Principles of Mitigation within the SMR. The mitigation measures will take account of the different significant effects identified above. Following the implementation of these measures, the effects of the potential loss of roosts on the bat assemblage will be reduced to a level that is not significant.

### Summary of likely residual significant effects

- 5.24.24 There are no changes to the likely residual significant effects identified in the main ES as a result of the amendment.

### Cumulative effects

- 5.24.25 No new, removed or different significant cumulative effects have been identified.

## Landscape and visual

### Scope, assumptions and limitations

- 5.24.26 The assessment scope, key assumptions and limitations for landscape and visual are as set out in Volume 1 and the SMR of the main ES.
- 5.24.27 This amendment has the potential to result in new or different construction and operational effects for the visual assessment only. Therefore, there is no construction or operational phase landscape assessment.
- 5.24.28 All landscape and visual effects arising from this amendment are reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. The locations of significantly affected viewpoints



during construction and operation are shown in the SES2 and AP2 ES Volume 2, MA06 Map Book: Map Series LV-03 and LV-04, respectively.

## **Environmental baseline**

### **Existing baseline**

- 5.24.29 The baseline landscape and visual information is as described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06. A summary of the visual baseline information relevant to the assessment of the amendment is provided below.

### **Visual baseline**

- 5.24.30 The amendment has the potential to result in significant effects for one new viewpoint. This new viewpoint is described in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06 and summarised below.

#### **View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)**

- 5.24.31 This new viewpoint is located in an area where there will be changes from the original scheme. It represents the views experienced residents at Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) and road users on Runger Lane and Thorley Lane. The view north-west is along Thorley Lane as it rises towards the bridge over the M56 corridor (not visible). Tall coniferous trees in the middle distance frame the entrance to Keepers Cottage and largely screen the building from the road. To the west of the viewpoint, Thorley Lane and Runger Lane are bordered by mature deciduous trees which filter views of a car park in the middle distance. Hedgerows and hedgerow trees along Thorley Lane filter views of another car park to the east of Keepers Cottage. Mature vegetation north of this car park forms a skyline feature and screens views of the more distant landscape beyond.
- 5.24.32 At night, the area is lit by street lighting along Thorley Lane and Runger Lane and in the nearby car parks. Skyglow from the nearby urban areas, along the M56 and at major road junctions is also apparent in the background of the view.

### **Future baseline**

- 5.24.33 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 5.24.34 This information has been supplemented by the committed developments listed in the equivalent Volume 5 planning report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.

- 5.24.35 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for landscape and visual.

## Effects arising during construction

### Avoidance and mitigation measures

- 5.24.36 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

#### Visual assessment

##### View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)

- 5.24.37 This new viewpoint is located in an area where there will be changes from the original scheme. Residents at Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) of **high** susceptibility and road users on Runger Lane and Thorley Lane of lower susceptibility, all with **medium** value views will experience a noticeable change to views during construction of the amendment. Residents will have middle and distant views of existing car parks and airport infrastructure due to the loss of mature screening vegetation along Runger Lane, defining the north-west boundary of the airport. Views will be slightly filtered by retained garden vegetation. For cyclists and road users, construction activity will be visible in the near distance and across the majority of the view with middle distance views to the airport beyond. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will therefore give rise to a new significant effect.

#### Night-time

- 5.24.38 The removal of vegetation during the construction of the amendment along Runger Lane and Thorley Lane will open up filtered views of the lit car parks and airport terminal buildings in the middle and far distance from Keepers Cottage. Lighting associated with the Runger Lane Metrolink satellite compound will be noticeable from the property. The controls on light spill set out in the draft CoCP will limit the change these new light sources will introduce to the wider view. The amendment will give rise to a **medium** magnitude of change and a new **moderate** adverse (significant) effect.

### Other mitigation measures

- 5.24.39 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## Summary of likely residual significant effects

- 5.24.40 The amendment will give rise to a new likely residual significant construction effect after implementation of construction phase mitigation, at the new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).
- 5.24.41 The amendment will give rise to a new likely residual significant construction night-time effect after implementation of construction phase mitigation, at the new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

## Cumulative effects

- 5.24.42 No new, removed or different significant cumulative effects have been identified.

## Effects arising from operation

### Avoidance and mitigation measures

- 5.24.43 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

### Visual assessment

#### View north-west from Keepers Cottage, Runger Lane (high sensitivity receptor) (333-02-012)

- 5.24.44 At year 1, the amendment will result in a noticeable change to views experienced by residents at Keepers Cottage, users of the National Cycle Network Route 85 and Manchester Airport Orbital Cycleway (along Runger Lane) of **high** susceptibility and road users on Runger Lane and Thorley Lane of lower susceptibility, all with **medium** value views. For residents at Keepers Cottage, the amendment will result in the loss of vegetation, removed during construction, from the north-west boundary of the airport. This will open up views of existing car parks and of airport infrastructure from the road. The change in the view will be filtered by retained garden vegetation from Keepers Cottage. For cyclists and road users, the airport car parks will be visible in the near distance, with middle distance views to the airport beyond. Replacement planting will not be sufficiently mature to screen views. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give rise to a new significant effect.
- 5.24.45 At year 15, the vegetated boundary to the north-west of the airport, removed in construction as part of the amendment will be partially restored. Maturing planting will partially screen the airport and associated car parks in views from Keepers Cottage, Thorley Lane and Runger Lane due to the reduced area available for replacement planting on the southern

side of Thorley Lane. There will be a **medium** magnitude of change and a **moderate** adverse (significant) effect. The amendment will give rise to a new significant effect.

- 5.24.46 At year 30, the level of significance of the effect will reduce to non-significant as reported in SES2 and AP2 ES Volume 5, Appendix: LV-001-0MA06.

### Other mitigation measures

- 5.24.47 No mitigation measures additional to those reported in the main ES are proposed.

### Summary of likely residual significant effects

- 5.24.48 The amendment will give rise to new likely residual significant operation effects, at new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be moderate adverse (significant).

### Cumulative effects

- 5.24.49 No new, removed or different significant cumulative effects have been identified.

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

### Construction

#### Landscape and visual

- 5.24.50 The amendment will give rise to a new likely residual significant construction effect at the new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).
- 5.24.51 The amendment will give rise to a new likely residual significant construction night-time effect at the new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

### Operation

#### Landscape and visual

- 5.24.52 The amendment will give rise to new likely residual significant operation effects, at new viewpoint: view north-west from Keepers Cottage, Runger Lane (333-02-012). The effect will be **moderate** adverse (significant).

## 5.25 Additional land temporarily required for the provision of surface water drainage at Manchester tunnel south portal main compound (AP2-006-024)

- 5.25.1 The Bill provides for the Manchester tunnel south portal main compound for a period of nine years, but temporary surface water drainage was not included (see Volume 2, MA06 Map Book: maps CT-05-357a, E3 to G7 in the main ES).
- 5.25.2 Since the main ES, design development has identified a temporary requirement for 195m<sup>2</sup> of additional land for construction adjacent to the Manchester tunnel south portal main compound to allow for a surface water drainage outfall to Fairywell Brook watercourse for use during construction. The length of the surface water drainage outfall from the construction compound to the outfall at Fairywell Brook will be 22m (see SES2 and AP2 ES Volume 2, MA07 Map Book: map CT-05-357b, H5).
- 5.25.3 The works will be managed from the Manchester tunnel south portal main compound. The amendment will be constructed and used within the period for which the Manchester tunnel south portal main compound is operational, a period of nine years for the AP2 revised scheme provided in Section 6. The drainage outfall will be removed, and the land restored to its previous use once the construction compound is no longer required, prior to the operation of the scheme.
- 5.25.4 The land required for the amendment is outside the limits of the Bill. The amendment will result in the temporary requirement of an additional 195m<sup>2</sup> of land (see SES2 and AP2 ES Volume 2, MA07 Map Book: map CT-05-357a, H5).

### Topics included in the AP2 assessment

- 5.25.5 The amendment is not considered to require a reassessment of the environmental effects or mitigation as set out in the main ES with respect to any environmental topics.
- 5.25.6 The assessment of changes to traffic flows and traffic related effects as a result of all changes and amendments to the original scheme is reported in Section 7. Topics where a significant effect has been identified due to changes to traffic flows are reported in Section 7 and include: air quality; community; ecology and biodiversity; health; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk.

## 5.26 Combined effects of AP amendments in the Hulseheath to Manchester Airport area

- 5.26.1 This section identifies combined effects arising from two or more amendments and whether these result in the potential for new or different effects compared to those reported for each

amendment individually. In this area, there are combined effects for the following topics: agriculture, forestry and soils; ecology and biodiversity; and landscape and visual.

## Agriculture, forestry and soils

5.26.2 This section identifies the combined effect on each holding as a result of the AP2 revised scheme. The holdings in Table 31 will be significantly affected by two or more AP2 amendments. SES2 and AP2 ES Volume 5, Appendix: AG-001-00000 identifies where there are combined effects on holdings that result in non-significant effects.

**Table 31: Combined effects of AP2 amendments on holdings in the Hulseheath to Manchester Airport area**

Holding reference/ name	AP2 amendments that affect this holding	Effect of the individual amendment	Combined effect
MA06/6 Millington Hall Farm	Additional land permanently required for the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland (AP2-003-003) Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006) Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014)	Temporary and permanent moderate adverse Temporary and permanent moderate adverse Temporary and permanent moderate adverse	Should all the amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 54.7ha (18%) (temporary) and 19.3ha (6%) (permanent). <ul style="list-style-type: none"> <li>• Land required: Medium</li> <li>• Severance: Medium</li> <li>• Disruption: Negligible</li> <li>• Infrastructure: Negligible</li> </ul> The overall combined temporary and permanent effect is Moderate adverse and does not change the scale of effect reported for each individual amendment.
MA06/8 Yarwood Heath Farm including Cherry Tree Farm	Additional land permanently required to relocate Rostherne Mere groundwater recharge trenches north of Cherry Tree Lane (AP2-006-003) Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006) Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014)	No significant temporary or permanent effects  Temporary and permanent major/ moderate adverse  Temporary and permanent major/ moderate adverse	Should all these amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 85.5ha; 29% (temporary) and 31.1ha; 10% (permanent). <ul style="list-style-type: none"> <li>• Land required: Medium</li> <li>• Severance: Low</li> <li>• Disruption: Low</li> <li>• Infrastructure: High</li> </ul> The overall combined temporary and permanent effect is Major/moderate adverse and does not change the scale of effect reported for each individual amendment.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Holding reference/ name	AP2 amendments that affect this holding	Effect of the individual amendment	Combined effect
MA06/11 Ryecroft Farm	Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006) Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014)	Temporary moderate adverse, no permanent effect Temporary major/moderate adverse, no permanent effect	Should both these amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 25.2ha (47%) (temporary). <ul style="list-style-type: none"> <li>• Land required: High</li> <li>• Severance: Low</li> <li>• Disruption: Low</li> <li>• Infrastructure: Negligible</li> </ul> The overall combined temporary effect is Major/moderate adverse which increases the scale of effect reported for AP2-006-006 alone.
MA06/19 Higher Thorns Green Farm	Additional land required for the revised diversion of a Scottish Power 11kV overhead line, north of Brickhill Wood Ancient Woodland (AP2-006-006) Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014)	Temporary and permanent major/ moderate adverse Temporary and permanent major/ moderate adverse	Should both these amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 21.2ha (48%) (temporary) and 14.9 (34%) (permanent). <ul style="list-style-type: none"> <li>• Land required: High</li> <li>• Severance: Medium</li> <li>• Disruption: Low</li> <li>• Infrastructure: High</li> </ul> The overall combined temporary and permanent effect is Major/moderate adverse and does not change the scale of effect reported for each individual amendment.
MA06/31 Land east of A538 Hale Road, Hale	Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014) Additional land permanently required for modifications to Water Framework Directive (WFD) mitigation for Timperley Brook (AP2-006-018)	Temporary and permanent moderate adverse Temporary and permanent moderate adverse	Should both these amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 7.7ha (96%) (temporary) and 7.4ha (93%) (permanent). <ul style="list-style-type: none"> <li>• Land required: High</li> <li>• Severance: Negligible</li> <li>• Disruption: Negligible</li> <li>• Infrastructure: Negligible</li> </ul>



**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**  
**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Holding reference/ name	AP2 amendments that affect this holding	Effect of the individual amendment	Combined effect
			The overall combined temporary and permanent effect is Moderate adverse and does not change the scale of effect reported for each individual amendment.
MA06/33 Land at Ash Farm	Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014) Additional land permanently required for modifications to Water Framework Directive (WFD) mitigation for Timperley Brook (AP2-006-018) Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	No significant temporary or permanent effects Temporary Moderate adverse, no significant permanent effect No significant temporary or permanent effects	Should all of these amendments be adopted the total area of land required from this holding for the AP2 revised scheme will be 12.1ha (11%) (temporary) and 10.5ha (8%) (permanent). <ul style="list-style-type: none"> <li>• Land required: Medium</li> <li>• Severance: Negligible</li> <li>• Disruption: Negligible</li> <li>• Infrastructure: Negligible</li> </ul> The overall temporary effect is Moderate adverse and changes the scale of effect reported for AP2-006-014 alone and AP2-006-022 alone.

## Ecology and biodiversity

5.26.3 This section identifies the combined effect on designated sites and species as a result of the AP2 revised scheme. The sites in Table 32 will be significantly affected by two or more AP2 amendments.

**Table 32: Combined effects of AP2 amendments on ecological receptors in the Hulseheath to Manchester Airport area**

Site/ species reference	AP2 amendments that affect this site/species	Effect of the individual amendment	Combined effect
Davenport Green Wood SBI	Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020) Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	County/metropolitan level significant effect County/metropolitan level significant effect	Should all the amendments be adopted the total area of land required from this site will increase by 370m2 to a total area of 1.74ha (48%) required for the AP2 revised scheme – a combined county/metropolitan level significant effect. The overall combined effect does not change the scale of

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Site/ species reference	AP2 amendments that affect this site/species	Effect of the individual amendment	Combined effect
			effect reported for each individual amendment.
Great crested newt metapopulation GCNMP1.6.27	Additional land permanently required for changes to Water Framework Directive (WFD) mitigation at Timperley Brook (AP2-006-018) Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022)	County/metropolitan level significant effect County/metropolitan level significant effect	Should all the amendments be adopted there will be a combined loss of foraging habitat and one breeding pond – a combined county/metropolitan level significant effect. The overall combined effect does not change the scale of effect reported for each individual amendment. After mitigation, the combined effect will be reduced to a level that is not significant.
Bat Assemblage between the A556 and Junction 6 of the M56	Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006)  Additional land permanently required for the revised realignment of Tributary of Birkin Brook 2 south of Thorns Green embankment (AP2-006-012) Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014)	Regional level significant effect Regional level significant effect Regional level significant effect	Should all the amendments be adopted there will be a combined loss of roosting and foraging habitat – a combined regional level significant effect. The overall combined effect does not change the scale of effect reported for each individual amendment. After mitigation, the combined effect will be reduced to a level that is not significant.
Bat assemblage between the M56 junction 6 and Manchester Airport	Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014) Additional land permanently required for modifications to Water Framework Directive (WFD) mitigation for Timperley Brook (AP2-006-018) Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022) Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)	Regional level significant effect Regional level significant effect Regional level significant effect Regional level significant effect	Should all the amendments be adopted there will be a combined loss of roosting and foraging habitat – a combined regional level significant effect The overall combined effect does not change the scale of effect reported for each individual amendment. After mitigation, the combined effect will be reduced to a level that is not significant.

## Landscape and visual

### Visual assessment - construction

5.26.4 The viewpoints in Table 33 will be affected by two or more AP2 amendments. This section identifies the combined effect on each viewpoint as a result of the AP2 revised scheme.

**Table 33: Combined effects of AP2 amendments on viewpoints in the Hulseheath to Manchester Airport area - construction**

Viewpoint	AP2 amendments that affect this viewpoint	Effect of the individual amendment	Combined effect
330-02-007	Change in Bill powers for the retention and realignment of Footpath Ashley 3/1 (AP2-006-007) Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006)	Major adverse significant effect Major adverse significant effect	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be major adverse significant. The overall combined effect does not change the scale of effect reported for each individual amendment.
333-02-011	Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020)  Additional land permanently required for modifications to mitigation for Timperley Brook (AP2-006-018)	Negligible (non-significant) effect Moderate adverse significant effect	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be moderate adverse significant. The overall combined effect would increase the scale of effect reported at this viewpoint reported for amendment AP2-006-020 alone.
333-02-012 (day-time effects)	Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022) Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)	Major adverse significant effect Moderate adverse significant effect	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be major adverse significant. The overall combined effect would increase the scale of effect reported at this viewpoint reported for amendment AP2-006-023 alone.
333-02-012 (night-time effects)	Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022) Additional land permanently required for the modification of the Thorley	Moderate adverse significant effect Moderate adverse significant effect	Should all the amendments be adopted the combined night-time effect on this viewpoint as a result of the AP2 revised scheme would

Viewpoint	AP2 amendments that affect this viewpoint	Effect of the individual amendment	Combined effect
	Lane and Runger Lane junction (AP2-006-023)		be moderate adverse significant. The overall combined effect does not change the scale of night-time effect reported for each individual amendment.

## Visual assessment - operation

5.26.5 The viewpoints in Table 34 will be affected by two or more AP2 amendments. This section identifies the combined effect on each viewpoint as a result of the AP2 revised scheme.

**Table 34: Combined effects of AP2 amendments on viewpoints in the Hulseheath to Manchester Airport area - operation**

Viewpoint	AP2 amendments that affect this viewpoint	Effect of the individual amendment (year 15 residual effect)	Combined effect
330-02-007	Change in Bill powers for the retention and realignment of Footpath Ashley 3/1 (AP2-006-007) Additional land permanently required for a revised National Grid 400kV overhead power line diversion near Ryecroft Covert LWS (AP2-006-006) – major adverse (significant) effect	<b>Major</b> adverse (significant) effect <b>Major</b> adverse (significant) effect	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be major adverse significant. The overall combined effect does not change the scale of effect reported for each individual amendment.
333-02-011	Additional land permanently required for the provision of a replacement culvert at Brooks Drive (AP2-006-020) Additional land permanently required for modifications to Water Framework Directive (WFD) mitigation for Timperley Brook (AP2-006-018)	<b>Negligible</b> (non-significant) effect <b>Minor</b> adverse (non-significant) effect	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be minor adverse (non-significant). The overall combined effect would increase the scale of effect reported at this viewpoint reported for amendment AP2-006-020 alone; however, it would remain non-significant.
333-02-012 (day time)	Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022) Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)	<b>Moderate</b> adverse (significant) effect <b>Moderate</b> adverse (significant) effect.	Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be moderate adverse significant. The overall combined effect does not change the scale of

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Viewpoint	AP2 amendments that affect this viewpoint	Effect of the individual amendment (year 15 residual effect)	Combined effect
			effect reported for each individual amendment.
333-02-012 (night-time)	<p>Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station (AP2-006-022).</p> <p>Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023)</p>	<p><b>Minor</b> adverse (non-significant) effect</p> <p><b>Minor</b> adverse (non-significant) effect</p>	<p>Should all the amendments be adopted the combined effect on this viewpoint as a result of the AP2 revised scheme would be minor adverse night-time effects (non-significant).</p> <p>The overall combined effect does not change the scale of night-time effect reported for each individual amendment.</p>

## 6 Construction programme

### 6.1 Introduction

- 6.1.1 The AP2 revised scheme has resulted in the need to alter the indicative construction programme set out in the main ES.
- 6.1.2 The revised indicative programme compared to the programme included in the main ES is shown in Figure 8.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

**Figure 8: Indicative construction programme for the SES2 and AP2 ES compared to the main ES**

Key	
	Compound duration showing start and end of mobilisation. Activities below will be managed from the above compound. Second phase site reinstatement can occur post the compound demobilisation.
	Activity duration (indicates where there is no change from the main ES taking into consideration SES2 changes and AP2 amendments).
	Increase in duration or activity moved as a result of a SES2 change or AP2 amendment. (A purple box indicates that works are now taking place in the quarter indicated.)
	Decrease in duration or activity moved as a result of a SES2 change or AP2 amendment. (An orange box indicates that works are no longer taking place in the quarter indicated.)
	Removed as a result of SES2 change or AP2 amendment.
	New elements of the programme (compound or associated) works as a result of a SES2 change or an AP2 amendment.

Hulseheath to Manchester Airport	2025 Quarters				2026 Quarters				2027 Quarters				2028 Quarters				2029 Quarters				2030 Quarters				2031 Quarters				2032 Quarters				2033 Quarters				2034 Quarters				2035 Quarters				2036 Quarters			
Construction Activity	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Area Advance Works (MA06)																																																
Chapel Lane satellite compound (original scheme)																																																
Chapel Lane satellite compound (AP2)																																																
Site preparation and setup																																																
Footpath Millington 3/1 diversion																																																
Peacock Lane realignment (MA03)																																																



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Chapel Lane Temporary Construction slip road												
Millington Clough underbridge												
Ivy House Farm accommodation access diversion												
Peacock Lane viaduct (MA03)												
Millington Clough offline culvert no. 1, no. 2 and no. 3												
Site reinstatement												
<b>Agden Brook Viaduct satellite compound (original scheme)</b>												
<b>Agden Brook Viaduct satellite compound (AP2)</b>												
Site preparation and setup												
Agden Brook viaduct												
Millington Lane overbridge												
Millington Lane telecommunications site (civil works)												
Millington Lane telecommunications site (rail systems works)												
Site reinstatement												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
<b>A556 Chester Road satellite compound (original scheme)</b>												
<b>A556 Chester Road satellite compound (AP2)</b>												
Utilities (major)												
Site preparation and setup												
A556 Chester Road overbridge												
Millington cutting												
Footpath Millington 7/4 accommodation overbridge												
Site reinstatement												
<b>Rosterne Cutting satellite compound (original scheme)</b>												
<b>Rosterne Cutting satellite compound (AP2)</b>												
Site preparation and setup												
Rosterne West cutting retaining wall												
Rosterne West embankment												
Rosterne East cutting retaining wall												
Rosterne East embankment												
Rosterne cutting												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Rostherne North cutting												
Millington North cutting												
Birkin Brook embankment												
Yarwood Heath Farm accommodation overbridge												
Ashley embankment												
Tom Lane telecommunications site (civil works)												
Tom Lane telecommunications site (rail systems works)												
Site reinstatement												
<b>Blackburn's Brook satellite compound (original scheme)</b>												
<b>Blackburn's Brook satellite compound (AP2)</b>												
Site preparation and setup												
Rostherne East box structure												
Blackburn's Brook North viaduct												
Footpath Rostherne 5/1 realignment												
Blackburn's Brook embankment												
Site reinstatement												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
<b>Birkin Brook satellite compound (original scheme)</b>												
<b>Birkin Brook satellite compound (AP2)</b>												
Site preparation and setup												
Blackburn's Brook North viaduct												
Footpath Ashley 3/1 diversion												
NPR Manchester to Liverpool Junction viaduct foundations												
Site reinstatement												
<b>Ashley IMB-R satellite compound (original scheme)</b>												
<b>Ashley IMB-R satellite compound (AP2)</b>												
Site preparation and setup												
Ashley embankment retaining wall												
Footpath Ashley 7/1 diversion												
Ashley IMB-R (civil works)												
Ashley Road auto-transformer station (civil works)												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Ashley Road auto-transformer station (rail systems works)												
Rail systems - switches and crossings												
Site reinstatement												
<b>Ashley Railhead (original scheme)</b>												
<b>Ashley Railhead (AP2)</b>												
Rail systems installation (track installation works)												
<b>Birkenheath Covert satellite compound (original scheme)</b>												
<b>Birkenheath Covert satellite compound (AP2)</b>												
Site preparation and setup												
Mid-Cheshire (Railway) and Moberly Road viaduct												
Ashley Road diversion												
Ashley Road East offline culvert												
Ashley Road West offline culvert												
Ashley Railhead (civil works)												
Ashley IMB-R (civil works)												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Rail systems - track installation works												
Site reinstatement												
<b>Mobberley Road North satellite compound (original scheme)</b>												
<b>Mobberley Road North satellite compound (AP2)</b>												
Site preparation and setup												
Mobberley Road offline overbridge												
Mobberley Road realignment												
Mid-Cheshire (Railway) and Mobberley Road viaduct												
Back Lane Farm accommodation overbridge												
Site reinstatement												
<b>Mobberley Road South satellite compound (original scheme)</b>												
<b>Mobberley Road South satellite compound (AP2)</b>												
Site preparation and setup												
Mid-Cheshire (Railway) and Mobberley Road viaduct												
Ashley Railhead (civil works)												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Thorns Green embankment												
Site reinstatement												
<b>Mobberley Road satellite compound (original scheme)</b>												
<b>Mobberley Road satellite compound (AP2)</b>												
Rail systems - track installation												
<b>Ashley Stations satellite compound (original scheme)</b>												
<b>Ashley Stations satellite compound (AP2)</b>												
Rail systems - track installation												
<b>Castle Mill Lane satellite compound (original scheme)</b>												
<b>Castle Mill Lane satellite compound (AP2)</b>												
Site preparation and setup												
Thorns Green cutting												
<b>M56 River Bollin Offline bridge widening south</b>												
Brickhill Lane diversion												
Castle Mill Lane overbridge and realignment												



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Thorns Green accommodation offline overbridge and highway works												
River Bollin East viaduct												
River Bollin South embankment												
Castle Mill Lane telecommunications site (civil works)												
Site reinstatement												
<b>M56 River Bollin Satellite Compound (AP2)</b>												
Site preparation and setup												
M56 River Bollin Offline bridge widening north												
Thorns Green accommodation offline overbridge and highway works												
Site reinstatement												
<b>River Bollin East Viaduct satellite compound (original scheme)</b>												
<b>River Bollin East Viaduct satellite compound (AP2)</b>												
Site preparation and setup												
River Bollin East viaduct												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Site reinstatement												
Sunbank Lane satellite compound (original scheme)												
Sunbank Lane satellite compound (AP2)												
Site preparation and setup												
Ringway cutting												
M56 East tunnel												
M56 cutting retaining walls												
Sunbank Lane overbridge and realignment												
M56 Jct 6 Gyratory Offline overbridge east												
M56 Jct 6 Gyratory Offline overbridge west												
M56 River Bollin Offline bridge widening south												
Sunbank Lane Offline overbridge and highway works												
M56 East tunnel portal building (civil works)												
M56 Jct 6 Southbound slip roads highway works												
River Bollin North embankment												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
A538 Wilmslow Road Offline retaining wall												
M56 Jct 6 Wilmslow Road Link Road												
Jct 6 Gyratory highway works												
Site reinstatement												
M56 East satellite compound (original scheme)												
M56 East satellite compound (AP2)												
Site preparation and setup												
Manchester Airport High Speed Station cutting												
Manchester Airport High Speed Station South cutting retaining wall												
M56 East tunnel												
Sunbank Lane Offline overbridge												
M56 Jct 6 highway realignment												
M56 Jct 6 Gyratory Offline overbridge East												
A538 Hale Road Overbridge and highway works												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Sunbank Lane overbridge and realignment				█	█	█	█					
M56 River Bollin Offline bridge widening north				█	█	█	█					
M56 Jct 6 Hale Road Link overbridge and highway works						█						
M56 Jct 6 Northbound slip roads highway works							█	█	█	█		
Jct 6 Gyratory highway works							█	█	█	█		
Site reinstatement							█		█			
<b>Manchester Airport High Speed Station South satellite compound (original scheme)</b>			█	█	█	█	█	█	█	█		
<b>Manchester Airport High Speed Station South satellite compound (AP2)</b>				█	█	█	█	█	█	█	█	
Site preparation and setup			█	█								
A538 Hale Road South overbridge and realignment			█	█	█	█	█	█	█			
Manchester Airport High Speed Station			█	█	█	█	█	█	█	█	█	
A538 Wilmslow Road realignment				█	█	█	█					
Runger Lane realignment				█	█	█	█					

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Avro Way realignment												
Hasty Lane Overbridge and highways works												
Hasty Lane offline culvert												
Hale Road Station Link overbridge and highway works												
M56 Jct 6 Hale Road Link road												
Hale Road Station Link road												
Wilmslow Road Offline overbridge and highway works												
Station access Link highway works												
A538 Hale Road / Station access gyratory												
Rail systems - M56 East tunnel portal building												
Rail systems - switches												
Rail systems - crossing works												
Site reinstatement												
<b>Manchester Airport High Speed Station main compound (original scheme)</b>												
<b>DELETED AP2</b>												

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Site preparation and setup	█	█										
Manchester Airport High Speed Station (advance works)	█	█	█	█	█	█	█					
Manchester Airport High Speed Station North cutting retaining wall				█	█	█	█	█	█	█		
Manchester Airport High Speed Station				█	█	█	█	█	█	█		
M56 Hasty Lane underpass extension				█	█							
M56/A538 Wilmslow Road offline underbridge				█	█	█	█					
A538 Wilmslow Road offline retaining wall				█	█							
Rail systems - tunnel portal building							█	█				
Rail systems - switches								█	█	█		
Rail systems - crossing works									█	█		
Site reinstatement									█	█		
<b>Manchester Airport Station North satellite compound (original scheme)</b>				█	█	█	█	█	█	█		
<b>Manchester Airport High Speed Station main compound (AP2)</b>				█	█	█	█	█	█	█		





## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Site reinstatement												
Manchester Tunnel South Portal main compound (original scheme)												
Manchester Tunnel South Portal main compound (AP2)												
Manchester Tunnel South portal (advance works)												
Utilities (major)												
Site preparation and setup												
Manchester Tunnel South portal (MA07)												
Manchester Airport High Speed Station North cutting retaining wall												
Thorley Lane overbridge and realignment												
Runger Lane / Thornley Lane Junction realignment												
Manchester Tunnel South												
Manchester Tunnel South portal auto-transformer station (civil works)												
Manchester Tunnel South portal building (MA07)												
Manchester Tunnel South porous portal												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Manchester Tunnel South portal auto-transformer station (rail systems works)												
Rail systems - tunnel portal buildings												
Rail systems - track works												
Rail systems - tunnel system works												
Site reinstatement												
<b>Runger Lane Metrolink Satellite Compound (AP2)</b>												
Site preparation and setup												
Metrolink Station Approach east bridge												
Thorley Lane East Approach viaduct												
Thorley Lane East retaining wall												
Metrolink Extension highways												
Metrolink Extension tracklaying and tramway systems												
Site reinstatement												
<b>Manchester Tunnel South Portal Satellite Compound (AP2)</b>												
Site preparation and setup												

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Hulseheath to Manchester Airport	2025 Quarters	2026 Quarters	2027 Quarters	2028 Quarters	2029 Quarters	2030 Quarters	2031 Quarters	2032 Quarters	2033 Quarters	2034 Quarters	2035 Quarters	2036 Quarters
Manchester Tunnel South												
Manchester Airport High Speed Station North cutting retaining wall												
Thorley Lane West Approach viaduct												
Metrolink Station Approach west bridge												
Roaring Gate Lane retaining wall												
Metrolink Extension highways												
Metrolink Extension tracklaying and tramway systems												
Site reinstatement												
<b>Track laying and testing and commissioning (original scheme)</b>												
<b>Track laying and testing and commissioning (AP2)</b>												
Area track laying												
Testing and commissioning												

## 7 Combined effects of changes and amendments in the Hulseheath to Manchester Airport area due to changes in traffic flows

### 7.1 Introduction

- 7.1.1 This section reports the combined assessment of new or different significant traffic and traffic related effects, as a result of changes in traffic flows. These relate to changes associated with SES2 changes and AP2 amendments, where the change in traffic flows cannot be directly attributed to a specific SES2 change or an AP2 amendment.
- 7.1.2 The assessment has also considered any impacts in the Hulseheath to Manchester Airport area associated with SES2 changes and AP2 amendments in other community areas.
- 7.1.3 Traffic and transport effects are reported first, since the effects arise from changes in traffic flows. Other topics where a significant effect has been identified, are then reported in the following sequence:
- air quality;
  - community;
  - ecology and biodiversity;
  - health;
  - socio-economics;
  - sound, noise and vibration; and
  - water resources and flood risk.

### 7.2 SES2 changes and AP2 amendments of relevance to this assessment

- 7.2.1 The assessment includes all changes to traffic. The primary contributors to the changes in construction traffic are the changes to the movement of excavated material, construction programme and construction assumptions. The assessment takes into account measures to reduce the need to move material by the road network and use of site haul routes to limit construction traffic on the road network.
- 7.2.2 In addition to the changes in construction traffic, the following SES2 changes and AP2 amendments make a particular contribution to the changes in traffic flows in the Hulseheath to Manchester Airport area:

- Additional land temporarily required for construction access from Chapel Lane and the A556 temporary slip roads (AP2-006-001);
- Additional land temporarily required for the provision of a maintenance access road to the Chester Road satellite compound from the A556 (AP2-006-002);
- Additional land permanently required to reconfigure M56 Junction 6 (AP2-006-014);
- Additional land permanently required for modifications to the A538 Altrincham Road and Mobberley Road junction (AP2-006-015); and
- Additional land permanently required for the modification of the Thorley Lane and Runger Lane junction (AP2-006-023).

7.2.3 In addition, updates to the transport highway model and Planet Framework Model (PFM) existing and future baselines described in Section 2 will lead to changes to the future baseline traffic forecasts reported in the main ES. For the assessment of the AP2 revised scheme, the PFM10a forecasts for the with HS2 scenarios also reflect the removal of the HS2 West Coast Main Line (WCML) connection (SES1-004-001), which was reported in SES1. These model changes could give rise to new or different significant effects compared to those reported in the main ES as a result of, for example, different underlying levels of traffic and congestion against which the impacts of HS2 are assessed. The combined assessment of changes to traffic flows presented in this section of the report takes into account the revised future baseline traffic forecasts alongside the changes in traffic flows associated with the AP2 revised scheme.

## 7.3 Traffic and transport

### Scope, assumptions and limitations

- 7.3.1 The assessment scope, key assumptions and limitations for the traffic and transport assessment are as set out in set out in Volume 1 and the SMR of the main ES.
- 7.3.2 In the main ES, the future baseline traffic volumes were calculated for 2030, 2038 and 2046. For the SES2 and AP2 ES the future baselines have been updated to 2031 and 2039 to reflect the revised programme presented in Section 6 and to 2051 in order to give the assessment greater resilience to long term growth in travel demand. Consequently, the construction assessment of the AP2 revised scheme has been undertaken for 2031 and the operational assessment has been undertaken for the anticipated opening year of 2039 and a further assessment year of 2051.
- 7.3.3 As a result, effects reported in 2031 due to construction of the AP2 revised scheme are compared against effects reported for 2030 in the main ES. Similarly, effects reported in 2039 and 2051 due to operation of the AP2 revised scheme are compared against effects reported for 2038 and 2046 respectively in the main ES.
- 7.3.4 The extent and nature of changes to travel behaviour following the changes seen during COVID-19 are not yet clear and consequently are not reflected in the assessment. However, the impact of COVID-19 on economic growth is reflected in the HS2 travel forecasts. The

February 2023 release of the Department for Transport's (DfT's) national travel forecasts (NTEM8) indicates that local travel forecasts used in the assessment generally reflect the impact of COVID-19 on economic growth, although longer term traffic forecasts for the Greater Manchester area show a reduction compared to those assessed. The impact of COVID-19 on travel behaviour is not yet known, although it is considered likely to result in lower travel demand in the medium term than the forecasts used in the assessment. Consequently, the assessment is considered to overstate travel demand for both the construction and operation scenarios and therefore to present a robust case for traffic and transport.

- 7.3.5 The SES1 and AP1 ES reported that the SES1 design change to remove the HS2 WCML connection (SES1-004-001) would remove the requirement for all civil engineering and railway system compounds associated with construction activities, along with all changes to the highway network reported in the main ES in the Broomedge to Glazebrook (MA04) and Risley to Bamfurlong (MA05) areas. There are no SES2 changes or AP2 amendments in the Broomedge to Glazebrook and Risley to Bamfurlong areas. As a result, changes to the traffic and transport impacts in these areas will be caused by changes to construction traffic to and from other community areas. Changes to traffic and transport impacts within the Broomedge to Glazebrook area (MA04) and Risley to Bamfurlong area (MA05) as a result of the AP2 revised scheme are described in Volume 5, Appendix: TR-003-00006, Transport Assessment Part 3 Addendum.
- 7.3.6 There were no SES1 changes or AP1 amendments in the Hulseheath to Manchester Airport area. As a result, the assessment of combined effects due to changes in traffic flows in the Hulseheath to Manchester Airport area reports the new or different likely significant effects arising from all SES2 changes and AP2 amendments compared to the original scheme reported in the main ES.

## **Environmental baseline**

### **Existing baseline**

- 7.3.7 The baseline traffic and transport information in the Hulseheath to Manchester Airport area is described in Section 14 of Volume 2, Community Area Report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended in Section 2 of this report and below.
- 7.3.8 The baseline traffic and transport information in the Broomedge to Glazebrook area and Risley to Bamfurlong area is described in Section 14 of Volume 2, Community Area report: Broomedge to Glazebrook (MA04) of the main ES and Section 14 of Volume 2, Community Area report: Risley to Bamfurlong (MA05) of the main ES.
- 7.3.9 Since the main ES, additional traffic information has been used in the development of updated baseline and future baseline models for the SES2 scheme and AP2 revised scheme in the Hulseheath to Manchester Airport area. This includes traffic data from National

Highways and TfGM and Trafficmaster journey time data from the DfT, as set out in the BID<sup>69</sup> report TR-004-00001 SES2 and AP2 ES. This data has been combined with the information collected for local junction modelling set out in the BID<sup>70</sup> report TR-004-00001 which accompanied the main ES.

## Future baseline

### Construction (2031) and operation (2039 and 2051)

- 7.3.10 The future baseline traffic and transport information in the Hulseheath to Manchester Airport area is described in Section 14 of Volume 2, Community Area Report: Hulseheath to Manchester Airport (MA06) of the main ES, as amended by the SES2 and AP2 ES below.
- 7.3.11 The future baseline traffic and transport information in the Broomedge to Glazebrook area and Risley to Bamfurlong area is described in Section 14 of Volume 2, Community Area report: Broomedge to Glazebrook (MA04) of the main ES and Section 14 of Volume 2, Community Area report: Risley to Bamfurlong (MA05) of the main ES.
- 7.3.12 The assumptions regarding underlying committed developments and transport schemes for each assessment year have been reviewed and updated taking into account information from National Highways, Cheshire East Council (CEC), Trafford Metropolitan Borough Council (TMBC), Manchester City Council (MCC), Transport for Greater Manchester (TfGM), Warrington Borough Council (WBC), Salford City Council (SaCC), Wigan Metropolitan Borough Council (WMBC) and St Helens Borough Council (SHBC) and are considered to be appropriately reflected in the traffic forecasts.
- 7.3.13 Since the main ES, there have been two committed or recently completed substantial highway schemes in the Hulseheath to Manchester Airport area that have been taken into account in the future baseline for the AP2 revised scheme. These schemes have now been incorporated into the Greater Manchester Saturn Model (GMSM) and M6 junction 19 traffic models for the AP2 revised scheme in the 2031, 2039 and 2051 future baseline scenarios. These are:
- Park Road Improvements (A56/B5165 Park Road near Trafford College in Altrincham); and
  - A56 Chester Road and A5145 Edge Lane changes in Stretford.

---

<sup>69</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Transport Assessment policy and data*, BID TR-004-00001 SES2 and AP2 ES. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

<sup>70</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Background Information and Data, Transport Assessment policy and data report*, BID TR-004-00001. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.



- 7.3.14 The Manchester Airport Rainbow Works scheme comprises capacity improvements for M56 Junction 6, realignment and capacity improvement of Runger Lane between M56 Junction 6 and Terminal 2, improvements to the M56 westbound on-slip and future proofing of land adjacent to the M56 mainline. Since the main ES, changes to the programme for the Manchester Airport Rainbow Works scheme means that these are not expected to be complete until the mid 2030s. Consequently, the Manchester Airport Rainbow Works scheme has been removed from the 2031 future baseline in the AP2 revised scheme. The Manchester Airport Rainbow Works scheme is included in the future baseline for 2039 and 2051.
- 7.3.15 Places for Everyone<sup>71</sup> (PfE) is the long-term joint development plan for jobs, new homes and sustainable growth in nine Greater Manchester districts (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan). PfE sets out the policy framework to help meet local housing and employment needs by identifying strategic site allocations and infrastructure requirements to support growth. However, PfE is not yet adopted and growth in the traffic modelling is based on the draft 2016 Greater Manchester Spatial Framework (core scenario).
- 7.3.16 In any case, PfE does not give detail of the likely changes to transport infrastructure that would accompany these developments, nor does it provide detail about the development proposals, such as the levels of car parking and phasing of development. There is also uncertainty in delivery of the growth suggested, so actual growth in the time period covered may be lower than included in PfE. Given these uncertainties, the AP2 strategic traffic modelling is based on the forecast matrices supplied to HS2 by TfGM, which include travel demand based on the core scenario from the draft 2016 Greater Manchester Strategic Framework. These are considered to be the best available representation of forecast travel demand across Greater Manchester.

## Effects arising during construction

### Avoidance and mitigation measures

- 7.3.17 No avoidance or mitigation measures additional to those reported in the main ES and draft Code of Construction Practice (CoCP)<sup>72</sup> are proposed.

---

<sup>71</sup> Greater Manchester Combined Authority (2021), *Places for Everyone, Joint Development Plan Document - Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, Wigan*. Available online at: <https://www.greatermanchester-ca.gov.uk/what-we-do/planning-and-housing/places-for-everyone/>.

<sup>72</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe - Manchester), *Environmental Statement, draft Code of Construction Practice*, Volume 5, Appendix: CT-002-00000. Available online at: <https://www.gov.uk/government/collections/cross-topic-technical-appendices-for-high-speed-rail-crewe-manchester-environmental-statement#draft-code-of-construction-practice>.

## Assessment of impacts and effects

### Temporary effects

#### Key construction transport issues

- 7.3.18 The assessment of the impacts and effects of construction of the AP2 revised scheme on the highway network in the Broomedge to Glazebrook area and Risley to Bamfurlong area (reported in this section following the removal of the HS2 WCML connection (SES1-004-001) in the SES1 and AP1 ES) is based on the highest volume of construction traffic on each construction traffic route during the construction period. Where construction traffic routes will serve more than one construction compound, the assessment is based on the highest combined volume of construction traffic on each section of each construction traffic route during the construction period.
- 7.3.19 Table 38 in Volume 2, Community Area report Hulseheath to Manchester Airport (MA06) of the main ES provides details of construction compounds in the Hulseheath to Manchester Airport area. This information has been updated to reflect changes resulting from the AP2 revised scheme and is provided in Table 35.

**Table 35: Typical vehicle trip generation for construction compounds in the Hulseheath to Manchester Airport area**

Compound type	Compound name	Indicative start/set up date (years/quarter)	Estimated duration of active use (years/months)	Average daily combined two-way car/LGV trips during busy period and within peak month of activity	Average daily combined two-way HGV trips during busy period and within peak month of activity	Estimated duration of busy period (months)
Satellite	Chapel Lane satellite compound	2028 Q2	2 years and 9 months	186-308	192-244	2
Satellite	Agden Brook viaduct satellite compound	2028 Q2	3 years and 6 months	110-202	96-112	6
Satellite	A556 Chester Road satellite compound	2028 Q2	3 years and 9 months	244-294	410-542	15
Satellite	Rostherne Cutting satellite compound	2028 Q2	4 years and 9 months	250-310	400-480	12
Satellite	Blackburn's Brook satellite compound	2028 Q2	3 years and 3 months	148-268	90-110	9
Satellite	Birkin Brook satellite compound	2028 Q4	2 years	146-240	66-94	7
Satellite	Ashley IMB-R satellite compound	2028 Q2	6 years and 3 months	154-288	198-258	20
Rail Systems	Ashley Railhead	2032 Q3	4 years	388-476	52-64	39

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Compound type</b>	<b>Compound name</b>	<b>Indicative start/set up date (years/ quarter)</b>	<b>Estimated duration of active use (years/ months)</b>	<b>Average daily combined two-way car/LGV trips during busy period and within peak month of activity</b>	<b>Average daily combined two-way HGV trips during busy period and within peak month of activity</b>	<b>Estimated duration of busy period (months)</b>
Satellite	Birkenheath Covert satellite compound	2028 Q3	6 years	262-428	246-278	20
Satellite	Mobberley Road north satellite compound	2028 Q2	4 years and 9 months	134-244	84-106	7
Satellite	Mobberley Road south satellite compound	2028 Q2	3 years and 9 months	150-210	278-472	26
Rail Systems	Mobberley Road satellite compound	2032 Q1	1 year	120-120	4-4	4
Rail Systems	Ashley Station satellite compound	2031 Q3	1 year and 3 months	120-120	4-4	4
Satellite	Castle Mill Lane satellite compound	2028 Q2	4 years	146-328	98-112	6
Satellite	M56 River Bollin satellite compound	2028 Q2	2 years and 6 months	68-150	40-50	6
Satellite	River Bollin East viaduct satellite compound	2028 Q2	2 years and 3 months	136-218	44-52	6
Satellite	Sunbank Lane satellite compound	2028 Q2	5 years and 3 months	388-474	488-616	10
Satellite	M56 East satellite compound	2028 Q2	5 years	310-322	478-562	5
Satellite	Manchester Airport High Speed station south satellite compound	2028 Q2	6 years and 3 months	132-246	202-228	8
Main	Manchester Airport High Speed station main compound	2026 Q2	8 years and 3 months	578-780	668-828	2
Main	Manchester tunnel south portal main compound	2026 Q2	9 years	364-892	328-478	10
Satellite	Runger Lane Metrolink satellite compound	2030 Q3	3 years and 9 months	114-186	38-50	12
Satellite	Manchester tunnel south portal satellite compound	2028 Q2	7 years	96-186	392-454	14

7.3.20 Details of the construction traffic routes for construction compounds in the Hulseheath to Manchester Airport area are reported in Table 39 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. This information has been

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

updated to reflect changes resulting from the AP2 revised scheme and is provided in Table 36.

7.3.21 The AP2 revised scheme will introduce amended construction traffic routes for the following compounds in the MA06 area compared to the main ES:

- Ashley railhead;
- Birkenheath Covert satellite compound;
- River Bollin East viaduct satellite compound;
- Sunbank Lane satellite compound;
- Manchester tunnel south portal satellite compound; and
- Runger Lane Metrolink satellite compound.

**Table 36: Construction traffic routes for construction compounds in the Hulseheath to Manchester Airport area**

Compound name(s)	Access routes to/from compound(s) to main road network
Chapel Lane satellite compound	Chapel Lane, B5569 Chester Road, Old Hall Lane and A556 (to be used before and after the Chapel Lane temporary slip roads are open) A556, A5034 Chester Road and Chapel Lane (incoming from the north only, to be used before and after the Chapel Lane temporary slip roads are open) Chapel Lane, A556 temporary construction slip roads and A556 (to be used while the Chapel Lane temporary slip roads are open)
Agden Brook viaduct satellite compound	A556, Chester Road, Millington Lane, site haul route (incoming from the north only, to be used before and after the Chapel Lane temporary slip roads are open) Site haul route, Millington Lane, Chester Road, A5034 Chester Road, B5569 Chester Road, Old Hall Lane and A556 (outgoing to the south only, to be used before and after the Chapel Lane temporary slip roads are open) Site haul route, A556 temporary construction slips, A556
A556 Chester Road satellite compound	Site haul route, A556 (access to/from A556 northbound carriageway only)
Rostherne cutting satellite compound Blackburn's Brook satellite compound	Site haul route, Cherry Tree Lane, Birkinheath Lane, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road, Old Hall Lane and A556 (outgoing only, to be used before opening and after closure of the M56 temporary overbridge) A556, Chester Road, Cherry Tree Lane and site haul route (incoming only, to be used before opening and after closure of the M56 temporary overbridge) Site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open)
Birkin Brook satellite compound Ashley IMB-R satellite compound	Site haul route, Ashley Road and A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used before opening and after closure of the M56 temporary overbridge) Site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open)
Ashley railhead	Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used before opening of the M56 temporary overbridge) Ashley Road, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Compound name(s)	Access routes to/from compound(s) to main road network
	Ashley Road, realigned Mobberley Road, realigned Ashley Road, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road, Old Hall Lane and A556 (to be used after closure of the M56 temporary overbridge)
Birkenheath Covert satellite compound	<p>Onsite construction traffic route, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road, Old Hall Lane and A556 (to be used before opening of the M56 temporary overbridge)</p> <p>Site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open)</p> <p>Ashley Road diversion, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road, Old Hall Lane and A556 (to be used after closure of the M56 temporary overbridge)</p>
Mobberley Road north satellite compound	<p>Route to/from the west:</p> <p>Mobberley Road, Ashley Road and A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used before opening of the M56 temporary overbridge)</p> <p>Mobberley Road, Ashley Road, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and the A556 junction 7-8 (to be used while the M56 temporary overbridge is open and before opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Mobberley Road realignment, Ashley Road diversion, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and the A556 junction 7-8 (to be used while the M56 temporary overbridge is open and after opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Mobberley Road realignment, Ashley Road diversion, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used after closure of the M56 temporary overbridge)</p> <p>Route to/from the east:</p> <p>Mobberley Road, Back Lane, Tanyard Lane, Castle Mill Lane, Mill Lane and the A538 Wilmslow Road (to be used before opening of and while the M56 temporary overbridge is open)</p>
Mobberley Road south satellite compound	<p>Mobberley Road, site haul route, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used before opening of the M56 temporary overbridge)</p> <p>Mobberley Road, Ashley Road, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open and before opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Mobberley Road realignment, Ashley Road diversion, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7/8 (to be used while the M56 temporary overbridge is open and after opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Mobberley Road realignment, Ashley Road diversion, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used after closure of the M56 temporary overbridge)</p>
Mobberley Road satellite compound	<p>Route to/from the west:</p> <p>Mobberley Road, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used before opening of the M56 temporary overbridge)</p> <p>Mobberley Road, Ashley Road, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and the A556 (to be used while the M56 temporary overbridge is open and before opening of the Ashley Road diversion and Mobberley Road realignment)</p>

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Compound name(s)	Access routes to/from compound(s) to main road network
	<p>Mobberley Road realignment, Ashley Road diversion, site haul route, M56 temporary overbridge, Yarwoodheath Lane and the A556 (to be used while the M56 temporary overbridge is open and after opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Mobberley Road realignment, Ashley Road diversion, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used after closure of the M56 temporary overbridge)</p> <p>Route to/from the east:</p> <p>Mobberley Road, Back Lane, Tanyard Lane, Castle Mill Lane, Mill Lane and the A538 Wilmslow Road (to be used before opening of and while the M56 temporary overbridge is open)</p>
Ashley Station satellite compound	<p>Hough Green, Cow Lane, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road, Old Hall Lane and A556 (to be used before opening of and while the M56 temporary overbridge is open)</p> <p>Hough Green, Cow Lane, Ashley Road, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open and before opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Hough Green, Cow Lane, Mobberley Road realignment, Ashley Road diversion, site haul route, Tom Lane, M56 temporary overbridge, Yarwoodheath Lane and M56 junction 7-8 (to be used while the M56 temporary overbridge is open and after opening of the Ashley Road diversion and Mobberley Road realignment)</p> <p>Hough Green, Cow Lane, Mobberley Road realignment, Ashley Road diversion, Ashley Road, A5034 Mereside Road, A50 Warrington Road, B5569 Chester Road and A556 (to be used after closure of the M56 temporary overbridge)</p>
Castle Mill Lane satellite compound	Castle Mill Lane, Mill Lane and A538 Wilmslow Road
M56 River Bollin satellite compound	Direct Access
River Bollin East viaduct satellite compound	<p>Sunbank Lane and A538 Wilmslow Road</p> <p>Sunbank Lane, Chapel Lane, Longsides Road, High Elm Road and A538 Hale Road (after closure of Sunbank Lane and construction of new M56 overbridge)</p>
Sunbank Lane satellite compound	Sunbank Lane and A538 Wilmslow Road
M56 East satellite compound Manchester Airport High Speed Station South satellite compound Manchester Airport High Speed Station main compound	A538 Hale Road (to/from M56 junction 6)
Manchester tunnel South Portal main compound	<p>Route to/from east:</p> <p>Thorley Lane, Enterprise Way and A555 Airport Spur</p> <p>Route to/from south:</p> <p>Thorley Lane, Runger Lane and A538 Wilmslow Road</p>

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Compound name(s)	Access routes to/from compound(s) to main road network
Manchester tunnel south portal satellite Compound	Thorley Lane, Enterprise Way and A555 Airport Spur Thorley Lane, Runger Lane and A538 Wilmslow Road
Runger Lane Metrolink satellite compound	Runger Lane, Enterprise Way and A555 Airport Spur Runger Lane and A538 Wilmslow Road

- 7.3.22 Information on the indicative construction programme is provided in Section 6 of this report, and the construction methodology is summarised in Volume 1 (Section 6) of the main ES. These illustrate how the phasing of activities at different compounds will generally be staggered and that construction activities at individual compounds may not occur over the whole duration presented in Table 35.
- 7.3.23 Utility works have been included in the assessment where they are major and where the traffic or transport impacts from the works separately, or in combination with other works, will be greater than other construction activities arising within the area. Most utility works are expected to result in only localised traffic and pedestrian diversions, which will be of short-term duration and are not expected to result in significant effects.
- 7.3.24 The effects of construction of the AP2 revised scheme on the highway network in the Hulseheath to Manchester Airport area have been assessed by undertaking strategic model runs for a number of 'with AP2 revised scheme' construction scenarios and comparing the traffic flows and delays against the 2031 future baseline scenario. The assessment is based on the highest volume of construction traffic on each construction route in each construction scenario. Where construction routes will serve more than one construction compound, the assessment is based on the highest combined volume of construction traffic on each section of each route in each construction scenario.
- 7.3.25 In using the strategic model, the impacts and effects in the Hulseheath to Manchester Airport area have been considered in a number of scenarios representing the different construction phases. These scenarios ensure that the assessment addresses the different combinations and interactions of advance works, utility works, temporary highway closures and diversions and construction HGV movements through the construction period.
- 7.3.26 As the MA06 area is covered by two modelled areas, with the M6 junction 19 model covering the more rural western part of the area, south of the River Bollin, and the Greater Manchester SATURN Model and the Greater Manchester Public Transport Model covering the more urban eastern part of the area, north of the River Bollin, there are a separate set of scenarios for the western and eastern parts.
- 7.3.27 In the west of the Hulseheath to Manchester Airport area there is a utilities scenario and five scenarios representing the main construction phases. It should be noted that, due to changes in the construction programme of the AP2 revised scheme, these scenarios differ slightly from those reported in the main ES:



- utilities scenario, 2026 Q1 - 2027 Q4. This corresponds with utility and advance works. Temporary traffic management is in place during this scenario, associated with implementing AP2 temporary and permanent junction mitigation schemes. There are negligible construction traffic movements in this scenario as a percentage of peak construction movements;
- scenario 1, 2028 Q1 - 2028 Q2. This corresponds with the construction compound set up. This scenario equates to 61% of the overall peak in construction traffic across the whole construction period;
- scenario 2, 2028 Q3 - 2029 Q2. This corresponds with the peak in construction traffic movements prior to the installation of M56 temporary overbridge at Yarwoodheath Lane. This scenario equates to 77% of the overall peak in construction traffic across the whole construction period;
- scenario 3, 2029 Q3 - 2030 Q1. This corresponds with the construction peak following the opening of the M56 temporary overbridge at Yarwoodheath Lane. This scenario equates to 71% of the overall peak in construction traffic across the whole construction period;
- scenario 4, 2030 Q2 - 2032 Q2. This corresponds with the construction peak and includes the opening of the Ashley Road diversion and Mobberley Road realignment. This scenario equates to the overall peak (100%) in construction traffic across the whole construction period; and
- scenario 5, 2032 Q3 onwards. This corresponds with the construction peak following the removal of the M56 temporary overbridge at Yarwoodheath Lane. All permanent realignments, diversions and closures are also included in this scenario. This scenario equates to 47% of the overall peak in construction traffic across the whole construction period.

7.3.28 In the east of the Hulseheath to Manchester Airport area there are five scenarios representing the main construction phases. It should be noted that, due to changes in the construction programme of the AP2 revised scheme, these scenarios differ slightly from those reported in the main ES:

- scenario 1, 2026 Q1 – 2028 Q1. This corresponds with the utility works and mitigation schemes in the area including any works to low voltage overhead or underground lines, gas pipes, sewers and telecommunication cables. This scenario equates to 44% of the overall peak in construction traffic across the whole construction period;
- scenario 2, 2028 Q2 – 2029 Q3. This corresponds with the peak in construction traffic movements during preliminary works for the M56 junction 6 modifications. This also corresponds with the peak in temporary traffic management associated with the M56 junction 6 modifications and other nearby highway interventions. This scenario includes a temporary speed limit on the M56 (between junction 6 and junction 7). This scenario equates to 83% of the overall peak in construction traffic across the whole construction period;
- scenario 3, 2029 Q4 - 2030 Q4. This corresponds with the peak in construction traffic movements following the temporary closure of Castle Mill Lane. This scenario includes

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

continued construction activity associated with the M56 junction 6 modifications and the extension of the M56 speed limit to between junction 5 and junction 7. This scenario equates to 100% of the overall peak in construction traffic across the whole construction period;

- scenario 4, 2031 Q1 - 2031 Q4. This corresponds with the peak in construction traffic movements following opening of the permanent realignment of the M56 main carriageway. This scenario includes temporary slip roads for the existing M56 junction 6, continued construction activity associated with the M56 junction 6 modifications and removal of the M56 temporary speed limit. This scenario equates to 89% of the overall peak in construction traffic across the whole construction period; and
- scenario 5, 2032 Q1 - 2036 Q4. This corresponds with the peak in construction traffic movements following the decommissioning of construction compounds and the completion of the modified M56 junction 6. This scenario equates to 85% of the overall peak in construction traffic across the whole construction period.

7.3.29 The HS2 construction works and the associated construction traffic movements differ for each of these scenarios. The assessment considers the impacts in all temporal phases and reports the highest magnitude of significant effects, regardless of which scenario they arise in.

7.3.30 Table 40 and Table 41 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES gives details of the most relevant highway interventions and works for each scenario in the Hulseheath to Manchester Airport area. This information has been updated to reflect changes resulting from the AP2 revised scheme and is provided in Table 37 and Table 38.

**Table 37: Construction highway interventions by scenario (Hulseheath to Manchester Airport area, west)**

Type	Intervention	Utilities Scenario 2026 Q1-2027 Q4	Scenario 1 2028 Q1 - Q2	Scenario 2 2028 Q3 - 2029 Q2	Scenario 3 2029 Q3 - 2030 Q1	Scenario 4 2030 Q2 - 2032 Q2	Scenario 5 2032 Q3 - 2036 Q4
Utility works	Minor works	Included	Not included	Not included	Not included	Not included	Not included
Main works	Direct accesses from the A556	Not included	Included	Included	Included	Included	Included
Main works	Temporary slip roads at Chapel Lane	Not included	Not included	Included	Included	Included	Included
Main works	M56 temporary overbridge at Yarwoodheath Lane	Not included	Not included	Not included	Included	Included	Not included
	Construction HGV traffic as percentage of peak	Negligible	61%	77%	71%	100%	47%

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Community Area report  
MA06 Hulseheath to Manchester Airport

Type	Intervention	Utilities Scenario 2026 Q1-2027 Q4	Scenario 1 2028 Q1 - Q2	Scenario 2 2028 Q3 - 2029 Q2	Scenario 3 2029 Q3 - 2030 Q1	Scenario 4 2030 Q2 - 2032 Q2	Scenario 5 2032 Q3 - 2036 Q4
	construction HGV traffic						

**Table 38: Construction highway interventions by scenario (Hulseheath to Manchester Airport area, east)**

Type	Intervention	Scenario 1 2026 Q1 - 2028 Q1	Scenario 2 2028 Q2 2029 Q3	Scenario 3 2029 Q4 - 2030 Q4	Scenario 4 2031 Q1 - 2031 Q4	Scenario 5 2032 Q1 - 2036 Q4
Utility works	Shuttle working on the A538 Hale Road	Included	Not included	Not included	Not included	Not included
Main works	Runger Lane reduced capacity	Not included	Included	Included	Not included	Not included
Main works	A538 Hale Road temporary two-way realignment	Not Included	Included	Not Included	Not included	Not Included
Main works	Temporary closure of Castle Mill Lane	Not Included	Not Included	Included	Included	Not Included
Main works	Temporary closure of Sunbank Lane	Not Included	Included	Included	Included	Included
Key construction activities	Permanent modified M56 J6 layout	Not Included	Not Included	Not Included	Not Included	Included
	Construction HGV traffic as percentage of peak construction HGV traffic	44%	83%	100%	89%	85%

7.3.31 The strategic models have been used to assess these construction scenarios taking account of the HS2 construction traffic movements and any road closures, diversions and realignments, traffic management or changes to junction operations in each scenario. The strategic model outputs for each of these scenarios are only relevant to the assessment of the effects on traffic delays to vehicle occupants and traffic-related severance and public transport delay.

## Highway network

- 7.3.32 The AP2 revised scheme includes a number of changes to the highway network in the Hulseheath to Manchester Airport area compared to the original scheme. This includes modifications to the highway network to mitigate effects identified at the A538 Altrincham Road/Mobberley Road junction as reported in the main ES. This amendment is permanent and will be in place during construction and operation of the AP2 revised scheme.
- 7.3.33 The AP2 revised scheme also includes the temporary closure of the M56 southbound off-slip and southbound on-slip for a duration of three months to complete the new slip lane connections to the new M56 junction 6 gyratory (AP2-006-014). To facilitate the construction of the new M56 junction 6 gyratory, there will be a temporary realignment of a section of the A538 Hale Road for a period of two years and eight months and a temporary closure of Sunbank Lane for a period of two years.
- 7.3.34 The indicative construction programme in Section 6 of this report illustrates how the phasing of activities will generally be staggered and that construction activities associated with the AP2 revised scheme may not occur at the same time.
- 7.3.35 The combined impact of all SES2 changes and AP2 amendments will lead to flow changes on the highway network in all construction scenarios. This will result in changes to the traffic congestion and delay effects for vehicle occupants reported in the main ES.

### Broomedge to Glazebrook (MA04)

- 7.3.36 Changes to traffic congestion and delay effects in the Broomedge to Glazebrook area as a result of the AP2 revised scheme are set out in Table 39. Where changes to effects are reported, these changes are compared to the AP1 revised scheme reported in the SES1 and AP1 ES. Locations not listed in Table 39 remain unchanged to those reported in the SES1 and AP1 ES. The significance of the effect reported in the SES1 and AP1 ES is indicated in brackets.

**Table 39: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Broomedge to Glazebrook area, 2031**

Junction Name	Significant Effect
M6 junction 21/A57 Manchester Road/B5210 Woolston Grange Avenue	Moderate adverse (Previously major adverse)
A6144 Warburton Lane/A6144 Paddock Lane/B5160 Dunham Road	Moderate adverse (Previously no effect)
A6144 Carrington Lane/A6144 Carrington Spur/Banky Lane	Moderate beneficial (Previously no effect)
M60 junction 10/B5214 Trafford Boulevard/B5214 Barton Road	No effect (Previously minor adverse)
A57 Liverpool Road/Salford Western Gateway	No effect (Previously major adverse)
M60 junction 11/A57 Liverpool Road/Brookhouse Avenue	Moderate adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Junction Name	Significant Effect
A57 Liverpool Road/Hardy Street/Peel Green Road	No effect (Previously minor adverse)

7.3.37 A change in traffic levels can result in changes to traffic-related severance for non-motorised road users, particularly pedestrians using or seeking to cross a road. Changes to traffic-related severance for non-motorised users in the Broomedge to Glazebrook area are set out in Table 40 for all-traffic effects and Table 41 for HGV traffic effects. Where changes to effects are reported, these changes are compared to the AP1 revised scheme reported in the SES1 and AP1 ES. Locations not listed in Table 40 and Table 41 remain unchanged to those reported in the SES1 and AP1 ES. The significance of the effect reported in the SES1 and AP1 ES is indicated in brackets.

**Table 40: Roads with changes in daily all vehicle movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2031**

Road Name	Significant Effect
B5159 Burford Lane (between A56 Higher Lane and Stage Lane)	Moderate adverse (Previously major adverse)

**Table 41: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2031**

Road Name	Significant Effect
B5160 Station Road (between Barns Lane and B5160 Paddock Lane)	No effect (Previously major adverse)
B5160 Paddock Lane (between Barns Lane and B5160 Station Road)	No effect (Previously major adverse)
B5160 Dunham Road (between Barns Lane and B5160 Paddock Lane)	No effect (Previously major adverse)
B5160 Dunham Road (between Gorsey Lane and Carrgreen Lane)	No effect (Previously major adverse)
B5160 Dunham Road (between A6144 Warburton Lane and Gorsey Lane)	No effect (Previously major adverse)
Salford Western Gateway (between B5214 Trafford Boulevard and Trafford Way)	No effect (Previously moderate adverse)
Trafford Way (between Old Park Lane and B5214 Trafford Boulevard)	No effect (Previously moderate adverse)
Salford Western Gateway (between M60 junction 11 southbound link and Trafford Way)	No effect (Previously moderate adverse)
Salford Western Gateway (between M60 junction 11 northbound link and M60 junction 11 southbound link)	No effect (Previously major adverse)

### Risley to Bamfurlong (MA05)

7.3.38 Changes to traffic congestion and delay effects in the Risley to Bamfurlong area are set out in Table 42. Where changes to effects are reported, these changes are compared to the AP1

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

revised scheme reported in the SES1 and AP1 ES. Locations not listed in Table 42 remain unchanged to those reported in the SES1 and AP1 ES. The significance of the effect reported in the SES1 and AP1 ES is indicated in brackets.

**Table 42: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Risley to Bamfurlong area, 2031**

Junction Name	Significant Effect
A574 Birchwood Way/A574 Birchwood Park Avenue/Oakwood Gate (George Duckworth Roundabout)	Major adverse (Previously moderate adverse)
A572 Newton Road/B5207 Church Lane/B5207 Kenyon Lane	Major adverse (increased) (Previously major adverse)
A580 East Lancashire Road/Stone Cross Lane South/Stone Cross Lane North	Moderate adverse (Previously major adverse)
A580 East Lancashire Road/B5207 Church Lane	No effect (Previously major adverse)
A580 East Lancashire Road/A572 Newton Road	Moderate adverse (Previously major adverse)
M6 junction 23/A580 East Lancashire Road (Haydock Island)	Major adverse (increased) (Previously major adverse)
A580 East Lancashire Road/A579 Atherleigh Way	Minor adverse (Previously major adverse)
B5207 Church Lane/B5207 Golborne Road/Stone Cross Lane/Slag Lane	No effect (Previously major adverse)
A580 East Lancashire Road/A574 Warrington Road	Moderate adverse (Previously major adverse)
A573 Ashton Road/A573 Church Street/B5207 Lowton Road	Major adverse (Previously moderate adverse)
A58 Gerard Street/A58 Bolton Road/A5062 Wigan Road/Princess Road	Major adverse (Previously no effect)
A580 East Lancashire Road/Higher Green Lane	No effect (Previously major adverse)
A580 East Lancashire Road/A572 Chaddock Lane	No effect (Previously moderate adverse)
A580 East Lancashire Road/A577 Mosley Common Road	Moderate adverse (Previously major adverse)
A580 East Lancashire Road/B5232 Newearth Road/Ellenbrook Road	No effect (Previously moderate adverse)
A58 Warrington Road/A573 Warrington Road/A58 Lily Lane/B5237 Bickershaw Lane/Powell Street	No effect (Previously major adverse)
A666 Bolton Road/A667 Stoneclough Road	Minor adverse (Previously no effect)

7.3.39 There are no changes to traffic-related severance for non-motorised users for all-traffic effects in the Risley to Bamfurlong area. Changes to traffic-related severance for HGV traffic are set out in Table 43. Where changes to effects are reported, these changes are compared to the AP1 revised scheme reported in the SES1 and AP1 ES. Locations not listed in Table 43

remain unchanged to those reported in the SES1 and AP1 ES. The significance of the effect reported in the SES1 and AP1 ES is indicated in brackets.

**Table 43: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Risley to Bamfurlong area, 2031**

Road Name	Significant Effect
B5232 Newearth Road (between Guided Busway and Hilton Lane)	No effect (Previously moderate adverse)
B5232 Bridgewater Road (between B5232 Westminster Road and A6 High Street)	No effect (Previously moderate adverse)

### Hulseheath to Manchester Airport area (MA06)

7.3.40 The significant traffic congestion and delay effects for vehicle occupants with the highest magnitude at each junction in the Hulseheath to Manchester Airport area are set out in Table 44. Locations not listed in Table 44 remain unchanged to those reported in the main ES. The significance of the effect reported in the main ES is indicated in brackets.

**Table 44: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2031**

Junction Name	Significant Effect	AP2 Construction Scenario
B5086 Alderley Road/B5086 Knutsford Road/Alderley Road/Alderley Lodge/Bedells Lane (B5086 Fulshaw Cross Roundabout)	Moderate adverse (Previously no effect)	Scenarios 2, 3 and 4
A538 Water Lane/A538 Alderley Road/B5086 Alderley Road	No effect (Previously minor adverse)	-
A538 Altrincham Road/Hawthorn Street	Moderate adverse (Previously no effect)	Scenarios 2 and 3
A538 Manchester Road/A538 Alderley Road/Station Road/Swan Street	Moderate beneficial (Previously major adverse)	Scenario 1
A538 Altrincham Road/Mobberley Road	Major adverse (increased) (Previously major adverse)	Scenarios 2, 3 and 4
Morley Green Road/Mobberley Road	No effect (Previously minor adverse)	-
Manchester Road/Stanneylands Road/Dean Row Road	Major adverse (Previously no effect)	Scenarios 1, 4 and 5
A538 Altrincham Road/Morley Green Road	Major adverse (Previously moderate adverse)	Scenario 1
B5358 Wilmslow Road/B5358 Station Road/Bulkeley Road	No effect (Previously moderate adverse)	-
Ashley Road/Birkinheath Lane	Major adverse (Previously no effect)	Scenario 2
Ashley Road/Back Lane/Mobberley Road/Cow Lane	Major adverse (increased) (Previously major adverse)	Scenarios 1, 2 and 3



**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

<b>Junction Name</b>	<b>Significant Effect</b>	<b>AP2 Construction Scenario</b>
M56 junction 6/A538 Wilmslow Road/Runger Lane	Major adverse (decreased) (Previously major adverse)	Scenario 1
M56 Junction 6/A538 Wilmslow Road/A538 Hale Road	Major adverse (decreased) (Previously major adverse)	Scenario 4
Chicago Avenue/Malaga Avenue	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
A538 Hale Road/High Elm Road	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
Enterprise Way/Outwood Lane West/World Way	Major adverse (Previously no effect)	Scenario 5
A538 Hale Road/Tithebarn Road	Moderate adverse (Previously minor adverse)	Scenario 5
A56 Dunham Road/A556/A556 Chester Road/A56 Lymm Road (Bowdon Roundabout)	Major adverse (Previously no effect)	Utilities scenario and scenarios 1, 2, 3, 4 and 5
Thorley Lane/Sydney Avenue	Major adverse (Previously no effect)	Scenarios 3, 4 and 5
Runger Lane/Thorley Lane	Major beneficial (Previously no effect)	Scenarios 1 and 2
Roaring Gate Lane/Thorley Lane/Shay Lane	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
A5144 Delahays Road/A538 Hale Road/B5162 Park Road	No effect (Previously major adverse)	-
A5154 Delahays Road/Grove Lane	Minor beneficial (Previously no effect)	Scenario 3
A56 Dunham Road/B5160 Park Road/ B5160 Charcoal Road	No effect (Previously moderate adverse)	-
Moss Lane/Grove Lane/Bancroft Road/Clarence Road	Minor beneficial (Previously no effect)	Scenarios 1, 2, 3, 4 and 5
A538 Hale Road/Ashfield Road/Victoria Road	No effect (Previously minor adverse)	-
Whitecarr Lane/Roaring Gate Lane	Major adverse (Previously minor adverse)	Scenarios 2, 3, 4 and 5
A56 Dunham Road/Regent Road/Booth Road	Major adverse (Previously moderate beneficial)	Scenarios 2 and 3
A5144 Thorley Lane/Clay Lane/Wood Lane	Major adverse (Previously minor adverse)	Scenarios 3 and 5
A560 Stockport Road/A538 Stockport Road/A560 Woodlands Road/Woodlands Parkway	No effect (Previously minor adverse)	-
Oldfield Road/Gorse Lane	No effect (Previously minor adverse)	-
A560 Shaftesbury Avenue/A560 Stockport Road/Moss Lane/Wood Lane	Minor adverse (Previously no effect)	Scenarios 2, 3, 4 and 5

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

Junction Name	Significant Effect	AP2 Construction Scenario
A56 Manchester Road/A56 Church Street/Oldfield Road	No effect (Previously moderate adverse)	-
A560 Shaftesbury Avenue/Aimson Road East	Minor adverse (Previously no effect)	Scenario 2
Moss Lane/Grove Lane	No effect (Previously minor adverse)	-
B5165 Park Road/Moss Lane	Minor adverse (Previously no effect)	Scenario 5
A56 Manchester Road/B5165 Park Road/Woodcote Road	Moderate adverse (Previously major adverse)	Scenario 2
A56 Washway Road/Woodhouse Lane/Eastway	Moderate adverse (Previously minor adverse)	Scenarios 2 and 3
A56 Washway Road/A6144 Marsland Road/A6144 Harboro Way	Moderate adverse (Previously minor adverse)	Scenarios 4 and 5

7.3.41 The traffic-related severance effects for non-motorised users with the highest magnitude in each location in the Hulseheath to Manchester Airport area are set out in Table 45 for all-traffic effects and Table 46 for HGV traffic effects. The significance of the effect reported in the main ES is indicated in brackets.

**Table 45: Roads with changes in daily all vehicle movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2031**

Road Name	Significant Effect	AP2 Construction Scenario
Hough Lane (between Heyes Lane and A538 Hough Lane)	Moderate adverse (Previously no effect)	Scenarios 2 and 3
Morley Green Road (between Mobberley Road and A538 Altrincham Road)	Major adverse (Previously no effect)	Scenario 1
Rostherne Lane (between Marsh Lane and Ashley Road)	No effect (Previously moderate adverse)	-
Station Road/Stanneylands Road (between B5166 Styal Road and Manchester Road)	Moderate adverse (Previously no effect)	Scenarios 1, 2, 3, 4 and 5
Rostherne Lane (between New Road and Marsh Lane)	No effect (Previously moderate adverse)	-
Birkinheath Lane (between Marsh Lane and Ashley Road)	No effect (Previously moderate adverse)	-
Mobberley Road realignment (between Ashley Road diversion and Back Lane)	Major adverse (Previously no effect)	Scenario 4
Ashley Road (between Birkinheath Lane and Mobberley Road)	Moderate adverse (Previously no effect)	Scenarios 2 and 3
Back Lane/Tanyard Lane/Castle Mill Lane/Mill Lane (between Mobberley Road and A538 Wilmslow Road)	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
Chester Road (between A556 southbound off-slip and Millington Lane)	Moderate adverse (Previously major adverse)	Utilities scenario and scenarios 1, 2, 4 and 5

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road Name	Significant Effect	AP2 Construction Scenario
A538 Wilmslow Road (between Sunbank Lane and Runger Lane)	Major adverse (Previously no effect)	Scenario 5
Greengate (between High Elm Road and Chapel Lane)	Major adverse (Previously moderate adverse)	Scenarios 2, 3, 4 and 5
Chapel Lane (between Greengate and Rossmill Lane)	Moderate adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
Terminal Road North (between Malaga Avenue and Outwood Lane)	Moderate adverse (Previously no effect)	Scenarios 3 and 5
A538 Hale Road (between High Elm Road and A538 Hale Road/station access gyratory)	Moderate adverse (Previously no effect)	Scenario 2
High Elm Road (between Greengate and A538 Hale Road)	Major adverse (Previously no effect)	Scenarios 3, 4 and 5
Chapel Lane (between Rossmill Lane and High Elm Road)	Moderate adverse (Previously no effect)	Scenario 2
A538 Hale Road (between Elmridge Drive and High Elm Road)	Moderate beneficial (Previously no effect)	Scenario 2
Elmridge Drive (between A538 Hale Road and High Elm Road)	Major adverse (Previously no effect)	Scenario 1
Chapel Lane (between Tithebarn Road and Wicker Lane)	Major adverse (Previously moderate adverse)	Scenario 1
Tithebarn Road (between A538 Hale Road and Chapel Lane)	Moderate adverse (Previously no effect)	Scenario 2
A538 Hale Road (between Tithebarn Road and Elmridge Drive)	Moderate beneficial (Previously no effect)	Scenarios 1 and 3
Hawley Lane (between Broad Lane and Wicker Lane)	Major adverse (Previously no effect)	Scenario 1
Palma Avenue (between Sydney Avenue and World Way)	No effect (Previously moderate adverse)	-
A538 Hale Road (between Wicker Lane and Tithebarn Road)	Moderate beneficial (Previously no effect)	Scenario 1
Bankhall Lane (between Arthog Road and Broad Lane)	Major adverse (Previously no effect)	Scenario 1
Arthog Road (between Bankhall Lane and B5162 Park Road)	Major adverse (Previously no effect)	Scenario 1
A538 Hale Road (between Shay Lane and Wicker Lane)	Moderate beneficial (Previously no effect)	Scenario 1
Ashley Road (between Bankhall Lane and B6162 Park Road)	Major adverse (Previously no effect)	Scenario 2
Broad Lane (between Bankhall Lane and A538 Hale Road)	Major adverse (Previously no effect)	Scenario 1
A538 Hale Road (between Broad Lane and Shay Lane)	Moderate beneficial (Previously no effect)	Scenarios 1 and 2
B5357 Ashley Road (between Harrop Road and B5162 Park Road)	Moderate adverse (Previously no effect)	Scenario 2

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road Name	Significant Effect	AP2 Construction Scenario
Shay Lane (between Thorley Lane and Ash Lane)	Major adverse (Previously no effect)	Scenario 2
A538 Hale Road (between B5162 Park Road and Broad Lane)	Moderate beneficial (Previously no effect)	Scenarios 1 and 2
South Downs Road (between B5351 Langham Road and Heather Road)	Moderate adverse (Previously no effect)	Scenarios 2, 4 and 5
Church Brow (between Stamford Road and B5160 Park Road)	Minor beneficial (Previously no effect)	Scenario 2
B5163 Victoria Road (between B5163 Broomfield Lane and B5163 Ashley Road)	Moderate adverse (Previously no effect)	Scenarios 1 and 2
Victoria Road (between A538 Hale Road and B5163 Broomfield Lane)	Major adverse (Previously no effect)	Scenario 1
Grove Lane (between A5144 Delahays Road and Wellfield Lane)	Moderate adverse (Previously no effect)	Scenarios 2, 3 and 5
Baltic Road (between Atlantic Street and George Richards Way)	Minor adverse (Previously no effect)	Scenario 5
Dairyhouse Lane (between Sinderland Road and George Richards Way)	Minor adverse (Previously no effect)	Scenario 5
The Avenue (between Manor Avenue and Moss Lane)	Minor adverse (Previously no effect)	Scenario 2

**Table 46: Roads with changes in daily HGV movements (more than 30%) resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2031**

Road Name	Significant Effect	AP2 Construction Scenario
Ashley Road (between A5034 Mereside Road and Rostherne Lane)	No effect (Previously major adverse)	-
Mobberley Road (between Breach House Lane and Ashley Road diversion)	Major adverse (Previously no effect)	Scenarios 4 and 5
Ashley Road (between Rostherne Lane and Birkinheath Lane)	No effect (Previously major adverse)	-
Mobberley Road (between Breach House Lane and Ashley Road)	Major adverse (Previously no effect)	Scenarios 1 and 2
Ashley Road diversion (between Birkinheath Lane and Mobberley Road)	Major adverse (Previously no effect)	Scenario 5
Birkinheath Lane (between Marsh Lane and Ashley Road)	No effect (Previously major adverse)	-
B5569 Chester Road (between Chapel Lane and A556 southbound off-slip)	Major adverse (decreased) (Previously major adverse)	Scenarios 1, 4 and 5
Ashley Road (between Birkinheath Lane and Mobberley Road)	Major adverse (Previously no effect)	Scenarios 1 and 2
Back Lane/Tanyard Lane/Castle Mill Lane/Mill Lane (between Mobberley Road and A538 Wilmslow Road)	Major adverse (Previously no effect)	Scenarios 2, 4 and 5

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road Name	Significant Effect	AP2 Construction Scenario
A5034 Chester Road (between A556 southbound off-slip and Millington Lane)	Moderate adverse (Previously no effect)	Scenarios 1, 2 and 5
Millington Lane (between Booth Bank Lane and Chester Road)	Moderate adverse (Previously major adverse)	Scenarios 1, 4 and 5
Chapel Lane/Sunbank Lane (between Greengate and A538 Wilmslow Road)	Major adverse (decreased) (Previously major adverse)	Scenario 2
A556 (between off-slip from B5569 Chester Road and M6 junction 8)	Moderate adverse (Previously no effect)	Scenario 4
Cherry Tree Lane (between Chester Road and Marsh Lane)	Moderate adverse (Previously major adverse)	Scenarios 1, 2 and 5
A538 Wilmslow Road (between Sunbank Lane and Runger Lane)	Moderate adverse (Previously no effect)	Scenario 5
Greengate (between High Elm Road and Chapel Lane)	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
Runger Lane (between A538 Wilmslow Road and Avro Way)	Moderate adverse (Previously major adverse)	Scenarios 3, 4 and 5
A538 Hale Road (between High Elm Road and A538 Hale Road/station access gyratory)	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
High Elm Road (between Greengate and A538 Hale Road)	Major adverse (Previously no effect)	Scenarios 2, 3, 4 and 5
Elmridge Drive (between A538 Hale Road and High Elm Road)	Major adverse (Previously moderate adverse)	Scenario 1
Chapel Lane (between Tithebarn Road and Wicker Lane)	Major adverse (Previously moderate adverse)	Scenario 1
Hawley Lane (between Broad Lane and Wicker Lane)	Major adverse (Previously moderate adverse)	Scenario 1
Arthog Road (between Bankhall Lane and B5162 Park Road)	No effect (Previously major adverse)	-
Heather Road (between South Downs Road and Ashley Road)	Moderate adverse (Previously major adverse)	Scenario 5
Thorley Lane (between Shay Lane and Runger Lane)	Major adverse (decreased) (Previously major adverse)	Scenario 5
South Downs Road (between B5351 Langham Road and Heather Road)	Moderate adverse (Previously major adverse)	Scenario 5
Shay Lane (between Thorley Lane and Ash Lane)	Major adverse (Previously no effect)	Scenario 5
B5161 Langham Road (between Richmond Road and South Downs Road)	No effect (Previously moderate adverse)	-
B5161 Langham Road (between B5161 Bow Green Road and Richmond Road)	No effect (Previously moderate adverse)	-
B5161 Langham Road (between Church Brow and B5161 Bow Green Road)	No effect (Previously moderate adverse)	-
B5160 Park Road (between A56 Dunham Road and B5160 Langham Road)	No effect (Previously moderate adverse)	-

7.3.42 The construction of the AP2 revised scheme in the Hulseheath to Manchester Airport area will require temporary bus route diversions and traffic management, with consequential changes in journey times and the need to relocate bus stops. The impacts on local bus services in the MA06 area are reported in Section 14.4 of the main ES. This section of the main ES is unchanged.

## **Other mitigation measures**

7.3.43 No further traffic and transport mitigation measures have been identified. HS2 Ltd will, however, continue to work with the relevant highway authorities to consider whether any further mitigation measures would be required.

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

7.3.44 The temporary residual significant effects during construction remain as described above. These effects will be temporary and reversible in nature lasting only for the duration of the construction works.

### **Broomedge to Glazebrook (MA04)**

7.3.45 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES:

- new moderate adverse effect at two junctions;
- change (decrease) from major adverse effect to moderate adverse effect at one junction; and
- new moderate beneficial effect at one junction.

7.3.46 The AP2 revised scheme will result in the following change to the traffic-related severance effects for non-motorised users in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES: change (decrease) from major adverse effect to moderate adverse effect on one road.

### **Risley to Bamfurlong (MA05)**

7.3.47 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Risley to Bamfurlong area reported in the SES1 and AP1 ES:

- new major adverse effect at one junction;
- different (increased) major adverse significant effects at two junctions;
- change (increase) from moderate adverse effect to major adverse effect at two junctions;
- new minor adverse effect at one junction;
- change (decrease) from major adverse effect to moderate adverse effect at four junctions; and
- change (decrease) from major adverse effect to minor adverse effect at one junction.

## Hulseheath to Manchester Airport area (MA06)

- 7.3.48 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Hulseheath to Manchester Airport area reported in the main ES:
- change (decrease) from major adverse effect to moderate adverse effect at one junction;
  - change (increase) from moderate adverse effect to major adverse effect at one junction;
  - change (increase) from minor adverse effect to major adverse effect at two junctions;
  - change (increase) from minor adverse effect to moderate adverse effect at three junctions;
  - change (decrease) from major adverse effect to moderate beneficial effect at one junction;
  - change (increase) from moderate beneficial effect to major adverse effect at one junction;
  - new major adverse effect at eight junctions;
  - new moderate adverse effect at two junctions;
  - new minor adverse effect at three junctions; and
  - new major beneficial effect at one junction.
- 7.3.49 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in the Hulseheath to Manchester Airport area reported in the main ES:
- change (decrease) from major adverse effect to moderate adverse effect on six roads;
  - change (increase) from moderate adverse effect to major adverse effect on five roads;
  - new major adverse effect on 13 roads;
  - new moderate adverse effect on 10 roads;
  - new minor adverse effect on three roads;
  - new moderate beneficial effect on six roads;
  - new minor beneficial effect on one road; and
  - different (decreased) major adverse significant effects on three roads.

## Summary of likely residual significant effects that will be removed

### Broomedge to Glazebrook (MA04)

- 7.3.50 The AP2 revised scheme will result in the removal of significant adverse congestion and delay effects for vehicle occupants in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES at three junctions (one major and two minor).



- 7.3.51 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES on nine roads (six major and three moderate).

### **Risley to Bamfurlong (MA05)**

- 7.3.52 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in the Risley to Bamfurlong area reported in the SES1 and AP1 ES at six junctions (four major and two moderate).
- 7.3.53 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Risley to Bamfurlong area reported in the SES1 and AP1 ES on two roads (both moderate).

### **Hulseheath to Manchester Airport area (MA06)**

- 7.3.54 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in the Hulseheath to Manchester Airport area reported in the main ES at 10 junctions (one major, three moderate, six minor).
- 7.3.55 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Hulseheath to Manchester Airport area reported in the main ES on 10 roads (three major, seven moderate).

### **Cumulative effects**

- 7.3.56 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and traffic and transport impacts of the construction works arising from the SES2 design changes and AP2 amendments in this area and other community areas.

## **Effects arising during operation**

### **Avoidance and mitigation measures**

- 7.3.57 No avoidance or mitigation measures additional to those reported in the main ES are proposed.

### **Assessment of impacts and effects**

- 7.3.58 The SES1 and AP1 ES reported that all traffic and transport effects reported in the main ES from operation activities in the Broomedge to Glazebrook and Risley to Bamfurlong areas would be removed as a result of the SES1 design change associated with the removal of the WCML connection (SES1-004-001). There are no SES2 design changes or AP2 amendments in the Broomedge to Glazebrook and Risley to Bamfurlong areas and no material changes in

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

impacts due to activities in adjacent areas. As a result, there will be no change to the operational traffic and transport effects reported in the SES1 and AP1 ES.

- 7.3.59 The assessment of effects arising during operation in the Hulseheath to Manchester Airport area is described in Section 14 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES.
- 7.3.60 In the Hulseheath to Manchester Airport area, the AP2 revised scheme includes amendments to permanently modify the highway network to mitigate effects identified at the A538 Altrincham Road/Mobberley Road junction (AP2-006-015). The AP2 revised scheme also includes changes to the proposed reconfiguration of the M56 junction 6 (AP2-006-014) and modifications to Mobberley Road realignment, Mid Cheshire (Railway) and Mobberley Road viaduct and Thorns Green embankment (SES2-006-001).
- 7.3.61 The combined impact of all SES2 changes and AP2 amendments will lead to flow changes on the highway network in the Hulseheath to Manchester Airport area. This will result in changes to the traffic congestion and delay effects for vehicle occupants reported in the main ES. Changes to traffic congestion and delay effects in 2039 and 2051 are set out in Table 47 and Table 48 respectively. Where changes to effects are reported, these changes are compared to the original scheme reported in the main ES. Locations not listed in Table 47 and Table 48 remain unchanged to those reported in the main ES. The significance of the effect reported in the main ES is indicated in brackets.

**Table 47: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2039**

Junction Name	Significant Effect
A538 Water Lane/A538 Alderley Road/B5086 Alderley Road	No effect (Previously moderate adverse)
A538 Manchester Road/A538 Alderley Road/Station Road/Swan Street	Major adverse (Previously no effect)
A538 Altrincham Road/Mobberley Road	Major adverse (Previously minor beneficial)
A538 Altrincham Road/Morley Green Road	Moderate beneficial (Previously no effect)
A538 Wilmslow Road/Mill Lane	Major adverse (increased) (Previously major adverse)
A538 Wilmslow Road/Sunbank Lane	Major adverse (Previously no effect)
M56 junction 6/A538 Wilmslow Road/Runger Lane	No effect (Previously minor adverse)
M56 junction 6/A538 Wilmslow Road/A538 Hale Road	No effect (Previously major adverse)
Chicago Avenue/Malaga Avenue	Minor adverse (Previously moderate adverse)
World Way/Chicago Avenue/Palma Avenue	Major adverse (Previously minor adverse)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Junction Name	Significant Effect
Tithebarn Road/High Elm Road/Chapel Lane	No effect (Previously moderate beneficial)
Enterprise Way/World Way/Airport Spur	Minor adverse (Previously moderate adverse*)
A56 Dunham Road/A556/A556 Chester Road/A56 Lymm Road (Bowdon Roundabout)	Major adverse (Previously no effect)
Thorley Lane/Palma Avenue (new)	Major adverse (Previously no effect)
Thorley Lane/Enterprise Way	Moderate adverse (Previously no effect)
Runger Lane/Thorley Lane	Major adverse (Previously no effect)
Roaring Gate Lane/Thorley Lane/Shay Lane	Major adverse (Previously no effect)
A5144 Delahays Road/A538 Hale Road/B5162 Park Road	No effect (Previously moderate adverse)
A538 Hale Road/Westminster Road	No effect (Previously moderate adverse)
A56 Dunham Road/B5160 Park Road/ B5160 Charcoal Road	No effect (Previously minor adverse)
Moss Lane/Grove Lane/Bancroft Road/Clarence Road	Moderate beneficial (Previously no effect)
A538 Hale Road/Ashfield Road/Victoria Road	No effect (Previously moderate adverse)
Whitecarr Lane/Roaring Gate Lane	Major adverse (Previously no effect)
A56 Dunham Road/Regent Road/Booth Road	Minor beneficial (Previously moderate beneficial)
A5144 Thorley Lane/Clay Lane/Wood Lane	Minor adverse (Previously no effect)
A56 Old Market Place/Kingsway	No effect (Previously minor adverse)
Oldfield Road/Gorse Lane	No effect (Previously minor adverse)
A560 Shaftesbury Avenue/A560 Stockport Road/Moss Lane/Wood Lane	Moderate adverse (Previously minor adverse)
A560 Shaftesbury Avenue/Aimson Road East	No effect (Previously minor adverse)
A56 Manchester Road/B5165 Park Road/Woodcote Road	No effect (Previously minor adverse)

\* As corrected in Section 2 of this report

**Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

**Volume 2: Community Area report**  
**MA06 Hulseheath to Manchester Airport**

**Table 48: Junctions with changes resulting in new or different significant effects on delays and congestion to vehicle occupants in the Hulseheath to Manchester Airport area, 2051**

<b>Junction Name</b>	<b>Significant Effect</b>
B5086 Knutsford Road/B5085 Brook Lane/Russet Way/B5085 Knutsford Road	Minor beneficial (Previously moderate adverse)
B5086 Alderley Road/B5086 Knutsford Road/Alderley Road/Alderley Lodge/Bedells Lane (B5086 Fulshaw Cross Roundabout)	Moderate adverse (Previously major adverse)
A538 Water Lane/A538 Alderley Road/B5086 Alderley Road	No effect (Previously minor adverse)
A538 Altrincham Road/Hawthorn Street	Major adverse (Previously no effect)
A538 Manchester Road/A538 Alderley Road/Station Road/Swan Street	Moderate adverse (Previously minor beneficial)
A538 Altrincham Road/Mobberley Road	Major adverse (Previously no effect)
A538 Altrincham Road/Morley Green Road	Moderate beneficial (Previously no effect)
A538 Wilmslow Road/Mill Lane	Major adverse (increased) (Previously major adverse)
A538 Wilmslow Road/Sunbank Lane	Major adverse (Previously no effect)
M56 junction 6/A538 Wilmslow Road/Runger Lane	No effect (Previously major adverse)
M56 junction 6/A538 Wilmslow Road/A538 Hale Road	No effect (Previously major adverse)
Chicago Avenue/Malaga Avenue	Major adverse (Previously major beneficial)
World Way/Chicago Avenue/Palma Avenue	Moderate adverse (Previously major adverse)
A538 Hale Road realignment/station access west	No effect (Previously major adverse)
Tithebarn Road/High Elm Road/Chapel Lane	No effect (Previously major adverse)
A538 Hale Road/Elmridge Drive	No effect (Previously moderate adverse*)
A56 Dunham Road/A556/A556 Chester Road/A56 Lymm Road (Bowdon Roundabout)	Major adverse (Previously no effect)
Thorley Lane/Palma Avenue (new)	Major adverse (Previously no effect)
Thorley Lane/Enterprise Way	Major adverse (Previously no effect)
A538 Hale Road/Shay Lane	Moderate adverse (Previously minor adverse)
Runger Lane/Thorley Lane	Major adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Junction Name	Significant Effect
Roaring Gate Lane/Thorley Lane/Shay Lane	Major adverse (Previously no effect)
B5161 Langham Road/South Downs Road	Moderate adverse (Previously no effect)
A5144 Delahays Road/A538 Hale Road/B5162 Park Road	Minor adverse (Previously no effect)
A5154 Delahays Road/Grove Lane	No effect (Previously minor adverse)
Moss Lane/Grove Lane/Bancroft Road/Clarence Road	Moderate beneficial (Previously no effect)
A538 Hale Road/Ashfield Road/Victoria Road	No effect (Previously moderate adverse)
Whitecarr Lane/Roaring Gate Lane	Major adverse (Previously no effect)
A56 Dunham Road/Regent Road/Booth Road	Minor beneficial (Previously no effect)
A56 Old Market Place/Kingsway	No effect (Previously minor adverse)
A560 Shaftesbury Avenue/A560 Stockport Road/Moss Lane/Wood Lane	Moderate adverse (Previously minor adverse)
A56 Manchester Road/B5164 Barrington Road	No effect (Previously minor adverse)
B5165 Park Road/Moss Lane	Minor adverse (Previously no effect)

\* As corrected in Section 2 of this report

7.3.62 A change in traffic levels can result in changes to traffic-related severance for non-motorised road users, particularly pedestrians using or seeking to cross a road. Changes to traffic-related severance for non-motorised users in 2039 and 2051 in the Hulseheath to Manchester Airport area are set out in Table 49. Where changes to effects are reported, these changes are compared the original scheme reported in the main ES. Locations not listed in Table 49 remain unchanged from those reported in the main ES. The significance of the effect reported in the main ES is indicated in brackets.

**Table 49: Roads with changes in traffic flow resulting in new or different significant effects on traffic-related severance for non-motorised users in the Hulseheath to Manchester Airport area, 2039 and 2051**

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
A538 Prestbury Road (between A34 Pendleton Way A5102 Hough Lane)	No effect (No change)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)
A538 Prestbury Road (between A5102 Hough Lane and Wilmslow Old Road)	No effect (No change)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	No effect (No change)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
Smith Lane (between Station Road and Broadoak Lane)	No effect (No change)	No effect (No change)	Minor adverse (Previously no effect)	No effect (No change)
Ashley Road (between Rostherne Lane and Birkinheath Lane)	No effect (Previously moderate beneficial)	No effect (Previously major beneficial)	No effect (Previously moderate beneficial)	No effect (Previously major beneficial)
B5569 Chester Road (between Chapel Lane and A556 southbound off-slip)	No effect (No change)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)
A538 Wilmslow Road (between Mill Lane and Altrincham Road)	No change (Previously moderate adverse)	No effect (No change)	Major adverse (Previously moderate adverse)	No effect (No change)
Ashley Road diversion (between Birkinheath Lane and Moberley Road)	No effect (No change)	Moderate beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)
B5166 Hollin Lane (between Altrincham Road and Station Road)	No effect (No change)	No effect (Previously moderate adverse)	No effect (No change)	No effect (No change)
Rostherne Lane (between New Road and Chester Road)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	No effect (No change)
B5166 Hollin Lane (between Holly Lane and Altrincham Road)	No effect (No change)	No effect (Previously moderate adverse)	No effect (No change)	No effect (No change)
Chester Road (between A556 southbound off-slip and Millington Lane)	No effect (No change)	Minor adverse (Previously no effect)	No effect (No change)	No effect (No change)
Back Lane/Tanyard Lane/Castle Mill Lane/Mill Lane (between Moberley Road and A538 Wilmslow Road)	No effect (Previously moderate beneficial)	No effect (Previously moderate beneficial)	No effect (Previously moderate beneficial)	No effect (No change)
Millington Lane (between Booth Bank Lane and Chester Road)	Minor adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Minor adverse (Previously no effect)
A538 Wilmslow Road (between Sunbank Lane and Mill Lane)	Major adverse (Previously moderate adverse)	No effect (No change)	Major adverse (Previously moderate adverse)	No effect (No change)
B5166 Hollin Lane (between Moss Lane and Holly Lane)	No effect (No change)	No effect (Previously)	No effect (No change)	No effect (No change)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
		moderate adverse)		
Chapel Lane/Sunbank Lane (between Greengate and A538 Wilmslow Road)	No effect (No change)	No effect (Previously moderate adverse)	No effect (No change)	No effect (Previously moderate adverse)
A538 Wilmslow Road (between Sunbank Lane and Runger Lane)	Major adverse (Previously moderate adverse)	No effect (No change)	Major adverse (Previously moderate adverse)	No effect (No change)
Cherry Tree Lane (between Chester Road and Marsh Lane)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)
A538 Hale Road (between station access gyratory and Runger Lane)	Major beneficial (Previously no effect)	Major beneficial (Previously no effect)	Major beneficial (Previously no effect)	Major beneficial (Previously no effect)
A538 Wilmslow Road (between Runger Lane and A538 Hale Road)	Major beneficial (Previously major adverse)	Major beneficial (Previously major adverse)	Major beneficial (Previously moderate adverse)	Major beneficial (Previously major adverse)
Runger Lane (between A538 Wilmslow Road and Avro Way)	No change (Previously moderate adverse)	Moderate beneficial (Previously moderate adverse)	Moderate adverse (Previously moderate beneficial)	No effect (No change)
A538 Hale Road (between High Elm Road and A538 Hale Road/station access gyratory)	No effect (No change)	Moderate beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)
Terminal Road North (between Malaga Avenue and Outwood Lane)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)	No effect (Previously moderate adverse)
Malaga Avenue (between Chicago Avenue and Terminal Road North)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)	No effect (Previously major adverse)
Chicago Avenue (between World Way and Malaga Avenue)	No effect (Previously moderate adverse)	Moderate adverse (Previously major adverse)	No effect (Previously moderate adverse)	No effect (Previously major adverse)
Car park access (between Chicago Avenue and Area 2 car park)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)
Outwood Lane (between Terminal Road North and A555 Ringway Road West)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
A538 Hale Road (between Elmridge Drive and High Elm Road)	No effect (Previously moderate beneficial)	Major beneficial (Previously moderate beneficial)	No effect (No change)	No change (Previously moderate beneficial)
World Way (between Terminal 2 Roundabout and Chicago Avenue)	No change (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously moderate adverse)	No effect (Previously major adverse)
Runger Lane (between Avro Way and Thorley Lane)	Major beneficial (Previously major adverse)	Major beneficial (Previously moderate adverse)	Major beneficial (Previously moderate adverse)	Major beneficial (Previously moderate adverse)
Elmridge Drive (between A538 Hale Road and High Elm Road)	No change (Previously moderate beneficial)	No effect (No change)	No effect (Previously moderate adverse)	Major adverse (Previously no effect)
Chapel Lane (between Tithebarn Road and Wicker Lane)	Major adverse (Previously moderate adverse)	No effect (No change)	No effect (Previously moderate beneficial)	Major adverse (Previously no effect)
Tithebarn Road (between A538 Hale Road and Chapel Lane)	No change (Previously major adverse)	No effect (No change)	No effect (No change)	Moderate beneficial (Previously no effect)
Palma Avenue/Sydney Avenue (between Thorley Lane and Chicago Avenue)	Major adverse (Previously no effect)	Major adverse (Previously no effect)	No effect (No change)	Moderate adverse (Previously no effect)
A538 Hale Road (between Tithebarn Road and Elmridge Drive)	No change (Previously moderate beneficial)	No change (Previously moderate beneficial)	No effect (No change)	Major beneficial (Previously moderate beneficial)
Hawley Lane (between Broad Lane and Wicker Lane)	Major adverse (Previously moderate adverse)	No effect (No change)	No effect (Previously major beneficial)	Major adverse (Previously no effect)
A538 Hale Road (between Wicker Lane and Tithebarn Road)	No effect (Previously moderate beneficial)	Moderate beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)
Bankhall Lane (between Arthog Road and Broad Lane)	Major adverse (Previously no effect)	No effect (No change)	Major adverse (Previously major beneficial)	Major adverse (Previously no effect)
Bankhall Lane (between Rappax Road and Ashley Road)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)
Enterprise Way (between Thorley Lane and Terminal 2 Roundabout)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
South Downs Road (between Ashley Road and Heather Road)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Arthog Road (between Bankhall Lane and B5162 Park Road)	Moderate adverse (Previously no effect)	No effect (No change)	No effect (No change)	Major adverse (Previously moderate beneficial)
Thorley Lane (between Sydney Avenue and Jet Parks 1)	No effect (Previously major adverse)	Moderate adverse (Previously major adverse)	Major beneficial (Previously major adverse)	No effect (Previously major adverse)
A538 Hale Road (between Shay Lane and Wicker Lane)	No effect (Previously moderate beneficial)	Moderate beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)
Thorley Lane (between Etrop Grange Hotel access and Bailey Lane)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)	No effect (Previously major adverse)
Ashley Road (between Bankhall Lane and B6162 Park Road)	No effect (No change)	Moderate beneficial (Previously moderate adverse)	No effect (No change)	Moderate beneficial (Previously moderate adverse)
Thorley Lane (between Runger Lane and Sydney Avenue)	Moderate adverse (Previously major adverse)	Moderate adverse (Previously major adverse)	Moderate beneficial (Previously major adverse)	No effect (Previously major adverse)
Heather Road (between South Downs Road and Ashley Road)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)
Shay Lane (between Thorley Lane and Ash Lane)	Major adverse (Previously moderate adverse)	Major adverse (Previously minor adverse)	Moderate adverse (Previously minor adverse)	Major adverse (Previously minor adverse)
South Downs Road (between B5351 Langham Road and Heather Road)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	Major adverse (Previously no effect)	Major adverse (Previously no effect)
B5162 Park Road (between Arthog Road and A538 Hale Road)	Major adverse (Previously no effect)	Major adverse (Previously no effect)	Major adverse (Previously moderate adverse)	Moderate adverse (Previously no effect)
B5161 Langham Road (between Richmond Road and South Downs Road)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
B5161 Langham Road (between B5161 Bow Green Road and Richmond Road)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	No effect (No change)	Major adverse (Previously no effect)
Ash Lane (between Shay Lane and Clay Lane)	Moderate adverse (Previously no effect)	Major adverse (Previously no effect)	No change (Previously major adverse)	Major adverse (Previously no effect)
B5161 Langham Road (between South Downs Road and B5163 Ashley Road)	No effect (No change)	No effect (Previously minor adverse)	Moderate beneficial (Previously no effect)	Moderate adverse (Previously minor adverse)
B5357 Ashley Road (between Leigh Road and B5163 Victoria Road)	No effect (No change)	No effect (Previously moderate beneficial)	No effect (No change)	Moderate beneficial (Previously no effect)
Church Brow (between Stamford Road and B5160 Park Road)	No effect (Previously minor adverse)	No effect (No change)	No effect (No change)	Minor beneficial (Previously no effect)
A5144 Delahays Road (between A538 Hale Road and Grove Lane)	Major adverse (Previously no effect)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
B5163 Victoria Road (between B5163 Broomfield Lane and B5163 Ashley Road)	No effect (No change)	No change (Previously moderate beneficial)	Moderate adverse (Previously moderate beneficial)	No change (Previously moderate beneficial)
A538 Hale Road (between Westminster Road and A5144 Delahays Road)	No effect (No change)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)
B5163 Broomfield Lane (between Victoria Road and A538 Hale Road)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Victoria Road (between A538 Hale Road and B5163 Broomfield Lane)	No effect (No change)	Minor beneficial (Previously moderate beneficial)	No effect (Previously moderate beneficial)	No change (Previously moderate beneficial)
Grove Lane (between Wellfield Lane and Ash Lane)	No effect (No change)	No change (Previously moderate adverse)	Moderate adverse (Previously major adverse)	Moderate adverse (Previously no effect)
Grove Lane (between A5144 Delahays Road and Wellfield Lane)	No effect (Previously moderate adverse)	No effect (Previously moderate adverse)	No change (Previously moderate adverse)	No effect (No change)
B5161 Ashley Road (between Cavendish Road and A538 Hale Road)	No effect (No change)	No effect (No change)	Moderate beneficial	Moderate adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
			(Previously no effect)	
Clay Lane (between Grove Lane and Whitecarr Lane)	No effect (No change)	No effect (Previously moderate adverse)	No effect (Previously major adverse)	No effect (No change)
A5144 Delahays Road/Thorley Lane (between Grove Lane and Clay Lane)	Moderate adverse (Previously no effect)	No effect (No change)	No effect (No change)	No effect (No change)
Ashfield Road (between Stamford Park Road and A538 Hale Road)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously minor adverse)
Moss Lane (between A538 Oakfield Road and Stamford Park Road)	Moderate beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)	No effect (No change)
The Downs (between Delamer Road and B5164 Railway Street)	No effect (No change)	No effect (No change)	Minor beneficial (Previously no effect)	Minor beneficial (Previously no effect)
Stamford Park Road (between Ashfield Road and Moss Lane)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Oxford Road (between A538 Hale Road and A538 Ashley Road)	No effect (No change)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)
A538 Lloyd Street (between Stamford Park Road and A538 Ashley Road)	No effect (No change)	No effect (Previously moderate beneficial)	No effect (No change)	No effect (No change)
A538 Manor Road (between Hamon Road and A538 Lloyd Street)	No effect (Previously moderate adverse)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)
Green Lane (between Wood Lane and A5144 Thorley Lane)	No effect (No change)	No effect (No change)	No change (Previously minor beneficial)	No effect (Previously moderate adverse)
A538 Manor Road (between Moss Lane and Hamon Road)	No effect (Previously moderate adverse)	No effect (No change)	No effect (No change)	No effect (No change)
Regent Road (between Market Street and B5164 Stamford New Road)	Moderate adverse (Previously no effect)	No effect (No change)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
A538 Oakfield Road/Stockport Road (between Moss Lane and A560 Stockport Road)	Major beneficial (Previously no effect)	No effect (No change)	Moderate beneficial (Previously no effect)	No effect (No change)
Wood Lane (between Green Lane and A5144 Thorley Lane)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)
Kingsway (between A56 Dunham Road and Stamford Street)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Kingsway (between A56 Dunham Road and Stamford Street)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
A56 Dunham Road (between Regent Road and Kingsway)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
Stamford Street (between A56 Dunham Road and Victoria Street)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Gorsey Lane (between A56 Dunham Road and Oldfield Road)	Moderate adverse (Previously no effect)	No effect (No change)	No effect (No change)	No effect (No change)
A56 Old Market Place (between Kingsway and Victoria Street)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
A56 Church Street (between Victoria Street and A560 Woodlands Road)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Stamford Street (between Victoria Street and B5164 Barrington Road)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
A5144 Thorley Lane (between Wood Lane and Mainwood Road)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
A560 Woodlands Road (between A56 Church Street and B5164 Barrington Road)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Aimson Road East (between Mainwood Road and A560 Shaftesbury Avenue)	No effect (No change)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)	Moderate adverse (Previously no effect)

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
A560 Woodlands Road (between B5164 Barrington Road and A538 Stockport Road)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
A560 Shaftesbury Avenue (between B5165 Stockport Road and B5165 Thorley Lane)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
A560 Stockport Road (between Woodlands Parkway and Moss Lane)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
A5144 Thorley Lane (between Mainwood Road and A560 Shaftesbury Avenue)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Gaskell Road (between Ellesmere Road and B5164 Barrington Road)	No effect (No change)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)
Mossgrove Road (between A560 Stockport Road and Brookway)	No effect (No change)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
Wellington Road (between Woodlands Parkway and A560 Stockport Road)	Moderate adverse (Previously no effect)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)
A560 Shaftesbury Avenue (between A5144 Thorley Lane and Aimson Road East)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
B5165 Thorley Lane (between Granville Road and B5165 Stockport Road)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)	No effect (No change)
Atlantic Street (between Lyon Road and Baltic Road)	No effect (Previously minor adverse)	No effect (No change)	No effect (No change)	No effect (No change)
Baltic Road (between Atlantic Street and George Richards Way)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)
A560 Shaftesbury Avenue (between Aimson Road East and A560 Altrincham Road)	No effect (No change)	No effect (No change)	Major adverse (Previously no effect)	No effect (No change)
B5165 Stockport Road (between B5165 Park Road and Brooklands Road)	Moderate adverse (Previously no effect)	No effect (No change)	No effect (No change)	No effect (No change)

Road name	2039 AM peak hour	2039 PM peak hour	2051 AM peak hour	2051 PM peak hour
Dairyhouse Lane (between Sinderland Road and George Richards Way)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)
Sinderland Road (between Craven Road and Barlow Road)	No effect (No change)	No effect (No change)	No effect (No change)	No effect (Previously moderate adverse)
The Avenue (between Manor Avenue and Moss Lane)	No effect (No change)	Moderate adverse (Previously no effect)	No effect (No change)	No effect (No change)
Manor Avenue (between Epping Drive and A6144 Carrington Lane)	Major beneficial (Previously no effect)	No effect (No change)	No effect (No change)	No effect (No change)

7.3.63 The operation of the AP2 revised scheme in the Hulseheath to Manchester Airport area will result in the permanent re-routing of several bus routes due in particular to road closures, and diversions. The impact of these bus route changes and diversions, as well as changes in the traffic flows on the highway network, will result in changes to public transport delay. Bus routes that will experience a significant effect due to changes in public transport delay are set out in Table 50. The significance of the effect reported in the main ES is indicated in brackets.

**Table 50: New or different significant effects on delays to public transport in the Hulseheath to Manchester Airport area**

Bus route(s)	Roads operating on	2039	2051
88, 283, 741 and 869	A538 Hale Road and A538 Wilmslow Road between Delahays Road and Mill Lane	Moderate Beneficial (Previously moderate adverse)	Moderate Beneficial (Previously moderate adverse)
103, 288 and 313	A538 Hale Road and Runger Lane between Delahays Road and Manchester Airport	Minor Adverse (Previously moderate adverse)	Minor Adverse (Previously moderate adverse)

## Other mitigation measures

7.3.64 No further appropriate traffic and transport mitigation measures have been identified. HS2 Ltd will, however, continue to work with the relevant highway authorities to consider whether further mitigation measures would be required.

## Summary of likely residual significant effects

7.3.65 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (increase) from minor adverse effect to major adverse effect at one junction;



## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

- change (increase) from minor adverse effect to moderate adverse effect at one junction;
- change (decrease) from moderate adverse effect to minor adverse effect at two junctions;
- change (decrease) from moderate beneficial effect to minor beneficial effect at one junction;
- change (increase) from minor beneficial effect to major adverse effect at one junction;
- new major adverse effect at seven junctions;
- new moderate adverse effect at one junction;
- new minor adverse effect at one junction;
- new moderate beneficial effect at two junctions; and
- different (increased) major adverse significant effects at one junction.

7.3.66 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect at two junctions;
- change (increase) from minor adverse effect to moderate adverse effect at two junctions;
- change (decrease) from moderate adverse effect to minor beneficial effect at one junction;
- change (increase) from major beneficial effect to major adverse effect at one junction;
- change (increase) from minor beneficial effect to moderate adverse effect at one junction;
- new major adverse effect at nine junctions;
- new moderate adverse effect at one junction;
- new minor adverse effect at two junctions;
- new moderate beneficial effect at two junctions;
- new minor beneficial effect at one junction; and
- different (increased) major adverse significant effects at one junction.

7.3.67 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect on three roads;
- change (increase) from moderate adverse effect to major adverse effect on five roads;
- change (decrease) from major adverse effect to major beneficial effect on two roads;
- change (decrease) from moderate adverse effect to moderate beneficial effect on one road;
- change (increase) from moderate beneficial effect to major beneficial effect on one road;

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

- change (decrease) from moderate beneficial effect to minor beneficial effect on one road;
- new major adverse effect on 11 roads;
- new moderate adverse effect on 13 roads;
- new minor adverse effect on one road;
- new major beneficial effect on three roads; and
- new moderate beneficial effect on three roads.

7.3.68 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect on one road;
- change (increase) from moderate adverse effect to major adverse effect on five roads;
- change (increase) from minor adverse effect to major adverse effect on one road;
- change (increase) from minor adverse effect to moderate adverse effect on one road;
- change (decrease) from major adverse effect to major beneficial effect on two roads;
- change (decrease) from moderate adverse effect to major beneficial effect on one road;
- change (decrease) from major adverse effect to moderate beneficial effect on one road;
- change (decrease) from moderate adverse effect to moderate beneficial effect on one road;
- change (decrease) from moderate adverse effect to minor beneficial effect on one road;
- change (increase) from moderate beneficial effect to major beneficial effect on one road;
- change (increase) from major beneficial effect to major adverse effect on two roads;
- change (increase) from moderate beneficial effect to major adverse effect on two roads;
- change (increase) from moderate beneficial effect to moderate adverse effect on two roads;
- new major adverse effect on 14 roads;
- new moderate adverse effect on 24 roads;
- new minor adverse effect on one road;
- new major beneficial effect on one road;
- new moderate beneficial effect on eight roads; and
- new minor beneficial effect on two roads.

7.3.69 The AP2 revised scheme will result in the following changes to public transport delay in 2039 and 2051 in the Hulseheath to Manchester Airport area:

- a change (decrease) from moderate adverse effect to a minor adverse effect on one bus corridor; and
- a change (decrease) from moderate adverse effect to moderate beneficial effect on one bus corridor.

## Summary of likely residual significant effects that will be removed

- 7.3.70 The AP2 revised scheme will result in the removal of the following congestion and delay effects for vehicle occupants in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:
- significant adverse effects removed at 11 junctions (one major, four moderate and six minor); and
  - significant beneficial effects removed at one junction (one moderate).
- 7.3.71 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in 2051 in the Hulseheath to Manchester Airport area reported in the main ES at 10 junctions (four major, two moderate and four minor).
- 7.3.72 The AP2 revised scheme will result in the removal of the following traffic-related severance effects for non-motorised users in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:
- significant adverse effects removed on 14 roads (three major, eight moderate and three minor); and
  - significant beneficial effects removed on four roads (three moderate, one major).
- 7.3.73 The AP2 revised scheme will result in the removal of the following traffic-related severance effects for non-motorised users in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:
- significant adverse effects removed on 17 roads (seven major, nine moderate and one minor); and
  - significant beneficial effects removed on two roads (one moderate, one major).

## Cumulative effects

- 7.3.74 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and traffic and transport impacts arising from the SES2 changes and AP2 amendments in this area and other community areas.

## 7.4 Air quality

### Scope, assumptions and limitations

- 7.4.1 The assessment scope, key assumptions and limitations for air quality are as set out in Volume 1 and the SMR of the main ES. Since the main ES and SES1 and AP1 ES, there have been changes to the methodology, including the consideration of ammonia (NH<sub>3</sub>) at sensitive ecological sites. The scope and methodology for the updated air quality assessment is set out in SES2 and AP2 ES Volume 5, Appendix: CT-001-00005.

## Environmental baseline

### Existing baseline

- 7.4.2 The baseline air quality information is as described in Section 4 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. A summary of the baseline information relevant to the assessment of the AP2 revised scheme is provided below. An update of the model verification has been undertaken and is presented within Volume 5, Appendix: AQ-001-0MA03.

### Future baseline

- 7.4.3 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) provides details of committed developments assumed to have been implemented by 2025. This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 ES Volume 5, Appendix: CT-004-00000). These committed developments have been considered as additional receptors, where relevant, as part of the assessment.

## Effects arising during construction

### Avoidance and mitigation measures

- 7.4.4 No avoidance or mitigation measures additional to those reported in the main ES are identified.

### Assessment of impacts and effects

- 7.4.5 Construction activity could affect local air quality through the additional traffic generated on the highway network and site haul routes as a result of construction vehicles and through changes to traffic patterns arising from temporary road diversions and realignments.
- 7.4.6 The assessment of construction traffic emissions has been undertaken for a 'without the AP2 revised scheme' scenario and a 'with the AP2 revised scheme' scenario. The traffic data for each scenario includes the additional traffic from future committed developments.
- 7.4.7 Construction traffic data in the study area have been screened to identify roads that required further assessment and to confirm the likely effect of the change in emissions from vehicles using those roads during construction of the AP2 revised scheme. There were five construction traffic scenarios assessed for air quality in Hulseheath to Manchester Airport (MA06) area.
- 7.4.8 Receptors expected to experience the greatest change in concentrations have been included in the air quality model. A different significant effect is anticipated at one modelled human receptor (05-C-H023, Downhall Green Road, Ashton-in-Makerfield) in relation to annual mean NO<sub>2</sub> concentrations as the total predicted concentrations have reduced, but the

impact descriptor remains the same (moderate adverse). Twelve significant adverse effects for annual mean NO<sub>2</sub> concentrations as reported in the main ES, have now been removed due to the AP2 revised scheme. These are receptors 05-C-H008, 05-C-H011 (all at Houghwood Grange, Ashton-in-Makerfield), 05-C-H013 (Skitters Grove, Ashton-in-Makerfield), 05-C-H016 (M6, Ashton-in-Makerfield), 05-C-H018 05-C-H020, 05-C-H021, and 05-C-H024 to 05-C-H028 (all at Downhall Green Road, Ashton-in-Makerfield).

- 7.4.9 No significant effects are anticipated at any other modelled human receptors in relation to annual mean NO<sub>2</sub> concentrations. No significant effects are anticipated at any receptors in relation to annual mean PM<sub>10</sub> or PM<sub>2.5</sub> concentrations.
- 7.4.10 There is the potential for new significant effects for NO<sub>x</sub> concentrations, NH<sub>3</sub> concentrations, nitrogen deposition and acid deposition from the construction of the AP2 revised scheme at Rostherne Mere SSSI and Ramsar site. This is discussed further in Section 7.6 Ecology and biodiversity.
- 7.4.11 There is the potential for new significant effects for NO<sub>x</sub> concentrations, NH<sub>3</sub> concentrations, and acid deposition from the construction of the AP2 revised scheme at Cotterill Clough SSSI and Holcroft Moss SSSI and Manchester Mosses SAC. This is discussed further in Section 7.6 Ecology and biodiversity.
- 7.4.12 Potentially significant effects for NO<sub>x</sub> concentrations and nitrogen deposition at Woolston Eyes SSSI, reported in main ES are removed due to the AP2 revised scheme.

## **Other mitigation measures**

- 7.4.13 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 7.4.14 There will be a residual significant adverse effect in relation to NO<sub>2</sub> concentrations at one modelled residential receptor (05-C-H023, Downhall Green Road, Ashton-in-Makerfield).

## **Cumulative effects**

- 7.4.15 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and impacts related to traffic emissions arising from the SES2 changes and AP2 amendments in this area and other community areas.

## **Effects arising during operation**

### **Avoidance and mitigation measures**

- 7.4.16 No avoidance or mitigation measures additional to those reported in the main ES are identified.

## Assessment of impacts and effects

- 7.4.17 Impacts from the operation of the AP2 revised scheme will arise from changes in the volume, composition and/or speed of road traffic or, changes in road alignment.
- 7.4.18 The assessment of operational traffic emissions has been undertaken for a 'without the Proposed Scheme' scenario and a 'with the Proposed Scheme' scenario in 2039. The traffic data include the additional traffic from future committed developments.
- 7.4.19 Traffic data in the study area has been screened to identify roads that required further assessment and to confirm the likely effect of the change in emissions from vehicles using those roads during operation of the Proposed Scheme.
- 7.4.20 There is the potential for new significant effects for NO<sub>x</sub> concentrations, nitrogen deposition, NH<sub>3</sub> concentrations and acid deposition from the operation of the AP2 revised scheme compared to the main ES as amended by SES1 and AP1 ES at Cotterill Clough SSSI. This is discussed further in Section 7.6 Ecology and biodiversity.
- 7.4.21 There is the potential for new significant effects for nitrogen deposition, NH<sub>3</sub> concentrations and acid deposition from the operation of the AP2 revised scheme compared to the main ES as amended by SES1 and AP1 ES at Rostherne Mere SSSI. This is discussed further in Section 7.6 Ecology and biodiversity.

## Other mitigation measures

- 7.4.22 No other mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 7.4.23 No significant residual effects are anticipated for air quality in this area during operation of the Proposed Scheme.

## Cumulative effects

- 7.4.24 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and impacts related to traffic emissions arising from the SES2 changes and AP2 amendments in this area and other community areas.

## 7.5 Community

### Scope, assumptions and limitations

- 7.5.1 The assessment scope, key assumptions and limitations for community are as set out in Volume 1 and the SMR of the main ES.

## Environmental baseline

### Existing baseline

- 7.5.2 The baseline community information is as described in Section 6 of the main ES Volume 2, Community Area report: Hulseheath to Manchester Airport of the main ES, as amended by Section 2.3 of this report. A summary of the baseline information relevant to the assessment of the AP2 revised scheme is provided below.
- 7.5.3 Hale Barns and Warburton Green (a settlement within Hale Barns) lie on the south-west outskirts of Altrincham and comprise approximately 1,500 residential properties. The nearest residential properties are immediately adjacent to the AP2 revised scheme.
- 7.5.4 Davenport Green is a settlement comprising approximately 30 residential properties. The nearest residential properties are located 400m north-west of the HS2 route. Ringway Golf Course is located to the south-west of the settlement.
- 7.5.5 Bucklow Manor Care Home is a 59 bed residential home that provides care for people aged 65 and over, and specialist dementia care.

### Future baseline

- 7.5.6 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025 and 2028.
- 7.5.7 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 7.5.8 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for community.

## Effects arising during construction

### Avoidance and mitigation measures

- 7.5.9 No further avoidance or mitigation measures additional to those reported in the main ES and the draft CoCP are required.

### Assessment of impacts and effects

- 7.5.10 The main ES reported a moderate adverse in-combination effect on approximately 20 residential properties on Chapel Lane (between Hulseheath Lane and the A5034 Chester



Road) during peak months. Significant HGV traffic effects were expected to combine with significant noise effects. Changes to the sound, noise and vibration assessment as a result of new construction traffic data will remove the significant noise effects. This will result in the removal of the significant in-combination effect on amenity for residents of these properties.

- 7.5.11 Changes to the sound, noise and vibration assessment as a result of new construction traffic data have resulted in a new significant traffic noise effect on approximately 260 residential properties on Arthog Road, Bankhall Lane, Hawley Lane, Broad Lane, Chapel Lane, High Elm Road and Elmridge Drive, during peak months of construction. This significant traffic noise effect will combine with significant HGV traffic effects. Together these noise and HGV traffic effects will result in a new moderate adverse in-combination effect on amenity for residents at these properties, which is significant.
- 7.5.12 The main ES reported a major adverse in-combination effect on approximately ten residential properties on Sunbank Lane, Ringway. Significant noise effects were expected to combine with significant visual effects for approximately two years and three months.
- 7.5.13 Sunbank Lane is a designated route for construction traffic and will experience a significant increase in HGV traffic. Changes to the sound, noise and vibration assessment as a result of amendment AP2-006-014 will result in an increase in duration of significant noise effects on approximately ten residential properties on Sunbank Lane, Ringway to approximately four years and 11 months. This effect will combine with a new HGV traffic effect, as well as existing visual effects. This will result in a different major adverse in-combination effect on amenity for residents at these properties, which is significant.
- 7.5.14 The A5034 Chester Road (between A556 southbound off-slip and Millington Lane) is a designated route for construction traffic and will experience a significant increase in HGV traffic. This new significant HGV traffic effect will combine with existing sound, noise and vibration effects at Bucklow Manor Care Home for approximately two years and six months. Together, these noise effects and HGV traffic effects will result in a new major adverse in-combination effect on amenity for residents of Bucklow Manor Care Home, which is significant.

## **Other mitigation measures**

- 7.5.15 No other mitigation measures additional to those reported in the main ES are proposed.

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

- 7.5.16 Changes to traffic flows and to the sound, noise and vibration will result in new residual significant effects on:
- approximately 260 residential properties on Arthog Road, Bankhall Lane, Hawley Lane, Broad Lane, Chapel Lane, High Elm Road and Elmridge Drive due to new noise and HGV traffic effects; and
  - Bucklow Manor Care Home due to new HGV traffic effects and existing noise effects.

- 7.5.17 Changes to traffic flows and to the sound, noise and vibration assessment will result in a different residual significant effect on approximately ten residential properties on Sunbank Lane, Ringway, due to different noise, new HGV traffic and existing visual effects.
- 7.5.18 Changes to traffic flows and to the sound, noise and vibration assessment will remove the residual significant effect on approximately 20 residential properties on Chapel Lane (between Hulseheath Lane and the A5034 Chester Road) due to the removal of the significant noise effect.

## **Cumulative effects**

- 7.5.19 No new, removed or different significant cumulative effects have been identified compared to the main ES.

## **Effects arising from operation**

### **Avoidance and mitigation measures**

- 7.5.20 No avoidance or mitigation measures additional to those reported in the main ES are identified.

### **Assessment of impacts and effects**

- 7.5.21 Changes to the sound, noise and vibration assessment as a result of new operational traffic data will result in a new major adverse in-combination effect on approximately 25 residential properties in the vicinity of Shay Lane and Roaring Gate Lane in Davenport Green. AP2-006-022: Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station, and AP2-006-020: Additional land permanently required for the provision of a replacement culvert at Brooks Drive, will result in new and different significant visual effects which will combine with this new traffic noise effect. Visual effects will reduce to minor adverse (not significant) at Year 30. This change will result in a new major adverse in-combination effect on amenity for residents at approximately 25 residential properties in the vicinity of Shay Lane and Roaring Gate Lane, which is significant.

### **Other mitigation measures**

- 7.5.22 No mitigation measures additional to those reported in the main ES are proposed.

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

- 7.5.23 Changes to the sound, noise and vibration assessment as a result of new operational traffic data, and new and different visual effects as a result of the AP2 revised scheme, will result in a new major adverse in-combination effect on approximately 25 residential properties in Davenport Green as a result of noise and visual effects.

## Cumulative effects

- 7.5.24 No new, removed or different significant cumulative effects have been identified compared to the main ES.

## 7.6 Ecology and biodiversity

### Scope, assumptions and limitations

- 7.6.1 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the SMR of the main ES.
- 7.6.2 The changes of relevance to this assessment have the potential to result in new or different significant permanent construction and operational effects.
- 7.6.3 The assessment of combined traffic effects on designated sites in this section draws its conclusions from the designated site assessment for Manchester Mosses Special Area of Conservation (Holcroft Moss), the designated site assessment for Rixton Clay Pits Special Area of Conservation, and the designated site assessment for the Midland Meres and Mosses Phase 1 Ramsar site (Tatton Meres) (see SES2 and AP2 ES Volume 5, Appendices: EC-016-00002, EC-016-00005, and EC-016-00007).
- 7.6.4 The assessment in this section identifies effects on designated sites that would be significant at the national or international level, and on any protected and/or notable species that are not covered by the national and international designations. These effects are compared to those reported in the main ES and SES1 and AP1 ES to identify any new, different or removed significant effects.
- 7.6.5 As described in Section 7.4 (Air quality) there have been changes to the methodology for air quality assessment that reflect Natural England's consultation response to the main ES. The assessment of the original scheme considered nitrogen deposition only; oxides of nitrogen (NO<sub>x</sub>) and acidification were also assessed for the SES1 and AP1 ES. The assessment of the AP2 revised scheme also considers the impacts of ammonia (NH<sub>3</sub>). Additionally, the AP2 revised scheme includes updated information on traffic flows that has also prompted a new assessment of the associated changes in air quality. Changes in air quality is the only new or different impact of the AP2 revised scheme that requires consideration for the sites described below.

## Environmental baseline

### Existing baseline

- 7.6.6 The baseline ecology and biodiversity information for sites relevant to the Hulseheath to Manchester Airport area is as described in Section 7 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES. Additionally, the designated sites relevant to the assessment of changes in air quality in the Hulseheath to Manchester Airport

area includes those that were previously reported in Section 7 of Volume 2, Community Area reports for Broomedge to Glazebrook area (MA04) and the Risley to Bamfurlong area (MA05) of the main ES. This follows the design change included in SES1 to remove the HS2 West Coast Main Line (WCML) connection, which extended from near Hoo Green junction on the HS2 network to the Lily Lane junction, near Golborne. As a result, the 7.3km section of the HS2 WCML connection in the Broomedge to Glazebrook area (MA04) and a 12.7km section in the Risley to Bamfurlong area (MA05) in the original scheme has been removed. However, construction traffic movements will still take place in these areas, on roads that were identified for this purpose in the original scheme. A summary of the baseline information relevant to the AP2 revised scheme is provided below.

### Designated sites

7.6.7 There are four statutory sites of international importance of relevance to the assessment of the AP2 revised scheme. All four sites were considered in the main ES and Midland Meres and Mosses Phase 1 Ramsar site was also considered in the SES1 and AP1 ES:

- Midland Meres and Mosses Phase 1 Ramsar site comprising 16 wetland SSSI distributed across the Cheshire/Shropshire Plain, of which Tatton Meres SSSI is of relevance to the Hulseheath to Manchester Airport area. The Mere, Mere SSSI and Wybunbury Moss SSSI components of the Ramsar site, that are respectively in the Pickmere to Agden and Hulseheath area (MA03) and the Hough to Walley's Green area (MA01), are also of relevance;
- Rostherne Mere Ramsar site is designated because it is one of the deepest and largest of the meres of the Shropshire-Cheshire Plain and for its fringing wetland vegetation. It forms part of the larger Rostherne Mere SSSI. It is located north of Rostherne in the Hulseheath to Manchester Airport area, 80m south of the land required for the construction of the AP2 revised scheme. The planned construction routes of the A556 Chester Road and the old Chester Road lie approximately 170m and 165m to the west of Rostherne Mere respectively. Cherry Tree Lane (which will be used by workforce traffic) is, at its closest, located immediately adjacent to the north;
- Rixton Clay Pits Special Area of Conservation (SAC), which was reported in Volume 2, Community Area report: Broomedge to Glazebrook area (MA04) of the main ES, is designated for its population of great crested newt; and
- Manchester Mosses SAC, which was reported in Volume 2, Community Area report: Risley to Bamfurlong area (MA05) of the main ES, is designated for lowland raised bog which is still capable of natural regeneration. It has three constituent SSSI, of which one, Holcroft Moss, is of relevance to the assessment of the AP2 revised scheme.

7.6.8 There are eight SSSI of relevance to the assessment of the AP2 revised scheme, which were all considered in the main ES; each is of national importance.

## Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

### Volume 2: Community Area report MA06 Hulseheath to Manchester Airport

7.6.9 The SSSI listed below were reported in Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES:

- Dunham Park SSSI is designated for its ancient and veteran trees and associated invertebrate assemblage. It is located south of Dunham Town, where it is 226m north-east of the land required for the construction of the AP2 revised scheme. It is also adjacent to the B5160 Smithy Lane on which traffic flows will be affected by the construction of the AP2 revised scheme;
- Rostherne Mere SSSI and National Nature Reserve (NNR) is designated for its wetland and woodland habitats, geological interest, assemblages of birds and invertebrates and importance for research. It is located to the south of Cherry Tree Lane, adjacent to the land required for the construction of the AP2 revised scheme. The planned construction routes of the A556 Chester Road and the old Chester Road lie adjacent and to the west of Rostherne Mere respectively. Cherry Tree Lane (which will be used by workforce traffic) is, at its closest, located immediately adjacent to the north;
- Tatton Meres SSSI is designated for aquatic and wetland habitats and associated assemblages of plants. It is located north of Knutsford, 2.3km west of the land required for the construction of the AP2 revised scheme, and 163m from the B5085 Mobberley Road which will be affected by changes in traffic flows during the construction of the AP2 revised scheme in this area;
- Cotteril Clough SSSI is designated for its varied woodland habitat and an area of neutral grassland, and associated assemblages of plants, invertebrates and woodland birds. It is located north-east of Manchester Airport and is 140m from the land required for the construction of the AP2 revised scheme. It is also adjacent to the A538 Wilmslow Road and Mill Lane, both of which will be used as construction traffic routes; and
- Lindow Common SSSI represents one of the few remaining areas of wet and dry lowland heath in Cheshire. It is located north-west of Wilmslow, 425m south of the land required for the construction of the Proposed Scheme. It is adjacent to the A538 Altrincham Road on which traffic flows will be affected by the construction of the AP2 revised scheme.

7.6.10 The SSSI listed below were reported in Volume 2, Community Area report: Broomedge to Glazebrook area (MA04) and Volume 2, Community Area report: Risley to Bamfurlong area (MA05) of the main ES as relevant:

- Woolston Eyes SSSI (MA04) is designated for its breeding bird assemblage and nationally important wintering numbers of water birds (teal and shoveler). It is located east of Warrington, 2km north of the land required for the construction of the AP2 revised scheme in the Pickmere to Agden and Hulseheath (MA03) area. The M6, a construction traffic route, crosses the SSSI on viaduct;
- Rixton Clay Pits SSSI (MA04), which encompasses Rixton Clay Pits SAC, is designated for its population of great crested newt, as well as species rich calcareous grassland and an assemblage of wetland plants. It is located west of Hollins Green, 3km north of the land required for the construction of the AP2 revised scheme in the Pickmere to Agden and

Hulseheath (MA03) area and adjacent to the A57 Manchester Road planned construction route; and

- Holcroft Moss SSSI (MA05), a component of the Manchester Mosses SAC, is designated as the only known uncut area of peat and raised bog remaining in Cheshire. It is located west of Risley, 7.2km from the land required for the construction of the AP2 revised scheme in the Pickmere to Agden and Hulseheath (MA03) area. The M62, which is immediately north of Holcroft Moss, is expected to be used by workforce traffic and is a planned construction route in the AP2 revised scheme.

## **Future baseline**

- 7.6.11 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025 and 2038.
- 7.6.12 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 7.6.13 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for ecology and biodiversity.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 7.6.14 No further avoidance or mitigation measures, additional to those reported in the main ES and draft CoCP, have been identified at this stage.

## **Assessment of impacts and effects**

### **Designated sites**

#### **Midlands Meres and Mosses Phase 1 Ramsar site**

- 7.6.15 The SES1 and AP1 ES reported that, with mitigation provided as part of the original scheme to address impacts on the hydrological regime at The Mere, Mere SSSI, there would be no adverse effects on the Midland Meres and Mosses Phase 1 Ramsar site. An updated assessment of changes in air quality at the constituent SSSI of the Midland Meres and Mosses Phase 1 Ramsar site of relevance to the AP2 revised scheme has been undertaken. These sites are Tatton Meres SSSI (located in the Hulseheath to Manchester Airport area (MA06)), The Mere, Mere SSSI (located in the Pickmere to Agden and Hulseheath area



(MA03)) and Wybunbury Moss SSSI (located in the Hough to Walley's Green area (MA01)). The main ES reported that there would be no adverse effects from air pollution at Tatton Meres SSSI or Wybunbury Moss SSSI. This is also the case for the AP2 revised scheme despite the changes in the basis for the assessment of air quality, as changes in traffic movements are below the threshold at which assessment is required for these sites. For The Mere, Mere SSSI, an assessment of effects demonstrates that the changes in air quality brought about by the AP2 revised scheme will result in exceedance of the relevant thresholds for NH<sub>3</sub> and acid deposition. Therefore, on a precautionary basis, there will be an adverse effect on the Ramsar site that is significant at the international level. This represents a new significant effect to that reported in the SES1 and AP1 ES. Information on the findings of the assessment of effects for the SSSI noted above is provided in Section 3 of the designated site assessment reports for Tatton Meres SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00007), Rostherne Mere and The Mere, Mere SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00003) and Wybunbury Moss SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00009).

### **Rostherne Mere Ramsar site**

- 7.6.16 The main ES reported that, with mitigation provided as part of the original scheme to address impacts on the hydrological regime, there would be no adverse effects on Rostherne Mere Ramsar site. The updated assessment of changes in air quality brought about by the AP2 revised scheme demonstrates that it will result in exceedance of the relevant thresholds for NH<sub>3</sub>, nitrogen deposition and acid deposition within habitats forming a reason for designation of the Ramsar site. The threshold for NO<sub>x</sub> is also exceeded, but this is solely within woodland habitat, which is considered to be site fabric. Therefore, on a precautionary basis, there will be an adverse effect on the Ramsar site that is significant at the international level. This represents a new significant effect to that reported in the main ES. Information on the findings of the assessment of effects is provided in Section 3 of the designated site assessment report for Rostherne Mere and The Mere, Mere SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00003).

### **Rixton Clay Pits SAC**

- 7.6.17 The main ES reported that there would be no adverse effects from changes in air quality associated with the use of the A57 Manchester Road, which was a construction traffic route for the original scheme, on the population of great crested newt which is the sole reason for the designation of Rixton Clay Pits SAC. The A57 Manchester Road continues to be a construction traffic route for the AP2 revised scheme. Great crested newts are considered relatively resilient to increases in nitrogen, but thresholds for the full range of pollutants included in the air quality assessment are not available for this species. Therefore, as for original scheme, the assessment of impacts of changes in air quality for the AP2 revised scheme is based on the pollution thresholds for the habitats on which the population of great crested newt depends, which have been characterised as fen, grassland and woodland. Construction of the AP2 revised scheme will not exceed the traffic thresholds for which air quality assessment is required. Therefore, as reported in the main ES, there will be no adverse effects on the SAC. Information on the findings of the assessment of effects is



provided in Section 3 of the designated site assessment report for Rixton Clay Pits SAC (SES2 and AP2 ES Volume 5, Appendix: EC-016-00005).

### **Manchester Mosses SAC**

- 7.6.18 The main ES reported that, with mitigation provided as part of the original scheme to address impacts on the hydrological regime at Holcroft Moss, there would be no adverse effects on Manchester Mosses SAC. There were no significant impacts from changes in air quality associated with construction traffic on the M62 close to Holcroft Moss SSSI. Potential adverse effects from the decommissioning of a high-pressure gas main beneath Holcroft Moss and from nearby construction activities were avoided through appropriate construction practices, including those in the draft CoCP. The removal of the HS2 WCML connection at SES1 has removed construction in the vicinity of Holcroft Moss SSSI, and the only impact of relevance to the AP2 revised scheme are changes in air quality associated with the use of the M62 by construction traffic in vicinity of this SSSI. The assessment of effects of changes in air quality brought about by the AP2 revised scheme demonstrates that thresholds for NH<sub>3</sub>, nitrogen deposition and acid will be exceeded within habitats forming a reason for designation of the SAC. The threshold for NO<sub>x</sub> is also exceeded, but this is solely within woodland habitat, which is not a reason for designation of the SAC. Therefore, on a precautionary basis, there will be an adverse effect on the SAC that is significant at the international level. This represents a new significant effect to that reported in the main ES. Information on the findings of the assessment of effects is provided in Section 3 of the designated site assessment report for the Holcroft Moss component of the Manchester Mosses SAC (SES2 and AP2 ES Volume 5, Appendix: EC-016-00002).

### **Dunham Park SSSI**

- 7.6.19 The main ES reported that there would be no adverse effects from changes in air quality at Dunham Park SSSI. It is located adjacent to a road on which traffic flows will be affected by the construction of the AP2 revised scheme but the changes in traffic brought about by the AP2 revised scheme do not meet the criteria for air quality assessment, and there will be no adverse effects. As such, there will be no adverse effects on the SSSI, and there are no changes to the assessment of effects provided in the main ES.

### **Rostherne Mere SSSI and NNR**

- 7.6.20 The main ES reported that there would be no adverse effects on Rostherne Mere SSSI and NNR, on the basis of the mitigation provided to avoid adverse hydrological effects and that there were no significant adverse effects from changes in air quality, as was also the case for Rostherne Mere Ramsar site. It concluded that, with the implementation of the measures in the draft CoCP, there would be no significant disturbance of the wetland bird assemblage that forms a reason for the designation of the SSSI. The minor loss of grassland habitat from the SSSI, associated with the installation of a groundwater recharge trench as part of the original scheme, did not result in a significant effect, and has been avoided through AP2-006-003 (Additional land permanently required to relocate Rostherne Mere groundwater

recharge trenches north of Cherry Tree Lane). The changes in air quality associated with the AP2 revised scheme will affect areas of grassland that are not a reason for designation, and areas of farmland that are considered to represent 'site fabric' and so are not considered to be sensitive to nitrogen or acid deposition, or the potential toxic effects of NO<sub>x</sub> or NH<sub>3</sub>. The role of these habitats in maintaining hydrological processes and favourable condition of the SSSI, NNR or Ramsar site will not be affected. However as described in relation to Rostherne Mere Ramsar site, the air quality assessment for the AP2 revised scheme demonstrates, on a precautionary basis, there will be a significant adverse effect on the Ramsar site. The affected aquatic and wetland habitats are also a reason for the designation of the SSSI and NNR, meaning, on a precautionary basis, that there is also a significant adverse effect at the national level at Rostherne Mere SSSI and NNR.

### **Tatton Mere SSSI**

- 7.6.21 The main ES reported that there will be no adverse effect on the structure and function of Tatton Mere SSSI. As described above for the Midland Meres and Mosses Phase 1 Ramsar site, there will be no significant impacts arising from changes in air quality as a result of the AP2 revised scheme, and therefore there will be no adverse effects on the structure and function of the SSSI. As such, there will be no adverse effects on the SSSI, and there are no changes to the assessment of effects provided in the main ES.

### **Cotteril Clough SSSI**

- 7.6.22 The main ES reported that there would be no significant adverse effects on the structure and function of Cotteril Clough SSSI from changes in hydrology, or airborne pollution from construction traffic along Mill Lane and the A538 Wilmslow Road. Both roads will be used as construction traffic routes for the AP2 revised scheme and will be affected by increased traffic volumes once the construction of the AP2 revised scheme is complete. Cotteril Clough SSSI is not part of an internationally designated site and therefore a detailed designated site assessment report has not been produced. Details of the air quality assessment, which is based on three 200m transects, are provided below. The air quality assessment for the AP2 revised scheme (based on daily peak derived traffic data) shows that in 2026, with the exception of NO<sub>x</sub>, the air quality standards for all pollutants are exceeded with or without the AP2 revised scheme. Furthermore, for Transect 1, which runs for 200m on a south-west - north-east axis from Mill Lane, again except for NO<sub>x</sub>, all modelled receptors display a greater than 1% increase of the relevant critical load or level for nitrogen and acid deposition, and ammonia brought about by the AP2 revised scheme. In contrast, Transects 2 and 3, which run for 200m either side of the A538 Wilmslow Road on an east - west axis, generally display a fall in NO<sub>x</sub> and only marginal increases in nitrogen and acid deposition, and ammonia. In terms of the relevant critical loads or levels, the maximum increases in each pollutant in each affected habitat along the three transects are summarised below:

- NO<sub>x</sub>: There is an increase greater than 1% of the critical level for NO<sub>x</sub> at all modelled receptors on Transect 1. The maximum increase within the broadleaved woodland is 17.0%, occurring at the boundary of the SSSI, 1m from the road (Mill Lane). In contrast,

with four exceptions at 75m, 150m and 200m on Transect 2 and 102m on Transect 3, where marginal increases are predicted, all other modelled receptors show a fall in NO<sub>x</sub>;

- nitrogen deposition: There is an increase greater than 1% of the critical load for nitrogen deposition at all modelled receptors on Transect 1. The maximum increase within the broadleaved woodland is 28.5%, occurring at the boundary of the SSSI, 1m from Mill Lane. In contrast, all modelled receptors on Transects 2 and 3 display a marginal, maximum increase of <0.1%, from the boundary of the SSSI, 15m and 3m from Wilmslow Road respectively, to the end of each transect;
- NH<sub>3</sub>: There is an increase greater than 1% of the critical level for NH<sub>3</sub> at all modelled receptors on Transect 1. The maximum increase is 44.8%, occurring within the broadleaved woodland at the boundary of the SSSI, 1m from Mill Lane. In contrast, all modelled receptors on Transects 2 and 3 display a marginal, maximum increase of <0.1%, from the boundary of the SSSI, 15m and 3m from Wilmslow Road respectively, to the end of each transect; and
- acid deposition: There is an increase greater than 1% of the critical load for acid deposition at all modelled receptors on Transect 1. The maximum increase is 15.4%, occurring within the broadleaved woodland at the boundary of the SSSI, 1m from Mill Lane. In contrast, all modelled receptors on Transects 2 and 3 display a marginal, maximum increase of <0.1%, from the boundary of the SSSI, 15m and 3m from Wilmslow Road respectively, to the end of each transect.

7.6.23 It should be noted that the 1% threshold is precautionary and an exceedance of the threshold does not mean that a significant adverse effect will automatically occur. However, the exceedance of the 1% threshold across the four pollutants as a result of the AP2 revised scheme indicates a precautionary significant adverse effect at the national level at Cotteril Clough SSSI.

### **Lindow Common SSSI**

7.6.24 The main ES reported that there would be no adverse effects from changes in air quality at Lindow Common SSSI. It is located adjacent to a road on which traffic flows will be affected by the construction of the AP2 revised scheme but the changes in air quality brought about by the AP2 revised scheme do not result in increases of 1% or greater than 1% of the relevant critical load or level (where these apply) for any pollutant. As such, there will be no significant adverse effects on the SSSI, and there are no changes to the assessment of effects provided in the main ES.

### **Woolston Eyes SSSI**

7.6.25 The main ES reported that there would be no significant adverse effects at Woolston Eyes SSSI from the small increase in nitrogen deposition associated with the use of the M6 as a construction traffic route. Woolston Eyes SSSI is not part of an internationally designated site and therefore a detailed designated site assessment report has not been produced. Details of the air quality assessment, which is based on four 200m transects, are provided below. The updated assessment (based on daily peak derived traffic data) shows that in 2026,

except for three points midway along Transect 4, NO<sub>x</sub> is predicted to fall within the air quality standard, with or without the AP2 revised scheme. Furthermore, the dominant communities are not considered sensitive to nitrogen or acid deposition. In contrast, NH<sub>3</sub> is predicted to exceed the air quality standard at all modelled receptors with or without the AP2 revised scheme. However, none of the modelled receptors for any of the pollutants display an increase of 1% or greater than 1% of the relevant critical load or level (where these apply) as a result of the AP2 revised scheme. In terms of the relevant critical loads or levels, the maximum increases in each pollutant in each affected habitat are summarised below:

- NO<sub>x</sub>: There is an increase of less than 1% of the critical level for NO<sub>x</sub> at all modelled receptor points on all transects. The maximum increase within the woodland is 0.3% on Transect 2, 10m south-east of the M6. Within the lowland fen, the maximum increase is 0.3% on Transect 4, 20m north-east of the roadside;
- nitrogen deposition: the dominant habitats at Woolston Eyes are not considered sensitive to nitrogen deposition. Furthermore, even if appropriate, generic critical loads are applied, it is predicted there will be a less than 1% increase in the critical load;
- NH<sub>3</sub>: There is an increase of less than 1% of the critical level for NH<sub>3</sub> at all modelled receptor points on all transects. The maximum increase within the woodland is 0.4%, on Transect 2, 10m south-east of the M6. Within the lowland fen, the maximum increase is 0.1% on Transect 4, 20m north-east of the roadside; and
- acid deposition: the dominant habitats at Woolston Eyes are not considered sensitive to acid deposition. Furthermore, even if generic critical loads are applied, it is predicted that there will be a less than 1% increase in the critical load.

7.6.26 The dominant habitats at Woolston Eyes and the breeding assemblages and populations of wintering birds forming the reason for the designation of the SSSI are not considered sensitive to nitrogen or acid deposition. Additionally, there has not been an exceedance of the 1% threshold of either NO<sub>x</sub> or NH<sub>3</sub> as a result of the AP2 revised scheme. Consequently, no significant adverse effects are anticipated at Woolston Eyes SSSI as a result of the AP2 revised scheme.

### **Rixton Clay Pits SSSI**

7.6.27 The main ES reported that there would be no significant adverse effects from changes in air quality at Rixton Clay Pits SSSI, as the modest exceedance in nitrogen deposition was restricted to a narrow belt of woodland adjacent to the A57, which is not a qualifying feature of the SSSI. As described in relation to Rixton Clay Pits SAC, the construction of the AP2 revised scheme will not exceed the traffic thresholds for which air quality assessment is required. Consequently, the wetland plant communities and grassland habitats that support the population of great crested newt, and are themselves also a reason for the designation of the SSSI, and will not be affected. No adverse effects are anticipated at Rixton Clay Pits SSSI as a result of the construction of the AP2 revised scheme, and there are no changes to the assessment of effects provided in the main ES.

### **Holcroft Moss SSSI**

- 7.6.28 Holcroft Moss SSSI is a component part of the Manchester Mosses SAC and is designated for the same reasons as the SAC. Consequently, the impacts described in relation to the SAC apply to the SSSI, indicating a precautionary adverse effect that is significant at the national level.

### **Other mitigation measures**

- 7.6.29 No mitigation measures, additional to those reported in the main ES and draft CoCP, have been identified at this stage.
- 7.6.30 HS2 Ltd is continuing to seek to identify suitable measures to mitigate or compensate for potential significant effects identified on designated sites. In doing so HS2 Ltd will continue to engage with stakeholders to fully understand the receptors and the suitability of the measures.

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

- 7.6.31 In the absence of mitigation, at this stage, the significant adverse effects from the construction of the AP2 revised scheme reported above at The Mere, Mere component of the Midland Meres and Mosses Phase 1 Ramsar Site; Rostherne Mere Ramsar site, SSSI and NNR; the Holcroft Moss SSSI component of the Manchester Mosses SAC and Cotteril Clough SSSI remain.

### **Cumulative effects**

- 7.6.32 No new, removed or different significant cumulative effects have been identified.

### **Effects arising during operation**

### **Avoidance and mitigation measures**

- 7.6.33 No further avoidance or mitigation measures, additional to those reported in the main ES, have been identified at this stage.

### **Assessment of impacts and effects**

#### **Midlands Meres and Mosses Phase 1 Ramsar site**

- 7.6.34 The SES1 and AP1 ES did not report adverse effects from changes in air quality during the operational phase of the original scheme for the Midland Meres and Mosses Phase 1 Ramsar site. Change in traffic flows during operation of the AP2 revised scheme will not exceed the thresholds for assessment of changes in air quality at Tatton Mere SSSI and Wybunbury Moss SSSI, therefore, no air quality assessment is required. The assessment of effects of changes in air quality for the AP2 revised scheme at the Mere, Mere SSSI

demonstrates that the thresholds for NO<sub>x</sub>, NH<sub>3</sub>, and nitrogen and acid deposition will not be exceeded and there will be no adverse effects. There are no changes to the assessment of effects reported in the SES1 and AP1 ES.

### **Rostherne Mere Ramsar site**

- 7.6.35 The main ES did not report adverse effects from changes in air quality during the operational phase of the original scheme for Rostherne Mere Ramsar site. The assessment of effects of changes in air quality associated with the AP2 revised scheme demonstrates that the thresholds for NO<sub>x</sub>, NH<sub>3</sub>, and nitrogen and acid deposition will not be exceeded and there will be no adverse effects. There are no changes to the assessment of effects reported in the main ES.

### **Rixton Clay Pits SAC**

- 7.6.36 The main ES did not report adverse effects from changes in air quality during the operational phase of the original scheme for Rixton Clay Pits SAC. The operation of the AP2 revised will not result in changes in traffic volumes. Therefore, there will be no adverse effects and there are no changes to the assessment of effects reported in the main ES.

### **Manchester Mosses SAC**

- 7.6.37 The main ES did not report adverse effects from changes in air quality during the operational phase of the original scheme for The Manchester Mosses SAC. The assessment of effects of changes in air quality associated with the AP2 revised scheme demonstrates that the thresholds for NO<sub>x</sub>, NH<sub>3</sub>, and nitrogen and acid deposition will not be exceeded and there will be no adverse effects. There are no changes to the assessment of effects reported in the main ES.

### **Cotteril Clough SSSI**

- 7.6.38 The main ES did not report adverse effects from changes in air quality during the operational phase of the original scheme for Cotteril Clough. A designated site assessment report has not been produced for Cotteril Clough SSSI, and therefore information changes in air quality during operation of the AP2 revised scheme is provided below. Traffic analysis has predicted that only the A538 Wilmslow Road would be affected by traffic during the operational phase. However, the 1% threshold is exceeded for all four pollutants as a result of the operational phase of the AP2 revised scheme. In each case the maximum exceedance occurs in broadleaved woodland at the boundary of the SSSI, 3m from the A538 Wilmslow Road. Information on the maximum exceedance recorded (from two transects on the A538 Wilmslow Road) is summarised below:

- NO<sub>x</sub>: The maximum increase is 2.7%, and the increase of 1% or greater than 1% of the critical level extends up to 20m from the roadside;
- nitrogen deposition: The maximum increase is 7.4%, and there is an increase of 1% or greater than 1% of the critical load for nitrogen deposition up to 50m from the roadside;



- NH<sub>3</sub>: The maximum increase is 12.6%, and there is an increase of 1% or greater than 1% of the critical level for NH<sub>3</sub> up to 75m from the roadside; and,
- acid deposition: The maximum increase is 4.0%, and there is an increase of 1% or greater than 1% of the critical level for acid deposition up to 20m from the roadside.

7.6.39 As a result in the exceedance of the 1% threshold of the four pollutants, on a precautionary basis, there will be a significant adverse effect at the national level at Cotteril Clough SSSI, which represents a new significant effect to that reported in the main ES.

## **Other mitigation measures**

7.6.40 No mitigation measures, additional to those reported in the main ES, have been identified at this stage.

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

7.6.41 In the absence of mitigation, at this stage, the significant adverse effects from the operation of the AP2 revised scheme reported above at Cotteril Clough SSSI remains.

7.6.42 HS2 Ltd is continuing to seek to identify suitable measures to mitigate or compensate for potential significant effects identified on designated sites. In doing so HS2 Ltd will continue to engage with stakeholders to fully understand the receptors and the suitability of the measures.

## **Cumulative effects**

7.6.43 No new, removed or different significant cumulative effects have been identified.

## **Ongoing work**

7.6.44 Section 4 of the relevant designated sites assessment reports EC SES2 and AP2 ES Volume 5 Appendices for the sites reported in this section includes the emerging results of an assessment of air quality impacts during construction and operation of the AP2 revised scheme in-combination with other schemes. Further assessment of these potential effects will continue in accordance with the requirements of Regulation 63 of the Conservation of Habitats and Species Regulations 2017. At this stage, it is identified that there are potentially significant effects at the following sites.

7.6.45 The Midland Meres and Mosses Phase 1 Ramsar site, when considering the construction of the AP2 revised scheme in-combination with other schemes, results in exceedance of the relevant thresholds for NH<sub>3</sub>, nitrogen deposition and acid deposition at The Mere, Mere SSSI and Wybunbury Moss SSSI. In-combination assessment also demonstrates that there is a greater than 1% exceedance for the critical level for NH<sub>3</sub> at The Mere, Mere SSSI during the operational phase of the AP2 revised scheme. During the operational phase, there are no exceedances of thresholds for any pollutants at Tatton Meres SSSI and traffic volumes at Wybunbury Moss SSSI remain below the threshold required for further consideration.



Therefore, at this stage and on a precautionary basis, an adverse effect on the Ramsar site that is significant at the international level has been identified. Information on the findings of the in-combination assessment for each SSSI noted above is provided in Section 4 of the relevant designated site assessment report The Mere, Mere SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00003), Tatton Meres SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00007), and Wybunbury Moss SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00009).

- 7.6.46 Rostherne Mere Ramsar site, when considering the construction of the AP2 revised scheme in combination with other schemes, results in exceedance of the relevant thresholds NH<sub>3</sub>, nitrogen deposition, acid deposition and NO<sub>x</sub>. In-combination assessment demonstrates that the relevant threshold for all pollutants will also be exceeded during the operational phase of the AP2 revised scheme. Therefore, at this stage and on a precautionary basis, an adverse effect on the Ramsar site that is significant at the international level has been identified. Information on the findings of the in-combination assessment is provided in Section 4 of the designated site assessment report for Rostherne Mere and The Mere, Mere SSSI (SES2 and AP2 ES Volume 5, Appendix: EC-016-00003).
- 7.6.47 Rixton Clay Pits SAC, when considering the construction of the AP2 revised scheme in combination with other schemes, results in exceedance of the relevant thresholds for NH<sub>3</sub>, nitrogen deposition, acid deposition and NO<sub>x</sub>. Therefore, at this stage and on a precautionary basis, an adverse effect on the Ramsar site that is significant at the international level has been identified. The AP2 revised scheme will not result in changes to traffic volumes during the operational phase and there will be no adverse effects. Information on the findings of the in-combination assessment is provided in Section 4 of the designated site assessment report for Rixton Clay Pits SAC (SES2 and AP2 ES Volume 5, Appendix: EC-016-00005).
- 7.6.48 The Holcroft Moss SSSI component of the Manchester Mosses SAC when considering the construction of the AP2 revised scheme in combination with other schemes, results in exceedance of the relevant thresholds for NH<sub>3</sub>, nitrogen deposition, acid deposition and NO<sub>x</sub>. In-combination assessment demonstrates that the thresholds for all the relevant pollutants will be exceeded during the operational phase, however for NO<sub>x</sub>, the exceedance is solely within woodland habitat that is not a reason for designation of the SAC. Therefore, at this stage and on a precautionary basis, an adverse effect on the SAC that is significant at the international level has been identified. Information on the findings of the assessment of effects is provided in Section 4 of the designated site assessment report for the Holcroft Moss component of the Manchester Mosses SAC (SES2 and AP2 ES Volume 5, Appendix: EC-016-00005).

## 7.7 Health

### Scope, assumptions and limitations

- 7.7.1 The assessment scope, key assumptions and limitations for health are as set out in Volume 1 and the SMR of the main ES.

## Environmental baseline

### Existing baseline

- 7.7.2 The baseline health information is as described in Section 8 of the main ES Volume 2, Community Area report: Hulseheath to Manchester Airport, as amended by Section 2.3 of this report. A summary of the baseline information relevant to the assessment of the AP2 revised scheme is provided below.
- 7.7.3 Hale Barns and Warburton Green (a settlement within Hale Barns) lie on the south-west outskirts of Altrincham and comprise approximately 1,500 residential properties. The nearest residential properties are immediately adjacent to the HS2 route.
- 7.7.4 Davenport Green is a settlement comprising approximately 30 residential properties. The nearest residential properties are located 400m north-west of the HS2 route. Ringway Golf Course is located to the south of the settlement.
- 7.7.5 Bucklow Manor Care Home is a 59 bed residential home that provides care for people aged 65 and over and specialist dementia care.

### Future baseline

- 7.7.6 The Planning data reports of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) and SES1 and AP1 ES (see SES1 and AP1 ES Volume 5, Appendix: CT-004-00000) provide details of committed developments assumed to have been implemented by 2025 and 2038.
- 7.7.7 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 7.7.8 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts for health.

## Effects arising during construction

### Avoidance and mitigation measures

- 7.7.9 No further avoidance or mitigation measures additional to those reported in the main ES are proposed.

### Assessment of impacts and effects

- 7.7.10 The main ES reported an adverse neighbourhood quality effect for residents on Chapel Lane (between Hulseheath Lane and the A5034 Chester Road). Chapel Lane is a designated route

for construction traffic and was expected to experience a significant increase in HGV traffic movements. Significant HGV traffic effects were expected to combine with significant traffic noise effects for residents of Chapel Lane during the peak months of construction. Changes to construction traffic flows and the sound, noise and vibration assessment as a result of new construction traffic data will remove the significant HGV traffic and traffic noise effects. These changes will result in the removal of the neighbourhood quality effect along Chapel Lane (between Hulseheath Lane and the A5034 Chester Road).

- 7.7.11 Changes to construction traffic flows will result in a new adverse neighbourhood quality effect for residents of Arthog Road, Bankhall Lane, Hawley Lane, Broad Lane, Chapel Lane, High Elm Road and Elmridge Drive. New traffic noise effects are expected to be noticeable along these roads. As a result of the changes in construction traffic and changes to the sound, noise and vibration assessment, there will be a new adverse neighbourhood quality effect for residents at these properties along these roads. People in this community are likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, diminishing the amenity of the settlement.
- 7.7.12 The main ES reported an adverse neighbourhood quality effect for residents of Sunbank Lane, Ringway. Construction noise was expected to be noticeable in the area for approximately two years and three months. Construction activities were expected to be visible from street level. People in this community were likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, diminishing the amenity of the settlement.
- 7.7.13 Sunbank Lane is a designated route for construction traffic. Changes to the sound, noise and vibration assessment as a result of AP2-006-014 will result in an increase in duration of significant noise effects for residents of Sunbank Lane to approximately four years and 11 months. This effect will combine with a new HGV traffic effect, as well as an existing visual effect. This will result in a different adverse neighbourhood quality effect for residents of Sunbank Lane, Ringway.
- 7.7.14 Bucklow Manor Care Home is located on the A5034 Chester Road. The A5034 Chester Road (between A556 southbound off-slip and Millington Lane) is a designated route for construction traffic and will experience a significant increase in HGV traffic. Construction noise will be noticeable for residents of Bucklow Manor Care Home. This different noise effect will combine with the new HGV traffic effect for approximately two years and six months. Therefore, temporary changes to the care home's environment may be noticeable for some residents. For those affected, this will lead to a reduction in the wellbeing benefits associated with the care home environment.

## **Other mitigation measures**

- 7.7.15 No other mitigation measures additional to those reported in the main ES are proposed.

## Cumulative effects

- 7.7.16 No new, removed or different significant cumulative effects have been identified compared to the main ES.

## Effects arising from operation

### Avoidance and mitigation measures

- 7.7.17 No avoidance or mitigation measures additional to those reported in the main ES and the draft CoCP are proposed.

### Assessment of impacts and effects

- 7.7.18 Changes to the sound, noise and vibration assessment as a result of new operational traffic data will result in a new adverse neighbourhood quality effect on approximately 25 residential properties in the vicinity of Shay Lane and Roaring Gate Lane in Davenport Green. AP2-006-022: Additional land permanently required for the extension of Metrolink provisions at Manchester Airport High Speed station, and AP2-006-020: Additional land permanently required for the provision of a replacement culvert at Brooks Drive will result in new and different significant visual effects which will combine with this new traffic noise effect. Visual effects will reduce to minor adverse (not significant) at Year 30. People in this community are likely to experience these effects as changing the quality of their neighbourhood and to regard that change as adverse, diminishing the amenity of the area.

### Other mitigation measures

- 7.7.19 No mitigation measures additional to those reported in the main ES are proposed.

## Cumulative effects

- 7.7.20 No new, removed or different significant cumulative effects have been identified compared to the main ES.

## 7.8 Socio-economics

### Scope, assumptions and limitations

- 7.8.1 The assessment scope, key assumptions and limitations for socio-economics are as set out in Volume 1 and the SMR of the main ES. The changes in traffic flows have the potential to result in new, removed or different significant construction effects only. Therefore, there is no operational assessment for socio-economics.

## Environmental baseline

### Existing baseline

- 7.8.2 The baseline socio-economics information is as described in the SES2 and AP2 ES Volume 5, Appendix: SE-001-00000, Updated socio-economic baseline information.

### Future baseline

- 7.8.3 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) provides details of committed developments assumed to have been implemented by 2025.
- 7.8.4 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (SES2 ES and AP2 ES Volume 5, Appendix: CT-004-00000).
- 7.8.5 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on socio-economics.

## Effects arising during construction

### Avoidance and mitigation measures

- 7.8.6 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### Assessment of impacts and effects

- 7.8.7 As a result of changes in traffic flows, Birkin Lodge South Holiday Let on Ashley Road, run by Tatton Stays, located south-west of Ashley, will experience new significant effects from HGV construction traffic (traffic-related severance for non-motorised users). These effects are in addition to the existing significant visual effects that were reported in the main ES. The sensitivity of Birkin Lodge South Holiday Let is assessed to be high as customers may be sensitive to impacts on the local environment and setting. The construction works may discourage them from using this business. Given the duration of effects and the high level of sensitivity, the changes in traffic flows will result in a new temporary adverse in-combination effect on Birkin Lodge South Holiday Let, which is significant.
- 7.8.8 As a result of changes in traffic flows, The Greyhound public house, located in Ashley, will experience new significant effects from HGV construction traffic (traffic-related severance for non-motorised users). These effects are in addition to the existing significant visual effects that were reported in the main ES. The sensitivity of The Greyhound public house is assessed to be medium as customers may be sensitive to impacts on the local environment and setting. The construction works may discourage them from using this business. Given the duration of effects and the medium level of sensitivity, the changes in traffic flows will

result in a new temporary adverse in-combination effect on The Greyhound public house, which is significant.

- 7.8.9 As a result of changes in traffic flows, Bucklow Manor Care Home, located west of Rostherne, will experience new significant effects from HGV construction traffic (traffic-related severance for non-motorised users) and different significant noise effects. The sensitivity of Bucklow Manor Care Home is assessed to be medium as clients may be sensitive to impacts on the local environment and setting. The construction works may discourage them from using this business. Given the duration of effects and the medium level of sensitivity, the changes in traffic flows will result in a new temporary adverse in-combination effect on Bucklow Manor Care Home, which is significant.
- 7.8.10 As a result in changes in traffic flows, Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel, located to the south of Manchester Airport, will experience different significant effects from HGV construction traffic (traffic related severance for non-motorised users) in addition to new significant noise effects from Additional land permanently required to reconfigure M56 junction 6 (AP2-006-014). The sensitivity of Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel is assessed to be medium as customers may be sensitive to impacts on the local environment and setting. The construction works may discourage them from using this business. Given the duration of effects and the medium level of sensitivity, amendment AP2-006-014 and the changes in traffic flows will result in a new temporary adverse in-combination effect on Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel, which is significant.
- 7.8.11 SES2 reported that the construction of the scheme was expected to result in a temporary adverse significant in-combination effect on a management company operating from Cherry Tree Farm, located on Cherry Tree Lane. This was as a result of significant noise effects (for two years and six months) and significant visual effects. As a result in changes in traffic flows, there will be new significant HGV construction traffic effects (traffic-related severance for non-motorised users) on the receptor. This will result in a different temporary adverse significant in-combination effect on the management company operating from Cherry Tree Farm.
- 7.8.12 SES2 reported that the construction of the original scheme was expected to result in a temporary adverse significant in-combination effect on Birkin Farm Holiday Let, run by Tatton Stays, located on Ashley Road. This was as a result of significant noise effects (for one year and seven months) and significant visual effects. As a result in changes in traffic flows, there will be new significant HGV construction traffic effects (traffic-related severance for non-motorised users) on the receptor. This will result in a different temporary adverse significant in-combination effect on Birkin Farm Holiday Let, run by Tatton Stays.
- 7.8.13 SES2 reported that the construction of the scheme was expected to result in a temporary adverse significant in-combination effect on South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays, located on Mobberley Road. This was as a result of significant noise effects (for seven years and 10 months) and significant visual effects. As a result in changes in traffic flows, there will be new significant HGV construction traffic effects (traffic-

related severance for non-motorised users) on the receptor. This will result in a different temporary adverse significant in-combination effect on South Arden and Little Lodge Holiday Lets, both run by Tatton Stays.

## **Other mitigation measures**

- 7.8.14 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 7.8.15 The changes in traffic flows will result in new temporary adverse significant in-combination effects on Birkin Lodge Holiday Let, The Greyhound public house, Bucklow Manor Care Home and Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel.
- 7.8.16 The changes in traffic flows will result in different temporary adverse significant in-combination effects on a management company operating from Cherry Tree Farm; Birkin Farm Holiday Let, run by Tatton Stays; and South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays.

## **Cumulative effects**

- 7.8.17 No new, removed or different significant cumulative effects have been identified compared to the main ES.

# **7.9 Sound, noise and vibration**

## **Scope, assumptions and limitations**

- 7.9.1 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1 and the SMR of the main ES.

## **Environmental baseline**

### **Existing baseline**

- 7.9.2 In the Hulseheath to Manchester Airport area, the updated sound modelling described in Section 2 has resulted in updates to the existing baseline sound levels at receptors adjacent to roads. Further information on the updated baseline sound levels relevant to the assessment is provided in the SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. Where no updates to baseline sound levels are required, the baseline sound, noise and vibration information is as described in Section 13 of Volume 2, Community Area report: Hulseheath to Manchester Airport (MA06) of the main ES.



## **Future baseline**

- 7.9.3 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) provides details of committed developments assumed to have been implemented by 2038.
- 7.9.4 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). These committed developments have been considered as a future baseline where relevant, and their potential to give rise to cumulative effects has been assessed.
- 7.9.5 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on sound, noise and vibration.
- 7.9.6 Updates have been made to future baseline sound levels at the locations identified in the existing baseline section above where updates to the existing baseline sound levels have been made for the SES2 and AP2 ES.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

- 7.9.7 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

### **Assessment of impacts and effects**

#### **Residential receptors: indirect effects**

- 7.9.8 As a result of the AP2 revised scheme, construction traffic is likely to cause adverse noise effects on residential receptors along:
- Arthog Road between the B5162 Park Road and Bankhall Lane;
  - Bankhall Lane between Arthog Road and Hill Top;
  - Bankhall Lane between Hill Top and Broad Lane;
  - Broad Lane between Hale Road and Bankhall Lane;
  - Broad Lane/Hawley Lane between Bankhall Lane and Chapel Lane;
  - Chapel Lane between Hawley Lane and High Elm Road;
  - High Elm Road/Elmridge Drive between Chapel Lane and the A538 Hale Road; and
  - High Elm Road between Greengate and the A538 Hale Road.
- 7.9.9 Approximately 260 dwellings located along these roads are forecast to experience a change in road traffic noise levels of around 7dB  $L_{pAeq,0700-2300}$  during peak months, due to additional construction vehicles using sections of this route and additional traffic diverting away from

nearby construction routes. This is considered to be a new likely significant indirect effect on a community basis at the dwellings on these roads, denoted as MA06-C-C8 in Volume 5, Appendix: SV-002-00000. This temporary adverse effect from construction traffic noise represents a change in the acoustic character of the area, which may be perceived as a change in the quality of life for that community.

- 7.9.10 The main ES identified a likely significant indirect construction effect on a community basis at approximately 40 residential dwellings along Rostherne Lane between Marsh Lane and Chester Road. This was denoted as MA06-C-C5 in Table 8 in Volume 5, Appendix: SV-002-00000 of the main ES. The AP2 revised scheme reduces both the average and peak monthly construction road traffic movements on this road, and thus reduces the associated construction traffic noise levels. For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. The reduction in construction traffic noise levels will remove the likely indirect residual significant effect reported in the main ES on dwellings along Rostherne Lane.
- 7.9.11 The main ES identified a significant noise effect on residential properties along Chapel Lane between the B5569 Chester Road and Hulseheath Lane, which extended across the boundary between the Hulseheath to Manchester Airport area (MA06) and the Pickmere to Agden and Hulseheath area (MA03). The majority of impacted properties forming this significant effect were located in the Hulseheath to Manchester Airport area (MA06). This likely significant indirect construction traffic noise affect was denoted as MA06-C-C4. The AP1 revised scheme reduced construction traffic noise levels along these roads and removed the identified likely significant effect. For further information on the removal of this effect, see SES1 and AP1 ES Volume 2, MA03: Pickmere to Agden and Hulseheath.
- 7.9.12 The main ES identified a significant noise effect on residential properties along Chapel Lane and Peacock Lane between Hulseheath Lane and Back Lane, which extended across the boundary between the Hulseheath to Manchester Airport area (MA06) and the Pickmere to Agden and Hulseheath area (MA03). The majority of impacted properties forming this significant effect were located in the Pickmere to Agden and Hulseheath area (MA03). This likely significant indirect construction traffic noise affect was denoted as MA03-C-C2. The AP1 revised scheme reduced construction traffic noise levels along these roads and removed the identified likely significant effect. For further information on the removal of this effect, see SES1 and AP1 ES Volume 2, MA03: Pickmere to Agden and Hulseheath.

### **Non-residential receptors: indirect effects**

- 7.9.13 As a result of the AP2 revised scheme, construction traffic is likely to cause an adverse noise effect on 2 Dairy Farm, Ashley Road. Road traffic noise levels due to additional construction vehicles using this route are predicted to be above the daytime screening criteria defined in the SMR for hotel use during the peak months for one or more months, with an increase of around 5dB  $L_{pAeq,0700-2300}$ . The main ES did not identify an indirect noise effect at this location; therefore, a new likely significant effect has been identified at 2 Dairy Farm, Ashley Road, Knutsford, denoted as MA06-C-N11 in SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. This temporary adverse effect may take the form of activity disturbance to users of the B&B.

- 7.9.14 The main ES identified a likely significant indirect construction effect at Bucklow Manor Care Home on Chester Road. This was denoted as MA06-C-N4, in Table 8 in Volume 5, Appendix: SV-002-0MA06 of the main ES. The AP2 revised scheme reduces both the average and peak monthly construction road traffic noise levels along Chester Road, and thus reduces the associated construction traffic noise levels at this receptor. For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. The reduction in construction traffic noise levels will reduce the impact from moderate to minor at Bucklow Manor Care Home. Due to the change in impact magnitude, this results in a different likely significant effect to that which was identified in the main ES.
- 7.9.15 The main ES identified a likely significant indirect construction effect at Egerton Hall, Rostherne Lane. This was denoted as MA06-C-N5 in Table 8 in Volume 5, Appendix: SV-002-0MA06 of the main ES. The AP2 revised scheme reduces both the average and peak monthly construction road traffic noise levels along Rostherne Lane, and thus reduces the associated construction traffic noise levels at this receptor. For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. The reduction in construction traffic noise levels will remove the likely indirect residual significant effect reported in the main ES on Egerton Hall, Rostherne Lane.
- 7.9.16 The main ES identified a likely significant indirect construction effect at Tatton Stays Holiday Lets (Virginia Cottage and Rose Cottage), Rostherne Lane. This was denoted as MA06-C-N6 in Table 8 in Volume 5, Appendix: SV-002-0MA06 of the main ES. The AP2 revised scheme reduces both the average and peak monthly construction road traffic noise levels along Rostherne Lane, and thus reduces the associated construction traffic noise levels at this receptor. For further information see SES2 and AP2 ES Volume 5, Appendix: SV-002-00000. The reduction in construction traffic noise levels will remove the likely indirect residual significant effect reported in the main ES on Tatton Stays Holiday Lets (Virginia Cottage and Rose Cottage), Rostherne Lane.

## **Other mitigation measures**

- 7.9.17 No mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

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

- 7.9.18 As a result of the AP2 revised scheme, construction traffic in this area will give rise to a new likely temporary residual adverse significant noise effect on adjacent residential properties along:
- Arthog Road between the B5162 Park Road and Bankhall Lane;
  - Bankhall Lane between Arthog Road and Hill Top;
  - Bankhall Lane between Hill Top and Broad Lane;
  - Broad Lane between Hale Road and Bankhall Lane;
  - Broad Lane/Hawley Lane between Bankhall Lane and Chapel Lane;

- Chapel Lane between Hawley Lane and High Elm Road;
- High Elm Road/Elmridge Drive between Chapel Lane and the A538 Hale Road; and
- High Elm Road between Greengate and the A538 Hale Road.

7.9.19 As a result of the AP2 revised scheme, construction traffic in this area will give rise to new likely temporary residual adverse significant noise effect at 2 Dairy Farm (Holiday let), Ashley Road.

7.9.20 As a result of the AP2 revised scheme, construction traffic in this area will give rise to a different likely temporary residual adverse significant noise effect at Bucklow Manor Care Home, Chester Road.

7.9.21 The AP2 revised scheme will remove the likely temporary residual indirect significant effect from construction traffic noise reported in the main ES on residential properties along Rostherne Lane between Marsh Lane and Chester Road.

7.9.22 The AP2 revised scheme will remove the likely temporary residual indirect significant effect from construction traffic noise reported in the main ES on:

- Tatton Stays Holiday Lets (Virginia Cottage and Rose Cottage), Rostherne Lane; and
- Egerton Hall, Rostherne Lane.

## **Cumulative effects**

7.9.23 This combined assessment has taken into account cumulative effects as described in Section 7.5 arising from the AP2 revised scheme in this area and other community areas.

## **Effects arising during operation**

### **Avoidance and mitigation measures**

7.9.24 No further avoidance or mitigation measures, additional to those reported in the main ES and draft CoCP, are proposed.

### **Assessment of impacts and effects**

7.9.25 The AP2 revised scheme will give rise to new adverse indirect airborne noise effects, which are considered to be significant on a community basis and are presented in Table 51.

7.9.26 In the main ES, the noise level changes at dwellings in Davenport Green in the vicinity of the Shay Lane were negligible and minor adverse, and a likely significant effect was not identified on a community basis. As a result of indirect road traffic flow changes due to the AP2 revised scheme, changes to existing baseline noise levels in this area result in moderate noise level increases at approximately 25 dwellings. The indirect adverse effect on the acoustic character of this residential community is considered to be significant on a community basis. Therefore, a new likely significant adverse operational noise effect is

identified on a community basis at dwellings in Davenport Green the vicinity of Shay Lane (MA06-O-C3).

**Table 51: Indirect adverse operational effects on residential communities and shared open areas that are considered significant on a community basis and are new compared to those reported in the main ES**

Significant effect number and map reference <sup>73</sup>	Source of significant effect (Type)	Time of day	Location and details
MA06-O-C3 (SV-05-322a)	Airborne noise increase from indirect road traffic noise (New)	Daytime and night-time	Davenport Green Approximately 25 dwellings in the vicinity of Shay Lane. Forecast increases in sound from road traffic are likely to cause moderate noise increases at the properties which is considered to be significant on a community basis. There are no shared open spaces identified as being affected in this community.

7.9.27 For further information see SES2 and AP2 Volume 5, Appendix: SV-003-00000 and SES2 and AP2 Volume 5, Sound, noise and vibration Map Book.

## Other mitigation measures

7.9.28 No mitigation measures additional to those reported in the main ES are proposed.

## Summary of likely residual significant effects

7.9.29 Changes in road traffic flows will give rise to a new residual likely significant adverse noise effect from operation of the AP2 revised scheme on residential communities in Davenport Green.

## Cumulative effects

7.9.30 No new, removed or different significant cumulative effects have been identified compared to the main ES.

## 7.10 Water resources and flood risk

### Scope, assumptions and limitations

7.10.1 This assessment considers any new or different significant effects on water quality in local water bodies from:

- accidental spillages and routine discharge of surface runoff from new road diversions/realignment resulting from the AP2 revised scheme;

<sup>73</sup> See SES2 and AP2 ES Volume 5, Sound, noise and vibration Map Book: Map Series SV-05.

- changes to spillage risk on the existing road network due to increases in HGV movements resulting from construction traffic; and
- changes to the quantity and quality of routine runoff discharged from the existing road network due to changes in daily traffic movements resulting from the construction of the AP2 revised scheme.

7.10.2 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1 and the SMR of the main ES.

## **Environmental baseline**

### **Existing baseline**

7.10.3 The baseline water resources and flood risk information is as described in Section 15 of Volume 2, Community Area report: Hulseheath to Manchester Airport area (MA06) of the main ES.

### **Future baseline**

- 7.10.4 The Planning data report of the main ES (see Volume 5, Appendix: CT-004-00000 of the main ES) provides details of committed developments assumed to have been implemented by 2025 and 2038.
- 7.10.5 This information has been supplemented by the committed developments listed in the equivalent Volume 5 Planning data report of the SES2 and AP2 ES (see SES2 and AP2 Volume 5, Appendix: CT-004-00000). The developments have been considered to determine whether they would result in a material change to the future baseline or have the potential to give rise to cumulative effects.
- 7.10.6 None of the identified developments affect the assessment of the AP2 revised scheme's likely impacts on water resources and flood risk.

## **Effects arising during construction**

### **Avoidance and mitigation measures**

7.10.7 No further avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are proposed.

## **Assessment of impacts and effects**

### **Temporary effects**

7.10.8 Where highway drainage for existing roads is discharged to local watercourses and where traffic numbers are likely to increase due to construction traffic, assessments for determining whether routine runoff and spillage risk are likely to have detrimental impacts

on water quality are carried out using the Highways England Water Risk Assessment Tool (HEWRAT). These assessments have been repeated following the main ES using the combined changes to traffic flows for the AP2 revised scheme.

- 7.10.9 The main ES did not identify the need for a routine runoff and pollution risk assessment or a spillage pollution risk assessment in MA06 during the construction phase.
- 7.10.10 For the combined SES2 and AP2 revised construction traffic, a screening exercise has identified the need for routine runoff and pollution risk assessment on the M56, due to changes in construction traffic from the AP2 revised scheme. No information is available on the existing drainage on this road, so drainage locations have been estimated based on topography, assuming that drainage discharges occur at the lowest points along the road. For the M56, it is therefore assumed on a precautionary basis that the highways may discharge road drainage to the River Bollin, Tributary of River Bollin 6, Tributary of River Bollin 7 and Birkin Brook. Similarly, as no information is available on potential treatment prior to discharge, on a precautionary basis it is assumed that there is no existing treatment prior to discharge to this watercourse.

### **River Bollin and tributaries of River Bollin 6 and 7**

- 7.10.11 The cumulative tier 2 HEWRAT assessment for each of the outfalls to these three watercourses identified that the acute soluble and sediment-bound pollutants assessments pass. However, an Environmental Quality Standard (EQS) exceedance for copper is assessed due to the background concentration being higher than the EQS.
- 7.10.12 Water quality sampling at the River Bollin gives an average concentration of copper of 2.45µg/l. No data is available for tributaries of River Bollin 6 and 7 but due to the close proximity to the sampling point on the River Bollin, this data has been used to represent these watercourses.
- 7.10.13 The HEWRAT assessment for the watercourse shows that the changes in construction traffic data associated with the AP2 revised scheme for the River Bollin, would lead to an increase in average concentration of copper from 2.45µg/l to 2.46µg/l. An increase to 6.76µg/l and 8.80µg/l was experienced for Tributary of River Bollin 6 and 7, respectively.
- 7.10.14 In line with Water Framework Directive best practice guidance and the DMRB assessment principles, where the HEWRAT assessment fails and water quality data is available, a metal bioavailability assessment has been carried out using the Environment Agency metal bioavailability assessment tool (M-BAT). This assessment uses average concentrations of calcium and pH along with a median concentration of dissolved organic carbon, to estimate the concentrations of copper and zinc which would be bioavailable (i.e. in a form which could impact on the biology in the watercourse).
- 7.10.15 These concentrations have been input to the M-BAT to estimate the bioavailable concentration of copper. The M-BAT estimates the concentration of bioavailable copper as 0.06µg/l in baseline conditions for the River Bollin, Tributary of River Bollin 6 and Tributary of River Bollin 7. For the AP2 revised scheme, the concentration of bioavailable copper remains



at 0.06µg/l for the River Bollin and Tributary of River Bollin 6, and for Tributary of River Bollin 7 increases to 0.07µg/l. These values are below the EQS of 1µg/l. Therefore, this additional assessment shows that the impact of the changes in traffic due to construction on highways discharges to all three watercourses are negligible, leading to a negligible effect which is not significant.

### **Birkin Brook**

- 7.10.16 Water quality sampling at the River Bollin gives an average concentration of copper of 2.45µg/l. No data is available for Birkin brook but due to the close proximity to the sampling point on the River Bollin, this data has been used to represent this watercourse.
- 7.10.17 The tier 2 HEWRAT assessment for the outfall to Birkin Brook identified the acute soluble and sediment-bound pollutants assessments are passed. However, an EQS exceedance for copper is assessed due to the background concentration being higher than the EQS.
- 7.10.18 In line with Water Framework Directive best practice guidance and the DMRB assessment principles, where the HEWRAT assessment fails and water quality data is available, a metal bioavailability assessment has been carried out using the Environment Agency metal bioavailability assessment tool (M-BAT).
- 7.10.19 These concentrations have been input to the M-BAT to estimate the bioavailable concentration of copper. The M-BAT estimates the concentration of bioavailable copper as 0.06µg/l in baseline conditions for Birkin Brook. For the AP2 revised scheme, the concentration of bioavailable copper for Birkin Brook is 0.06µg/l. Therefore, this additional assessment shows that the impact of the changes in traffic due to construction on highways discharges this watercourse is negligible, leading to a negligible effect which is not significant.

### **Highways spillage risk assessment**

- 7.10.20 Highways spillage risk assessments have been undertaken for the spillage risks on the River Bollin, Tributary of River Bollin 6, Birkin Brook and Tributary of River Bollin 7, from the construction traffic associated with the M56 realignment. In all cases the risk of a serious pollution incident occurring is identified as negligible. The highway realignment will not result in significant effects related to spillage risk and no further mitigation is required.

## **Effects arising during operation**

### **Avoidance and mitigation measures**

- 7.10.21 No further avoidance or mitigation measures additional to those reported in the main ES are proposed.

## Assessment of impacts and effects

### A538 Hale Road and Hasty Lane to the A538 Hale Road and station access (eastbound traffic)

- 7.10.22 In the main ES, HEWRAT assessments were carried out for discharges to Tributary of Timperley Brook 1 from the A538 Hale Road and Hasty Lane to the A538 Hale Road and station access gyratory. A cumulative assessment, taking into account mitigation included in the design, reported a precautionary exceedance of copper EQS. This was reported as a precautionary moderate impact on this low value watercourse leading to a minor adverse effect which was not significant.
- 7.10.23 The SES2 baseline data has led to a change in the value of this watercourse from low to moderate. In addition, the AP2 revised scheme leads to some changes in the drainage outfalls to the watercourse. Therefore, the HEWRAT assessment has been re-run on the AP2 revised scheme. The tier 2 HEWRAT assessment, taking into account the mitigation included in the design, identified that the outfall passes the acute soluble and sediment-bound pollutants assessments. However, an EQS exceedance for copper is assessed due to the background concentration being higher than the EQS. However, the assessment shows that the copper concentration for the AP2 revised scheme (8.47µg/l) is lower than the baseline concentration (8.5µg/l). This suggests that the copper concentration in the drainage discharge will be less than the background concentrations in this watercourse, and that the highways drainage will provide a small degree of dilution. Therefore, the impact of highways drainage on water quality in this watercourse is assessed to be negligible, leading to a negligible effect, which is not significant.

### Manchester Airport High Speed station access road (east), Manchester Airport High Speed station access road (west) and Runger Lane

- 7.10.24 In the main ES, HEWRAT assessments were carried out for discharges to Timperley Brook from the Manchester Airport High Speed station access road (east), Manchester Airport High Speed station access road (west) and Runger Lane. A cumulative assessment, taking into account mitigation included in the design, reported a precautionary exceedance of copper EQS. This was reported as a precautionary moderate impact on this moderate value watercourse leading to a moderate adverse effect which is significant.
- 7.10.25 The AP2 revised scheme leads to some changes in the drainage outfalls to the watercourse. Therefore, the HEWRAT assessment has been re-run on the AP2 revised scheme. The tier 2 HEWRAT assessment, taking into account the mitigation included in the design, identified that the outfall passes the acute soluble and sediment-bound pollutants assessments; however, an EQS exceedance for copper is assessed due to the background concentration being higher than the EQS. The discharges to Timperley Brook are assessed to have a moderate impact on this moderate value receptor, leading to a moderate adverse effect, which is significant.

7.10.26 In line with Water Framework Directive best practice guidance and the DMRB assessment principles, a metal bioavailability assessment has been carried out using the Environment Agency metal bioavailability assessment tool (M-BAT). Under the baseline conditions (prior to the scheme), the average concentration of copper is 11.7µg/l. The HEWRAT assessment for Timperley Brook, shows that the changes in traffic data associated with the AP2 revised scheme, would lead to an increase in average concentration of copper to 11.72µg/l in Timperley Brook. These concentrations have been input to the M-BAT to estimate the bioavailable concentration of copper. The M-BAT estimates the concentration of bioavailable copper as 0.22µg/l in baseline conditions and 0.22µg/l for the AP2 revised scheme. The values are below the EQS of 1µg/l. Therefore, this additional assessment would reduce the impact to minor on water quality in Timperley Brook, leading to a minor adverse effect, which is not significant.

### **M56 realignment and reconfiguration of junction 6**

7.10.27 Where highway drainage for road diversions and realignments are discharged to local watercourses, assessments for determining whether routine runoff and spillage risk are likely to have detrimental impacts on water quality are carried out using the HEWRAT. These assessments have been repeated following the main ES using the combined changes to traffic flows and have identified the following permanent new or different significant effects.

7.10.28 The reconfiguration of M56 junction 6 will require new drainage to be provided. The screening exercise identified three discharge locations to the River Bollin, and one discharge each to Tributary of River Bollin 2 and Tributary of River Bollin 3, which required HEWRAT assessment, along with a cumulative assessment. The HEWRAT assessments found that the highway discharges from the reconfigured M56 junction 6 have the potential to result in a moderate impact on the high value River Bollin, leading to a new moderate adverse effect, which is significant.

7.10.29 In line with Water Framework Directive best practice guidance and the DMRB assessment principles, a metal bioavailability assessment has been carried out using the Environment Agency metal bioavailability assessment tool (M-BAT).

7.10.30 For the River Bollin, under the baseline conditions (prior to the scheme), the average concentration of copper is 2.45µg/l. The HEWRAT assessment for the River Bollin, shows that the changes in traffic data associated with the AP2 revised scheme, would lead to an increase in average concentration of copper to 2.47µg/l in River Bollin. These concentrations have been input to the M-BAT to estimate the bioavailable concentration of copper. The M-BAT estimates the concentration of bioavailable copper as 0.06µg/l in baseline conditions and remains at 0.06µg/l for the AP2 revised scheme. The values are below the EQS of 1µg/l. Therefore, this additional assessment would reduce the impact to negligible on water quality in the River Bollin, leading to a minor adverse effect which is not significant.

## Highways spillage risk assessment

- 7.10.31 Highways spillage risk assessments have been undertaken for the spillage risks on the River Bollin and Tributary of River Bollin 2 from the M56 realignment. In all cases the risk of a serious pollution incident occurring is identified as negligible. The highway realignment will not result in significant effects related to spillage risk and no further mitigation is required.
- 7.10.32 There are no other new, different or removed permanent significant effects additional to those reported in the main ES.

## Other mitigation measures

- 7.10.33 No mitigation measures further to those reported in the main ES are proposed.

## Summary of likely residual significant effects

- 7.10.34 No new or different likely residual significant effects have been identified.
- 7.10.35 In the main ES, a precautionary moderate adverse effect, which is significant, was reported on water quality in Timperley Brook due to changes in highways drainage. The updated assessment based on new SES2 baseline data and the AP2 revised scheme traffic data will lead to the removal of this permanent residual significant effect on water quality in Timperley Brook.

# 7.11 Summary of new or different likely residual significant effects as a result of combined effects due to changes in traffic flows

## Construction

### Traffic and transport

#### Broomedge to Glazebrook (MA04)

- 7.11.1 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES:
- new moderate adverse effect at two junctions;
  - change (decrease) from major adverse effect to moderate adverse effect at one junction; and
  - new moderate beneficial effect at one junction.
- 7.11.2 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in the Broomedge to Glazebrook area reported in the SES1

and AP1 ES: change (decrease) from major adverse effect to moderate adverse effect on one road.

### **Risley to Bamfurlong (MA05)**

7.11.3 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Risley to Bamfurlong area reported in the SES1 and AP1 ES:

- new major adverse effect at one junction;
- different (increased) major adverse significant effects at two junctions;
- change (increase) from moderate adverse effect to major adverse effect at two junctions;
- new minor adverse effect at one junction;
- change (decrease) from major adverse effect to moderate adverse effect at four junctions; and
- change (decrease) from major adverse effect to minor adverse effect at one junction.

### **Hulseheath to Manchester Airport area (MA06)**

7.11.4 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect at one junction;
- change (increase) from moderate adverse effect to major adverse effect at one junction;
- change (increase) from minor adverse effect to major adverse effect at two junctions;
- change (increase) from minor adverse effect to moderate adverse effect at three junctions;
- change (decrease) from major adverse effect to moderate beneficial effect at one junction;
- change (increase) from moderate beneficial effect to major adverse effect at one junction;
- new major adverse effect at eight junctions;
- new moderate adverse effect at two junctions;
- new minor adverse effect at three junctions; and
- new major beneficial effect at one junction.

7.11.5 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect on six roads;
- change (increase) from moderate adverse effect to major adverse effect on five roads;
- new major adverse effect on 13 roads;

- new moderate adverse effect on 10 roads;
- new minor adverse effect on three roads;
- new moderate beneficial effect on six roads;
- new minor beneficial effect on one road; and
- different (decreased) major adverse significant effects on three roads.

## **Community**

- 7.11.6 Changes to traffic flows and to the sound, noise and vibration will result in new residual significant effects on:
- approximately 260 residential properties on Arthog Road, Bankhall Lane, Hawley Lane, Broad Lane, Chapel Lane, High Elm Road and Elmridge Drive due to new noise and HGV traffic effects; and
  - Bucklow Manor Care Home due to new HGV traffic effects and existing noise effects.
- 7.11.7 Changes to traffic flows and to the sound, noise and vibration assessment will result in a different residual significant effect on approximately ten residential properties on Sunbank Lane, Ringway, due to different noise, new HGV traffic and existing visual effects.

## **Ecology and biodiversity**

- 7.11.8 At this stage, without any mitigation taken into account, the construction of the AP2 revised scheme will result in significant adverse effects on:
- The Mere, Mere SSSI component of the Midland Meres and Mosses Phase 1 Ramsar Site. On a precautionary basis, this will result in an adverse effect on the Midland Meres and Mosses Phase 1 Ramsar site that is significant at the international level. This will be a new significant effect compared to that reported in the SES1 and AP1 ES;
  - Rostherne Mere Ramsar site. On a precautionary basis, this will result in an adverse effect on the Rostherne Mere Ramsar site that is significant at the international level. It will also result in an adverse effect on the Rostherne Mere SSSI and NNR that is significant at the national level. These are new significant effects compared to those reported in the main ES;
  - Holcroft Moss SSSI component of the Manchester Mosses SAC. On a precautionary basis, this will result in an adverse effect on the Holcroft Moss SSSI component of the Manchester Mosses SAC that is significant at the international level. This will be a new significant effect compared to that reported in the main ES; and
  - Cotteril Clough SSSI. On a precautionary basis, this will result in an adverse effect on the SSSI that is significant at the national level. This will be a new significant effect compared to that reported in the main ES.
- 7.11.9 HS2 Ltd is continuing to seek to identify suitable measures to mitigate or compensate for potential significant effects identified on designated sites. In doing so HS2 Ltd will continue

to engage with stakeholders to fully understand the receptors and the suitability of the measures.

## **Socio-economics**

- 7.11.10 The changes in traffic flows will result in new temporary adverse significant in-combination effects on Birkin Lodge Holiday Let, The Greyhound public house, Bucklow Manor Care Home and Premier Inn Manchester Airport (M56/J6) Runger Lane North Hotel.
- 7.11.11 The changes in traffic flows will result in different temporary adverse significant in-combination effects on a management company operating from Cherry Tree Farm; Birkin Farm Holiday Let, run by Tatton Stays; and South Arden Lodge and Little Lodge Holiday Lets, both run by Tatton Stays.

## **Sound, noise and vibration**

- 7.11.12 As a result of the AP2 revised scheme, construction traffic in this area will give rise to a new likely temporary residual adverse significant noise effect on adjacent residential properties along:
- Arthog Road between the B5162 Park Road and Bankhall Lane;
  - Bankhall Lane between Arthog Road and Hill Top;
  - Bankhall Lane between Hill Top and Broad Lane;
  - Broad Lane between Hale Road and Bankhall Lane;
  - Broad Lane/Hawley Lane between Bankhall Lane and Chapel Lane;
  - Chapel Lane between Hawley Lane and High Elm Road;
  - High Elm Road/Elmridge Drive between Chapel Lane and the A538 Hale Road; and
  - High Elm Road between Greengate and the A538 Hale Road.
- 7.11.13 As a result of the AP2 revised scheme, construction traffic in this area will give rise to new likely temporary residual adverse significant noise effect at 2 Dairy Farm (Holiday let), Ashley Road.
- 7.11.14 As a result of the AP2 revised scheme, construction traffic in this area will give rise to a different likely temporary residual adverse significant noise effect at Bucklow Manor Care Home, Chester Road.

## **Operation**

### **Ecology and biodiversity**

- 7.11.15 At this stage, without any mitigation taken into account, the operation of the AP2 revised scheme will result in significant adverse effects on Cotteril Clough SSSI. On a precautionary basis, this will result in an adverse effect on the SSSI that is significant at the national level. This will be a new significant effect compared to that reported in the main ES.



- 7.11.16 HS2 Ltd is continuing to seek to identify suitable measures to mitigate or compensate for potential significant effects identified on designated sites. In doing so HS2 Ltd will continue to engage with stakeholders to fully understand the receptors and the suitability of the measures.

## **Traffic and transport**

- 7.11.17 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (increase) from minor adverse effect to major adverse effect at one junction;
- change (increase) from minor adverse effect to moderate adverse effect at one junction;
- change (decrease) from moderate adverse effect to minor adverse effect at two junctions;
- change (decrease) from moderate beneficial effect to minor beneficial effect at one junction;
- change (increase) from minor beneficial effect to major adverse effect at one junction;
- new major adverse effect at seven junctions;
- new moderate adverse effect at one junction;
- new minor adverse effect at one junction;
- new moderate beneficial effect at two junctions; and
- different (increased) major adverse significant effects at one junction.

- 7.11.18 The AP2 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:

- change (decrease) from major adverse effect to moderate adverse effect at two junctions;
- change (increase) from minor adverse effect to moderate adverse effect at two junctions;
- change (decrease) from moderate adverse effect to minor beneficial effect at one junction;
- change (increase) from major beneficial effect to major adverse effect at one junction;
- change (increase) from minor beneficial effect to moderate adverse effect at one junction;
- new major adverse effect at nine junctions;
- new moderate adverse effect at one junction;
- new minor adverse effect at two junctions;
- new moderate beneficial effect at two junctions;
- new minor beneficial effect at one junction; and
- different (increased) major adverse significant effects at one junction.

- 7.11.19 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:
- change (decrease) from major adverse effect to moderate adverse effect on three roads;
  - change (increase) from moderate adverse effect to major adverse effect on five roads;
  - change (decrease) from major adverse effect to major beneficial effect on two roads;
  - change (decrease) from moderate adverse effect to moderate beneficial effect on one road;
  - change (increase) from moderate beneficial effect to major beneficial effect on one road;
  - change (decrease) from moderate beneficial effect to minor beneficial effect on one road;
  - new major adverse effect on 11 roads;
  - new moderate adverse effect on 13 roads;
  - new minor adverse effect on one road;
  - new major beneficial effect on three roads; and
  - new moderate beneficial effect on three roads.
- 7.11.20 The AP2 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:
- change (decrease) from major adverse effect to moderate adverse effect on one road;
  - change (increase) from moderate adverse effect to major adverse effect on five roads;
  - change (increase) from minor adverse effect to major adverse effect on one road;
  - change (increase) from minor adverse effect to moderate adverse effect on one road;
  - change (decrease) from major adverse effect to major beneficial effect on two roads;
  - change (decrease) from moderate adverse effect to major beneficial effect on one road;
  - change (decrease) from major adverse effect to moderate beneficial effect on one road;
  - change (decrease) from moderate adverse effect to moderate beneficial effect on one road;
  - change (decrease) from moderate adverse effect to minor beneficial effect on one road;
  - change (increase) from moderate beneficial effect to major beneficial effect on one road;
  - change (increase) from major beneficial effect to major adverse effect on two roads;
  - change (increase) from moderate beneficial effect to major adverse effect on two roads;
  - change (increase) from moderate beneficial effect to moderate adverse effect on two roads;
  - new major adverse effect on 14 roads;
  - new moderate adverse effect on 24 roads;
  - new minor adverse effect on one road;

- new major beneficial effect on one road;
- new moderate beneficial effect on eight roads; and
- new minor beneficial effect on two roads.

7.11.21 The AP2 revised scheme will result in the following changes to public transport delay in 2039 and 2051 in the Hulseheath to Manchester Airport area:

- a change (decrease) from moderate adverse effect to a minor adverse effect on one bus corridor; and
- a change (decrease) from moderate adverse effect to moderate beneficial effect on one bus corridor.

## **Community**

7.11.22 Changes to the sound, noise and vibration assessment as a result of new operational traffic data, and new and different visual effects as a result of the AP2 revised scheme, will result in a new major adverse in-combination effect on approximately 25 residential properties in Davenport Green as a result of noise and visual effects.

## **Sound, noise and vibration**

7.11.23 Changes in road traffic flows will give rise to a new residual likely significant adverse noise effect from operation of the AP2 revised scheme on residential communities in Davenport Green.

# **7.12 Summary of likely residual significant effects that will be removed**

## **Construction**

### **Community**

7.12.1 Changes to traffic flows and to the sound, noise and vibration assessment will remove the residual significant effect on approximately 20 residential properties on Chapel Lane (between Hulseheath Lane and the A5034 Chester Road) due to the removal of the significant noise effect.

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

7.12.2 The AP2 revised scheme will remove the likely temporary residual indirect significant effect from construction traffic noise reported in the main ES on residential properties along Rostherne Lane between Marsh Lane and Chester Road.

7.12.3 The AP2 revised scheme will remove the likely temporary residual indirect significant effect from construction traffic noise reported in the main ES on:

- Tatton Stays Holiday Lets (Virginia Cottage and Rose Cottage), Rostherne Lane; and
- Egerton Hall, Rostherne Lane.

## **Traffic and transport**

### **Broomedge to Glazebrook (MA04)**

7.12.4 The AP2 revised scheme will result in the removal of significant adverse congestion and delay effects for vehicle occupants in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES at three junctions (one major and two minor).

7.12.5 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Broomedge to Glazebrook area reported in the SES1 and AP1 ES on nine roads (six major and three moderate).

### **Risley to Bamfurlong (MA05)**

7.12.6 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in the Risley to Bamfurlong area reported in the SES1 and AP1 ES at six junctions (four major and two moderate).

7.12.7 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Risley to Bamfurlong area reported in the SES1 and AP1 ES on two roads (both moderate).

### **Hulseheath to Manchester Airport area (MA06)**

7.12.8 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in the Hulseheath to Manchester Airport area reported in the main ES at 10 junctions (one major, three moderate, six minor).

7.12.9 The AP2 revised scheme will result in the removal of significant traffic-related severance effects for non-motorised users in the Hulseheath to Manchester Airport area reported in the main ES on 10 roads (three major, seven moderate).

## **Operation**

### **Traffic and transport**

7.12.10 The AP2 revised scheme will result in the removal of the following congestion and delay effects for vehicle occupants in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:

- significant adverse effects removed at 11 junctions (one major, four moderate and six minor); and
  - significant beneficial effects removed at one junction (one moderate).
- 7.12.11 The AP2 revised scheme will result in the removal of significant congestion and delay effects for vehicle occupants in 2051 in the Hulseheath to Manchester Airport area reported in the main ES at 10 junctions (four major, two moderate and four minor).
- 7.12.12 The AP2 revised scheme will result in the removal of the following traffic-related severance effects for non-motorised users in 2039 in the Hulseheath to Manchester Airport area reported in the main ES:
- significant adverse effects removed on 14 roads (three major, eight moderate and three minor); and
  - significant beneficial effects removed on four roads (three moderate, one major).
- 7.12.13 The AP2 revised scheme will result in the removal of the following traffic-related severance effects for non-motorised users in 2051 in the Hulseheath to Manchester Airport area reported in the main ES:
- significant adverse effects removed on 17 roads (seven major, nine moderate and one minor); and
  - significant beneficial effects removed on two roads (one moderate, one major).

## **Water resources and flood risk**

- 7.12.14 In the main ES, a precautionary moderate adverse effect, which is significant, was reported on water quality in Timperley Brook due to changes in highways drainage. The updated assessment based on new SES2 baseline data and the AP2 revised scheme traffic data, will lead to the removal of this permanent residual significant effect on water quality in Timperley Brook.

**High Speed Two (HS2) Limited**

Two Snowhill

Snow Hill Queensway

Birmingham B4 6GA

Freephone: 08081 434 434

Minicom: 08081 456 472

Email: [HS2enquiries@hs2.org.uk](mailto:HS2enquiries@hs2.org.uk)