

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Map book

Air quality (AQ-01)

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Map book

Air quality (AQ-01)



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

Website: www.gov.uk/hs2

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

ARUP



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, 2017, 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 v2.0. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/version/2 **OGL** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: 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 at least 75% recycled fibre.

Contents

Mapping explanatory notes

Data dictionary and definitions

Map series name	AQ-01 - Air Quality Monitoring Locations and Receptors
Map series description	<i>These maps show the location of local air quality monitoring locations, management areas and receptors used in the construction/operational traffic assessments in relation to the proposed scheme.</i>
Community Area name	
CA1 Fradley to Colton	✓
CA2 Colwich to Yarlet	✓
CA3 Stone and Sywnnerton	✓
CA4 Whitmore Heath to Madeley	✓
CA5 South Cheshire	✓

Mapping explanatory notes

Structure of the HS2 Phase 2a Environmental Statement

This map book is part of the suite of documents that make up the Environmental Statement (ES) for Phase 2a of the proposed High Speed Two (HS2) rail network between the West Midlands and Crewe (the Proposed Scheme).

The ES documentation comprises the following:

- Non-technical summary. This provides: a summary in non-technical language of the Proposed Scheme and the reasonable alternatives studied; the likely significant effects of the Proposed Scheme; the means to avoid, prevent or reduce the likely significant environmental effects; and an outline of the monitoring measures to manage the effects of construction and the effectiveness of mitigation post construction, as well as appropriate operational phase monitoring.
- Glossary of terms and list of abbreviations. This contains terms and abbreviations, including units of measurement used throughout the ES documentation.
- Volume 1: Introduction and methodology. This provides: a description of HS2, the EIA process and the approach to consultation and engagement; details of the permanent features of the Proposed Scheme and general construction techniques; a summary of the scope and methodology for the environmental topics; an outline of the general approach to mitigation; an outline of the approach to monitoring, including measures to manage the effects of construction, the effectiveness of mitigation post construction, as well as the approach to operational phase monitoring; and a summary of the reasonable alternatives studied (including local alternatives studied prior to the November 2015 route announcement). Local alternatives studied post November 2015 are discussed in the relevant Volume 2 community area reports.
- Volume 2: Community area reports and map books. These cover the following community areas: 1 Fradley to Colton; 2 Colwich to Yarlet; 3 Stone and Swynnerton; 4 Whitmore Heath to Madeley; and 5 South Cheshire. The reports provide the following for each area: an overview of the area; a description of the construction and operation of the Proposed Scheme within the area; a summary of the local alternatives studied since November 2015; a description of the environmental baseline; a description of the likely significant environmental effects of the Proposed Scheme; the proposed means to avoid, prevent or reduce the likely significant environmental effects; and the proposals for monitoring, including measures during and post construction, and during the operational phase.
The maps relevant to each community area are provided in separate Volume 2 map books. These maps should be read in conjunction with the relevant community area report. These maps include the location of the key environmental features (Map Series CT-10), key construction features (Map Series CT-05) and key operation features (Map Series CT-06) of the Proposed Scheme. There are also specific maps showing viewpoint and photomontage locations (Map Series LV, to be read in conjunction with Section 11, Landscape and visual of the Volume 2: community area reports) and noise contours (Map Series SV, to be read in conjunction with Section 13, Sound, noise and vibration of the Volume 2: community area reports).
- Volume 3: Route-wide effects. This describes the likely significant environmental effects that are likely to occur at a geographical scale greater than the community areas described in Volume 2.
- Volume 4: Off-route effects. This provides an assessment of the likely significant environmental effects of the Proposed Scheme at locations beyond the Phase 2a route corridor and its associated local environment. The maps relevant to the assessment of off-route effects are provided in a separate map book.
- Volume 5: Appendices and map books. This contains supporting technical information and associated map books to be read in conjunction with the other volumes of the ES.

Copyright statements

Copyright statements are presented in the Data dictionary and definitions section at the front of the map book, due to limited space to include this on the individual maps themselves.

Ordnance Survey data

All maps produced as part of the ES contain Ordnance Survey (OS) data. HS2 Ltd use the most up to date mapping available, where possible, supplied by the OS and as such, we cannot be held responsible for any inaccuracies within this data.

As part of our licence conditions, all digital maps carry a watermark.

Chainage

Most of the maps presented as part of the ES have a chainage value shown next to the alignment. Chainage is presented on the maps in black font, in the form of XX+YYY. E.g. 192+000 or 239+500.

Chainage (known as reference chainage) is referenced from Euston Station, which is 0+000, and the value presented is in metres. E.g. 192+000 refers to the point, 192,000m, or 192km, from Euston Station. Chainage values increase in intervals dependant on the map scale. For maps at 1:50,000 scale chainage is shown at 5km intervals. For maps at 1:25,000 scale chainage is shown at 2km intervals. For maps at 1:20,000, 1:10,000, 1:5,000 and 1:2,500 scales, chainage is shown at 1km intervals.

Chainage has been included on the maps as a useful tool for comparing different map sets showing the different environmental themes or engineering plans, due to map sets having different scales and therefore showing differing amounts of alignment on the map.

Map orientation

The majority of the maps presented in these map books are presented with the railway alignment running horizontally across the page. The direction of travel to London would be following the alignment to the right hand side of the page, and Crewe to the left.

The exception to this, are map series LV-02, LV-03, LV-04, LV-07 and LV-08, which present the alignment running from bottom to top of the page. This is to allow more of the modelled outputs to be shown at the appropriate map scale. In this instance, the direction of travel to London would be to the bottom of the page, and Crewe to the top. Map series TR-08 is orientated north.

Map books

In total there are 22 map books which make up the ES, spread across volumes 2, 4 and 5. A list of the titles is provided below for reference.

Name	Name
Volume 2: Map book – CA1: Fradley to Colton	Volume 5: Map book – Land Quality (LQ-01)
Volume 2: Map book – CA2: Colwich to Yarlet	Volume 5: Map book – CA1: Fradley to Colton - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)
Volume 2: Map book – CA3: Stone and Swynnerton	Volume 5: Map book – CA2: Colwich to Yarlet - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)
Volume 2: Map book – CA4: Whitmore Heath to Madeley	Volume 5: Map book – CA3: Stone and Swynnerton - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)
Volume 2: Map book – CA5: South Cheshire	Volume 5: Map book – CA4: Whitmore Heath to Madeley - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)
Volume 4: Map book – Off-route effects	Volume 5: Map book – CA5: South Cheshire - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)
Volume 5: Map book – Agriculture, forestry and soils (AG-01, AG-02 & AG-04)	Volume 5: Map book – Planning Data/Committed Development (CT-13)
Volume 5: Map book – Air quality (AQ-01)	Volume 5: Map book – Socio-Economics (SE-01)
Volume 5: Map book – Community (CM-01)	Volume 5: Map book – Sound, Noise and Vibration (SV-01, SV-02, SV-03 & SV-04)
Volume 5: Map book – Cultural Heritage (CH-01, CH-02, CH-03)	Volume 5: Map book – Traffic and Transport (TR-03, TR-04 & TR-08)
Volume 5: Map book – Ecology - designated sites (EC-01)	Volume 5: Map book – Water Resources and Flood Risk (WR-01, WR-02, WR-03, WR-05, WR-06)

This page is left intentionally blank

High Speed Rail (West Midlands-Crewe)
Environmental Statement
Data dictionary and definitions

Data dictionary and definitions

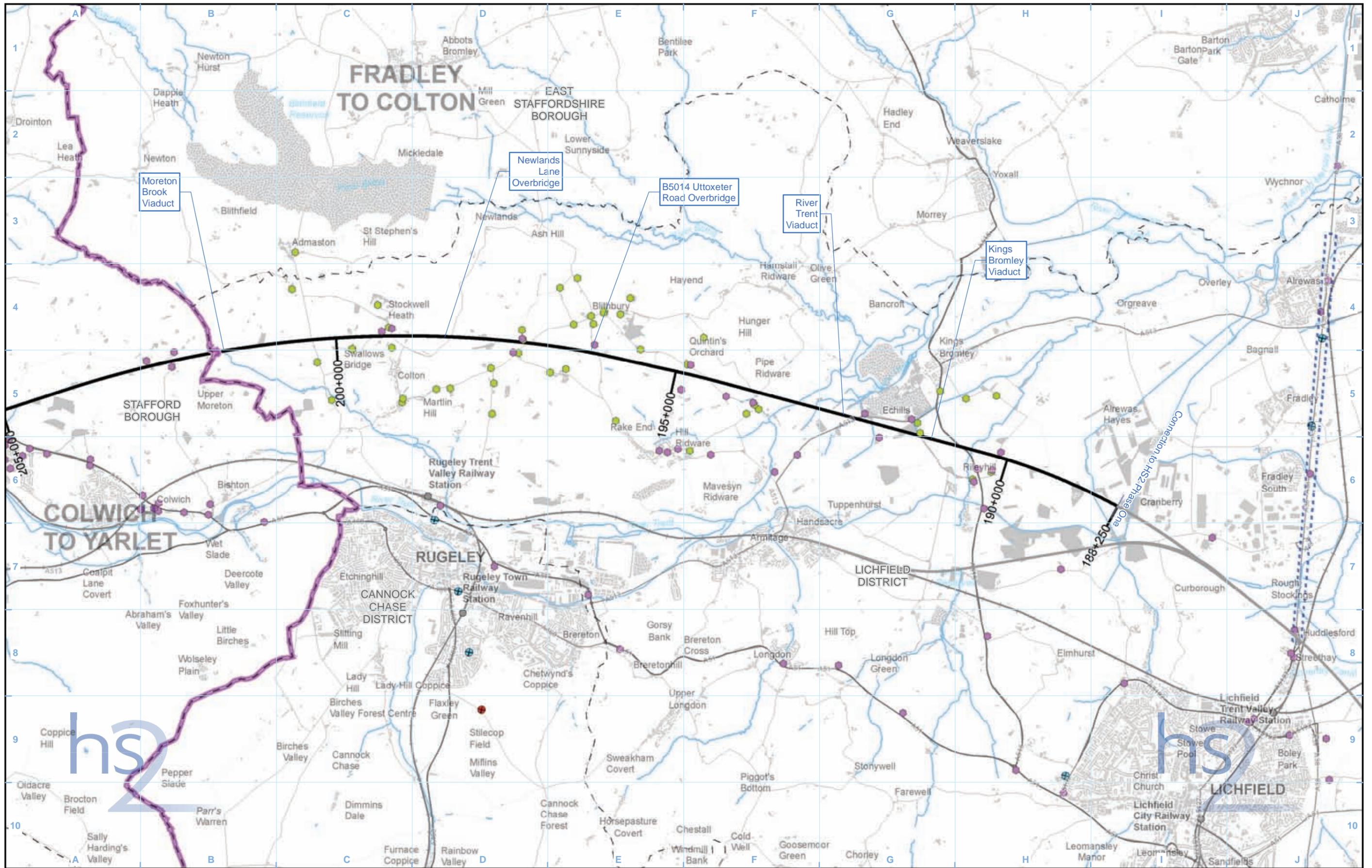
Legend features	Definition	Source	Copyright
Air quality modelling receptors	Air quality modelled receptors.	High Speed Two (HS2) Ltd	
Automatic monitoring location Passive monitoring location	A full explanation of a Passive (Diffusion tube) and Automatic (Continuous) monitoring location type is provided in the Glossary & Abbreviations document.	High Speed Two (HS2) Ltd	
Community area boundary	The Environmental Statement has been split into 5 sections called Community Areas.	High Speed Two (HS2) Ltd	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
County boundary	County boundaries from Ordnance Survey boundary mapping.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Defra Air Quality Management Areas 2017 (AQMA)	Since December 1997 each Local Authority in the UK has been carrying out a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment. If a Local Authority finds any places where the objectives are not likely to be achieved, it must declare the location as an Air Quality Management Area. This area may extend for one or two streets, or it could be a much wider area.	Department Environment Food and Rural Affairs (Defra)	© Crown 2017 copyright Defra via uk-air.defra.gov.uk, licenced under the Open Government Licence (OGL).
Depot, station, headhouse or portal building	Extends to cover operational footprint of each depot and station and the footprint of each tunnel vent shaft and headhouse at surface level. Excludes any ancillary buildings associated with these structures.	High Speed Two (HS2) Ltd	
District/Borough boundary	Ordnance Survey local authority boundary mapping.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Existing rail line	Existing railway stations derived from Ordnance Survey Vector map data.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Existing railway station	Existing railway stations derived from Ordnance Survey Vector map data.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Route in tunnel Route on surface	Represents the proposed route of HS2, split into route on surface and tunnelled sections.	High Speed Two (HS2) Ltd	
Water body	Any mass of water having definite hydrological, physical, chemical and biological characteristics.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Watercourse	Any channel through which water flows, can be natural or manmade. They are split into two categories (main rivers or ordinary watercourses) in England and Wales for regulation purposes.	Environment Agency	© Environment Agency copyright and/or database right 2017. All rights reserved.
Woodland	Woodland areas derived from Ordnance Survey MasterMap data.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.

High Speed Rail (West Midlands-Crewe)

Environmental Statement

CA1 Fradley to Colton

AQ-01 - Air Quality Monitoring Locations and Receptors



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland
- Existing railway station
- Existing rail line
- Defra Air Quality Management Areas 2017 (AQMA)
- Automatic monitoring location
- Passive monitoring location
- Air quality modelling receptors (construction)
- Air quality modelling receptors (operation)

Map Number: **AQ-01-101**

Map Name: **Air Quality Monitoring Locations and Receptors**

Community Area 1:
Fradley to Colton

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:50,000

© Crown copyright and database rights 2017.
Ordnance Survey Licence Number 100049190.

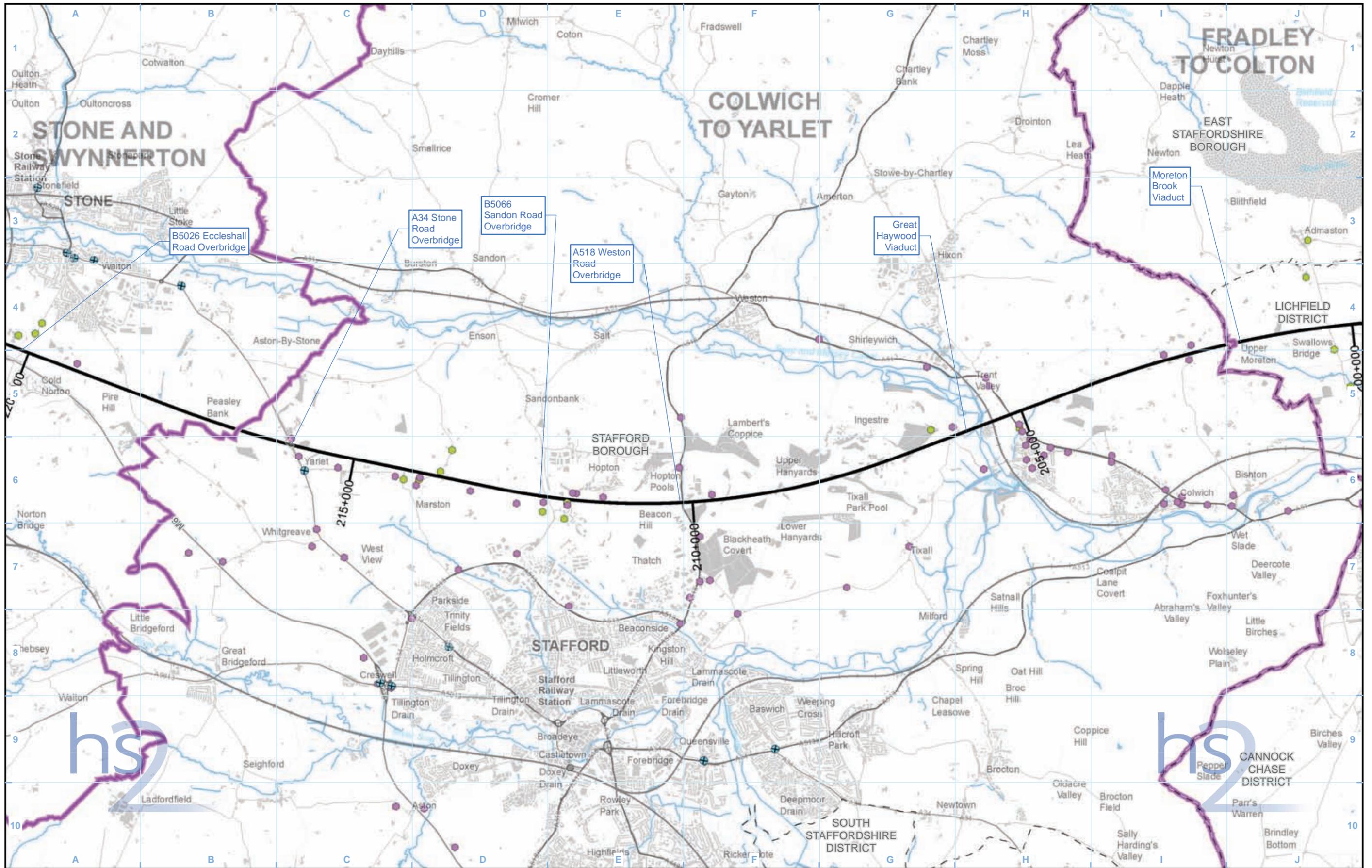
Doc Number: C861-ARP-EV-MAP-000-021101-P03 Date: 07/06/17

High Speed Rail (West Midlands-Crewe)

Environmental Statement

CA2 Colwich to Yarlet

AQ-01 - Air Quality Monitoring Locations and Receptors



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland
- Existing railway station
- Existing rail line
- Defra Air Quality Management Areas 2017 (AQMA)
- Automatic monitoring location
- Passive monitoring location
- Air quality modelling receptors (construction)
- Air quality modelling receptors (operation)

Map Number: AQ-01-102

Map Name: Air Quality Monitoring Locations and Receptors

Community Area 2: Colwich to Yarlet

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6QA.

© Crown copyright and database rights 2017.
Ordnance Survey Licence Number 100049190.

Scale at A3: 1:50,000

Doc Number: C861-ARP-EV-MAP-000-021102-P03

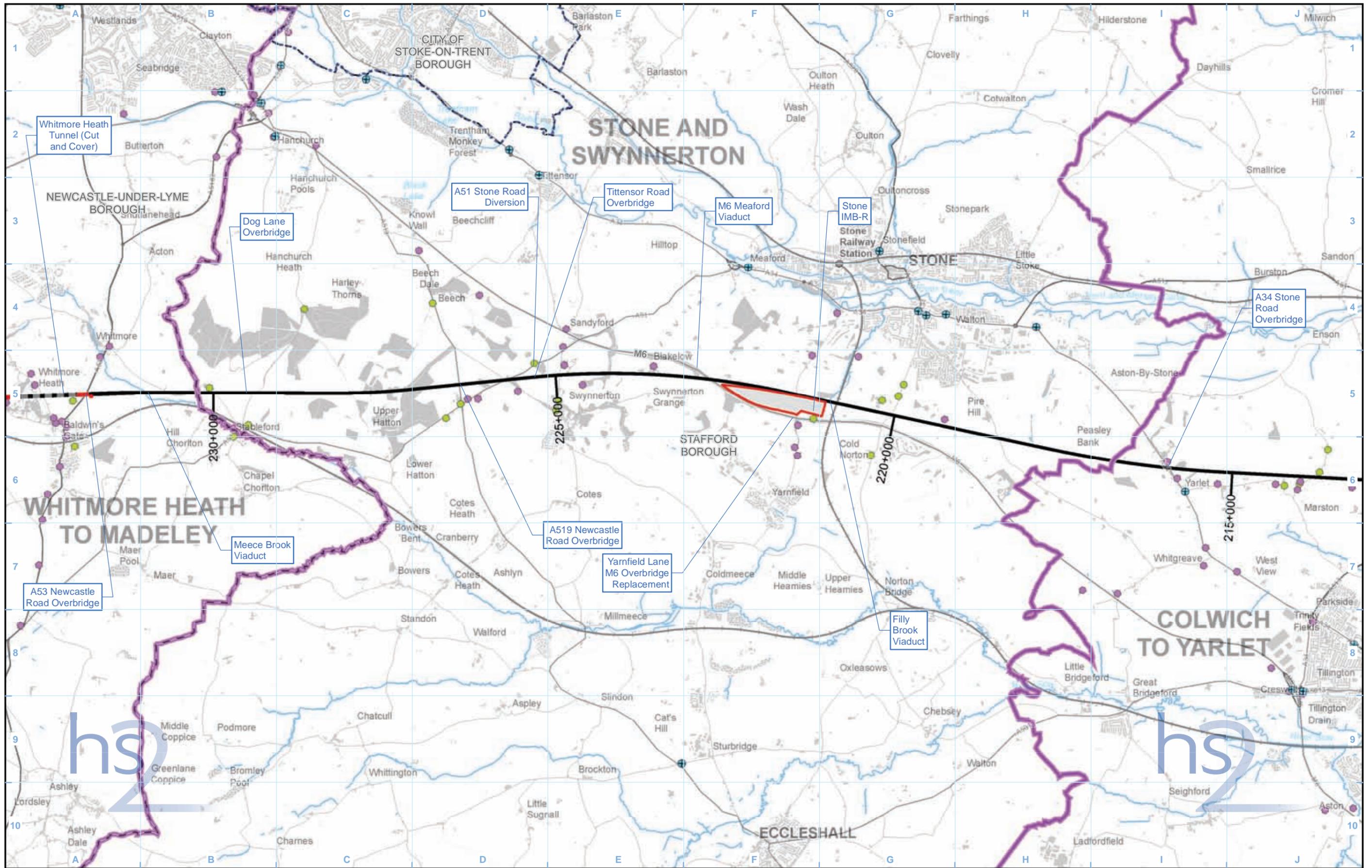
Date: 07/06/17

High Speed Rail (West Midlands-Crewe)

Environmental Statement

CA3 Stone and Sywnnerton

AQ-01 - Air Quality Monitoring Locations and Receptors



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland
- Existing railway station
- Existing rail line
- Defra Air Quality Management Areas 2017 (AQMA)
- Automatic monitoring location
- Passive monitoring location
- Air quality modelling receptors (construction)
- Air quality modelling receptors (operation)

Map Number: **AQ-01-103**

Map Name: **Air Quality Monitoring Locations and Receptors**

Community Area 3:
Stone and Swynnerton

hs2

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6QA.

Scale at A3: 1:50,000

0 500 1,000 1,500 2,000
Metres

© Crown copyright and database rights 2017.
Ordnance Survey Licence Number 100049190.

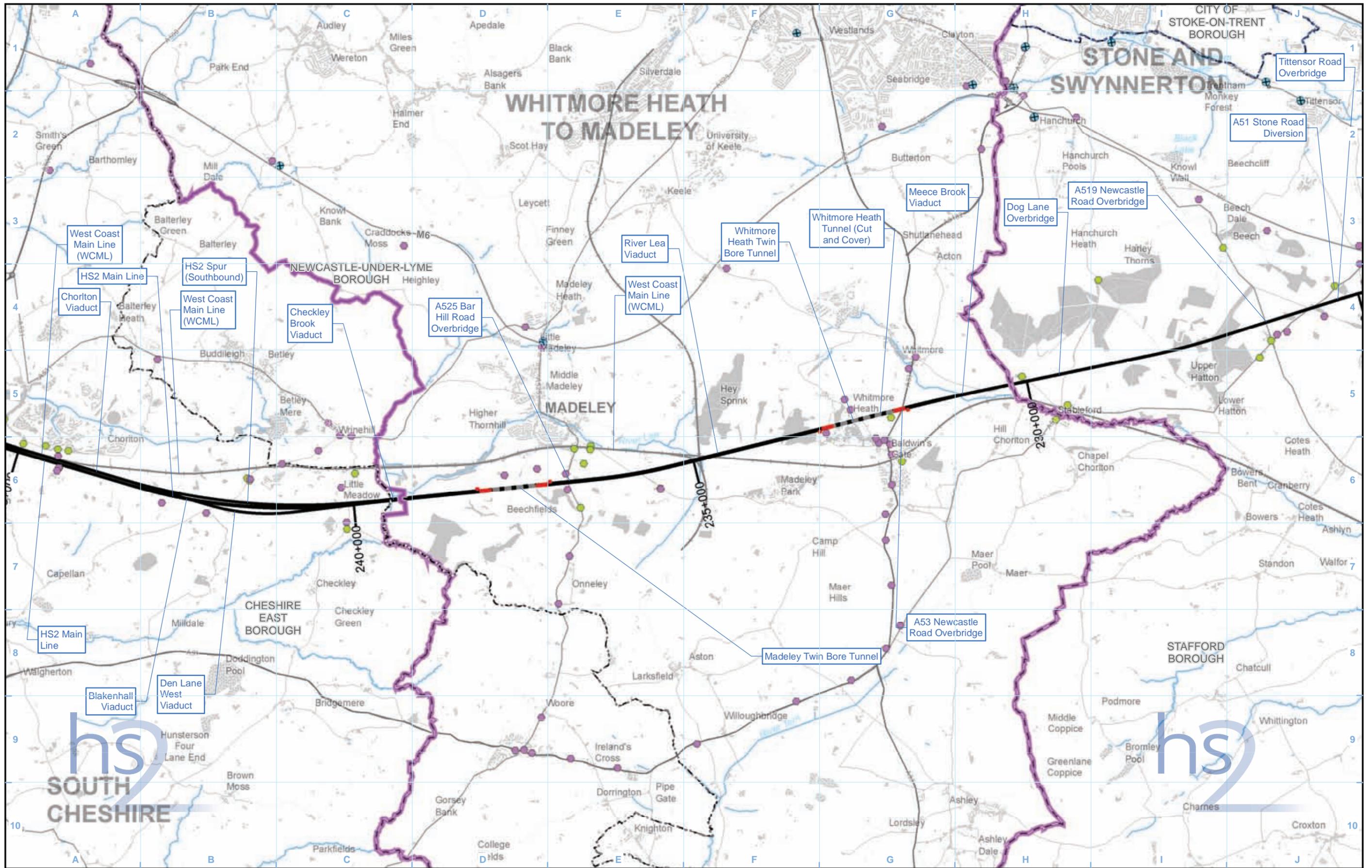
Doc Number: C861-ARP-EV-MAP-000-021103-P03 Date: 07/06/17

High Speed Rail (West Midlands-Crewe)

Environmental Statement

CA4 Whitmore Heath to Madeley

AQ-01 - Air Quality Monitoring Locations and Receptors



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland
- Existing railway station
- Existing rail line
- Defra Air Quality Management Areas 2017 (AQMA)
- Automatic monitoring location
- Passive monitoring location
- Air quality modelling receptors (construction)
- Air quality modelling receptors (operation)

Map Number: **AQ-01-104**

Map Name: **Air Quality Monitoring Locations and Receptors**

Community Area 4:
Whitmore Heath to Madeley

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway,
Birmingham B4 6GA.

Scale at A3: 1:50,000

© Crown copyright and database rights 2017.
Ordnance Survey Licence Number 100049190.

Doc Number: C861-ARP-EV-MAP-000-021104-P03

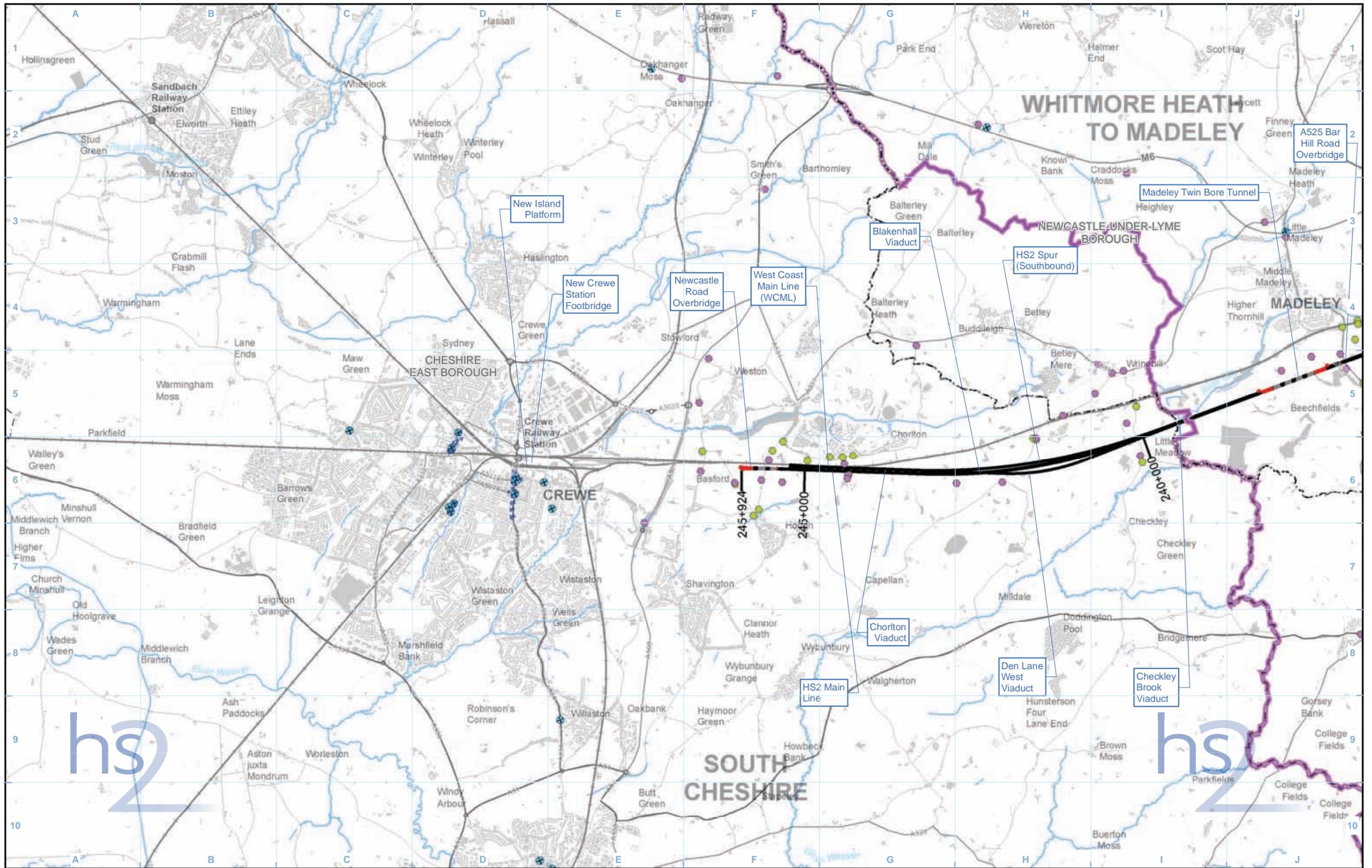
Date: 07/06/17

High Speed Rail (West Midlands-Crewe)

Environmental Statement

CA5 South Cheshire

AQ-01 - Air Quality Monitoring Locations and Receptors



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland
- Existing railway station
- Existing rail line
- Defra Air Quality Management Areas 2017 (AQMA)
- Automatic monitoring location
- Passive monitoring location
- Air quality modelling receptors (construction)
- Air quality modelling receptors (operation)

Map Number: AQ-01-105

Map Name: Air Quality Monitoring Locations and Receptors

Community Area 5: South Cheshire

hs2

Registered in England. Registration number 06791686. Registered office: 2 Snowhill, Queensway, Birmingham B4 6QA.

Scale at A3: 1:50,000

© Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190.

Doc Number: C861-ARP-EV-MAP-000-021105-P04

Date: 07/06/17

