

# High Speed Rail (West Midlands - Crewe)

## Environmental Statement

### Volume 2: Map book

CA4: Whitmore Heath to Madeley



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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.

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

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# Contents

Mapping explanatory notes

Data dictionary and definitions

Map series name	Map series description
CT-05 – Construction Phase	These plans show the land potentially required during construction, the construction features, access requirements and infrastructure associated with construction of the Proposed Scheme. The plans also show the construction phase arrangements for public access using Public Rights of Way. The base mapping shown on the plans is reflective of 2017 Ordnance Survey (OS) data.
CT-06 – Proposed Scheme	These maps show permanent features, infrastructure, restored land, and areas for landscaping, screening and ecological mitigation associated with the Proposed Scheme. The base mapping shown on the plans is reflective of 2017 Ordnance Survey (OS) data.
CT-10 – Environmental Baseline	The Environmental Baseline maps display a range of environmental data layers.
LV-01 – Photomontages	Photomontages illustrating the Proposed Scheme during construction and/or operation.
LV-03 – Construction Phase Significantly Affected Viewpoints	Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the construction phase. (All significant and non-significant photomontage locations are shown).
LV-04 – Operational Phase Significantly Affected Viewpoints	Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the operational phase. (All significant and non-significant photomontage locations are shown).
SV-05 – Operational Noise and Vibration Impacts and Likely Significant Effects	SV-05 presents the direct operational noise impacts and likely significant effects of the scheme. The SV-05 figure series necessarily contains a large amount of information relating to the operational noise and vibration assessment. It is designed to communicate visually the assessment process from the prediction of impacts to the determination of likely residual significant effects. The corresponding text is included in Vol2.

# 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)

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

## Data dictionary and definitions

Legend features	Definition	Source	Copyright
1km Airborne sound study area	This defines the area within which operational airborne sound impacts of the scheme have been quantitatively assessed. This area is defined as within 1km of surface sections of the route in rural areas and within 500m of surface sections of the route in urban areas.	High Speed Two (HS2) Ltd	
5m contours	A contour line showing points of equal elevation (height) above a reference level, such as mean sea level and therefore gives indication of the topography, showing valleys and hills, and the steepness of slopes. Spaced at intervals of 5m.	High Speed Two (HS2) Ltd	
Ancient Woodland Inventory Sites (AWIS)	Ancient Woodland is land that has had continuous woodland cover since at least 1600AD. Natural England maintain an inventory of ancient woodlands.	Natural England	© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2017
Area of Outstanding Natural Beauty (AONB)	An Area of Outstanding Natural Beauty (AONB) is an area of high scenic quality which has statutory protection in order to conserve and enhance the natural beauty of its landscape. AONB landscapes range from rugged coastline to water meadows to gentle lowland and upland moors. Natural England has a statutory power to designate land as Areas of Outstanding Natural Beauty under the Countryside and Rights of Way Act 2000.	Natural England	© Natural England copyright 2017
Balancing pond	The proposed location and extent of balancing ponds for drainage attenuation and infiltration. Outer boundary represents the perimeter.	High Speed Two (HS2) Ltd	
Borrow Pit	Area excavated to provide material for construction purposes.	High Speed Two (HS2) Ltd	
Chainage	<p>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 1:10,000, 1:5,000 and 1:2,500 scale chainage is shown at 1km intervals.</p> <p>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.</p>	High Speed Two (HS2) Ltd	
Committed developments – SV Only	<p>This informs the assessment of the future baseline.</p> <p>Committed consents are unimplemented but committed developments or Local Plan development allocations that are likely to be largely built out prior to commencement of the Proposed Scheme.</p> <p>Cumulative development is unimplemented but committed</p>	High Speed Two (HS2) Ltd	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.

Legend features	Definition	Source	Copyright
	developments or Local Plan development allocations that are likely to be largely built out during implementation of the Proposed Scheme and give rise to potential cumulative effects, when considered alongside the Proposed Scheme.		
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.
Conservation areas	Areas considered worthy of preservation or enhancement because of their special architectural or historic interest. Conservation Areas have been captured and digitised from desktop based studies using publically available local authority information. Accuracy of the data is dependent upon that of the individual data source and areas are provided as indicative site boundaries only.	Staffordshire County Council Cheshire Historic Environment Record	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017. © Staffordshire County Council © Cheshire Historic Environment Record
Construction compounds	See Main construction compound and Satellite construction compound.	High Speed Two (HS2) Ltd	
Construction traffic route	Public highways which may be used for HGV construction traffic.	High Speed Two (HS2) Ltd	
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.
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.
Ditches – new	The proposed location and extent of drainage ditches.	High Speed Two (HS2) Ltd	
Ecological mitigation pond	Ponds whose primary function is to provide ecological mitigation. This could be a standalone pond or part of a wider wetland habitat creation plan.	High Speed Two (HS2) Ltd	
Electricity substation	Includes all auto-transformers and feeder stations.	High Speed Two (HS2) Ltd	
Engineering earthworks	Engineering (structural) earthworks which include railway slopes and crossings (roads etc.).	High Speed Two (HS2) Ltd	
Engineering earthworks: Cutting	Cuttings created in the construction of the railway and associated works such as highways.	High Speed Two (HS2) Ltd	
Engineering earthworks: Embankment	Embankments created in the construction of the railway and associated works such as highways.	High Speed Two (HS2) Ltd	
Envisaged measures further reducing noise effects	Other environmental features e.g. landscaping: These lines represent environmental mitigation features provided for reasons other than noise mitigation which also reduce sound levels from the Proposed Scheme to the surrounding environment. These features are not placed specifically to reduce or remove a likely significant noise effect. Examples include landscaping and visual mitigation earthworks (non-engineering earthworks).  Engineering e.g. cuttings: These lines represent engineering features which reduce sound levels from the Proposed Scheme to the surrounding environment but are not placed specifically to	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	reduce or remove a likely significant noise effect. Examples include cuttings and safety barriers on viaducts which are not close to sensitive receptors.		
Envisaged mitigation to avoid / reduce significant noise effects	<p>Landscaping and/or fence barriers: These lines represent the envisaged mitigation provided specifically to reduce sound levels from the Proposed Scheme at sensitive receptors in order to reduce or remove likely operational significant noise effects. Examples include noise fence barriers or earth bunds (non-engineering earthworks) acting as noise barriers. These features are labelled with the height of the top of the barrier/bund above rail level.</p> <p>Engineering e.g. cuttings: These lines represent engineering features of the route which reduce sound levels from the Proposed Scheme at potentially significant sensitive receptors. These features, therefore, serve a material purpose in reducing or avoiding likely significant noise effects. Examples include engineering cuttings near to sensitive receptors. These features are labelled with the height of the top of the feature above rail level.</p>	High Speed Two (HS2) Ltd	
Existing buildings	Extent of buildings derived from Ordnance Survey MasterMap data.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Existing contours	Lines depicting land heights to show topography.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Existing inland water	See Water body.	See Water body.	See Water body.
Existing public right of way (PRoW)	See Public Rights of Way.	See Public Rights of Way.	See Public Rights of Way.
Existing watercourse	See Watercourse.	See Watercourse.	See Watercourse.
Existing woodland	See Woodland.	See Woodland.	See Woodland.
Existing woodland and tree belts	A dataset showing large areas of trees that are likely to have an impact on whether the scheme is visible during construction and vegetation. It was used in the ZTV as part of the base models.	High Speed Two (HS2) Ltd	
Extent of land potentially required during construction for mitigation planting	Areas of land outside the main works identified for the planting of woodland, grassland mitigation.	High Speed Two (HS2) Ltd	
Grassed areas	Any other area grassed not included in landscaped earthworks or ecological habitat.	High Speed Two (HS2) Ltd	
Grassland habitat creation	Soft landscape design that can include any seeded areas for the purpose of creating grassland except for the engineering earthworks.	High Speed Two (HS2) Ltd	
Ground-borne noise or vibration impact	Buildings at which an operational ground-borne sound or vibration impact is predicted from the Proposed Scheme.	High Speed Two (HS2) Ltd	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Ground-borne sound & vibration study area (highly sensitive non-residential)	This defines the area within which direct operational ground-borne sound and vibration impacts of the scheme at highly sensitive non-residential receptors have been quantitatively assessed. This area is defined as within 200m of the route.	High Speed Two (HS2) Ltd	
Ground-borne sound & vibration study area (residential and non-residential)	This defines the area within which direct operational ground-borne sound and vibration impacts of the scheme at residential	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	and non-residential receptors have been quantitatively assessed. This area is defined as within 85m of the route.		
Hedgerow habitat creation	Ecological mitigation to provide new hedgerow planting, connectivity enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	
HS2 access road	Access road to HS2 infrastructure such as electricity substations, balancing ponds and maintenance access points to the railway.	High Speed Two (HS2) Ltd	
$L_{pAFmax}$ exceeds 60dB façade	Assessment locations where the predicted value of $L_{pAFmax}$ is 60 dB or greater having applied a façade correction of +2.5 dB to the predicted free field value.	High Speed Two (HS2) Ltd	
Land drainage area	Provision of land to attenuate or infiltrate overland flows at or beyond the HS2 railway boundaries; for example, where existing land drainage systems are altered by the HS2 works, where the existing landform is reshaped by landscape earthworks or where surface water from third party land is intercepted by the HS2 perimeter drainage system.	High Speed Two (HS2) Ltd	
Land potentially required during construction	Boundary defining the maximum possible extent of construction works required to build HS2 as far as the current level of design allows. This only covers surface works and includes all tunnel portals, vent shafts and headhouses, but does not apply to wholly tunnelled sections or to air rights. It also encompasses associated highway, access, drainage and utility works.	High Speed Two (HS2) Ltd	
Landscape earthworks	Landscape earthworks to provide permanent landscape, visual or acoustic mitigation.	High Speed Two (HS2) Ltd	
Landscape mitigation planting (scrub / woodland)	Screening planting, using woodland, for visual mitigation and landscape integration purposes.	High Speed Two (HS2) Ltd	
Listed building grade I Listed building grade II* Listed building grade II	Buildings and structures in England of special architectural or historic interest. In some instances the source data for individual buildings is grouped under a single grid reference, in these instances the data may have been interrogated further to identify addresses of individual buildings with Listed Building status so that these can be displayed individually on the map. The Listed Building data consists of approximately 375,000 standing structures. The information has been converted from paper records georeferenced to digital mapping. A small percentage of the data was manually located. The data is subject to continuous review and regularly updated as new structures are designated and positional accuracy improves.	Historic England	© Historic England 2017. Contains Ordnance Survey data © Crown copyright and database right 2017  The Historic England GIS Data contained in this material was obtained on 25 January 2017. The most publicly available up to date Historic England GIS Data can be obtained from <a href="http://HistoricEngland.org.uk">HistoricEngland.org.uk</a> .
Local Nature Reserve (LNR)	A Local Nature Reserve (LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. Data supplied has the status of Declared. The boundaries are interpreted from material gathered from the local authorities and does not currently cover all LNRs. This national dataset is indicative not definitive. Definitive information can only be provided by individual local authorities and you should refer directly to their information for all purposes that require the most up to date and complete dataset.	Natural England	© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2017

Legend features	Definition	Source	Copyright
Local Wildlife Site (LWS)	<p>Local Wildlife Sites (LWS) are identified and selected for their local nature conservation value. They protect threatened species and habitats acting as buffers, stepping stones and corridors between nationally-designated wildlife sites.</p> <p>Local Wildlife Sites (LWS) are local non-statutory nature conservation sites. They were formerly referred to as County Wildlife Sites.</p> <p>In some cases Local Wildlife data is not shown as this is still being verified.</p>	<p>Staffordshire Ecological Record</p> <p>Cheshire East Council</p>	<p>© Staffordshire Ecological Record</p> <p>© Cheshire East Council</p>
Main construction compound	Main Construction Compounds in which main contractors offices and welfare facilities will be located.	High Speed Two (HS2) Ltd	
Main utility works	Represents all new major utility installations (included in the hybrid Bill) and also modifications to existing utilities required to construct the scheme. Includes water, electricity, telecommunications and gas.	High Speed Two (HS2) Ltd	
New, diverted or realigned PRoW	New, realigned or diverted Public Rights of Way (PRoW).	High Speed Two (HS2) Ltd	
Noise fence barrier	Denotes fence-style barriers provided as part of the noise mitigation measures. Note that other noise barriers have also been included in the form of landscaping and engineering cuttings - see the SV map series for more detail on noise mitigation.	High Speed Two (HS2) Ltd	
Non engineering earthworks: Cutting	Cuttings created in the construction of landscape features and mitigation measures.	High Speed Two (HS2) Ltd	
Non engineering earthworks: Embankment	Embankments created in the construction of landscape features and mitigation measures.	High Speed Two (HS2) Ltd	
Operational airborne sound impacts at buildings	The buildings shown on SV-02 and SV-05 are colour-coded according to the magnitude of the predicted noise impacts of the Proposed Scheme. Noise impacts are calculated by comparing the sound levels predicted if the Proposed Scheme did not go ahead with those if it did (details of this process can be found in Volume 5: Appendix SV001-000). Panel B on SV-02/SV-05 contains a key showing the colours used with the corresponding impact categories. The impacts presented are the greatest (i.e. worst-case) of the impacts predicted for daytime and night-time.	High Speed Two (HS2) Ltd	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.
Photomontage location	Shows the locations from which verifiable photomontages have been produced. The locations are based on a fully surveyed point.	High Speed Two (HS2) Ltd	
Potential additional noise insulation (triggered by maximum sound levels at night)	This represents dwellings which would potentially be provided with noise insulation due maximum sound levels from the Proposed Scheme (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001).	High Speed Two (HS2) Ltd	
Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)	This represents dwellings which would potentially be provided with noise insulation due to noise from the Proposed Scheme exceeding the World Health Organization (WHO) night noise guidelines interim target (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001).	High Speed Two (HS2) Ltd	
Potential noise insulation (triggered by Noise Insulation Regulations 1996)	This represents dwellings which would potentially qualify for noise insulation under the Noise Insulation (Railways and Other	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	Guided Transport Systems) Regulations 1996 (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001).		
Proposed tree planting	A dataset showing proposed planting that may have an impact on whether the scheme is visible during construction and operation. It was used in the operation year 15 ZTV.	High Speed Two (HS2) Ltd	
Public realm/Replacement community facility	Public realm: Specifically provided to show areas to be used for public realm. This layer is mainly associated with station sites and is to be used to indicate general areas for designed soft and hard landscaping.  Replacement community facility: Area of land for the provision of a permanent replacement community facility, such as a playground, community centre or activity centre.	High Speed Two (HS2) Ltd	
Public Rights of Way (PRoW)	Public rights of way are highways which can be used for the following purposes: - Footpaths - pedestrians only - Bridleways - pedestrians, cyclists and equestrians - Restricted byways - as bridleways plus non-motorised vehicles - Byways open to all traffic. Definitive Map data supplied by surveying authorities.	Staffordshire County Council  Cheshire East Council	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.  © Staffordshire County Council  © Cheshire East Council
Rail alignment	Longitudinal geometry of the tracks consisting of a series of straights and curves.	High Speed Two (HS2) Ltd	
Rail alignment formation	The space required to accommodate the railway infrastructure which typically includes the tracks, overhead line equipment, drainage, lineside access paths and cable routes for electrification and communication systems.	High Speed Two (HS2) Ltd	
Railway systems compound	Represents railway systems compounds which facilitate installation, testing and commissioning of the railway systems, including track, overhead line equipment, communications and signalling equipment and traction power supply.	High Speed Two (HS2) Ltd	
Ramsar Site – Wetland of International Importance	A Ramsar Site is the land listed as a Wetland of International Importance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention) 1971. Data supplied has the status of "Listed".	Natural England	© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2017
Registered park or garden	Parks and Gardens of special historic interest.  Supplied by Historic England. Of the 1,590 Registered Parks and Gardens, over 91% were captured against the 1:10,000 Ordnance Survey Raster product. 135 records are potentially subject to movement under Positional Accuracy Improvement (PAI) improvements.	Historic England	© Historic England 2017. Contains Ordnance Survey data © Crown copyright and database right 2017  The Historic England GIS Data contained in this material was obtained on 25 January 2017. The most publicly available up to date Historic England GIS Data can be obtained from <a href="http://HistoricEngland.org.uk">HistoricEngland.org.uk</a> .
Replacement floodplain storage	Provision of storage to replace floodplain occupied by the Proposed Scheme. Equivalent storage is provided for events up to the 1 in 100 (1%) annual probability event with an allowance for climate change.	High Speed Two (HS2) Ltd	
Returned to suitable development use	Post construction land will be reinstated to enable potential future development.	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
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	
Satellite construction compound	Represents satellite construction compounds which serve local works for major construction elements within a main contract.	High Speed Two (HS2) Ltd	
Scheduled monument	A schedule has been kept since 1882 of monuments considered to be of national importance by the government. The current legislation, the Ancient Monuments and Archaeological Areas Act 1979, supports a formal system of Scheduled Monument Consent for any work to a designated monument. The Scheduled Monument layer consists of approximately 22,380 monuments tied into the Ordnance Survey. The majority of these are fixed; however, a small number of records may be updated as digital positional accuracy improves. The data is subject to continuous review and regularly updated as new monuments are designated.	Historic England	© Historic England 2017. Contains Ordnance Survey data © Crown copyright and database right 2017  The Historic England GIS Data contained in this material was obtained on 25 January 2017. The most publicly available up to date Historic England GIS Data can be obtained from <a href="http://HistoricEngland.org.uk">HistoricEngland.org.uk</a> .
Significantly affected viewpoint	This dataset shows the locations of the visual receptors from which the schemes visual impact has been assessed and shows whether or not the impact is significant or non-significant during construction and operation.	High Speed Two (HS2) Ltd	
Site of Special Scientific Interest (SSSI)	A Site of Special Scientific Interest (SSSI) is the land notified as an SSSI under the Wildlife and Countryside Act (1981), as amended.	Natural England	© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2017
Sound contours (SV-02/SV-05)	The sound levels from the Proposed Scheme (expressed as $L_{pAeq,T}$ and representing sound from the new railway only) are presented at two sound levels: 40 dB $L_{Aeq,T 23:00 \text{ to } 07:00}$ and 55 dB $L_{Aeq,T 23:00 \text{ to } 07:00}$ . The corresponding daytime levels ( $L_{Aeq,T 07:00 \text{ to } 23:00}$ ) are shown in Panel A of SV-02/SV-05.	High Speed Two (HS2) Ltd	
Stopped-up PRow	Public rights of way that will be closed due to construction of the scheme.	High Speed Two (HS2) Ltd	
Storage / prefabrication / laydown areas	Storage, prefabrication or laydown areas.	High Speed Two (HS2) Ltd	
Sustainable placement	Sustainable placement: the on-site placement for disposal of surplus excavated material to avoid causing environmental effects (e.g. transport) that would otherwise be associated with the off-site disposal of that material. "On-site" in this context means within the land required for the purposes of the Proposed Scheme and "off-site" means external land (or landfill site) which is not specifically required for the purposes of the Proposed Scheme.	High Speed Two (HS2) Ltd	
Temporary highway diversion / realignment	Indicative temporary highway diversion layouts during the construction phase.	High Speed Two (HS2) Ltd	
Temporary material stockpile	Represents temporary stockpiling of topsoil, subsoil and other excavated materials to be used for reinstatement purposes, and also stockpile areas for managing movement of excavated materials during construction.	High Speed Two (HS2) Ltd	
Temporary PRow diversion / realignment	Indicative temporary diversions to public rights of way as a result of construction of the scheme. These will vary depending on construction phase and local conditions.	High Speed Two (HS2) Ltd	
Temporary replacement community facility	Area of land for the provision of a temporary replacement community facility, such as a playground, community centre or activity centre, whilst construction works are in progress.	High Speed Two (HS2) Ltd	
Temporary workers accommodation	Temporary accommodation for workers during the construction	High Speed Two (HS2) Ltd	



Legend features	Definition	Source	Copyright
	period.		
Tunnel portal	The footprint of a tunnel portal.	High Speed Two (HS2) Ltd	
Tunnels external extent	The external excavated extent of each tunnel bore.	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.
Watercourse diversion	Includes rivers, streams, ditches and other open channels, diversions to these, together with any new culverts required.	High Speed Two (HS2) Ltd	
Wetland habitat creation	Ecological mitigation area to provide new wetland habitat creation, enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	
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.
Woodland habitat creation	Ecological mitigation area to provide new woodland planting, connectivity enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	

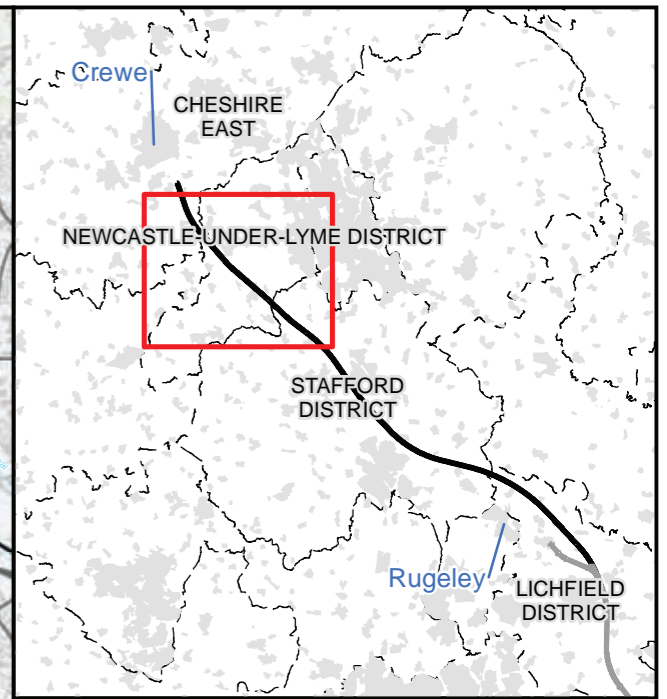
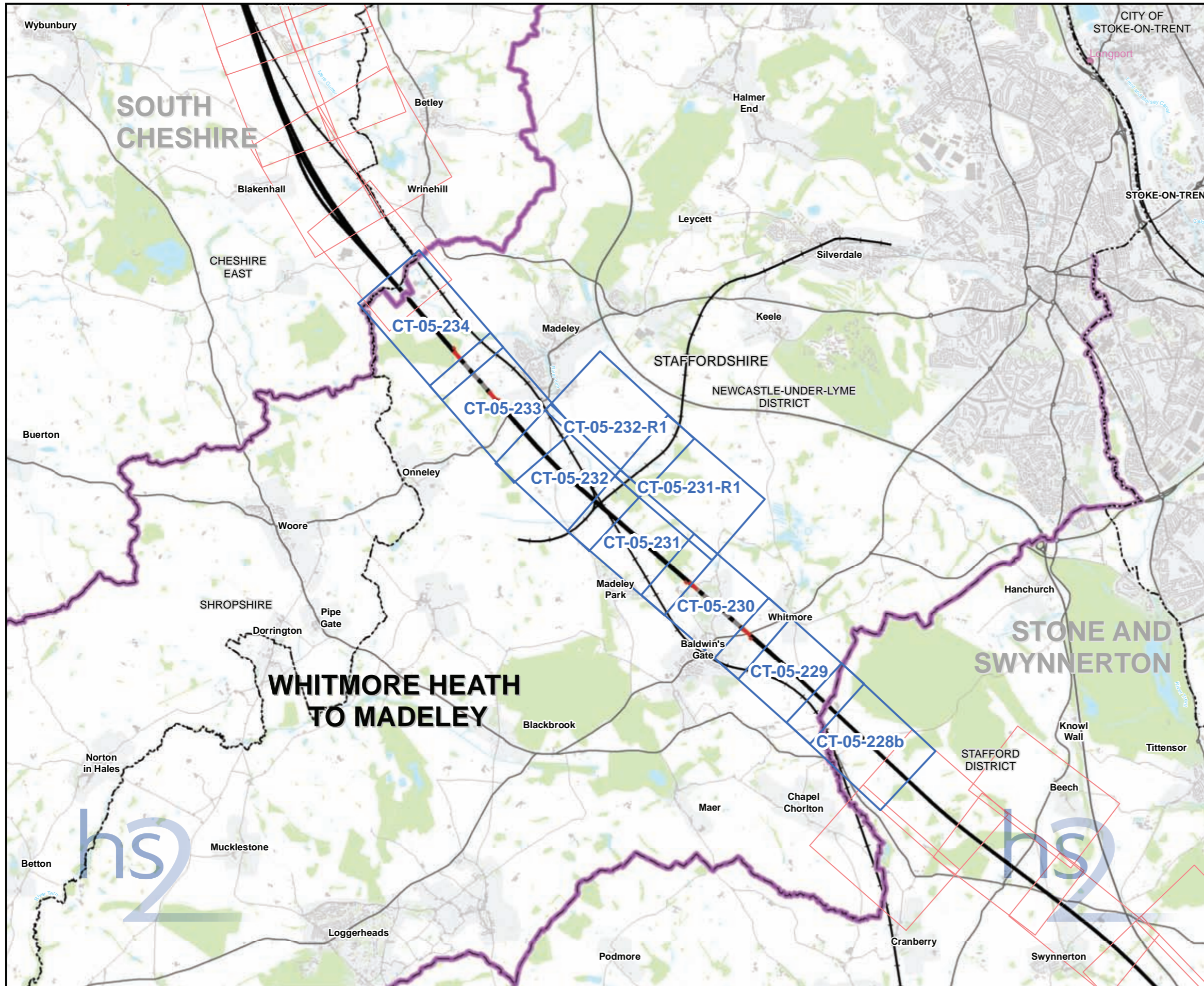
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High Speed Rail (West Midlands-Crewe)

Environmental Statement

**CT-05 – Construction Phase**

**CT-06 – Proposed Scheme**



**Map Series Information:**

These plans show the land potentially required during construction, the construction features, access requirements and infrastructure associated with construction of the Proposed Scheme. The plans also show the construction phase arrangements for public access using Public Rights of Way.

The base mapping shown on the plans is reflective of 2017 Ordnance Survey (OS) data.

- Main Map Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - Existing railway station
  - County boundary
  - District/Borough boundary
  - Map sheets included in this community area
  - Map sheets not included in this community area

Map Number	CT-05-INDEX-CA4
Map Name	Index Map of: Construction Phase
	Community Area 4: Whitmore Heath to Madeley

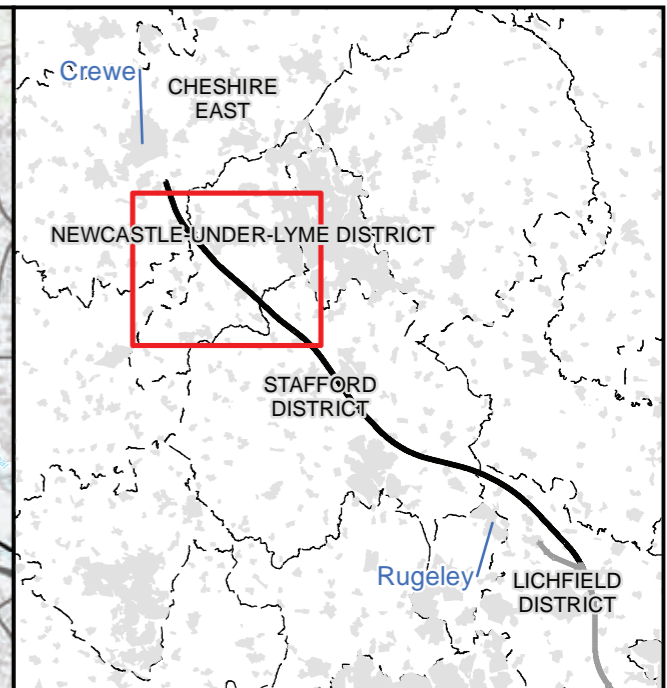
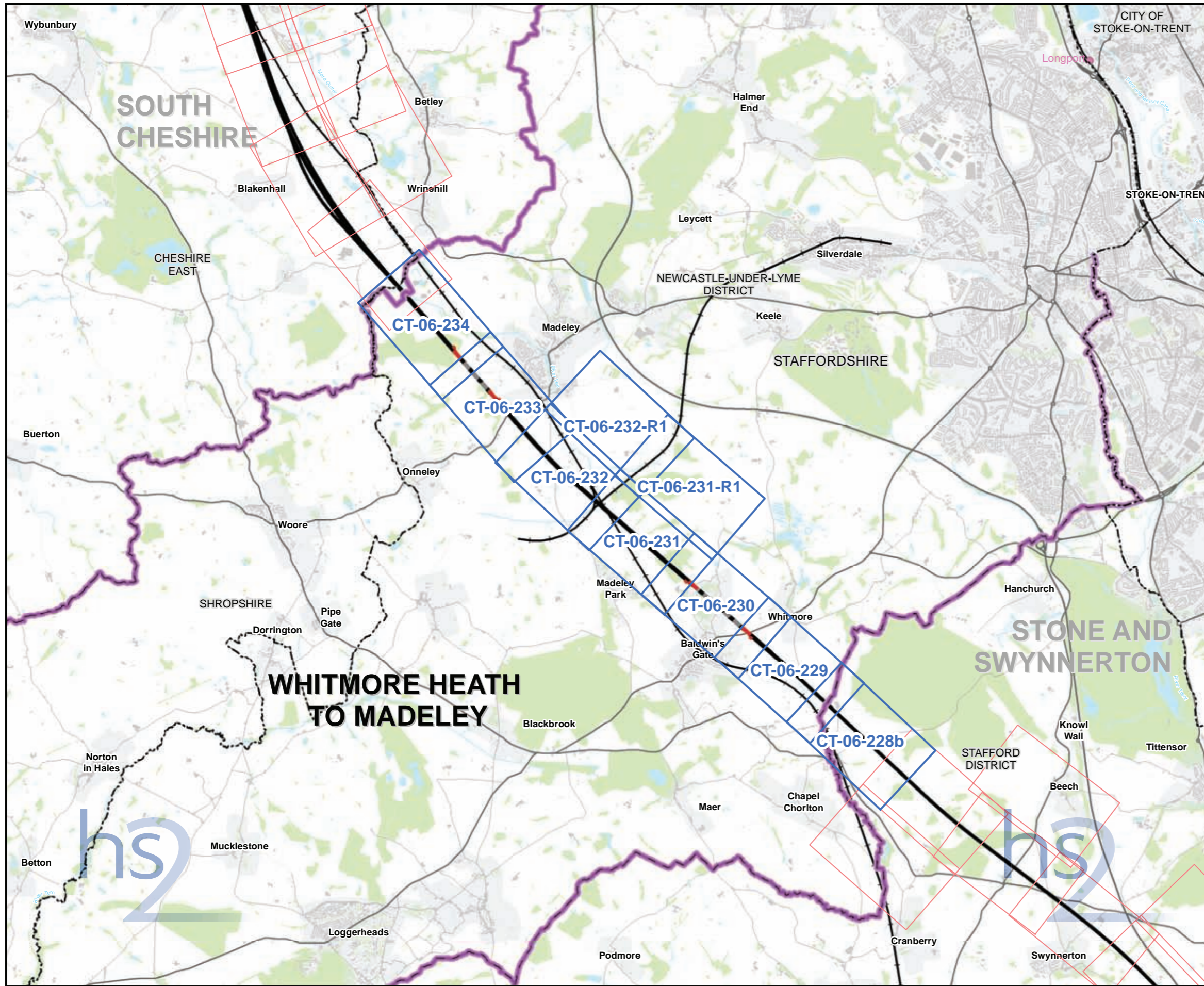
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**Map Series Information:**

These maps show permanent features, infrastructure, restored land, and areas for landscaping, screening and ecological mitigation associated with the Proposed Scheme.

The base mapping shown on the plans is reflective of 2017 Ordnance Survey (OS) data.

**Main Map Legend**

Route in tunnel	Map sheets included in this community area
Route on surface	Map sheets not included in this community area
Depot, station, headhouse or portal building	Community area boundary
Existing railway station	County boundary
District/Borough boundary	

Map Number	CT-06-INDEX-CA4
Map Name	Index Map of: Proposed Scheme
	Community Area 4: Whitmore Heath to Madeley

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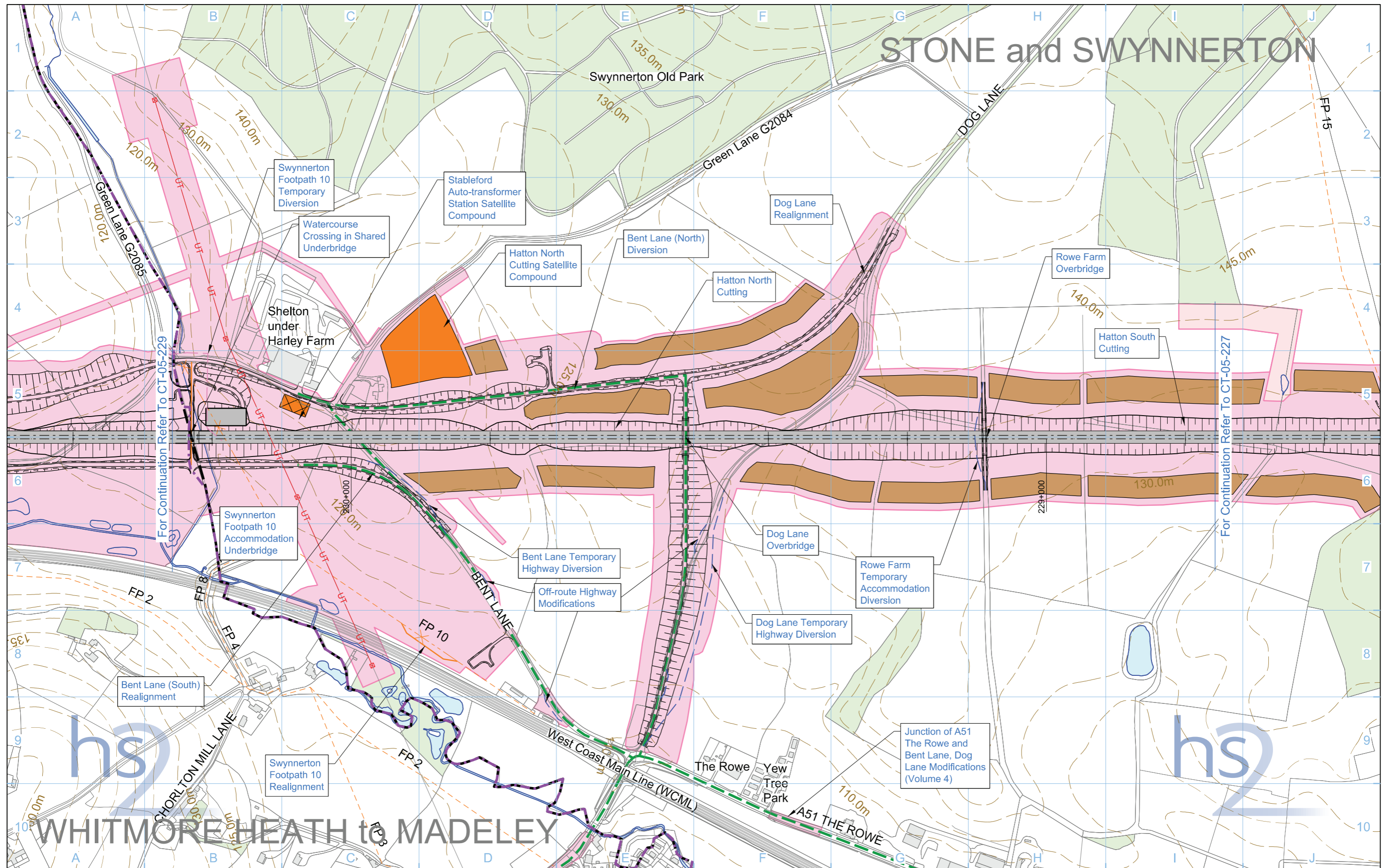
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# STONE and SWYNNERTON

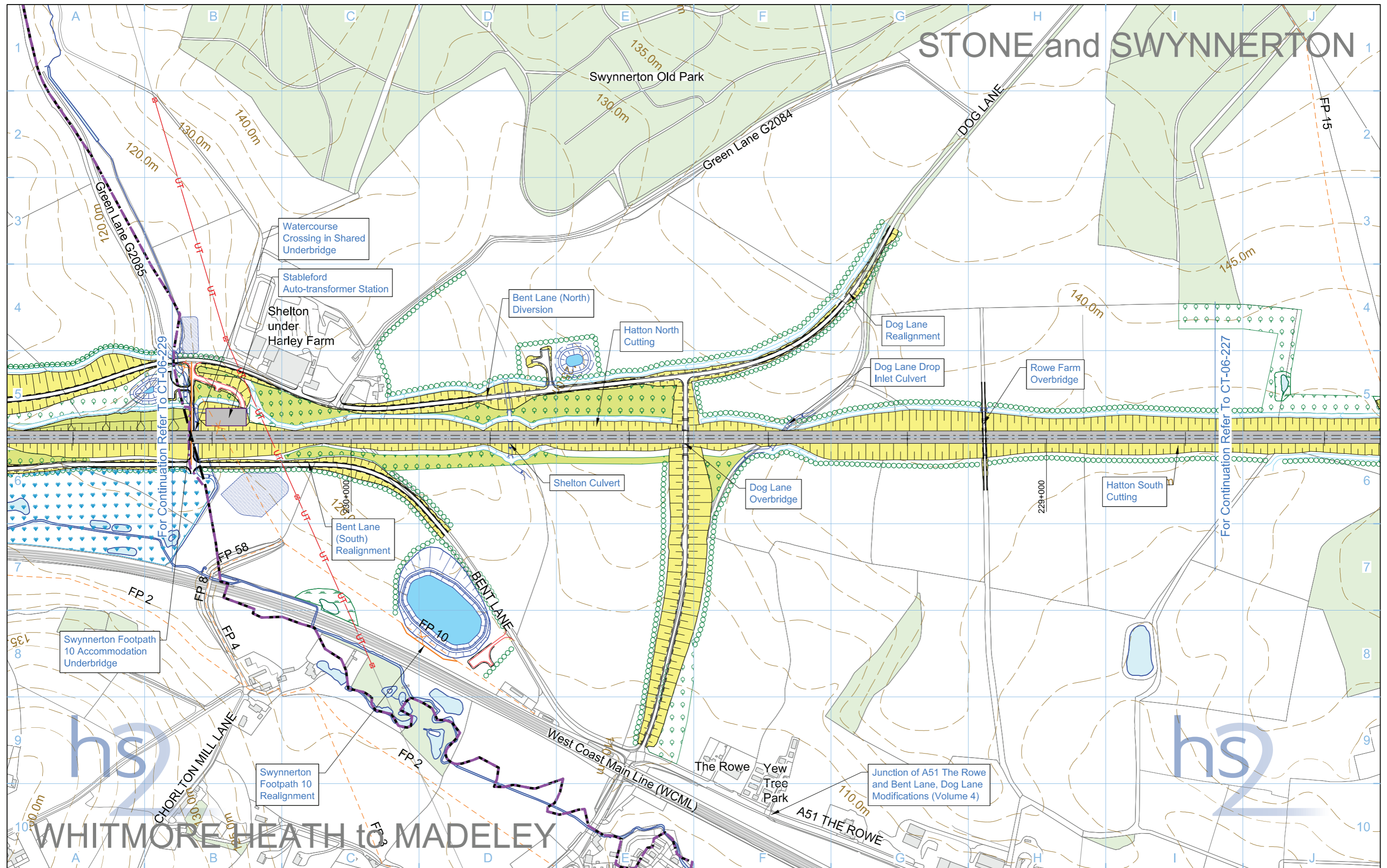


For Continuation Refer To CT-05-229

For Continuation Refer To CT-05-227

<b>Legend</b> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cccccc; border: 1px solid black;"></span> Depot, station, headhouse or portal building</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808080; border: 1px solid black;"></span> Tunnel portal</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> Main construction compound</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffa500; border: 1px solid black;"></span> Satellite construction compound</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f0e68c; border: 1px solid black;"></span> Railway systems compound</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #a0522d; border: 1px solid black;"></span> Temporary material stockpile</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800000; border: 1px solid black;"></span> Borrow Pit</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #008080; border: 1px solid black;"></span> Storage / prefabrication / laydown areas</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff69b4; border: 1px solid black;"></span> Land potentially required during construction</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffb6c1; border: 1px solid black;"></span> Extent of land potentially required during construction for mitigation planting</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e61e00; border: 1px solid black;"></span> Temporary replacement community facility</li> </ul>		<ul style="list-style-type: none"> <li><span style="display: inline-block; border-bottom: 1px dashed black; width: 20px;"></span> Community Area boundary</li> <li><span style="display: inline-block; border-bottom: 1px dashed black; width: 20px;"></span> Tunnels external extent</li> <li><span style="display: inline-block; border-bottom: 1px solid green; width: 20px;"></span> Construction traffic route</li> <li><span style="display: inline-block; border-bottom: 1px dashed orange; width: 20px;"></span> Existing public right of way (PRoW)</li> <li><span style="display: inline-block; border-bottom: 1px solid orange; width: 20px;"></span> New, diverted or realigned PRoW</li> <li><span style="display: inline-block; border-bottom: 1px dashed orange; width: 20px;"></span> Stopped-up PRoW</li> <li><span style="display: inline-block; border-bottom: 1px solid purple; width: 20px;"></span> Temporary PRoW diversion / realignment</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px;"></span> Landscape earthworks</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px;"></span> Engineering earthworks</li> <li><span style="display: inline-block; border-bottom: 1px solid blue; width: 20px;"></span> Temporary highway diversion / realignment</li> <li><span style="display: inline-block; border-bottom: 1px solid red; width: 20px;"></span> Main utility works</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px;"></span> Rail alignment</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px;"></span> Chainage (e.g. 10+000)</li> </ul>		<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Existing woodland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Existing buildings</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #add8e6; border: 1px solid black;"></span> Existing inland water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682b4; border: 1px solid black;"></span> Existing watercourse</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px;"></span> Existing contours</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808080; border: 1px solid black;"></span> Rail alignment formation</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800000; border: 1px solid black;"></span> Temporary workers accommodation</li> </ul>	
<b>Map Number</b> CT-05-228b		<b>Map Name</b> Construction Phase			
<b>Community Area</b> CA4 Whitmore Heath to Madeley		Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-DPL-000-055328 P07 Date: 08/06/17			

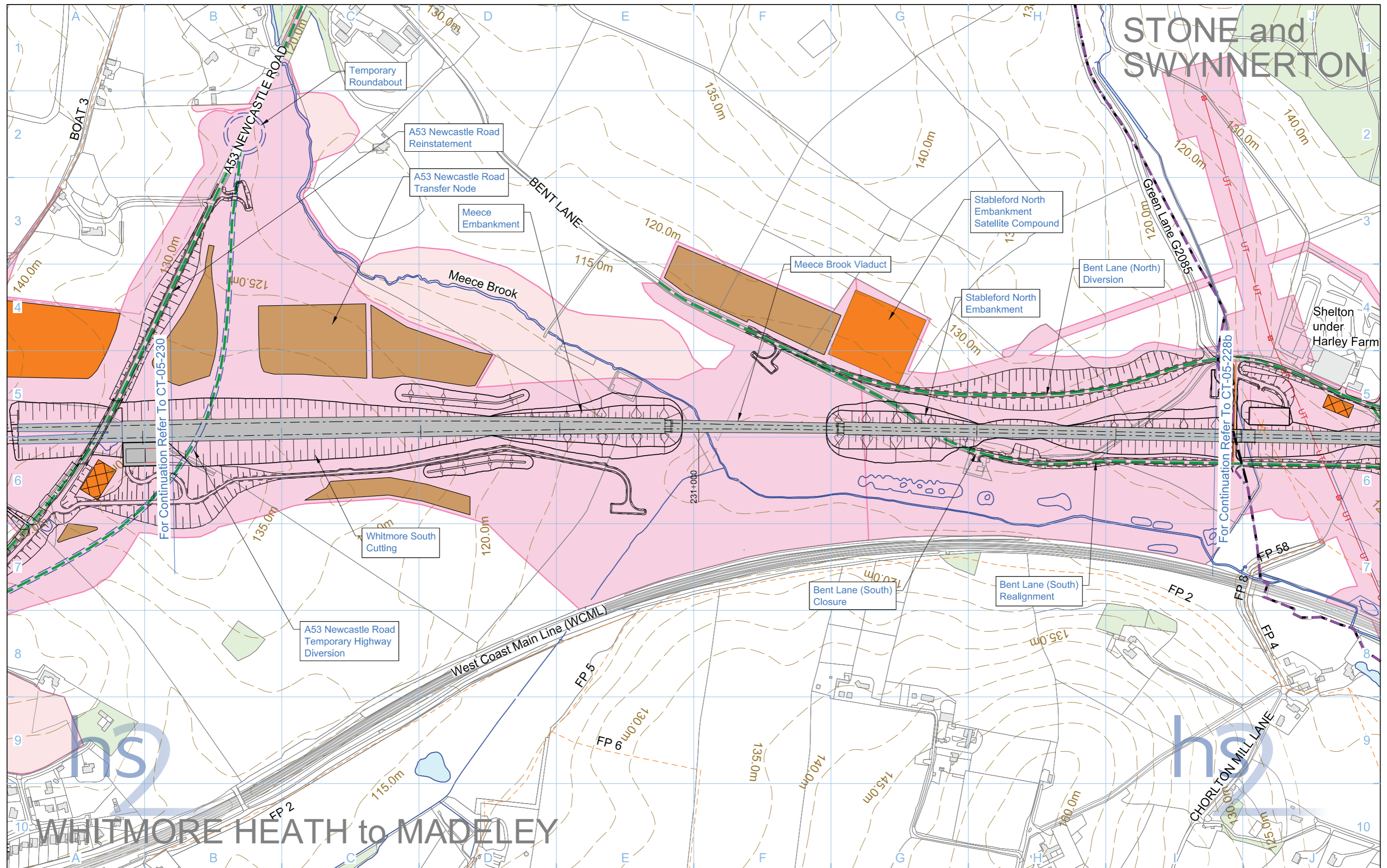
# STONE and SWYNNERTON



# WHITMORE HEATH TO MADELEY

<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Electricity substation</li> <li>Land drainage area</li> <li>Ecological mitigation pond</li> <li>Balancing pond</li> </ul>		<ul style="list-style-type: none"> <li>Replacement floodplain storage</li> <li>Woodland habitat creation</li> <li>Wetland habitat creation</li> <li>Grassland habitat creation</li> <li>Landscape mitigation planting (scrub / woodland)</li> <li>Grassed areas</li> <li>Sustainable placement</li> </ul>		<ul style="list-style-type: none"> <li>Public realm/Replacement community facility</li> <li>Engineering earthworks</li> <li>Landscape earthworks</li> <li>Rail alignment formation</li> <li>Returned to suitable development use</li> <li>County boundary</li> <li>Borough / District boundary</li> </ul>		<ul style="list-style-type: none"> <li>Community Area boundary</li> <li>Watercourse diversion</li> <li>Existing watercourse</li> <li>Ditches - new</li> <li>Hedgerow habitat creation</li> <li>Main utility works</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Tunnels external extent</li> </ul>		<ul style="list-style-type: none"> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing contours</li> <li>HS2 access road</li> <li>Noise fence barrier</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>		Map Number <b>CT-06-228b</b>	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.
Map Name <b>Proposed Scheme</b>		Community Area CA4 Whitmore Heath to Madeley		Scale at A3: 1:5,000 0 50 100 150 200 250 Metres		Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA		© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-DPL-000-056328 P07 Date: 08/06/17			

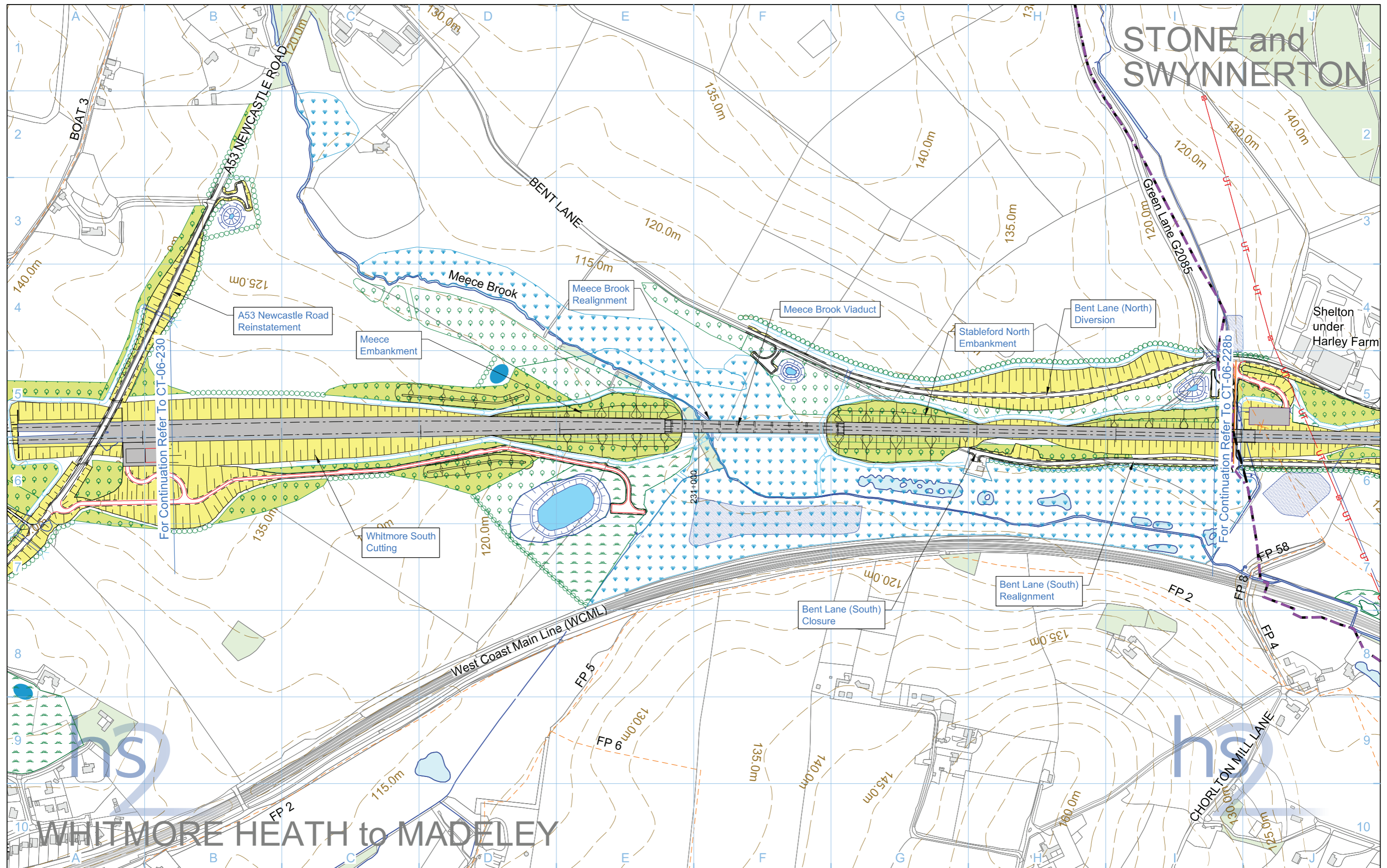
# STONE and SWYNNERTON



<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Main construction compound</li> <li>Satellite construction compound</li> <li>Railway systems compound</li> <li>Temporary material stockpile</li> </ul>		<ul style="list-style-type: none"> <li>Borrow Pit</li> <li>Storage / prefabrication / laydown areas</li> <li>Land potentially required during construction</li> <li>Extent of land potentially required during construction for mitigation planting</li> <li>Temporary replacement community facility</li> </ul>		<ul style="list-style-type: none"> <li>Community Area boundary</li> <li>Tunnels external extent</li> <li>Construction traffic route</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Temporary PRoW</li> <li>Temporary PRoW diversion / realignment</li> </ul>		<ul style="list-style-type: none"> <li>Landscape earthworks</li> <li>Engineering earthworks</li> <li>Temporary highway diversion / realignment</li> <li>Main utility works</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>		<ul style="list-style-type: none"> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing watercourse</li> <li>Existing contours</li> <li>Rail alignment formation</li> <li>Temporary workers accommodation</li> </ul>	
<b>Map Number</b> CT-05-229		<b>Map Name</b> Construction Phase				Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA		Scale at A3: 1:5,000 	
<b>Community Area</b> CA4 Whitmore Heath to Madeley		© Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190.		Doc Number: C861-ARP-EV-DPL-000-055229		P07		Date: 08/06/17	



# STONE and SWYNNERTON

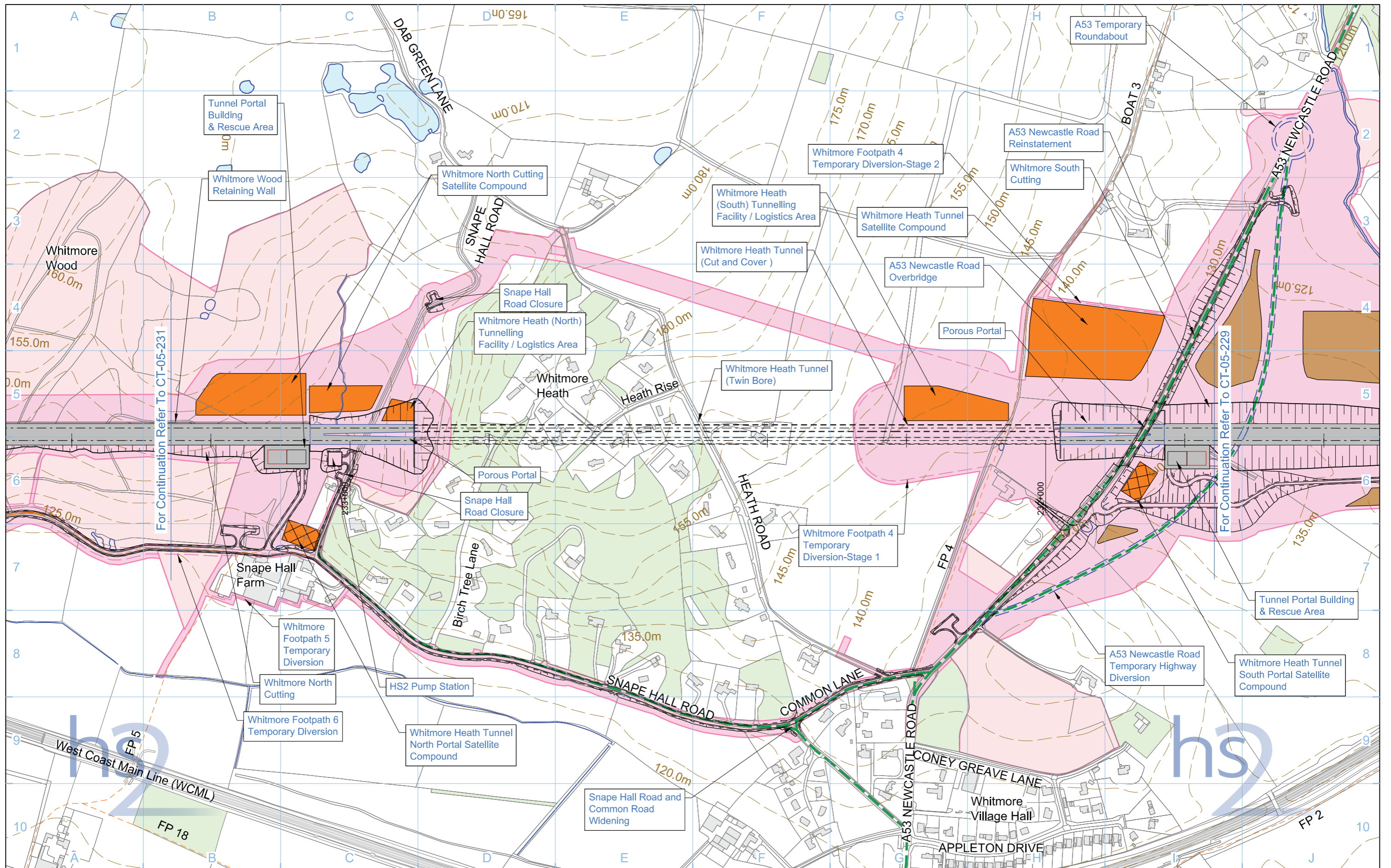


# WHITMORE HEATH to MADELEY

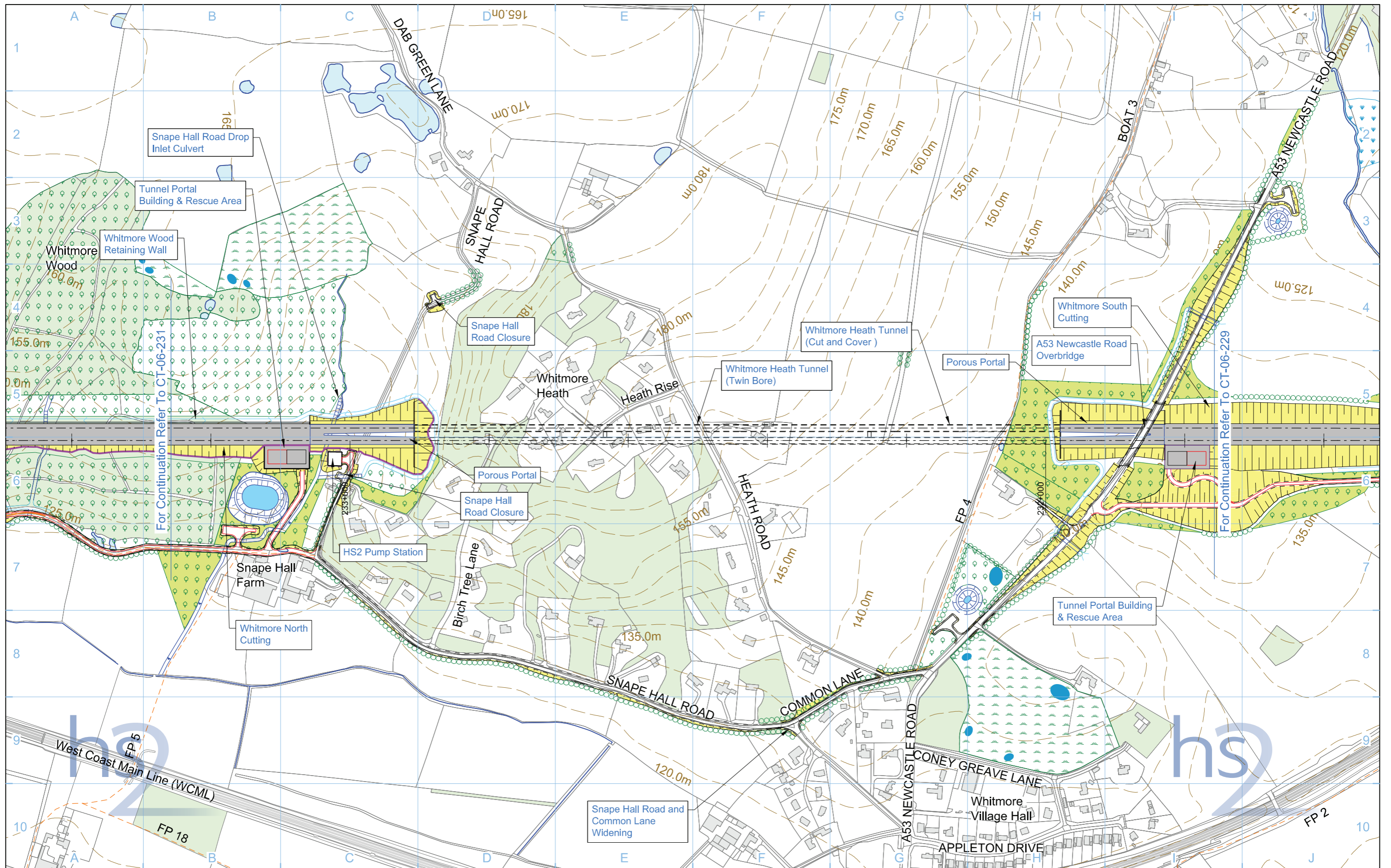
Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm/Replacement community facility
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community Area boundary
	Watercourse diversion
	Existing watercourse
	Ditches - new
	Hedgerow habitat creation
	Main utility works
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Tunnels external extent

	Existing woodland
	Existing buildings
	Existing inland water
	Existing contours
	HS2 access road
	Noise fence barrier
	Rail alignment
	Chainage (e.g. 10+000)

Map Number <b>CT-06-229</b>	<p>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.</p>
Map Name <b>Proposed Scheme</b>	
Community Area CA4 Whitmore Heath to Madeley	<p>Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C861-ARP-EV-DPL-000-056229 P08 Date: 08/06/17</p>



<b>Legend</b> 		<b>Map Number</b> <b>CT-05-230</b> <b>Map Name</b> <b>Construction Phase</b> <b>Community Area</b> CA4 Whitmore Heath to Madeley	 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 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000  © Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. <b>Doc Number:</b> C861-ARP-EV-DPL-000-055230 <b>P07</b> <b>Date:</b> 08/06/17
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm/Replacement community facility
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community Area boundary
	Watercourse diversion
	Existing watercourse
	Ditches - new
	Hedgerow habitat creation
	UT - Main utility works
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Tunnels external extent

	Existing woodland
	Existing buildings
	Existing inland water
	Existing contours
	HS2 access road
	Noise fence barrier
	Rail alignment
	Chainage (e.g. 10+000)

Map Number	CT-06-230
Map Name	Proposed Scheme
Community Area	CA4 Whitmore Heath to Madeley

**hs2**

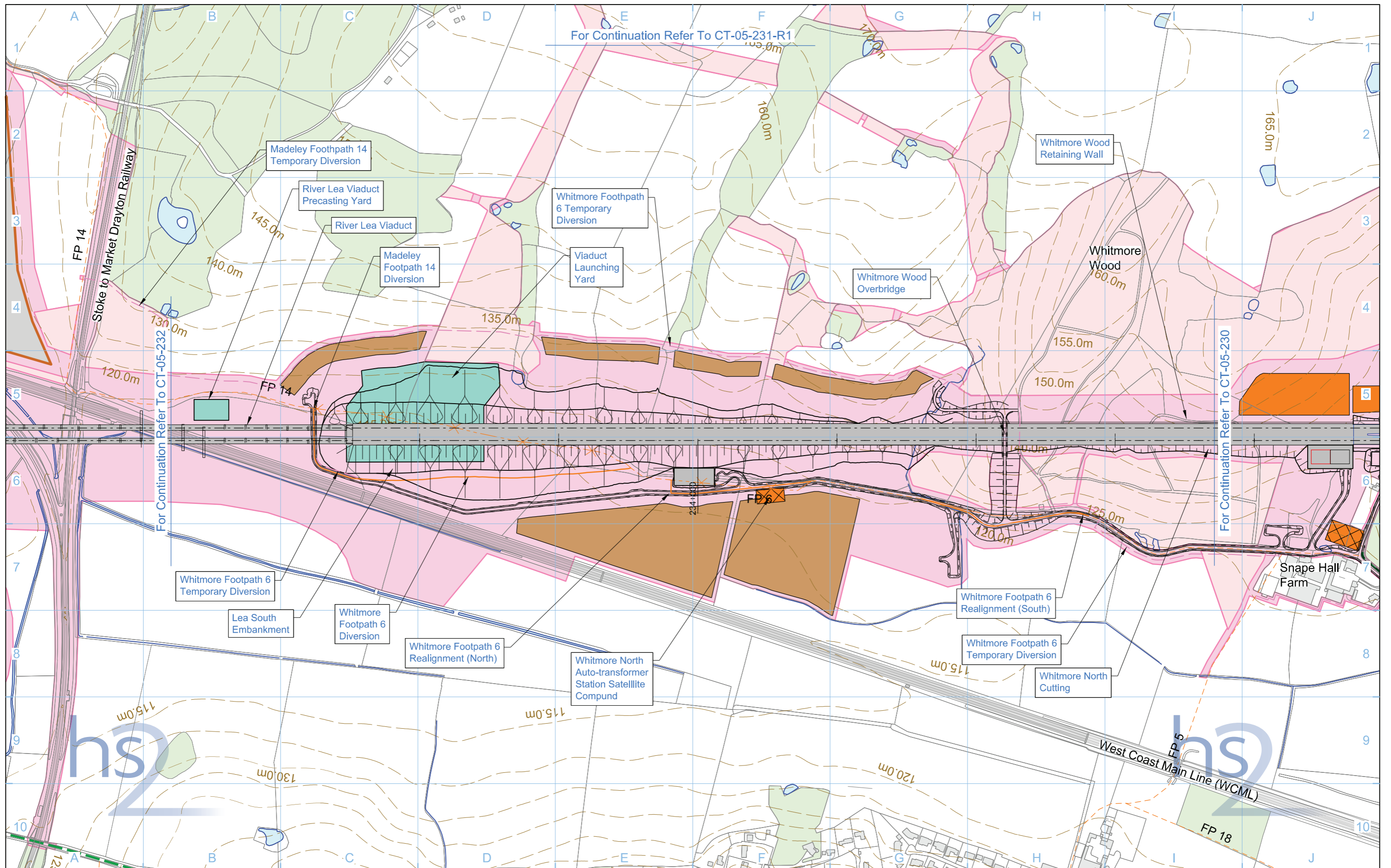
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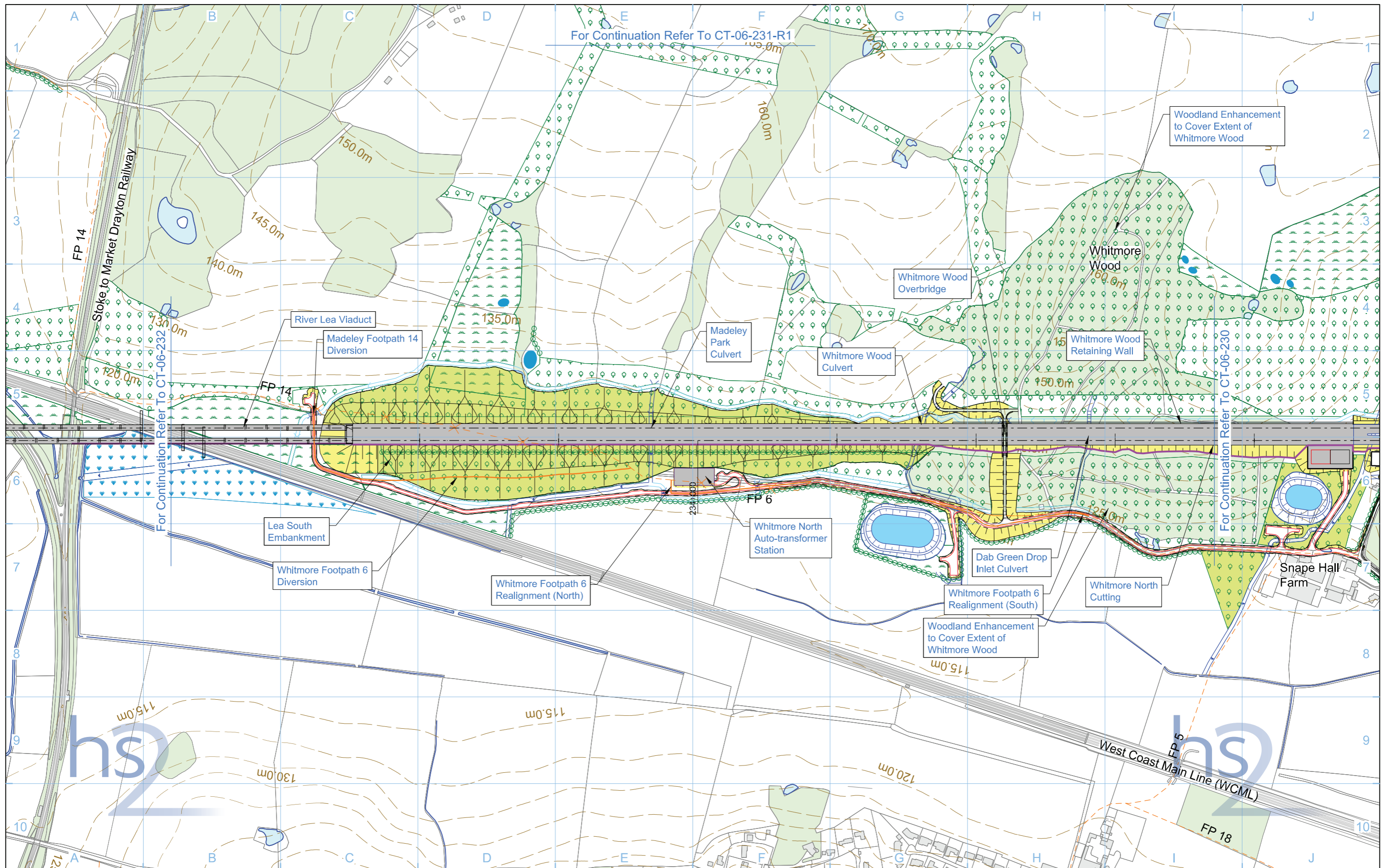
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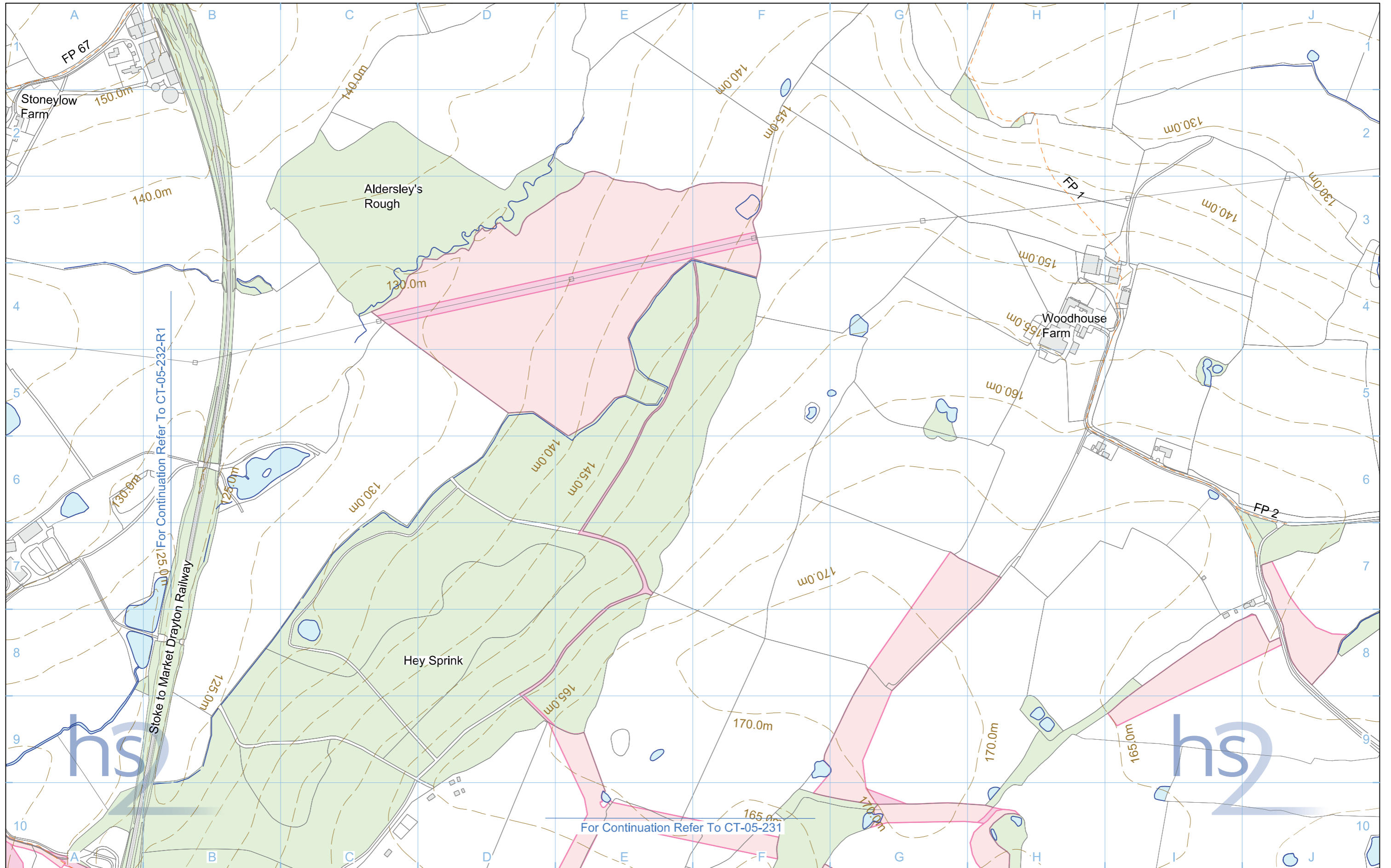
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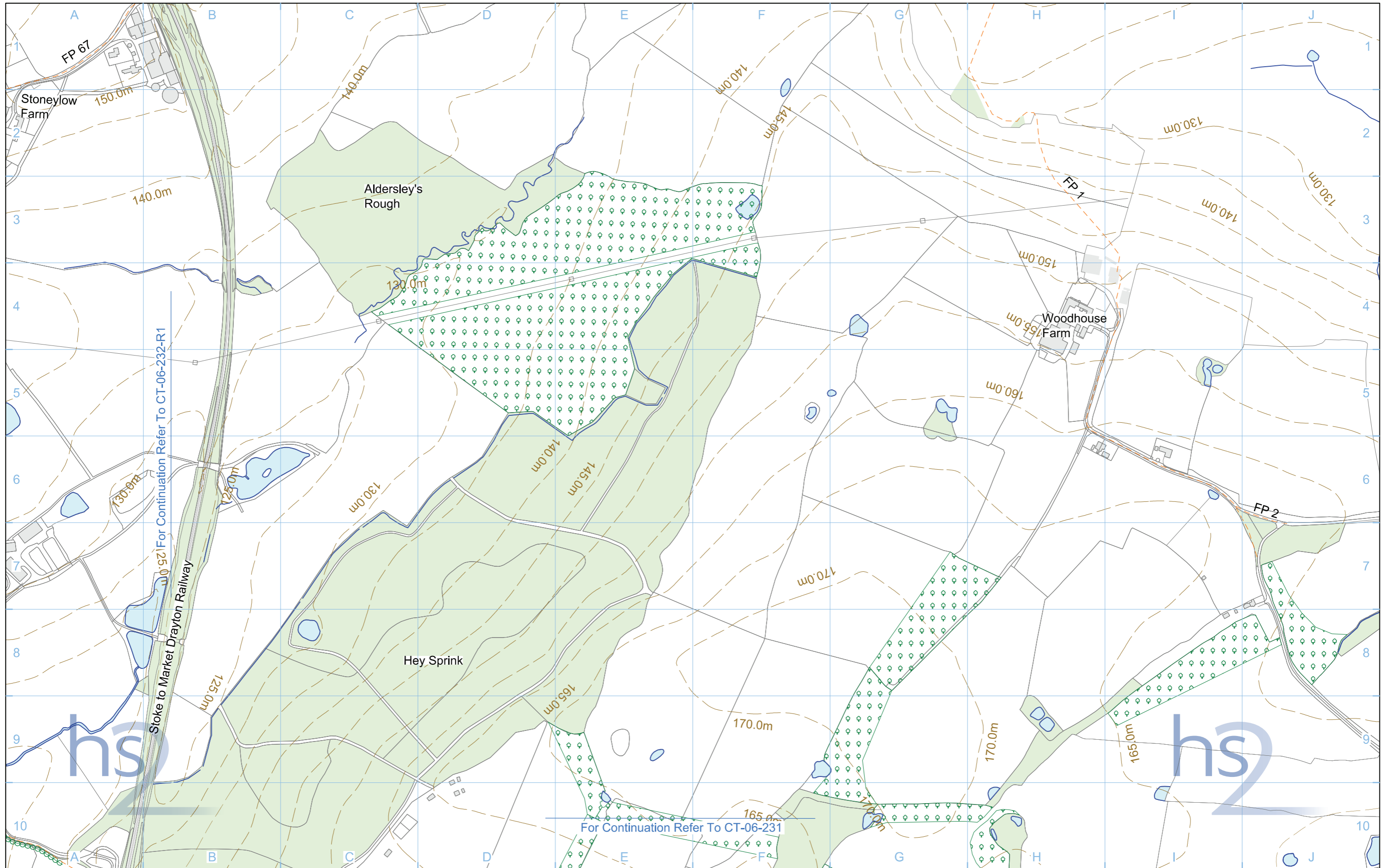
<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Main construction compound</li> <li>Satellite construction compound</li> <li>Railway systems compound</li> <li>Temporary material stockpile</li> </ul>		<ul style="list-style-type: none"> <li>Borrow Pit</li> <li>Storage / prefabrication / laydown areas</li> <li>Land potentially required during construction</li> <li>Extent of land potentially required during construction for mitigation planting</li> <li>Temporary replacement community facility</li> </ul>		<ul style="list-style-type: none"> <li>Community Area boundary</li> <li>Tunnels external extent</li> <li>Construction traffic route</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Temporary PRoW diversion / realignment</li> </ul>		<ul style="list-style-type: none"> <li>Landscape earthworks</li> <li>Engineering earthworks</li> <li>Temporary highway diversion / realignment</li> <li>Main utility works</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>		<ul style="list-style-type: none"> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing watercourse</li> <li>Existing contours</li> <li>Rail alignment formation</li> <li>Temporary workers accommodation</li> </ul>	
<b>Map Number</b> <b>CT-05-231</b>			<b>Map Name</b> <b>Construction Phase</b>						
<b>Community Area</b> CA4 Whitmore Heath to Madeley			Registered in England, Registration number 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA			Scale at A3: 1:5,000 			
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<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Electricity substation</li> <li>Land drainage area</li> <li>Ecological mitigation pond</li> <li>Balancing pond</li> <li>Replacement floodplain storage</li> <li>Woodland habitat creation</li> <li>Wetland habitat creation</li> <li>Grassland habitat creation</li> <li>Landscape mitigation planting (scrub / woodland)</li> <li>Grassed areas</li> <li>Sustainable placement</li> <li>Public realm/Replacement community facility</li> <li>Engineering earthworks</li> <li>Landscape earthworks</li> <li>Rail alignment formation</li> <li>Returned to suitable development use</li> <li>County boundary</li> <li>Borough / District boundary</li> <li>Community Area boundary</li> <li>Watercourse diversion</li> <li>Existing watercourse</li> <li>Ditches - new</li> <li>Hedgerow habitat creation</li> <li>Main utility works</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Tunnels external extent</li> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing contours</li> <li>HS2 access road</li> <li>Noise fence barrier</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>		<p>Map Number <b>CT-06-231</b></p> <p>Map Name <b>Proposed Scheme</b></p> <p>Community Area CA4 Whitmore Heath to Madeley</p>	<p>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.</p> <p>Registered in England, Registration number 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C861-ARP-EV-DPL-000-056231 P06 Date: 08/06/17</p>
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<b>Legend</b> 										<b>Map Number</b> <b>CT-05-231-R1</b>		<p>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.</p> <p>Registered in England, Registration number 06791686  Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</p> <p><b>Doc Number:</b> C861-ARP-EV-DPL-000-055431 <b>P03</b> <b>Date:</b> 08/06/17</p>
										<b>Map Name</b> <b>Construction Phase</b>		
										<b>Community Area</b> CA4 Whitmore Heath to Madeley		



- Legend**
- Depot, station, headhouse or portal building
  - Tunnel portal
  - Electricity substation
  - Land drainage area
  - Ecological mitigation pond
  - Balancing pond

- Replacement floodplain storage
- Woodland habitat creation
- Wetland habitat creation
- Grassland habitat creation
- Landscape mitigation planting (scrub / woodland)
- Grassed areas
- Sustainable placement

- Public realm/Replacement community facility
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- Borough / District boundary

- Community Area boundary
- Watercourse diversion
- Existing watercourse
- Ditches - new
- Hedgerow habitat creation
- Main utility works
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Tunnels external extent

- Existing woodland
- Existing buildings
- Existing inland water
- Existing contours
- HS2 access road
- Noise fence barrier
- Rail alignment
- Chainage (e.g. 10+000)

Map Number  
**CT-06-231-R1**

Map Name  
**Proposed Scheme**

Community Area  
CA4 Whitmore Heath to Madeley

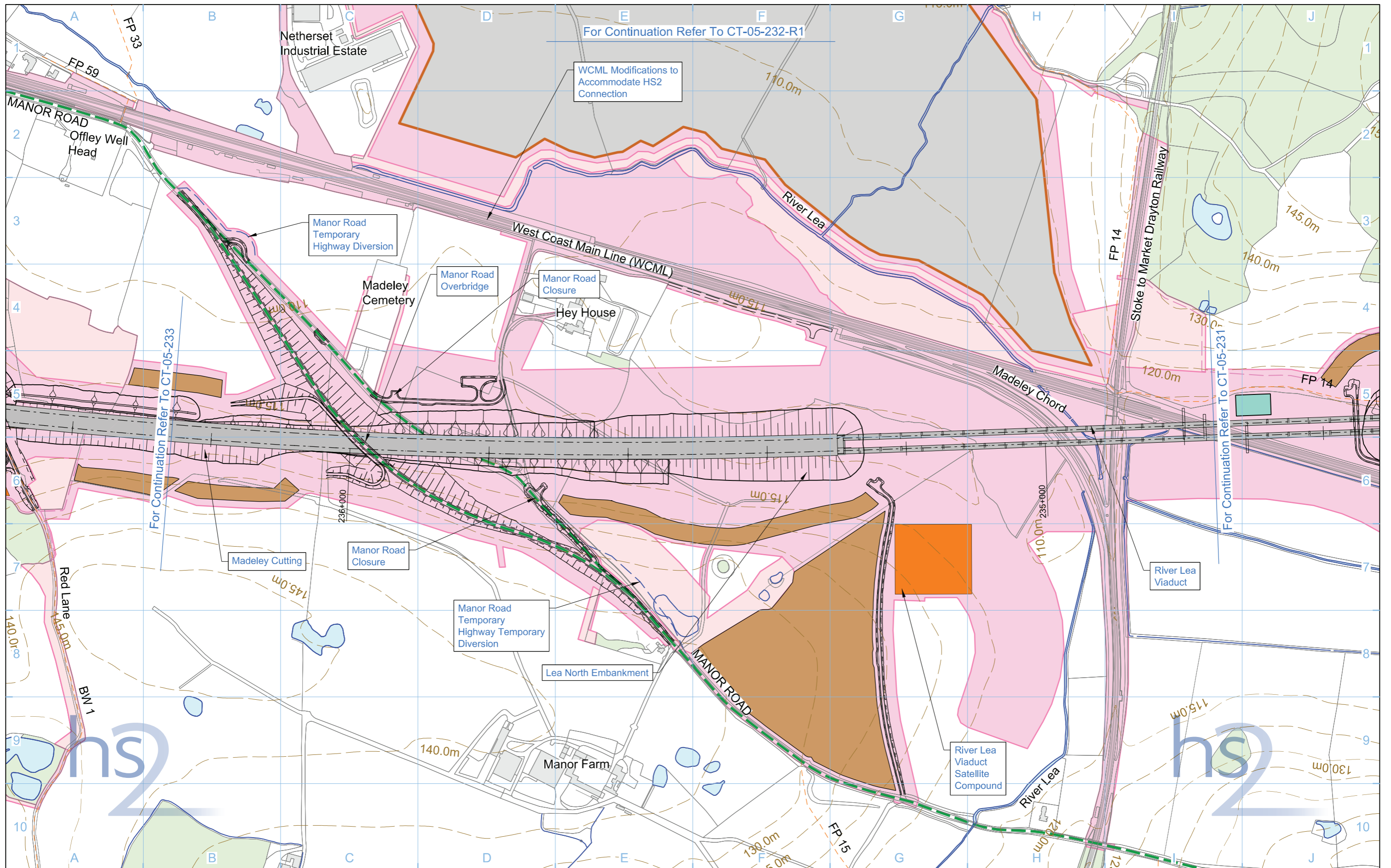
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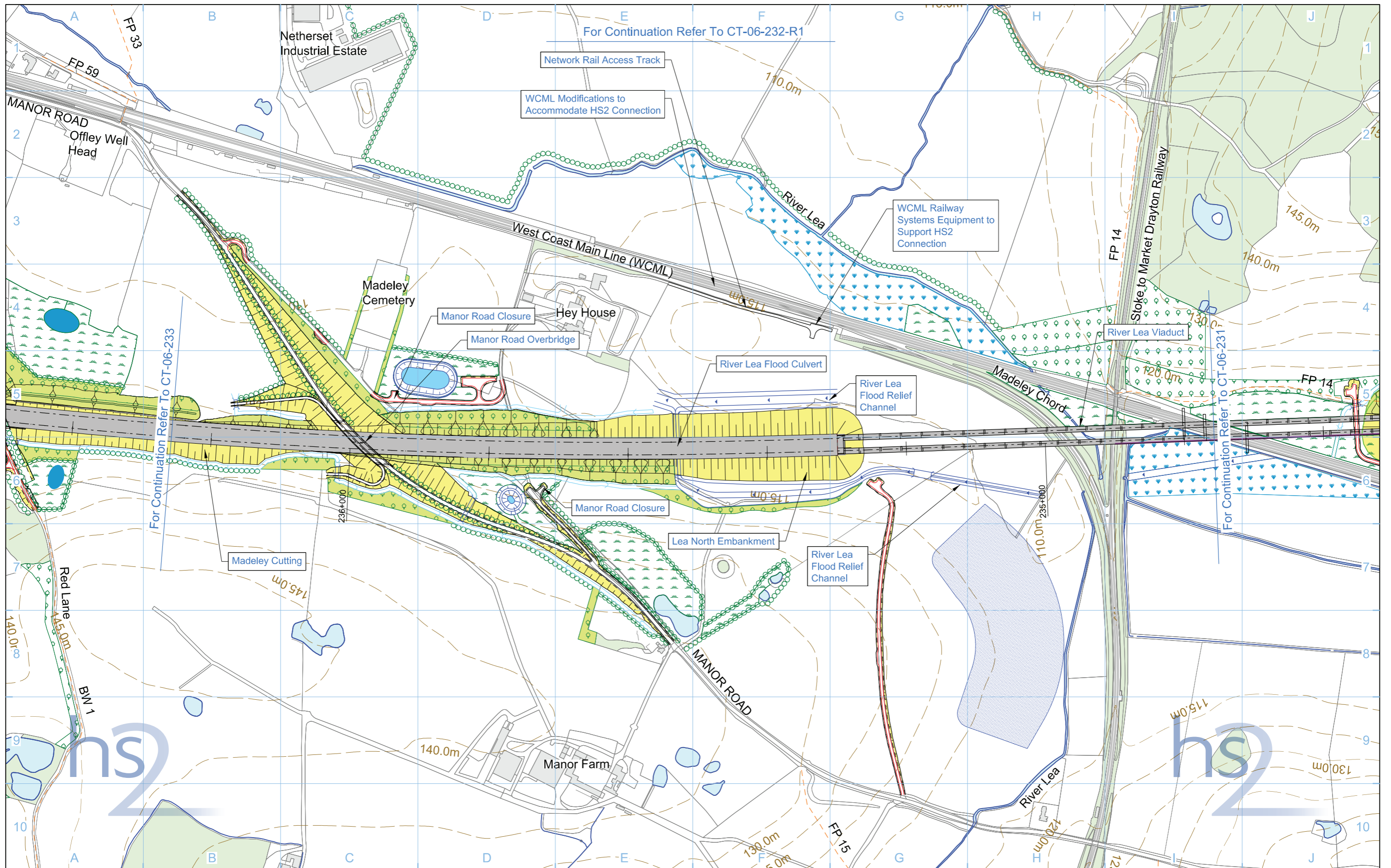
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Doc Number: C861-ARP-EV-DPL-000-056431 P03 Date: 08/06/17

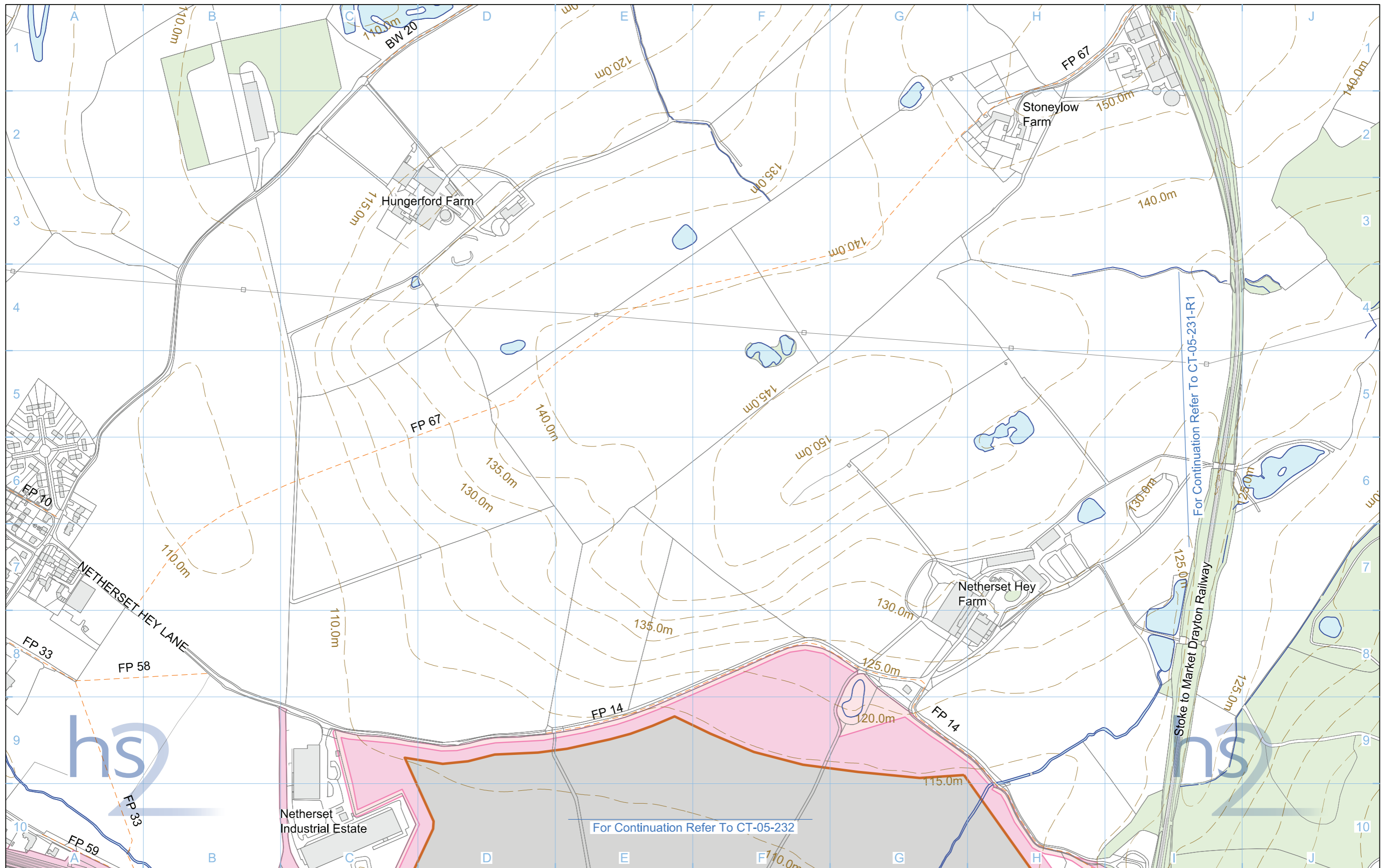


<b>Legend</b> 							
<b>Map Number</b> <b>CT-05-232</b>		<b>Map Name</b> <b>Construction Phase</b>				<small>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</small>	
<b>Community Area</b> CA4 Whitmore Heath to Madeley		<small>Registered in England, Registration number 06791686          Registered office: 2 Snow Hill, Queensway,          Birmingham, B4 6GA</small>		<small>Scale at A3: 1:5,000</small> 		<small>© Crown copyright and database rights 2017,          Ordnance Survey Licence Number 100049190.</small>	
				<small>Doc Number: C861-ARP-EV-DPL-000-055232</small>		<small>P07 Date: 08/06/17</small>	





<b>Legend</b> 		<b>Map Number</b> <b>CT-06-232</b> <b>Map Name</b> <b>Proposed Scheme</b> <b>Community Area</b> CA4 Whitmore Heath to Madeley	 Scale at A3: 1:5,000 Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA © Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. <b>Doc Number:</b> C861-ARP-EV-DPL-000-056232 <b>P07</b> <b>Date:</b> 08/06/17
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- Legend**
- Depot, station, headhouse or portal building
  - Tunnel portal
  - Main construction compound
  - Satellite construction compound
  - Railway systems compound
  - Temporary material stockpile

- Borrow Pit
- Storage / prefabrication / laydown areas
- Land potentially required during construction
- Extent of land potentially required during construction for mitigation planting
- Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment
- Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number  
**CT-05-232-R1**

Map Name  
**Construction Phase**

Community Area  
CA4 Whitmore Heath to Madeley

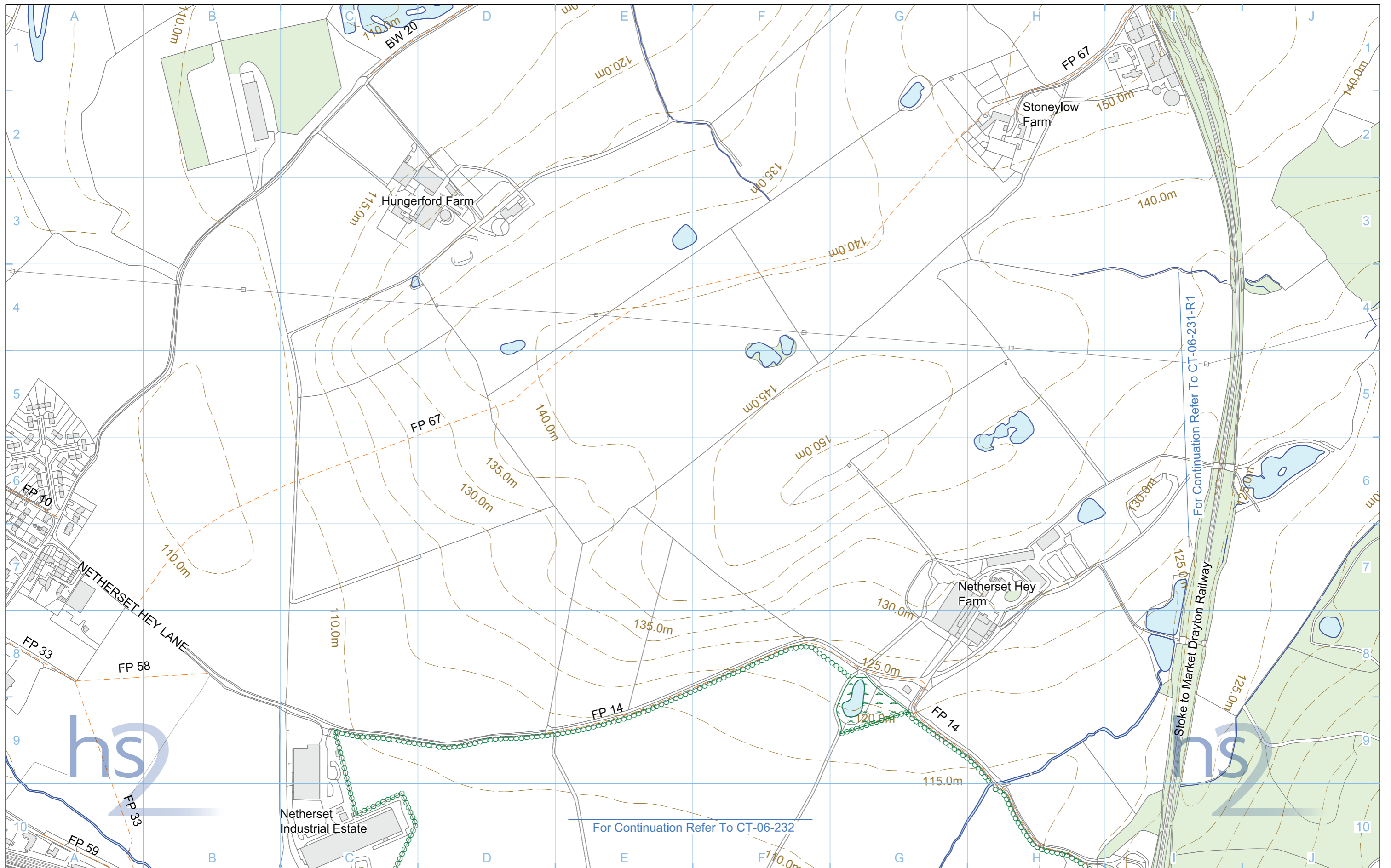
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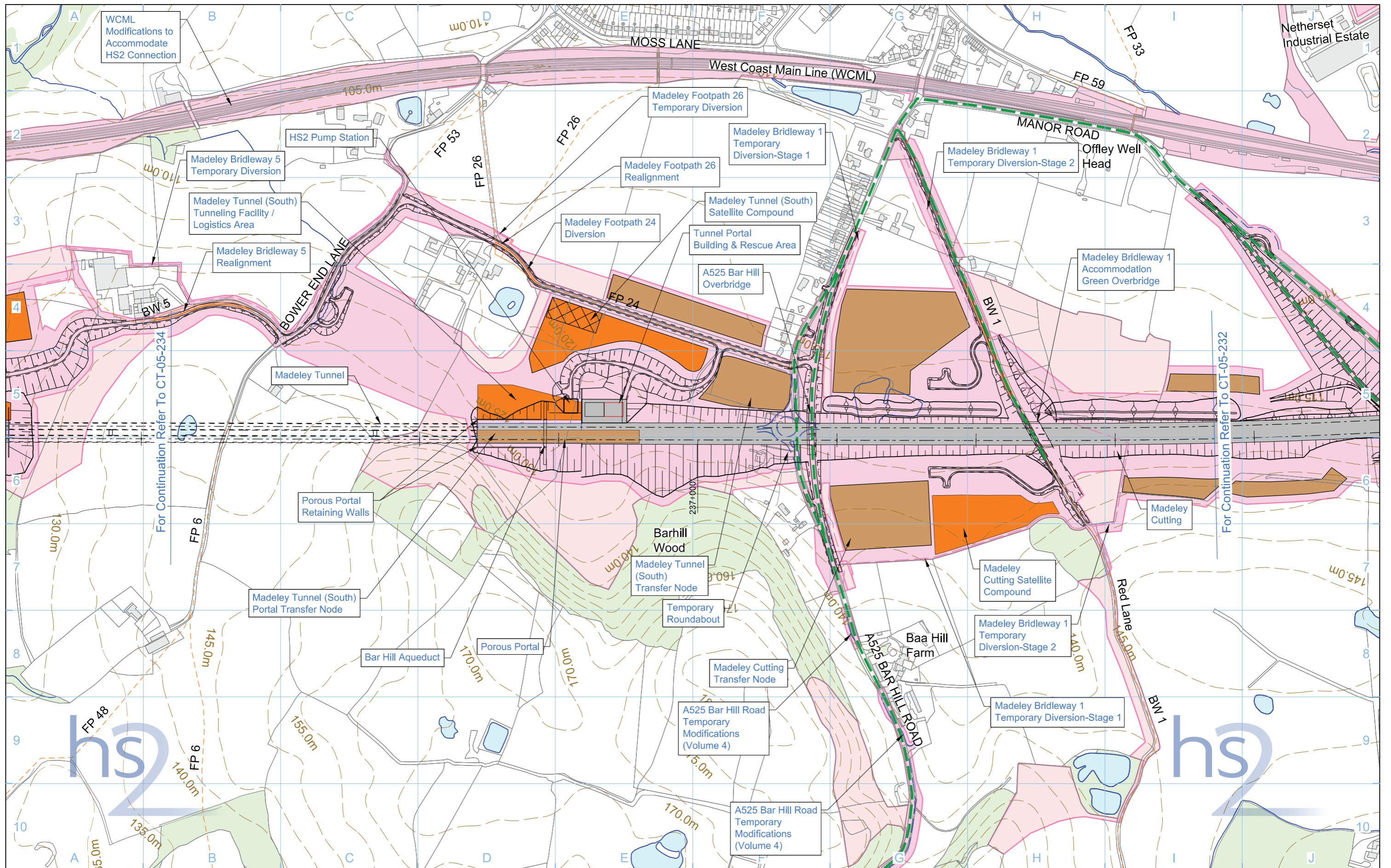
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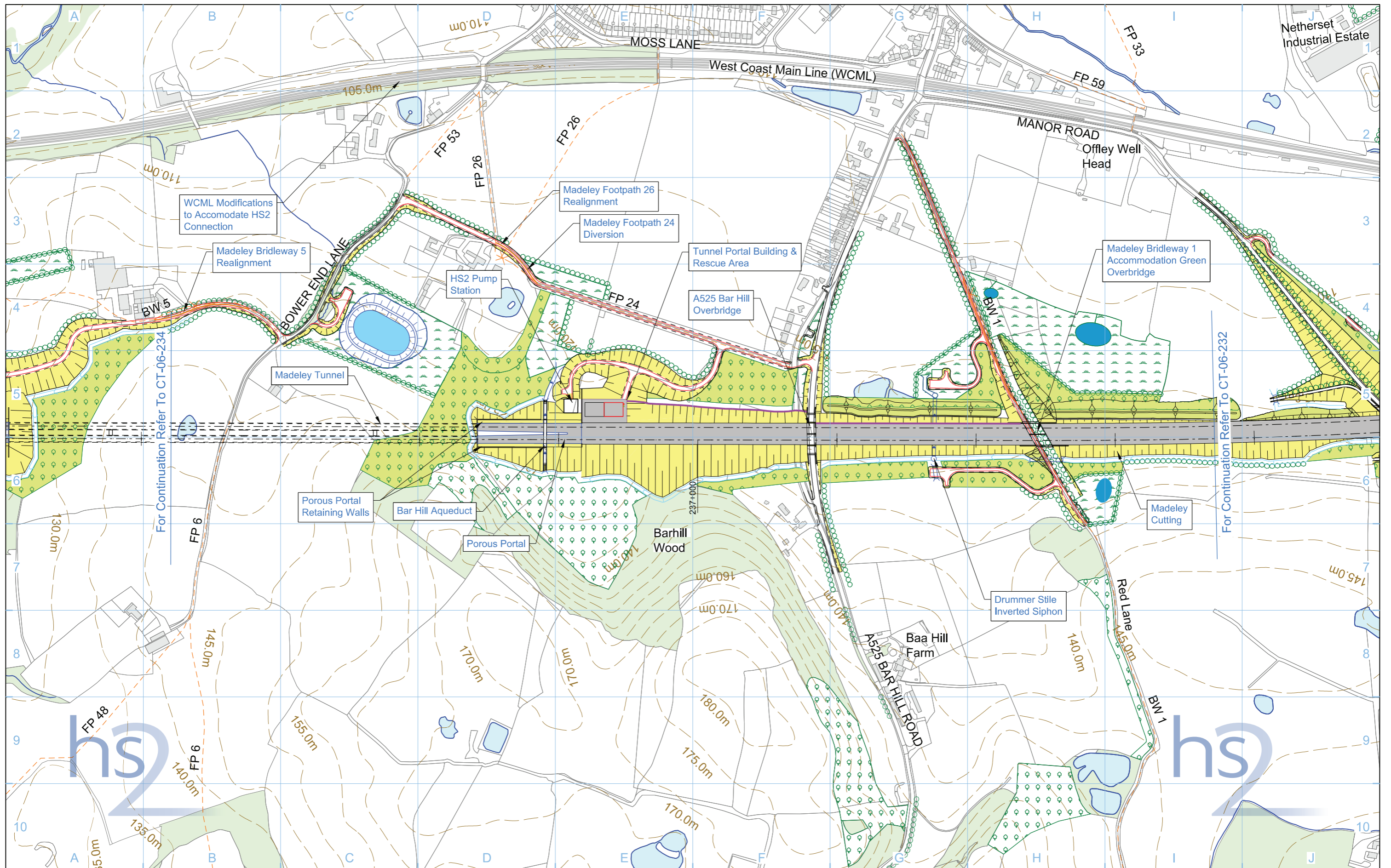
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<b>Legend</b> 						
<ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Electricity substation</li> <li>Land drainage area</li> <li>Ecological mitigation pond</li> <li>Balancing pond</li> </ul>	<ul style="list-style-type: none"> <li>Replacement floodplain storage</li> <li>Woodland habitat creation</li> <li>Wetland habitat creation</li> <li>Grassland habitat creation</li> <li>Landscape mitigation planting (scrub / woodland)</li> <li>Grassed areas</li> <li>Sustainable placement</li> </ul>	<ul style="list-style-type: none"> <li>Public realm/Replacement community facility</li> <li>Engineering earthworks</li> <li>Landscape earthworks</li> <li>Rail alignment formation</li> <li>Returned to suitable development use</li> <li>County boundary</li> <li>Borough / District boundary</li> </ul>	<ul style="list-style-type: none"> <li>Community Area boundary</li> <li>Watercourse diversion</li> <li>Existing watercourse</li> <li>Ditches - new</li> <li>Hedgerow habitat creation</li> <li>Main utility works</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Tunnels external extent</li> </ul>	<ul style="list-style-type: none"> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing contours</li> <li>HS2 access road</li> <li>Noise fence barrier</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>	<p>Map Number <b>CT-06-232-R1</b></p> <p>Map Name <b>Proposed Scheme</b></p> <p>Community Area CA4 Whitmore Heath to Madeley</p>	<p>hs2</p> <p>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.</p> <p>Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C861-ARP-EV-DPL-000-056432 P03 Date: 08/06/17</p>

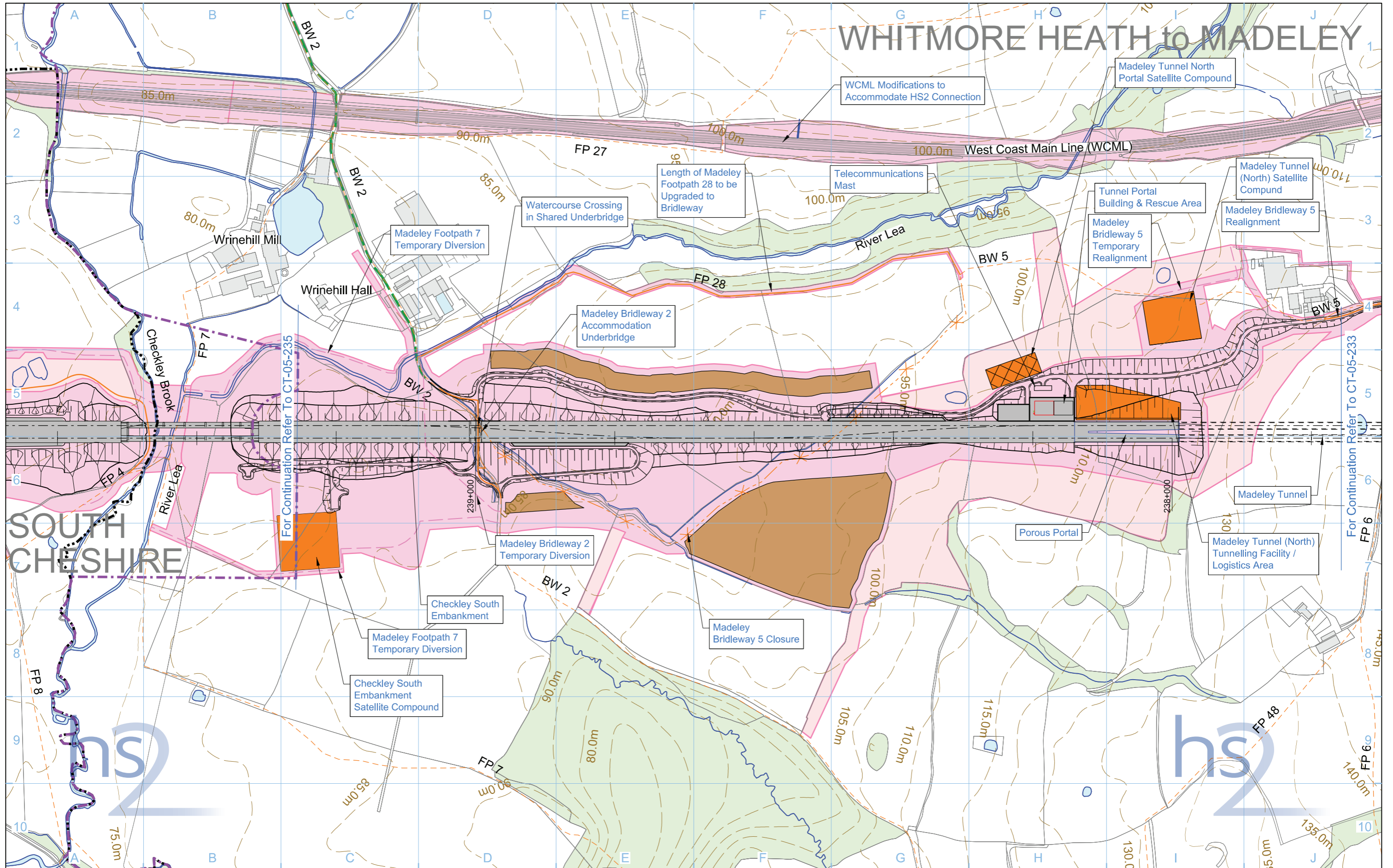


<b>Legend</b> 		<b>Map Number</b> <b>CT-05-233</b> <b>Map Name</b> <b>Construction Phase</b> <b>Community Area</b> CA4 Whitmore Heath to Madeley	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England, Registration number 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. <b>Doc Number:</b> C861-ARP-EV-DPL-000-055233 <b>P07</b> <b>Date:</b> 08/06/17
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<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Electricity substation</li> <li>Land drainage area</li> <li>Ecological mitigation pond</li> <li>Balancing pond</li> </ul>		<ul style="list-style-type: none"> <li>Replacement floodplain storage</li> <li>Woodland habitat creation</li> <li>Wetland habitat creation</li> <li>Grassland habitat creation</li> <li>Landscape mitigation planting (scrub / woodland)</li> <li>Grassed areas</li> <li>Sustainable placement</li> </ul>		<ul style="list-style-type: none"> <li>Public realm/Replacement community facility</li> <li>Engineering earthworks</li> <li>Landscape earthworks</li> <li>Rail alignment formation</li> <li>Returned to suitable development use</li> <li>County boundary</li> <li>Borough / District boundary</li> </ul>		<ul style="list-style-type: none"> <li>Community Area boundary</li> <li>Watercourse diversion</li> <li>Existing watercourse</li> <li>Ditches - new</li> <li>Hedgerow habitat creation</li> <li>Main utility works</li> <li>Existing public right of way (PRoW)</li> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Tunnels external extent</li> </ul>		<ul style="list-style-type: none"> <li>Existing woodland</li> <li>Existing buildings</li> <li>Existing inland water</li> <li>Existing contours</li> <li>HS2 access road</li> <li>Noise fence barrier</li> <li>Rail alignment</li> <li>Chainage (e.g. 10+000)</li> </ul>		Map Number <b>CT-06-233</b>	<p>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.</p> <p>Registered in England, Registration number 06791686          Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C861-ARP-EV-DPL-000-056233 P07 Date: 08/06/17</p>
Map Name <b>Proposed Scheme</b>		Community Area CA4 Whitmore Heath to Madeley		Map Number <b>CT-06-233</b>		Map Name <b>Proposed Scheme</b>		Community Area CA4 Whitmore Heath to Madeley			

# WHITMORE HEATH TO MADELEY



- Legend**
- Depot, station, headhouse or portal building
  - Tunnel portal
  - Main construction compound
  - Satellite construction compound
  - Railway systems compound
  - Temporary material stockpile
  - Borrow Pit
  - Storage / prefabrication / laydown areas
  - Land potentially required during construction
  - Extent of land potentially required during construction for mitigation planting
  - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment
- Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number: **CT-05-234**

Map Name: **Construction Phase**

Community Area: **CA4 Whitmore Heath to Madeley**

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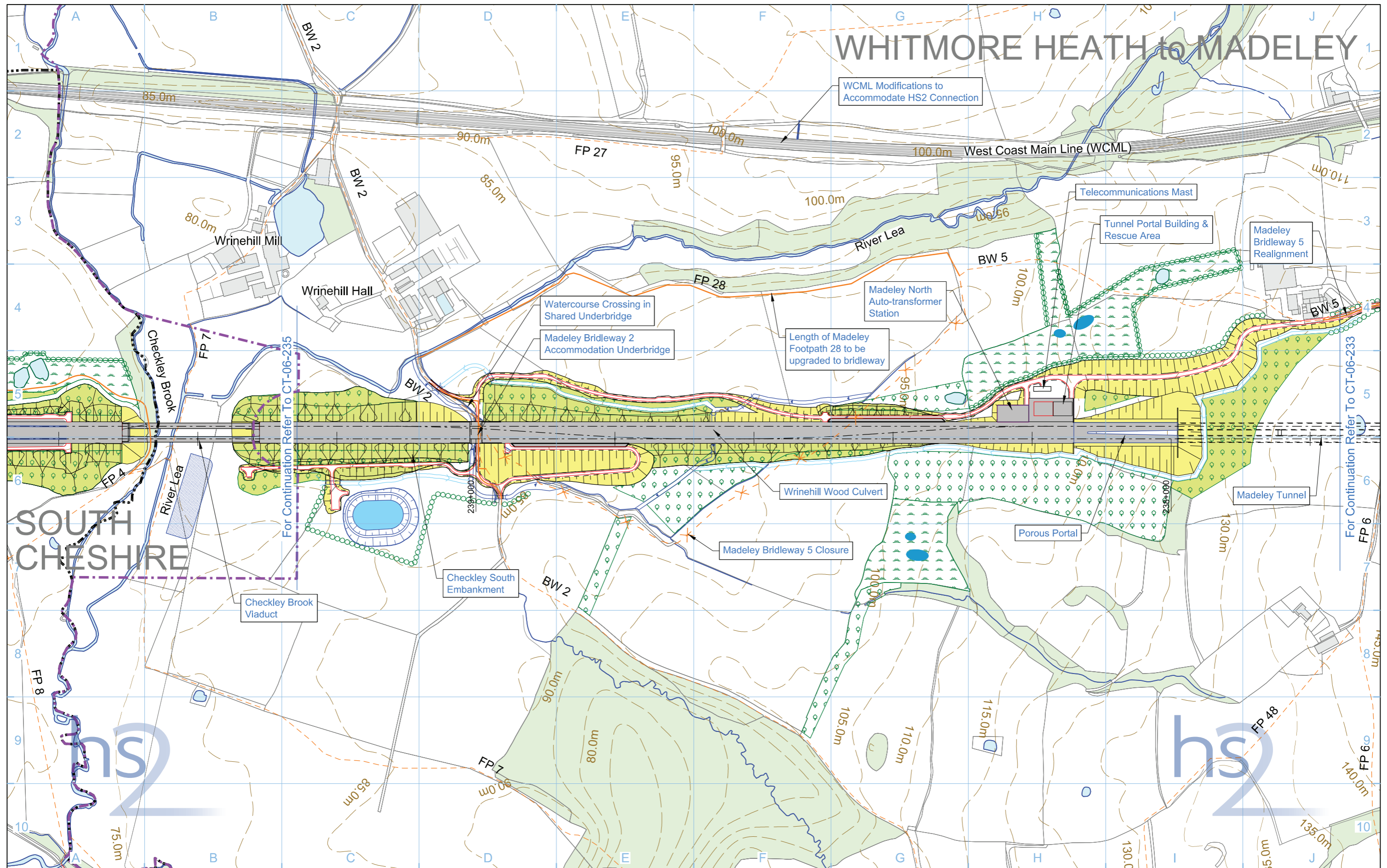
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# WHITMORE HEATH TO MADELEY



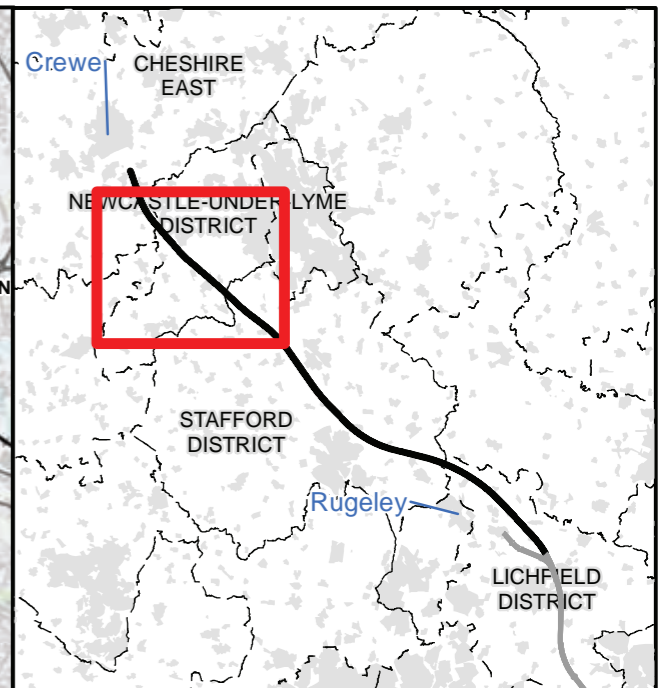
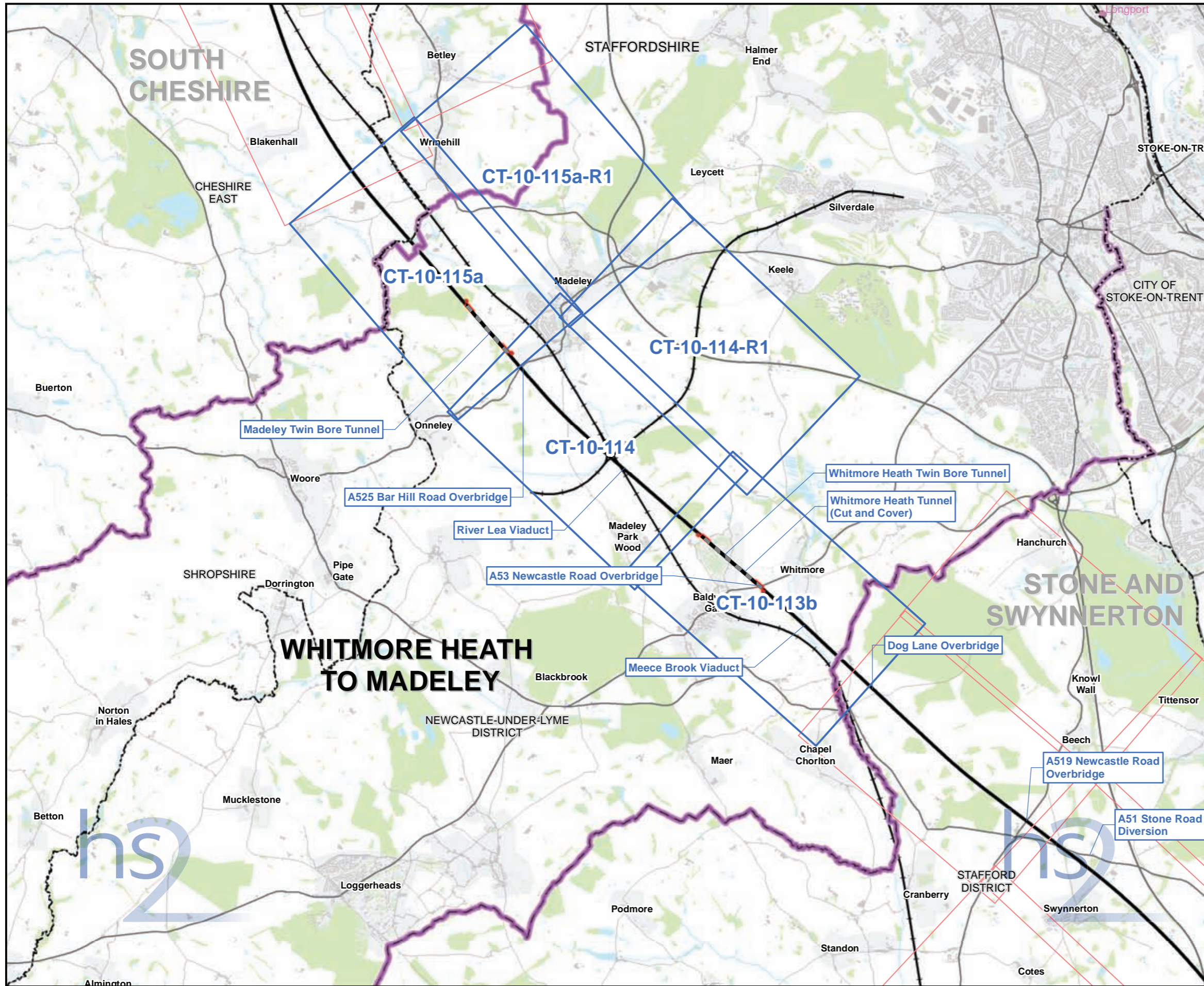
<b>Legend</b> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Sustainable placement Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary Community Area boundary Watercourse diversion Existing watercourse Ditches - new Hedgerow habitat creation Main utility works Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Tunnels external extent Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000)		Map Number <b>CT-06-234</b> Map Name <b>Proposed Scheme</b> Community Area CA4 Whitmore Heath to Madeley	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 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-DPL-000-056234 P06 Date: 08/06/17
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High Speed Rail (West Midlands-Crewe)  
Environmental Statement  
**CT-10 – Environmental Baseline**



**Map Series Information:**

The Environmental Baseline maps display a range of environmental data layers.

Main Map Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area

Map Number	CT-10-INDEX-CA4
Map Name	Index Map of: Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

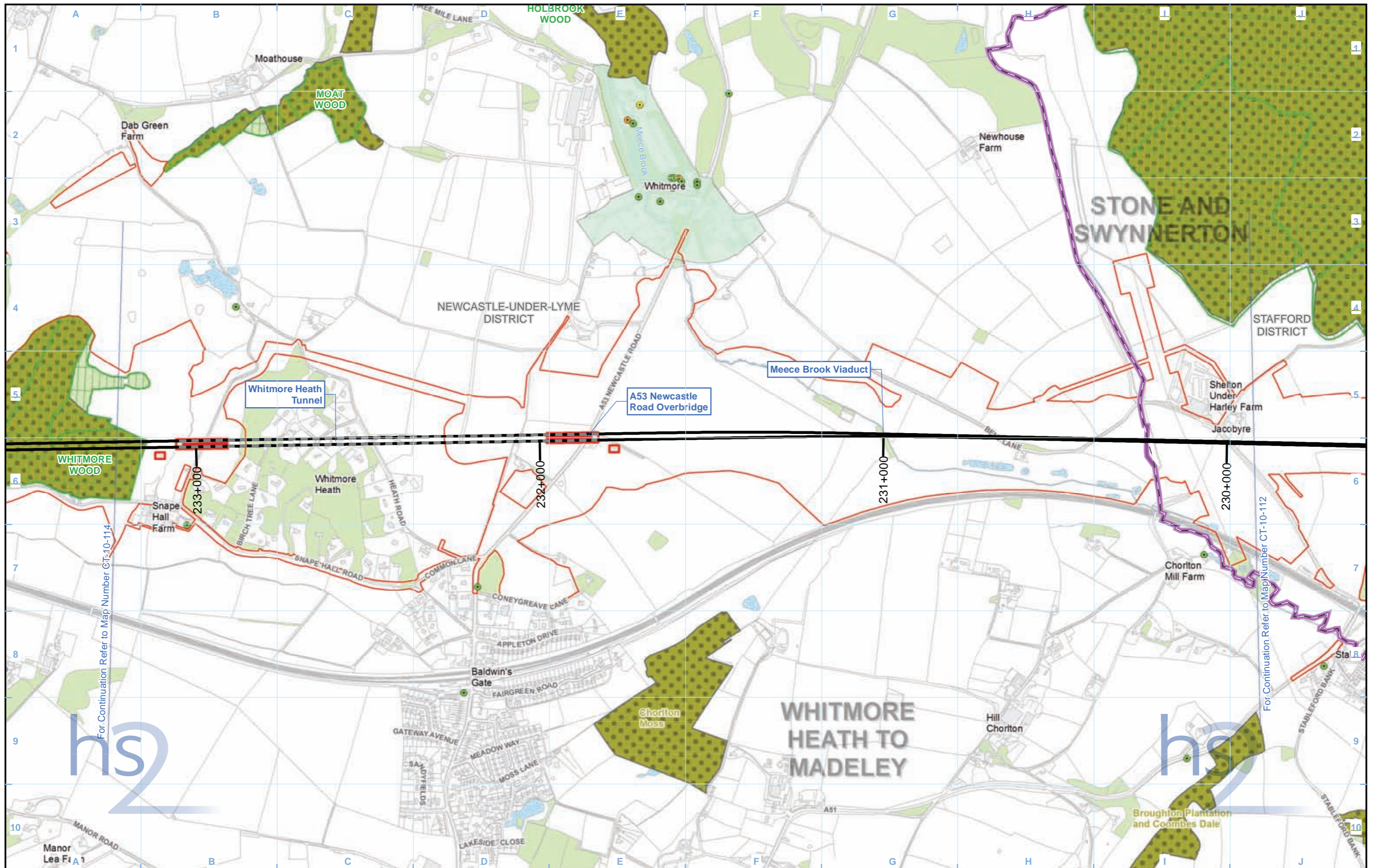
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Doc Number: C861-ARP-EV-MAP-000-144004-P03 **Date: 15/06/17**



Legend			

Map Number	CT-10-113b
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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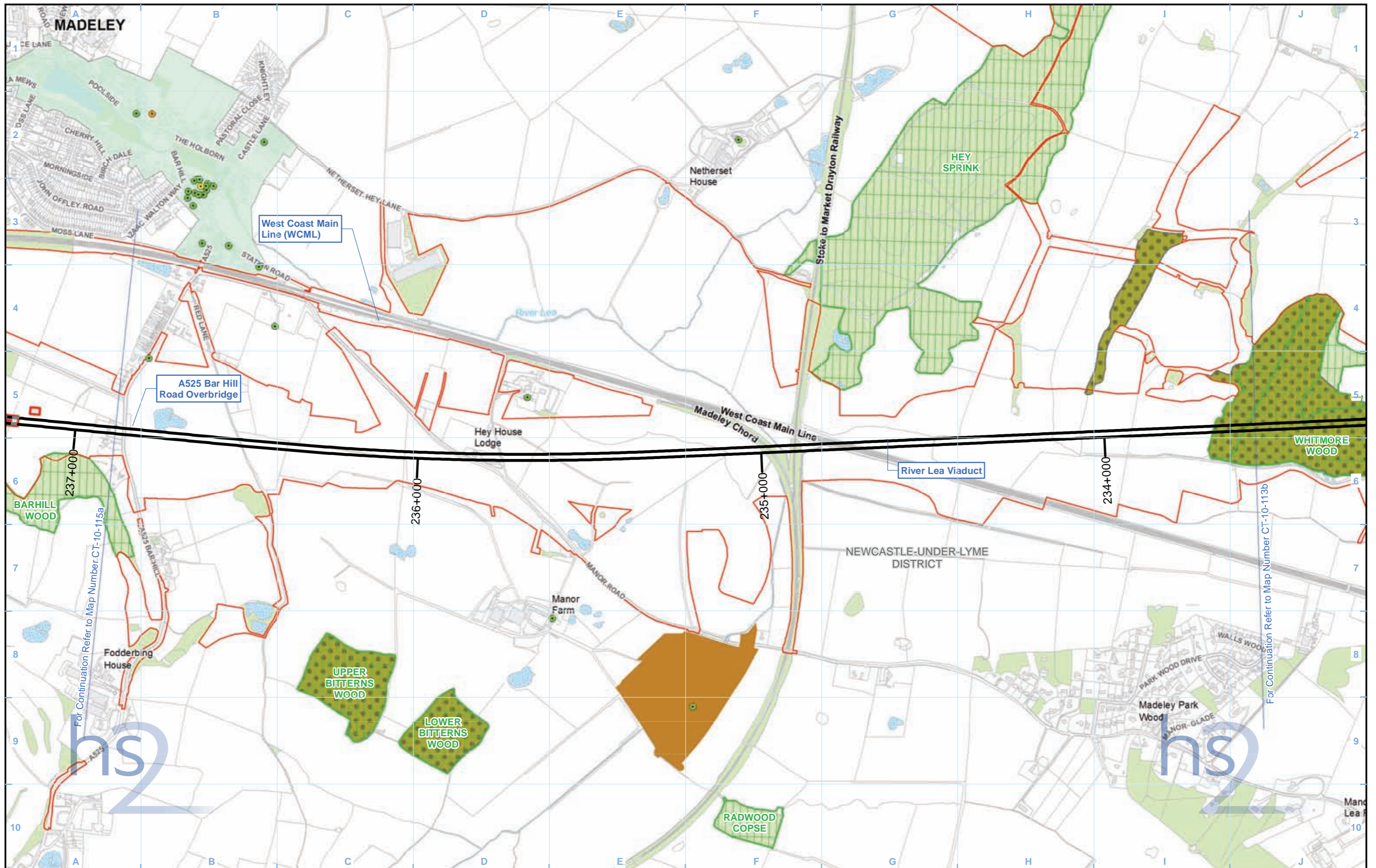
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Date: 15/06/17



Legend			

Map Number	CT-10-114
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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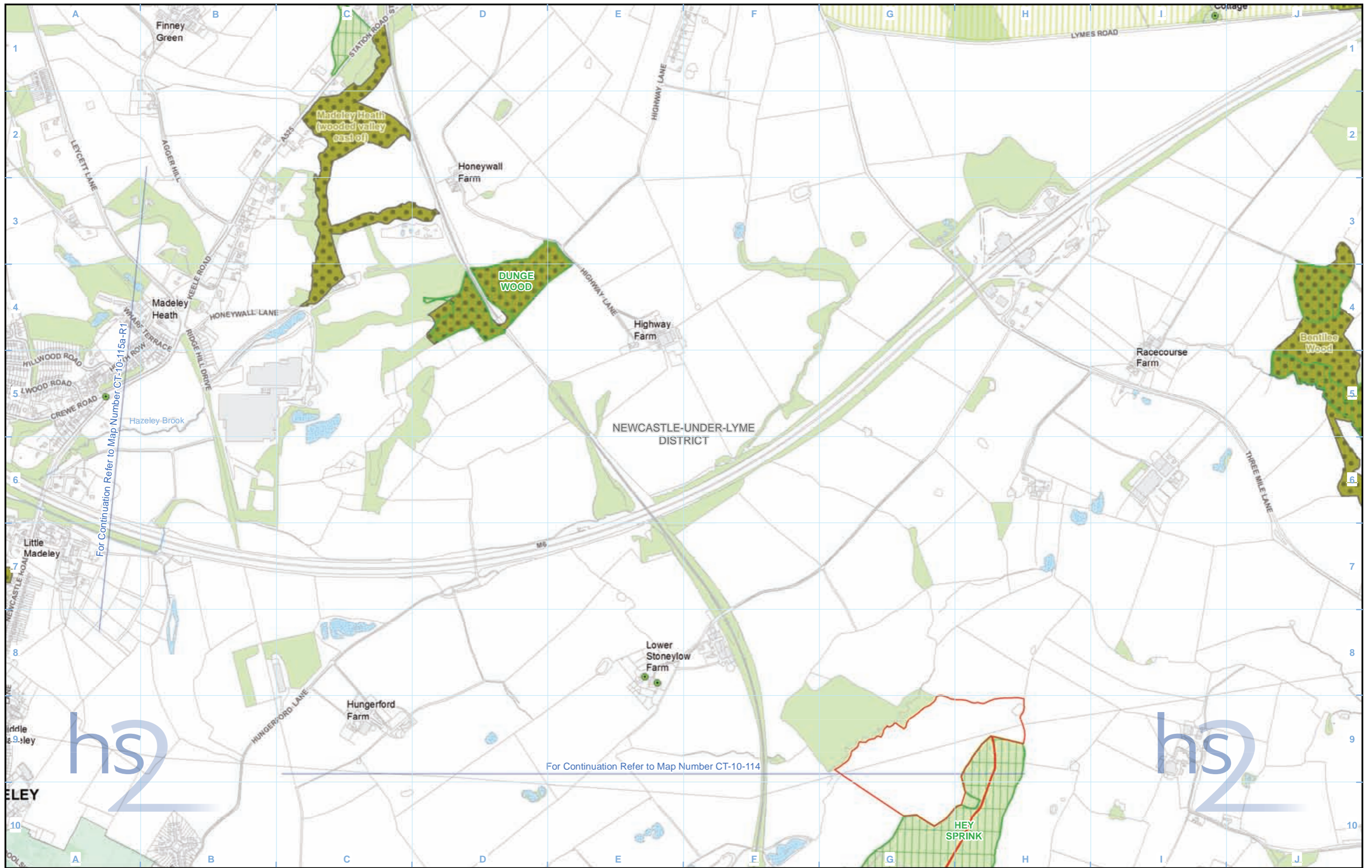
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Scale at A3: 1:10,000

Metres

Date: 15/06/17

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Legend			

Map Number	CT-10-114-R1
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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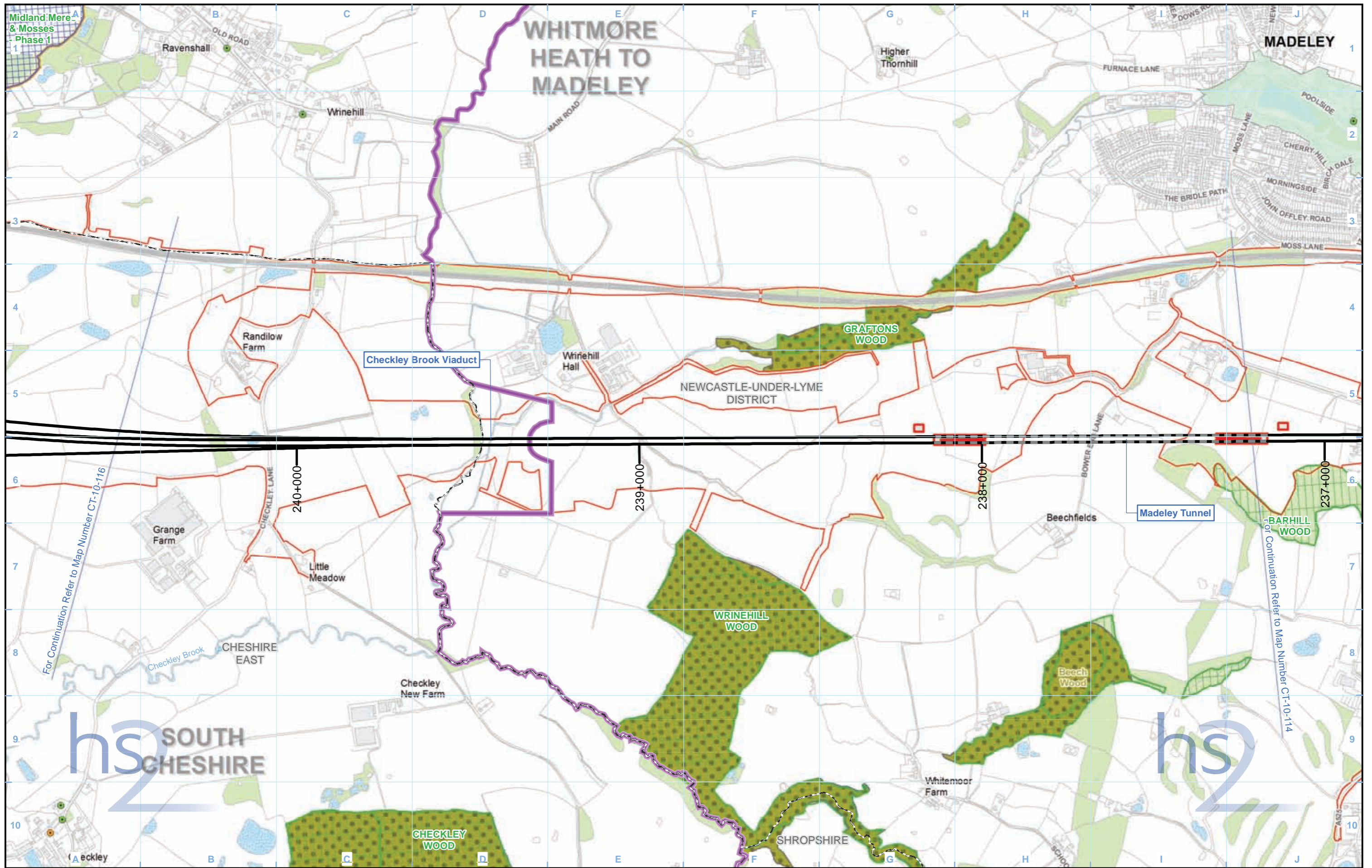
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Scale at A3: 1:10,000

Metres

Date: 15/06/17



Legend			

Map Number	CT-10-115a
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

**hs2**

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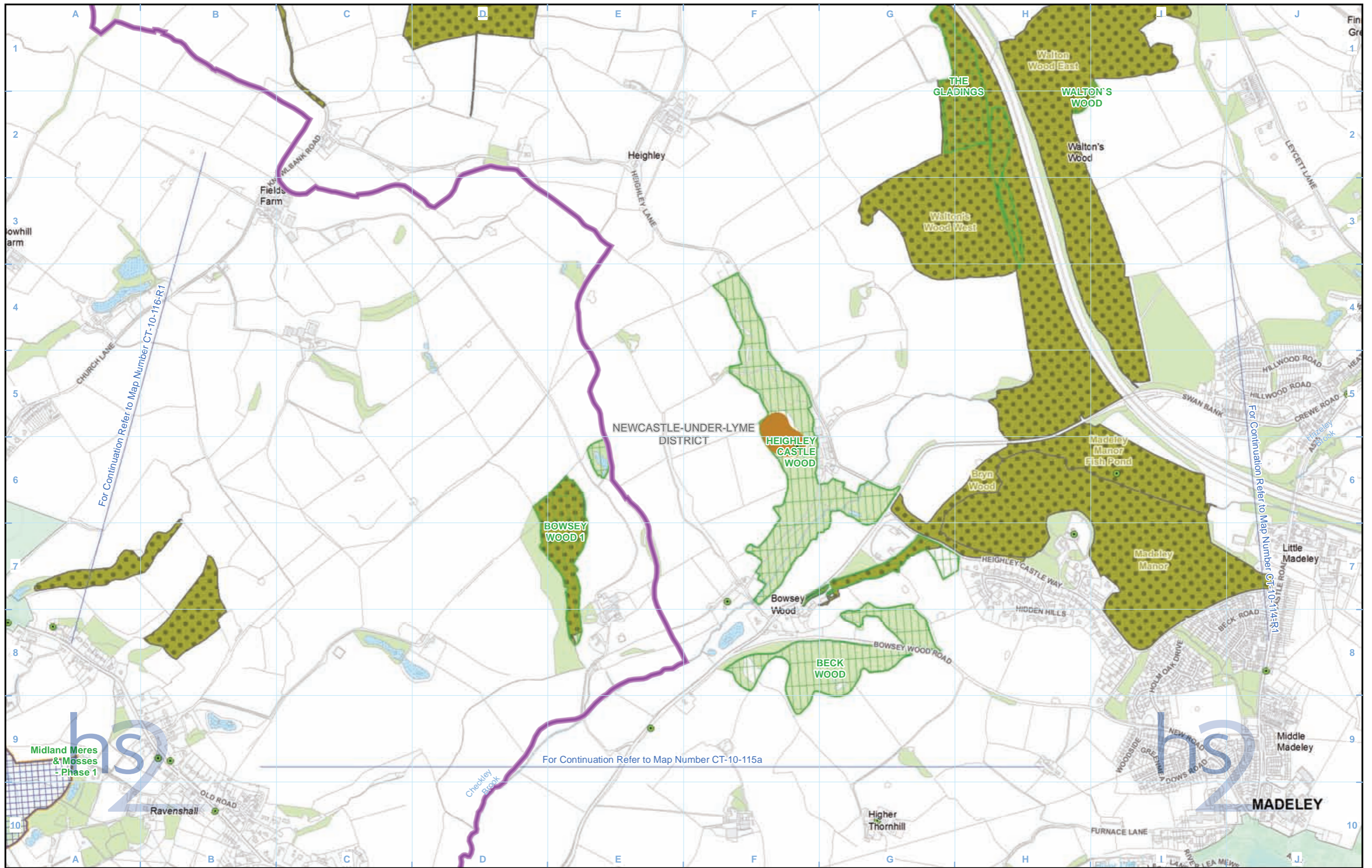
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Doc Number: C861-ARP-EV-MAP-000-060215-P03

Date: 15/06/17



Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Woodland
	Land potentially required during construction		Conservation areas
	Community area boundary		Scheduled monument
	County boundary		Listed building grade I
	District/Borough boundary		Listed building grade II*
			Listed building grade II
			Registered park or garden
	Site of Special Scientific Interest (SSSI)		Local Nature Reserve (LNR)
	Local Wildlife Site (LWS)		Ancient Woodland Inventory Sites (AWIS)
	Ramsar Site - Wetland of International Importance		


Map Number	CT-10-115a-R1
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley



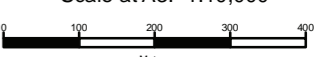
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Doc Number: C861-ARP-EV-MAP-000-060115-P03



Scale at A3: 1:10,000



Metres

Date: 15/06/17

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High Speed Rail (West Midlands-Crewe)  
Environmental Statement  
**LV-01 – Photomontages**

# Viewpoint 020.02.006: View north-east from residences at Hill Chorlton

This viewpoint is representative of views experienced by receptors in Hill Chorlton.

## Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 14:41. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 380851.337, 339385.222. Elevation: 153.128 Metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 23/03/2016. Time taken: 14:41. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 380851.337, 339385.222. Elevation: 153.128 Metres AOD.



The viewpoint has been taken approximately 591 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-o8-222b. For full details of the visual assessment at viewpoint 020.02.006 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-549 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-549
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 020.02.006
Community Area 4: Whitmore Heath to Madeley	

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Doc Number: C861-ARP-EV-MAP-000-101549-P01

Date: 12/06/17

# Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

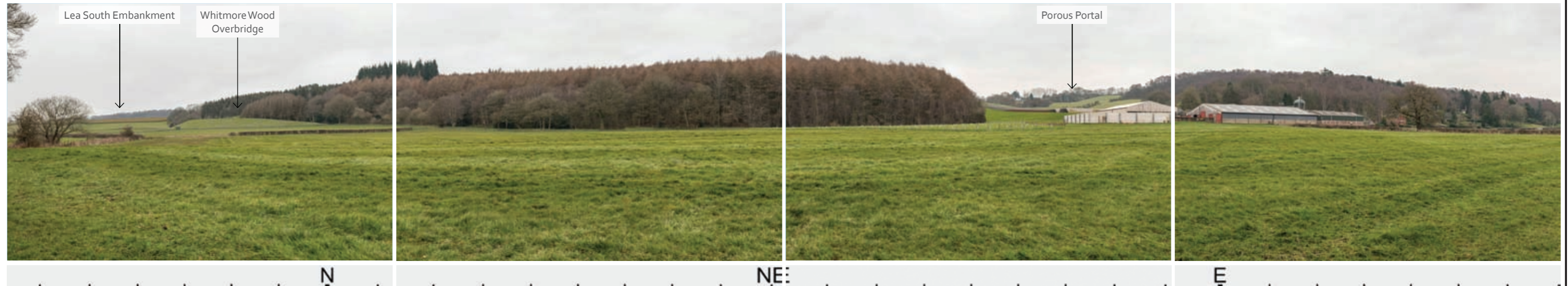
## Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-552 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-552
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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Doc Number: C861-ARP-EV-MAP-000-101552-P01

Date: 12/06/17

# Viewpoint 023.02.001: View west from Moor Hall Farm on Bar Hill Road

This viewpoint is representative of views experienced by residential receptors including Moor Hall Farm, recreational receptors using Madeley Footpath 24, and transport receptors using the A525 Bar Hill Road.

## Current Baseline - Winter View

Date taken: 24/03/2016. Time taken: 10:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376097.98, 344159.968. Elevation: 114.765 Metres AOD.



## Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 24/03/2016. Time taken: 10:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376097.98, 344159.968. Elevation: 114.765 Metres AOD.



The viewpoint has been taken approximately 136 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-225. For full details of the visual assessment at viewpoint 023.02.001 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-556 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-556
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 023.02.001
Community Area 4: Whitmore Heath to Madeley	

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Date: 12/06/17

# Viewpoint 020.02.020: View west from entrance drive to Whitmore Cricket Club

This viewpoint is representative of views experienced by recreational receptors using Whitmore Cricket Club.

## Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 12:51. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 381051.452, 340709.247. Elevation: 120.936 Metres AOD.



## Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 23/03/2016. Time taken: 12:51. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 381051.452, 340709.247. Elevation: 120.936 Metres AOD.



The viewpoint has been taken approximately 520 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-07-222b. For full details of the visual assessment at viewpoint 020.02.020 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the LV-01-605 Proposed Scheme may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

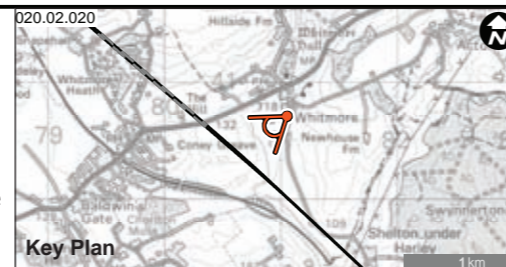


Figure Number	LV-01-605
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 020.02.020
Community Area 4: Whitmore Heath to Madeley	

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**Doc Number:** C861-ARP-EV-MAP-000-101605-P01 **Date:** 12/06/17

# Viewpoint 020.02.006: View north-east from residences at Hill Chorlton

This viewpoint is representative of views experienced by receptors in Hill Chorlton.

## Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 14:41. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 380851.337, 339385.222. Elevation: 153.128 Metres AOD.



## Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 23/03/2016. Time taken: 14:41. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 380851.337, 339385.222. Elevation: 153.128 Metres AOD.



The viewpoint has been taken approximately 591 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-07-222b. For full details of the visual assessment at viewpoint 020.02.006 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the LV-01-606 Proposed Scheme may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-606
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 020.02.006
Community Area 4: Whitmore Heath to Madeley	

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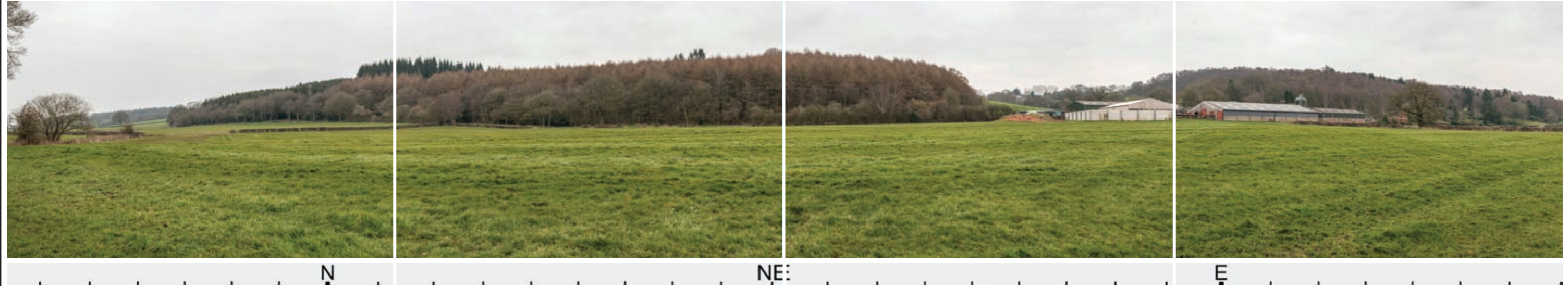
Date: 12/06/17

# Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

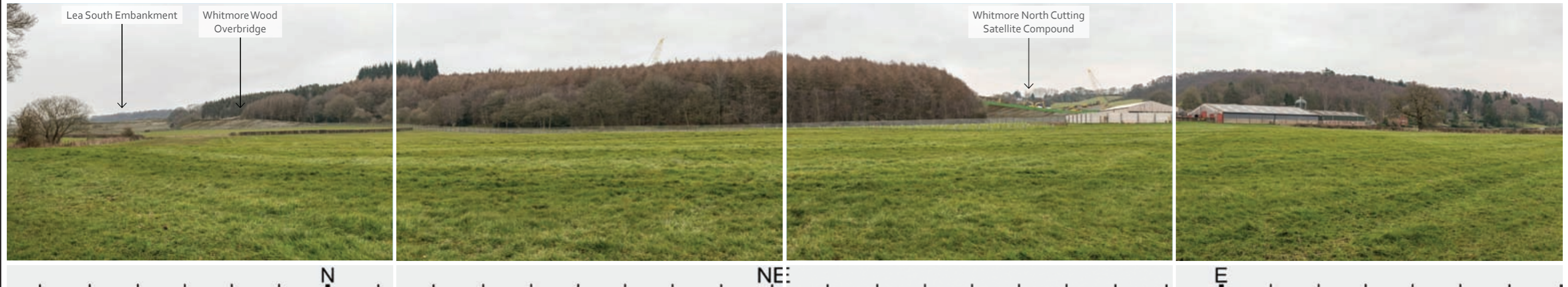
## Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



## Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-07-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the LV-01-608 Proposed Scheme may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-608
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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Doc Number: C861-ARP-EV-MAP-000-101608-P01

Date: 12/06/17

# Viewpoint 023.02.001: View west from Moor Hall Farm on Bar Hill Road

This viewpoint is representative of views experienced by residential receptors including Moor Hall Farm, recreational receptors using Madeley Footpath 24, and transport receptors using the A525 Bar Hill Road.

## Current Baseline - Winter View

Date taken: 24/03/2016. Time taken: 10:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376097.98, 344159.968. Elevation: 114.765 Metres AOD.



## Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 24/03/2016. Time taken: 10:45. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376097.98, 344159.968. Elevation: 114.765 Metres AOD.



The viewpoint has been taken approximately 136 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-07-225. For full details of the visual assessment at viewpoint 023.02.001 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the LV-01-611 Proposed Scheme may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

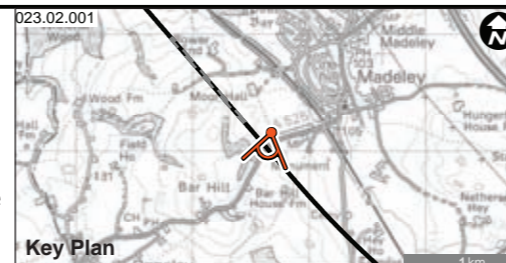


Figure Number	LV-01-611
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 023.02.001
Community Area 4:	Whitmore Heath to Madeley

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Date: 12/06/17



# Viewpoint 022.03.024: View south-west from Madeley Parish Cemetery

This viewpoint is indicative of views experienced by visitors to Madeley Parish Cemetery.

## Current Baseline - Summer View

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



The viewpoint has been taken approximately 126 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-224. For full details of the visual assessment at viewpoint 022.03.024 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-645 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

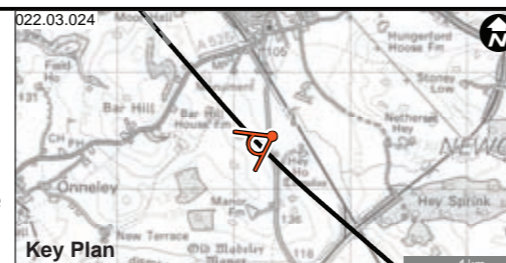


Figure Number	LV-01-645
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 022.03.024
Community Area 4:	Whitmore Heath to Madeley

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Doc Number: C861-ARP-EV-MAP-000-101645-P01

Date: 12/06/17

# Viewpoint 022.02.013: View south from Red Lane

This viewpoint is indicative of views experienced by residential receptors on Red Lane close to Wayside and Woodcroft and recreational receptors using Madeley Bridleway 1.

## Current Baseline - Summer View

Date taken: 23/08/2016. Time taken: 11:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376980.977, 343984.446. Elevation: 110.505 Metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 23/08/2016. Time taken: 11:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 376980.977, 343984.446. Elevation: 110.505 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-224. The intervening landscape mitigation planting along Red Lane screens views of the Madeley Bridleway 1 Accommodation Overbridge, Madeley Cutting and A525 Bar Hill Overbridge. For full details of the visual assessment at viewpoint 022.02.013 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-664 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-664
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 022.02.013
Community Area 4: Whitmore Heath to Madeley	

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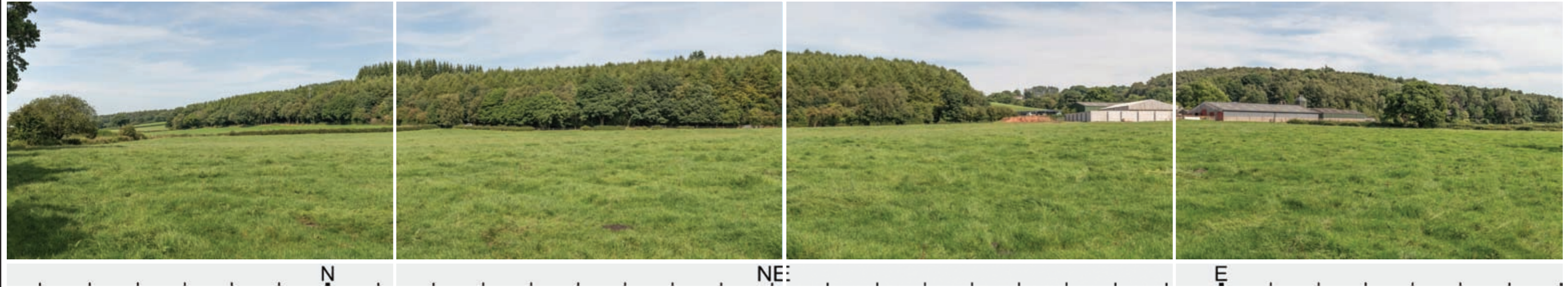
**Doc Number:** C861-ARP-EV-MAP-000-101664-P01 **Date:** 12/06/17

# Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

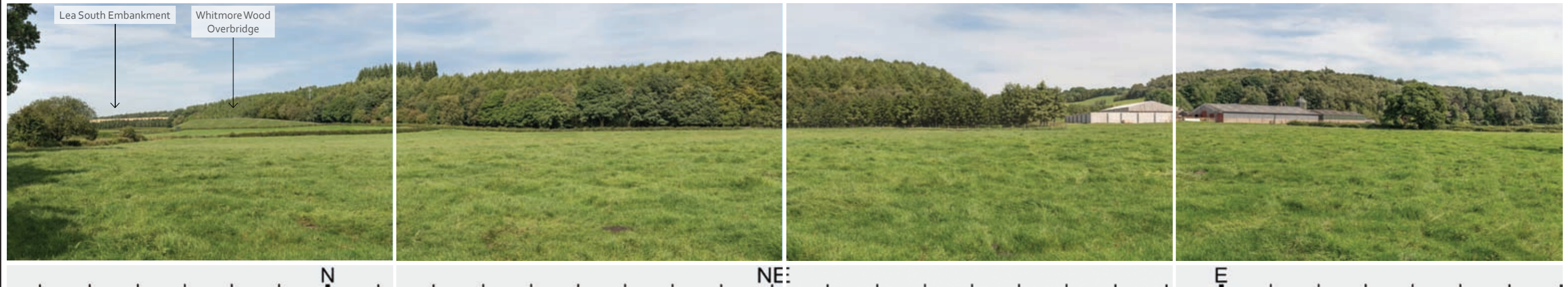
## Current Baseline - Summer View

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



## Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-666 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

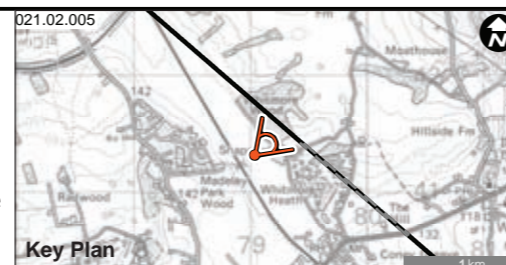


Figure Number	LV-01-666
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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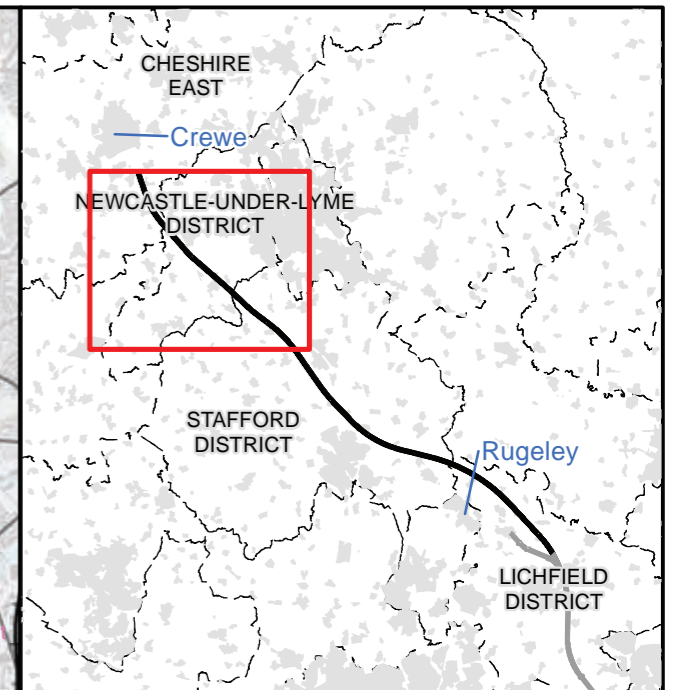
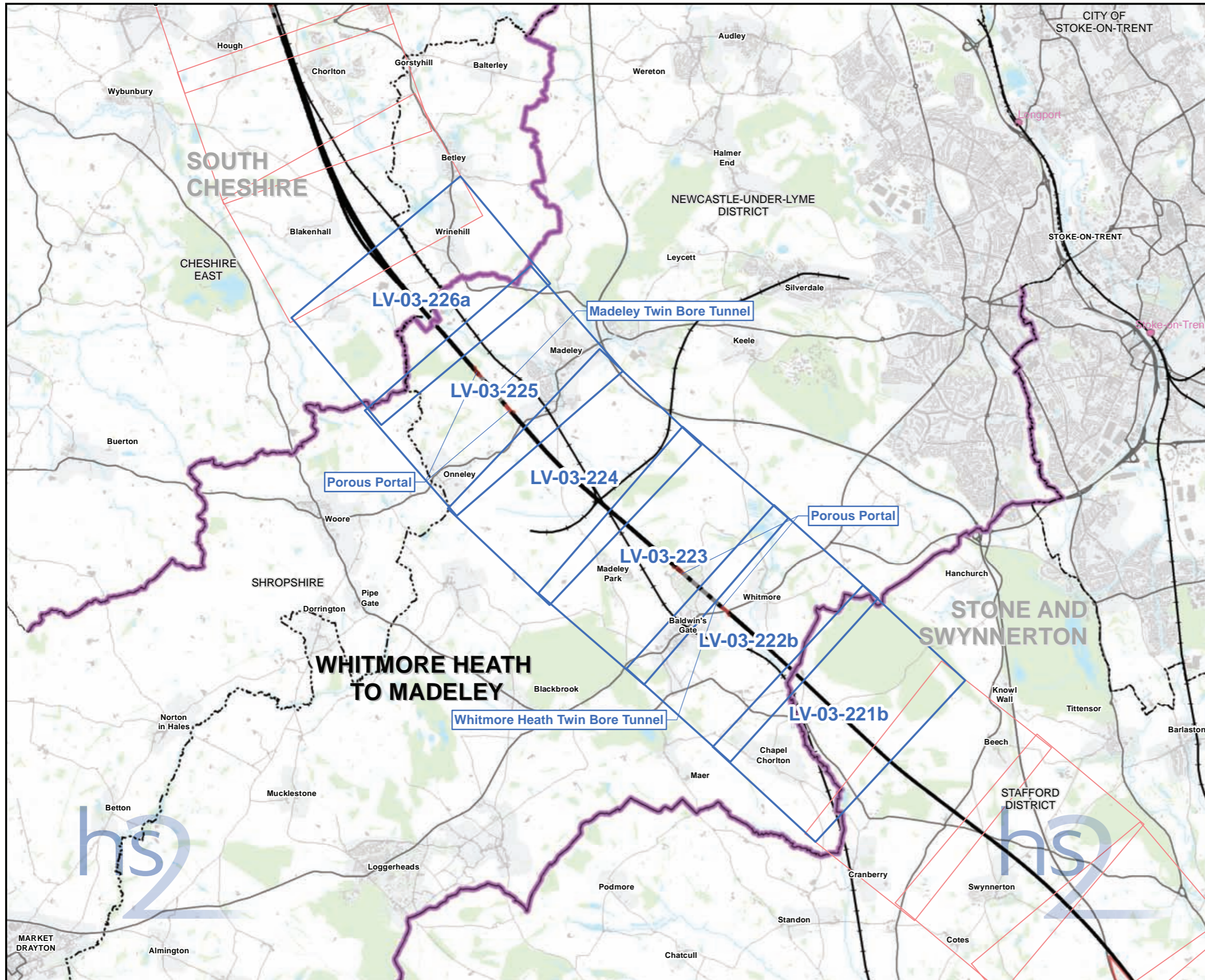
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High Speed Rail (West Midlands-Crewe)

Environmental Statement

**LV-03 – Construction Phase Significantly Affected Viewpoints**

**LV-04 – Operational Phase Significantly Affected Viewpoints**



**Map Series Information:**

Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the construction phase. (All significant and non-significant photomontage locations are shown).

- Main Map Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - Existing railway station
  - County boundary
  - District/Borough boundary
  - Map sheets included in this community area
  - Map sheets not included in this community area

Map Number	LV-03-INDEX-CA4
Map Name	Index Map of: Construction Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

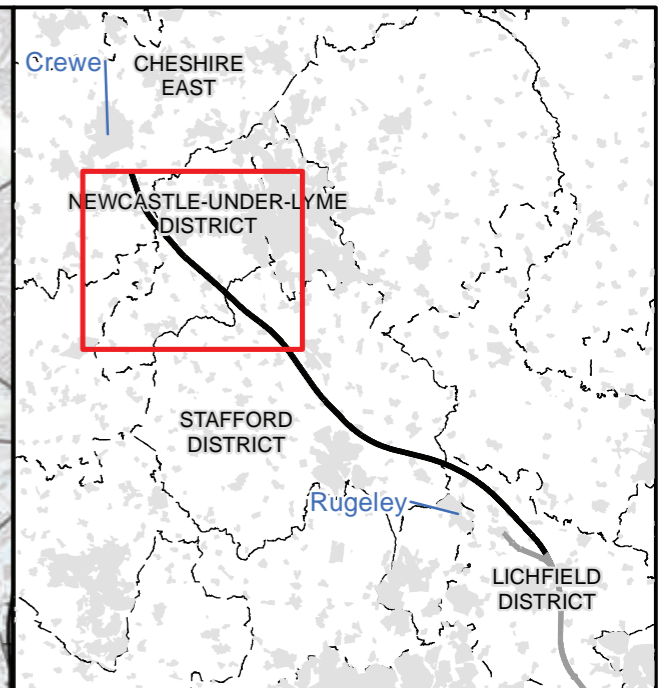
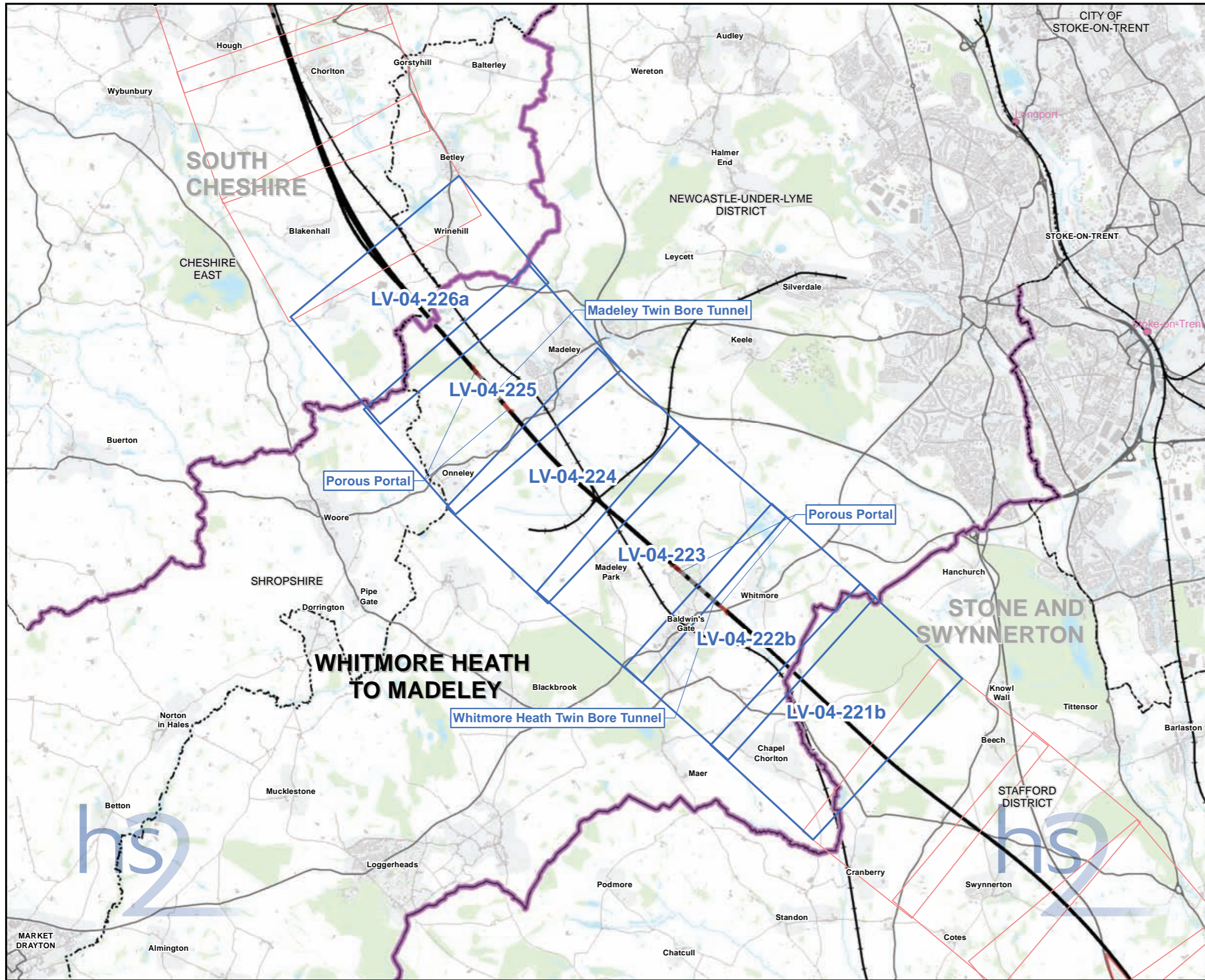
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Doc Number: C861-ARP-EV-MAP-000-103004-P03 Date: 06/06/17



**Map Series Information:**

Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the operational phase. (All significant and non-significant photomontage locations are shown).

Main Map Legend	
Route in tunnel	Map sheets included in this community area
Route on surface	Map sheets not included in this community area
Depot, station, headhouse or portal building	Community area boundary
Community area boundary	Existing railway station
County boundary	District/Borough boundary

Map Number	LV-04-INDEX-CA4
Map Name	Index Map of: Operational Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

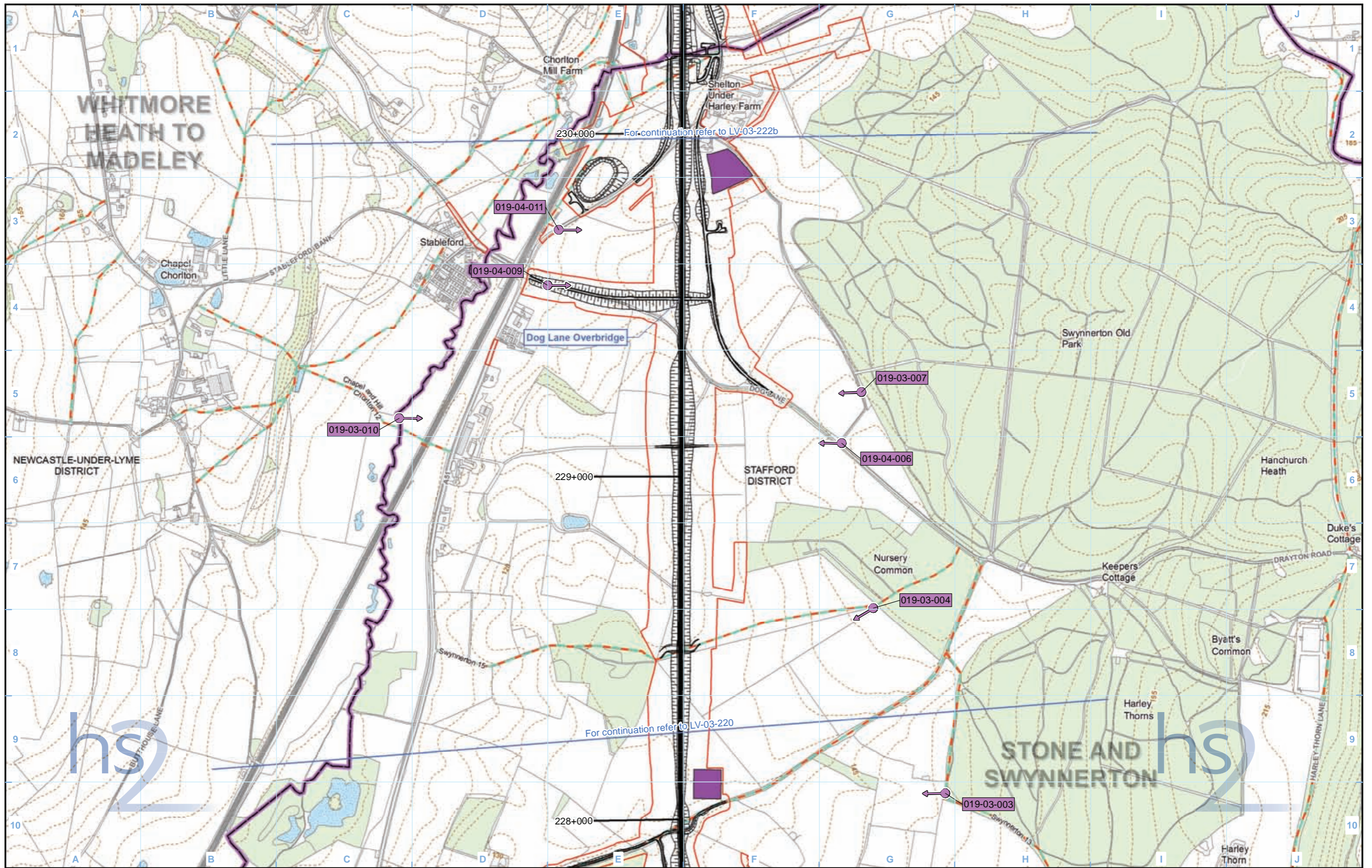
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Doc Number: C861-ARP-EV-MAP-000-104004-P03 Date: 07/06/17



**Legend**

	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary

	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Construction compounds
	Cannock Chase
	Area of Outstanding Natural Beauty (AONB)

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-221b
Map Name	Construction Phase Significantly Affected Viewpoints
Community Area 4: Whitmore Heath to Madeley	

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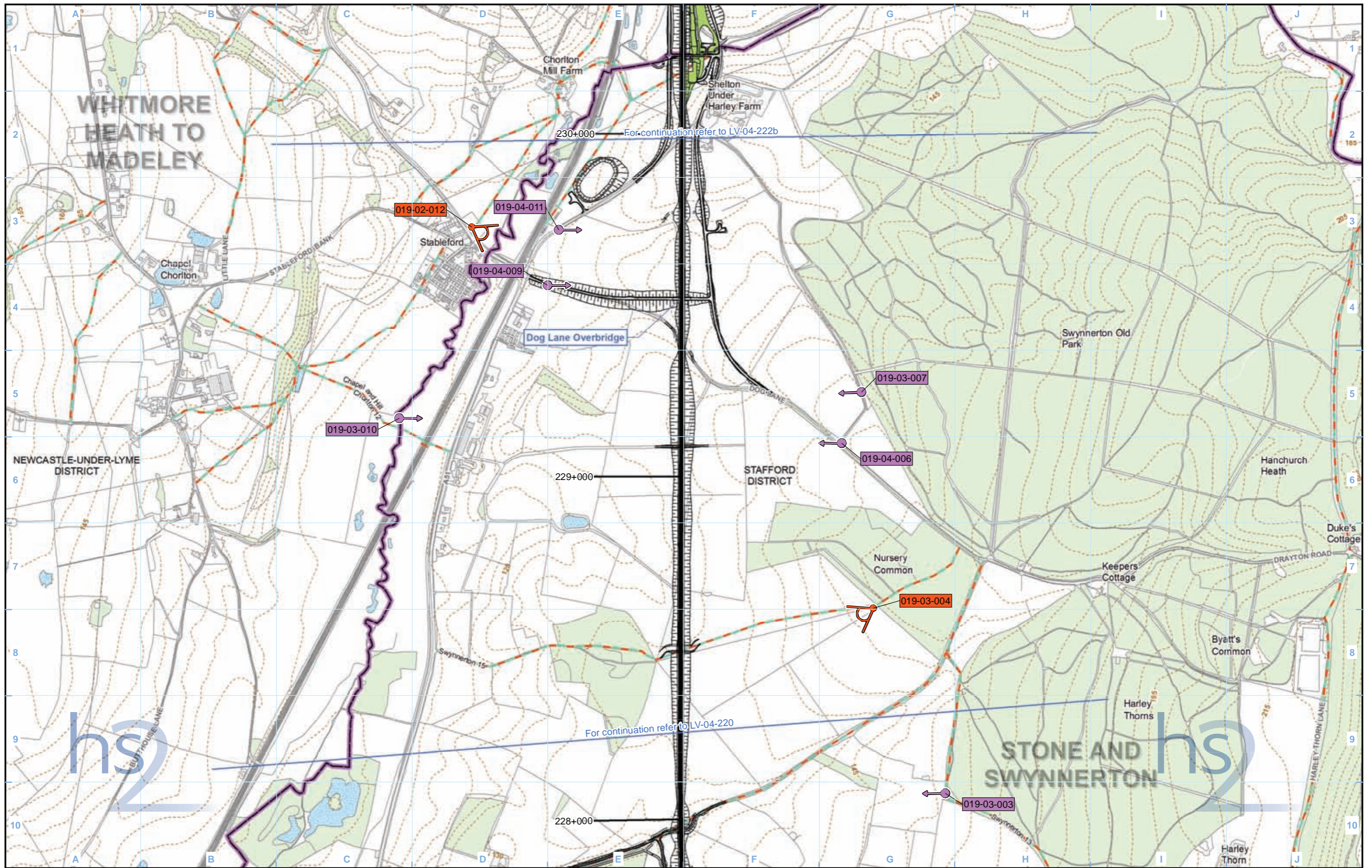
Doc Number: C861-ARP-EV-MAP-000-103321-P03

Scale at A3: 1:10,000

Metres

Date: 06/06/17





**Legend**


	Embankment
	Cutting
	Embankment
	Cutting

Engineering earthworks:

Non engineering earthworks:

Map Number	LV-04-221b
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 4:	Whitmore Heath to Madeley

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Scale at A3: 1:10,000

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Date: 07/06/17

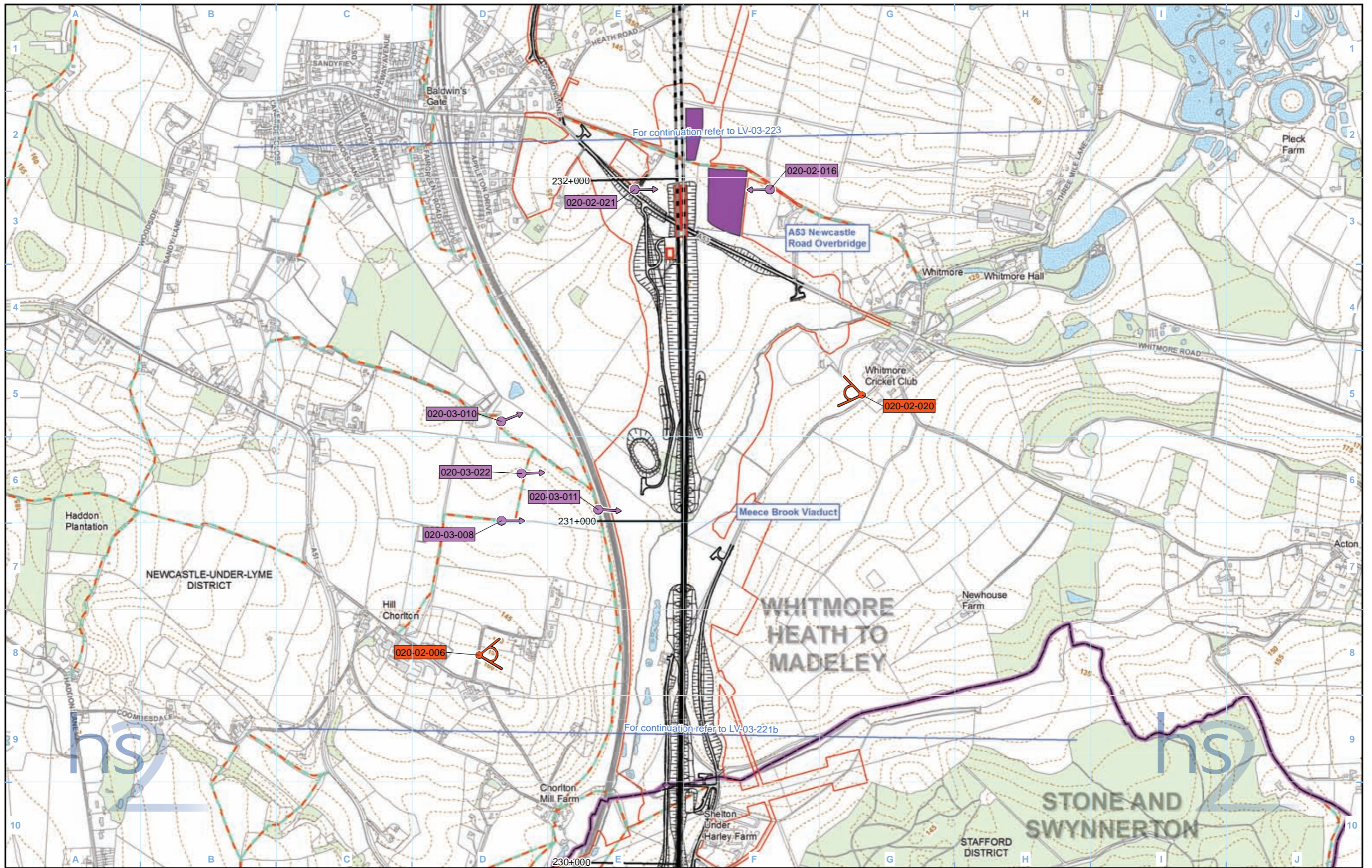
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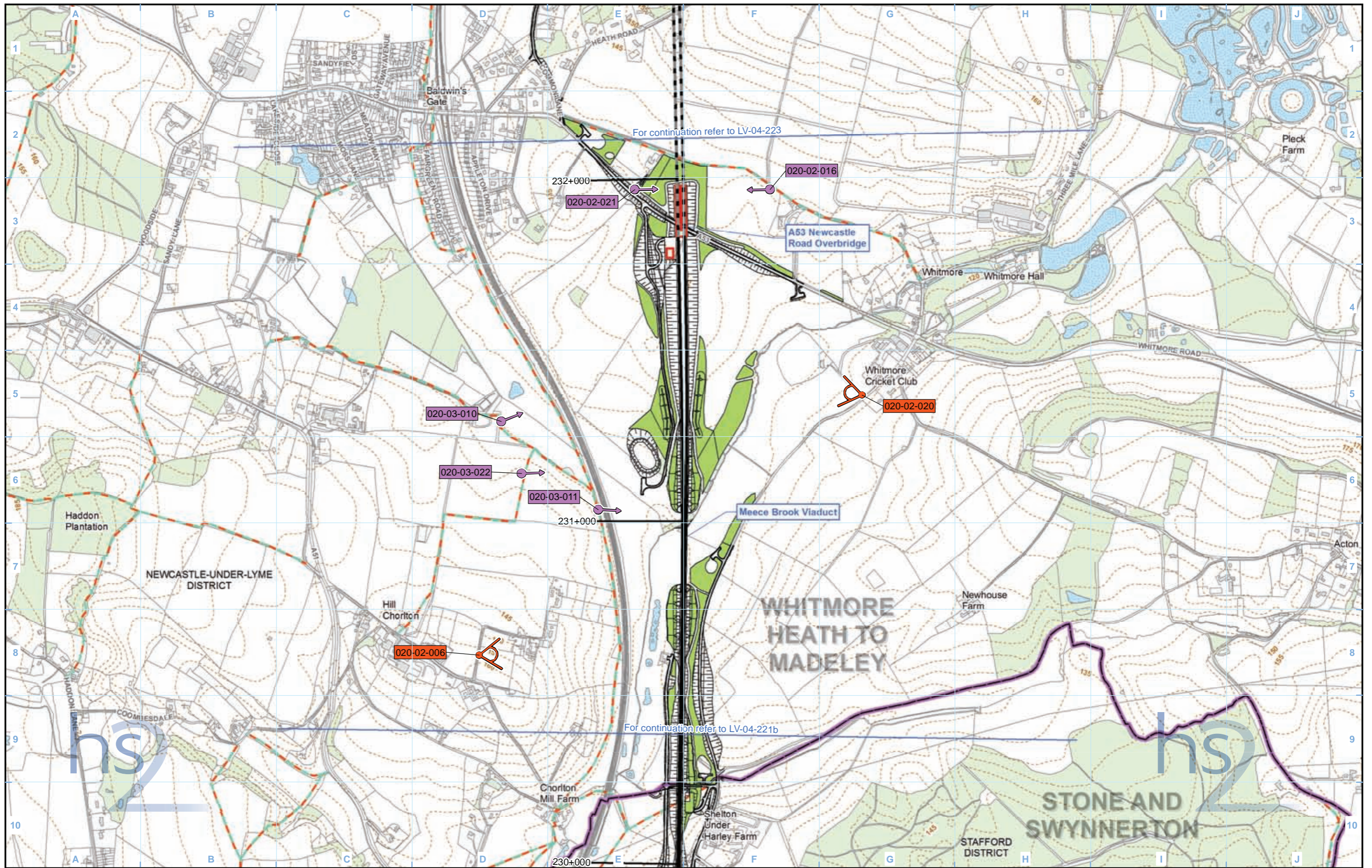
<b>Legend</b> Route in tunnel Route on surface Depot, station, headhouse or portal building Land potentially required during construction Community area boundary County boundary District/Borough boundary		Public Rights of Way (PRoW) 5m contours Water body Existing woodland and tree belts Construction compounds Cannock Chase Area of Outstanding Natural Beauty (AONB)		Significantly affected viewpoint Photomontage location 001-01-001 Significantly affected viewpoint number 001-01-001 Photomontage viewpoint number		Engineering earthworks: Embankment Cutting Non engineering earthworks: Embankment Cutting		Map Number: LV-03-222b Map Name: Construction Phase Significantly Affected Viewpoints Community Area 4: Whitmore Heath to Madeley Scale at A3: 1:10,000 Date: 06/06/17	
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Doc Number: C861-ARP-EV-MAP-000-103322-P03



**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Proposed tree planting
- Cannock Chase Area of Outstanding Natural Beauty (AONB)

- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

**Engineering earthworks:**

- Embankment
- Cutting

**Non engineering earthworks:**

- Embankment
- Cutting

Map Number: LV-04-222b

Map Name: Operational Phase Significantly Affected Viewpoints

Community Area 4: Whitmore Heath to Madeley

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STONE AND SWYNNERTON

STAFFORD DISTRICT

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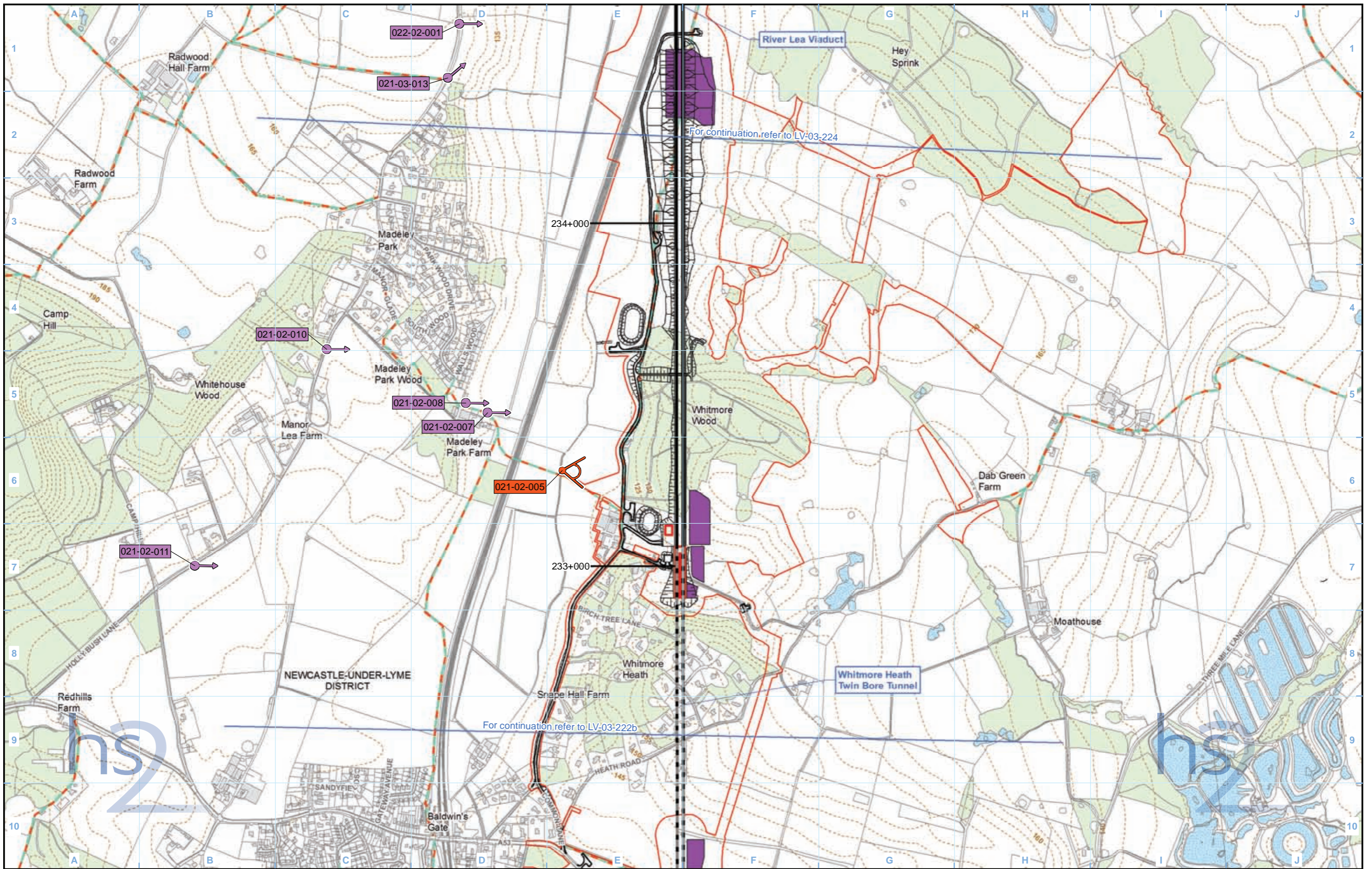
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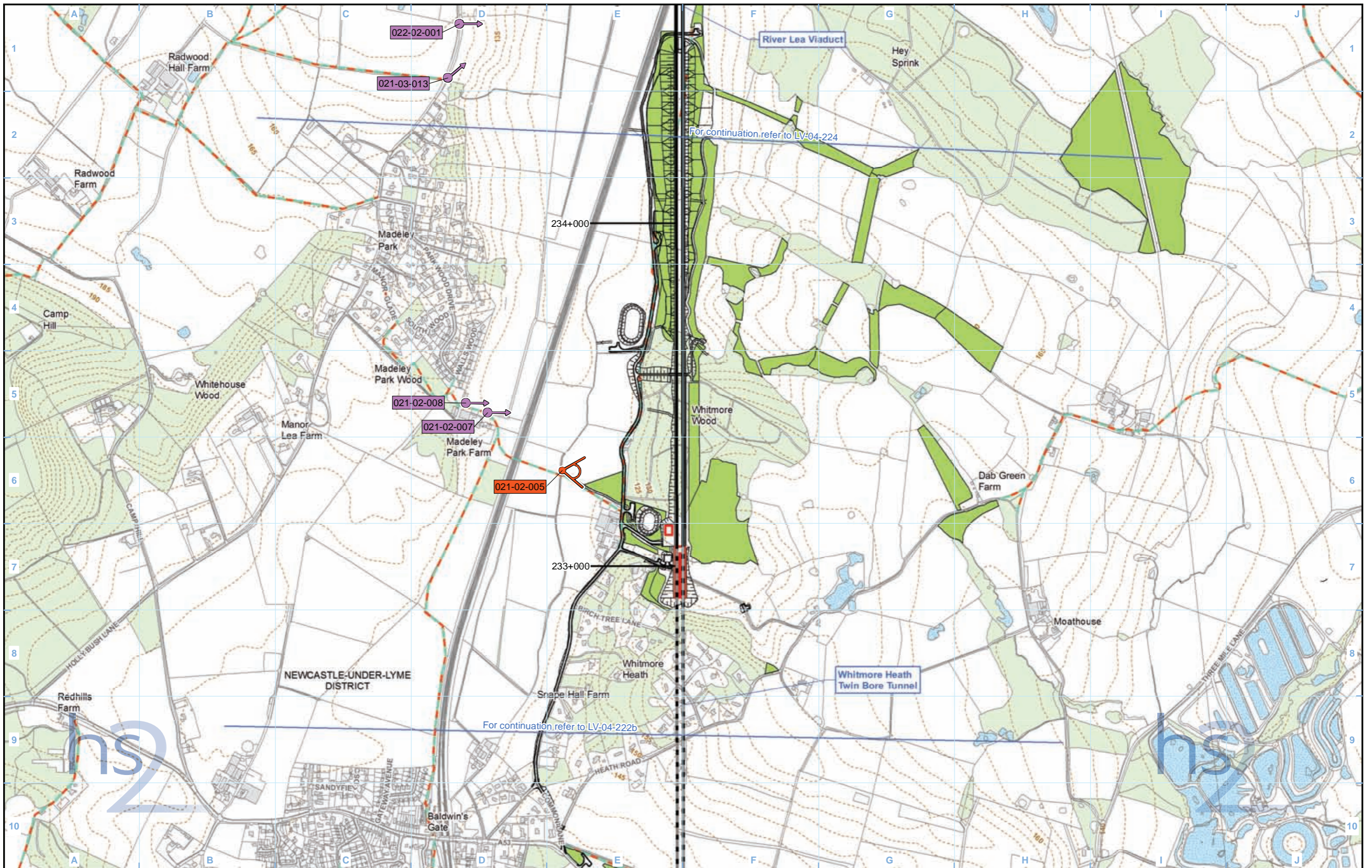
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Doc Number: C861-ARP-EV-MAP-000-104322-P03

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<b>Legend</b> Route in tunnel Route on surface Depot, station, headhouse or portal building Land potentially required during construction Community area boundary County boundary District/Borough boundary Public Rights of Way (PRow) 5m contours Water body Existing woodland and tree belts Construction compounds Cannock Chase Area of Outstanding Natural Beauty (AONB)		Significantly affected viewpoint Photomontage location Significantly affected viewpoint number Photomontage viewpoint number		<b>Engineering earthworks:</b> Embankment Cutting <b>Non engineering earthworks:</b> Embankment Cutting		Map Number <b>LV-03-223</b>	 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. © Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190. Scale at A3: 1:10,000  Date: 06/06/17
				Map Name <b>Construction Phase Significantly Affected Viewpoints</b> Community Area 4: Whitmore Heath to Madeley		Doc Number: C861-ARP-EV-MAP-000-103223-P03	



Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Proposed tree planting
	Cannock Chase Area of Outstanding Natural Beauty (AONB)
	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number
Engineering earthworks:	
	Embankment
	Cutting
Non engineering earthworks:	
	Embankment
	Cutting

Map Number	LV-04-223
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 4: Whitmore Heath to Madeley	

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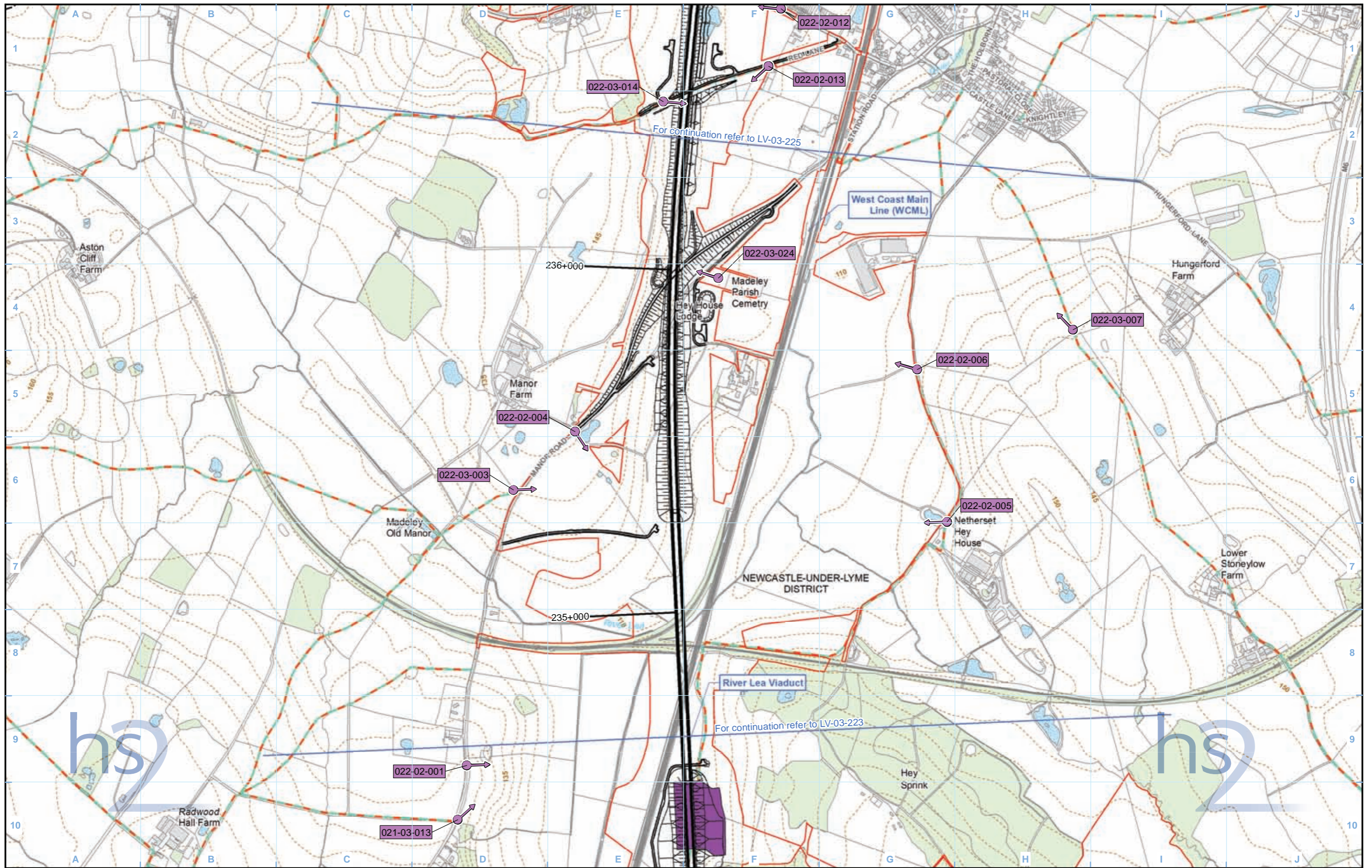
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Doc Number: C861-ARP-EV-MAP-000-104223-P03

Scale at A3: 1:10,000

Metres

Date: 07/06/17



**Legend**

	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Construction compounds
	Cannock Chase Area of Outstanding Natural Beauty (AONB)

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-224
Map Name	Construction Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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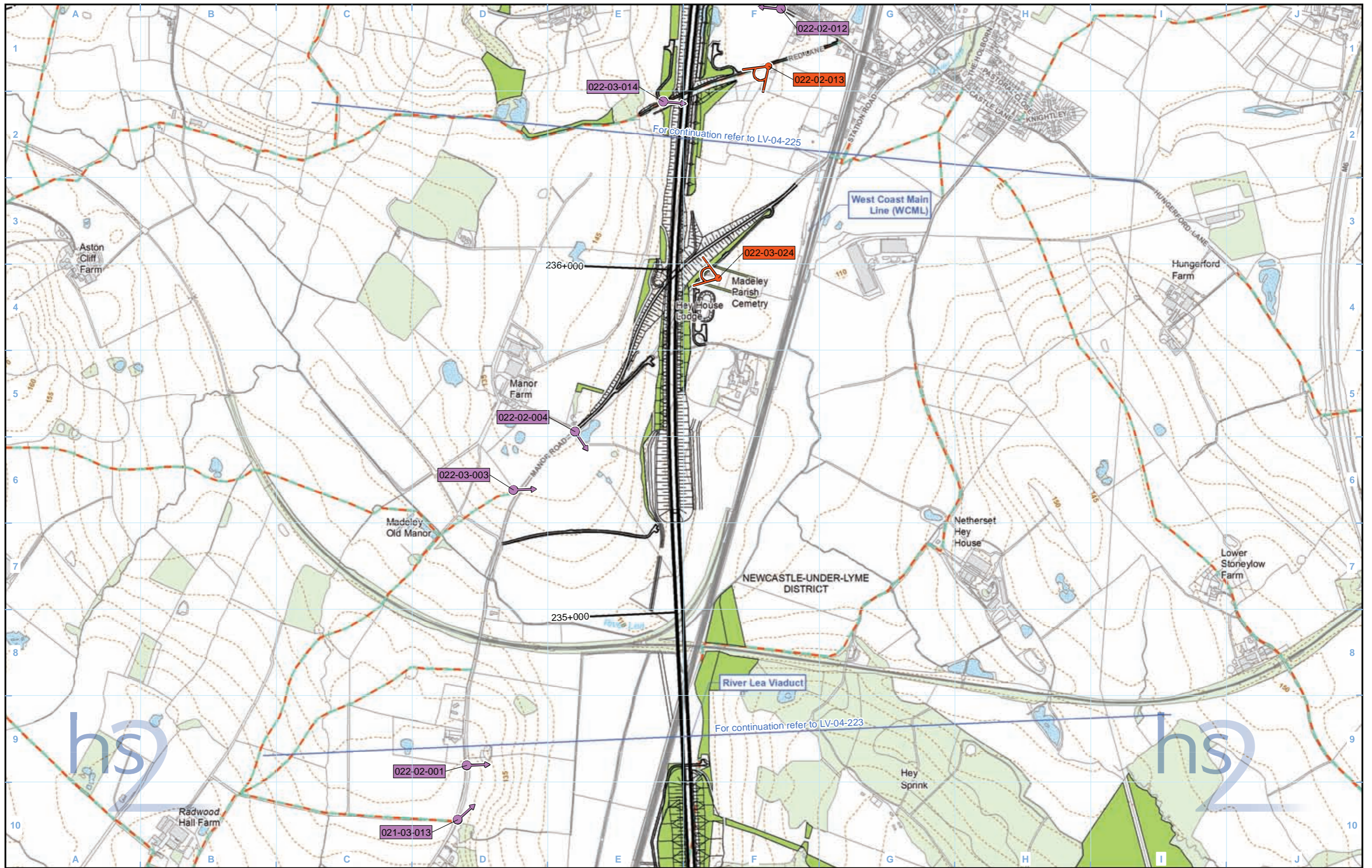
Doc Number: C861-ARP-EV-MAP-000-103224-P03

Scale at A3: 1:10,000

0 100 200 300 400 Metres

Date: 06/06/17

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**Legend**


**Engineering earthworks:**

	Embankment
	Cutting

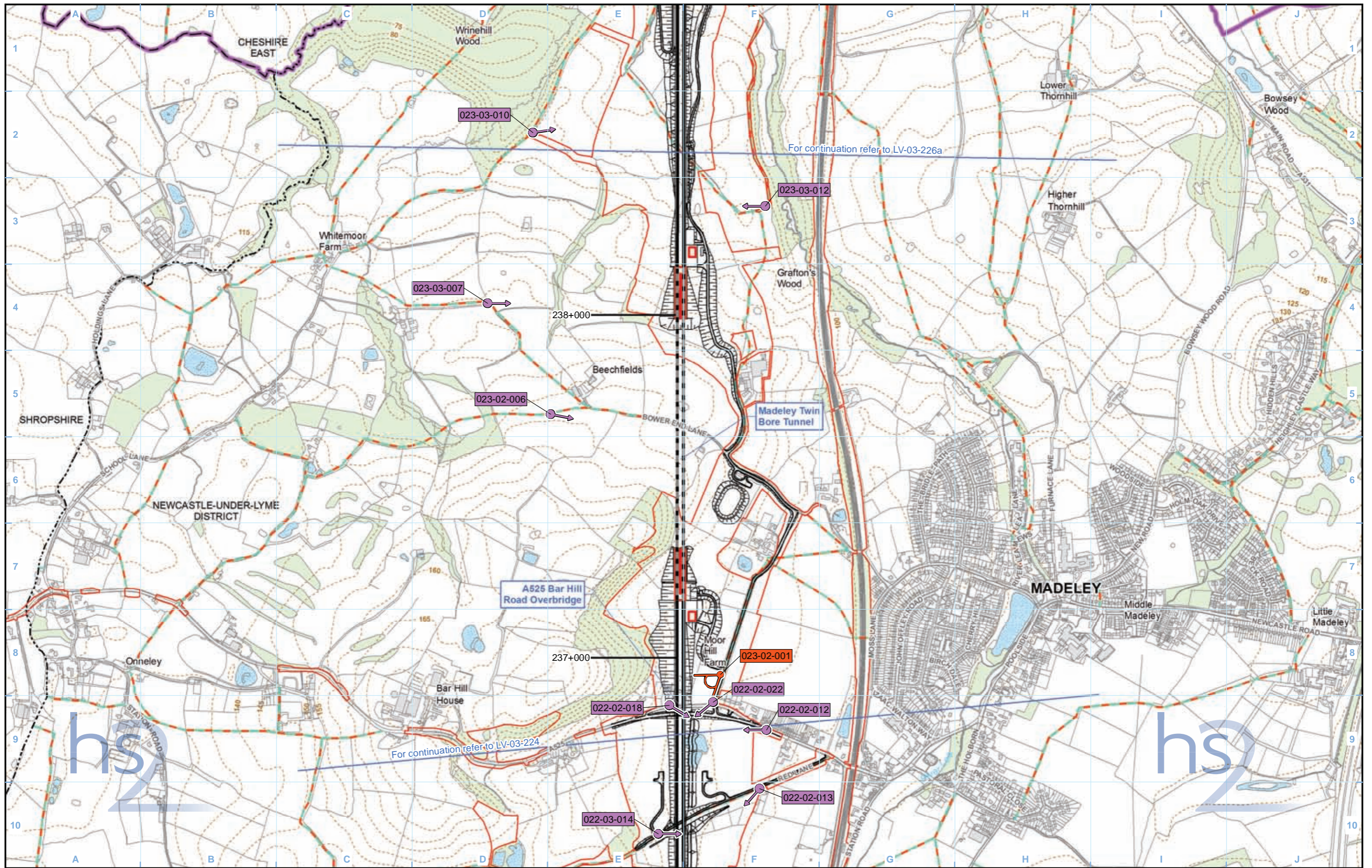
**Non engineering earthworks:**

	Embankment
	Cutting

	Significantly affected viewpoint number
	Photomontage viewpoint number

Map Number	LV-04-224
Map Name	Operational Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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**Legend**


	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Construction compounds
	Cannock Chase
	Area of Outstanding Natural Beauty (AONB)

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-225
Map Name	Construction Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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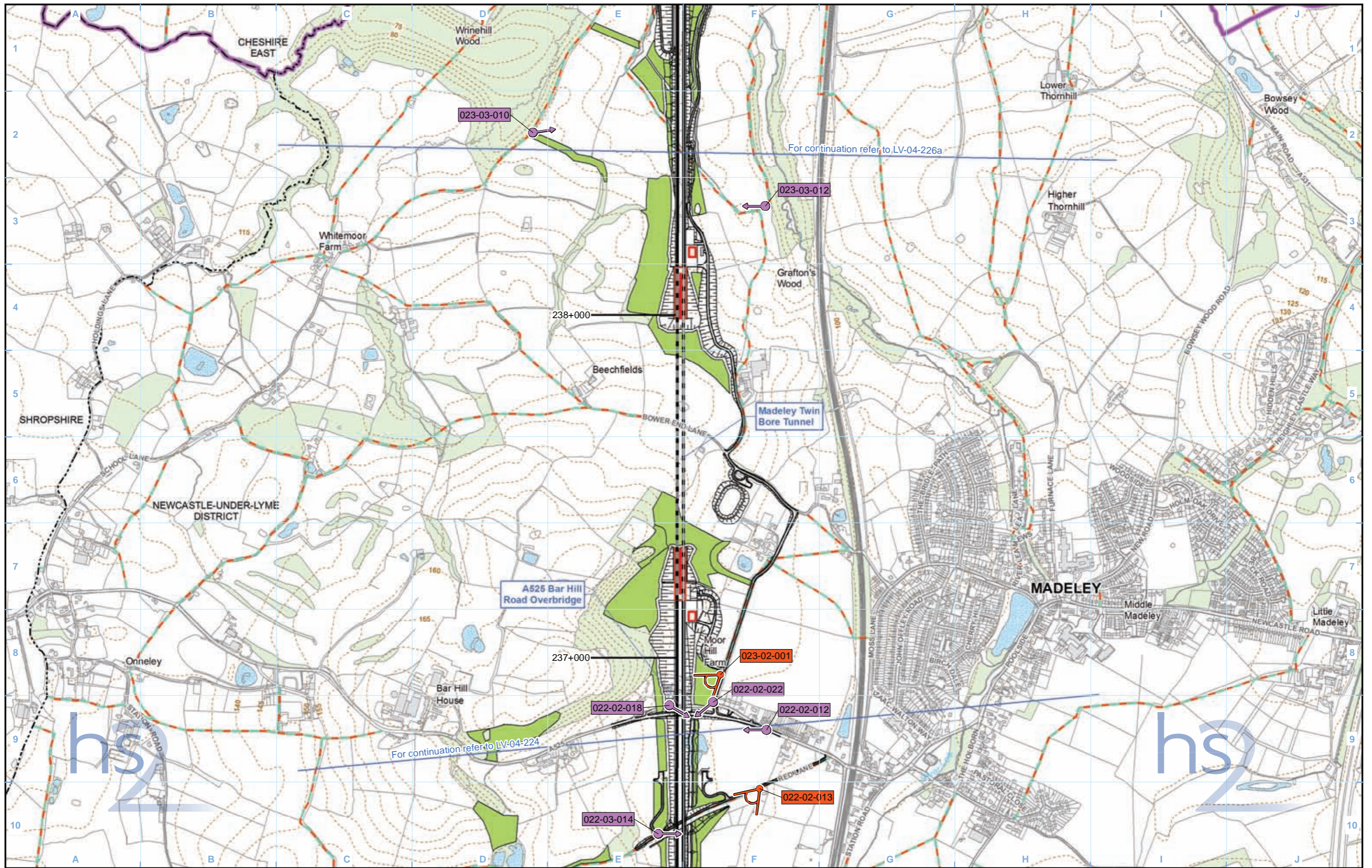
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Doc Number: C861-ARP-EV-MAP-000-103225-P03

Date: 06/06/17





**Legend**

			<b>001-1-001</b>	Significantly affected viewpoint number
			<b>001-1-001</b>	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

**Map Number** LV-04-225

**Map Name** Operational Phase Significantly Affected Viewpoints

**Community Area 4:** Whitmore Heath to Madeley

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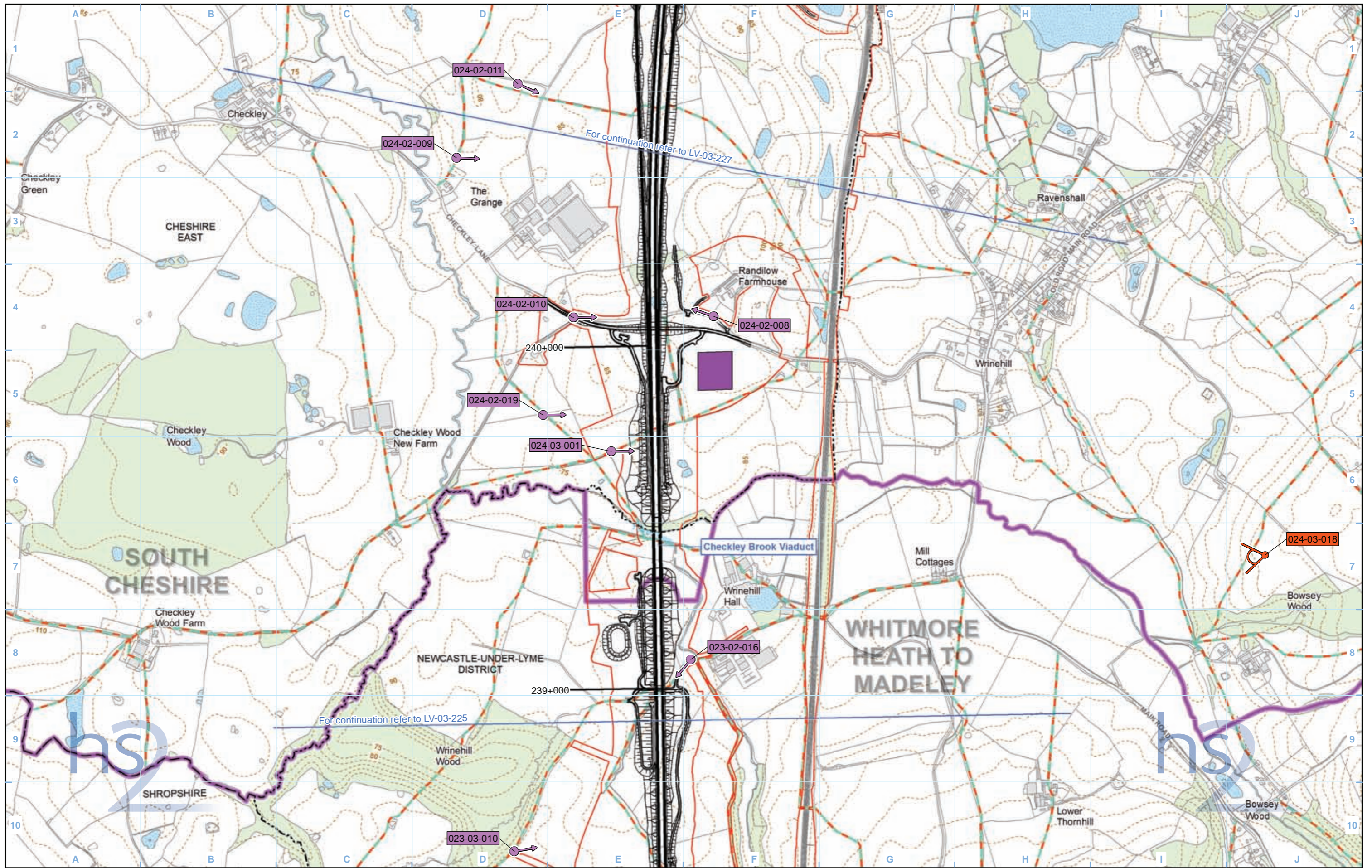
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**Legend**

	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Public Rights of Way (PRoW)
	5m contours
	Water body
	Existing woodland and tree belts
	Construction compounds
	Cannock Chase
	Area of Outstanding Natural Beauty (AONB)

	Significantly affected viewpoint
	Photomontage location
	Significantly affected viewpoint number
	Photomontage viewpoint number

**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-03-226a
Map Name	Construction Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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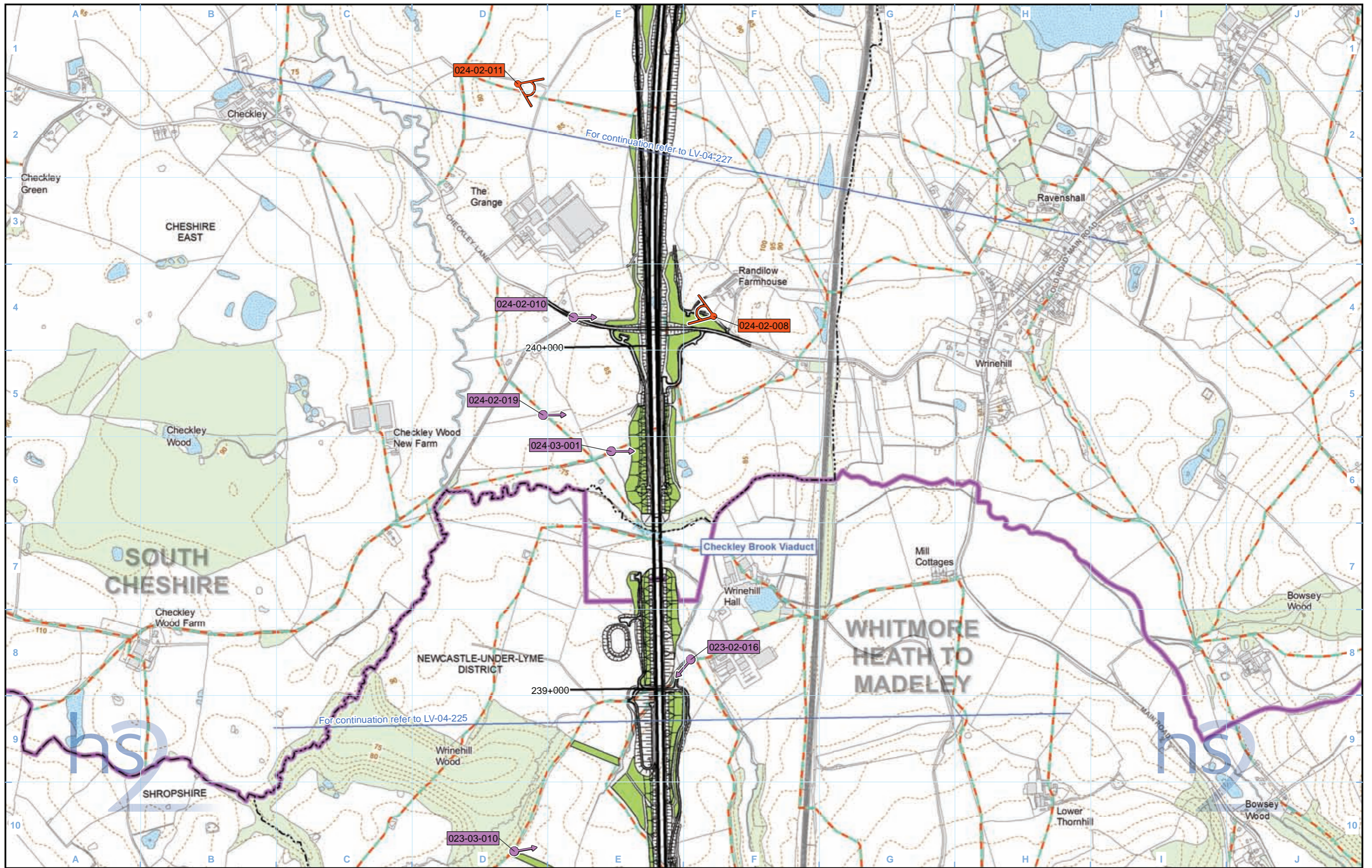
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Doc Number: C861-ARP-EV-MAP-000-103226-P03

Date: 06/06/17

Scale at A3: 1:10,000

0 100 200 300 400 Metres



**Legend**


	Engineering earthworks:
	Non engineering earthworks:

	Embankment
	Cutting
	Embankment
	Cutting

Map Number	LV-04-226a
Map Name	Operational Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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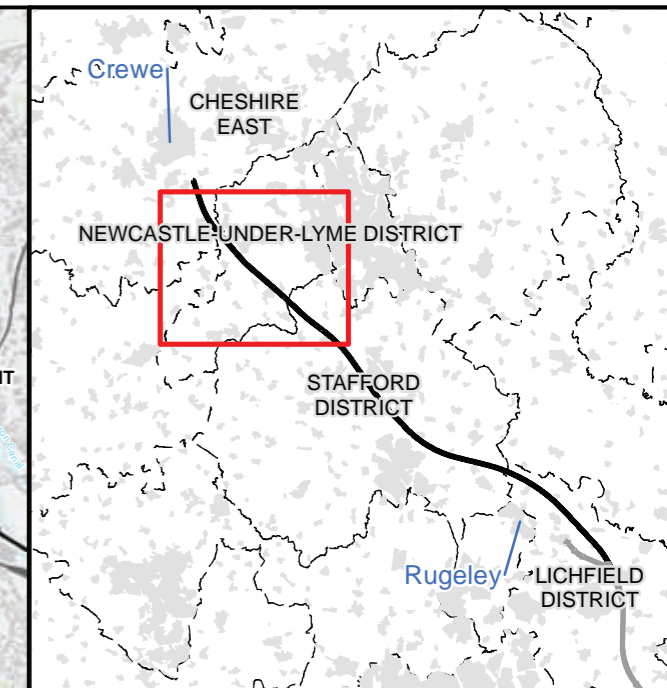
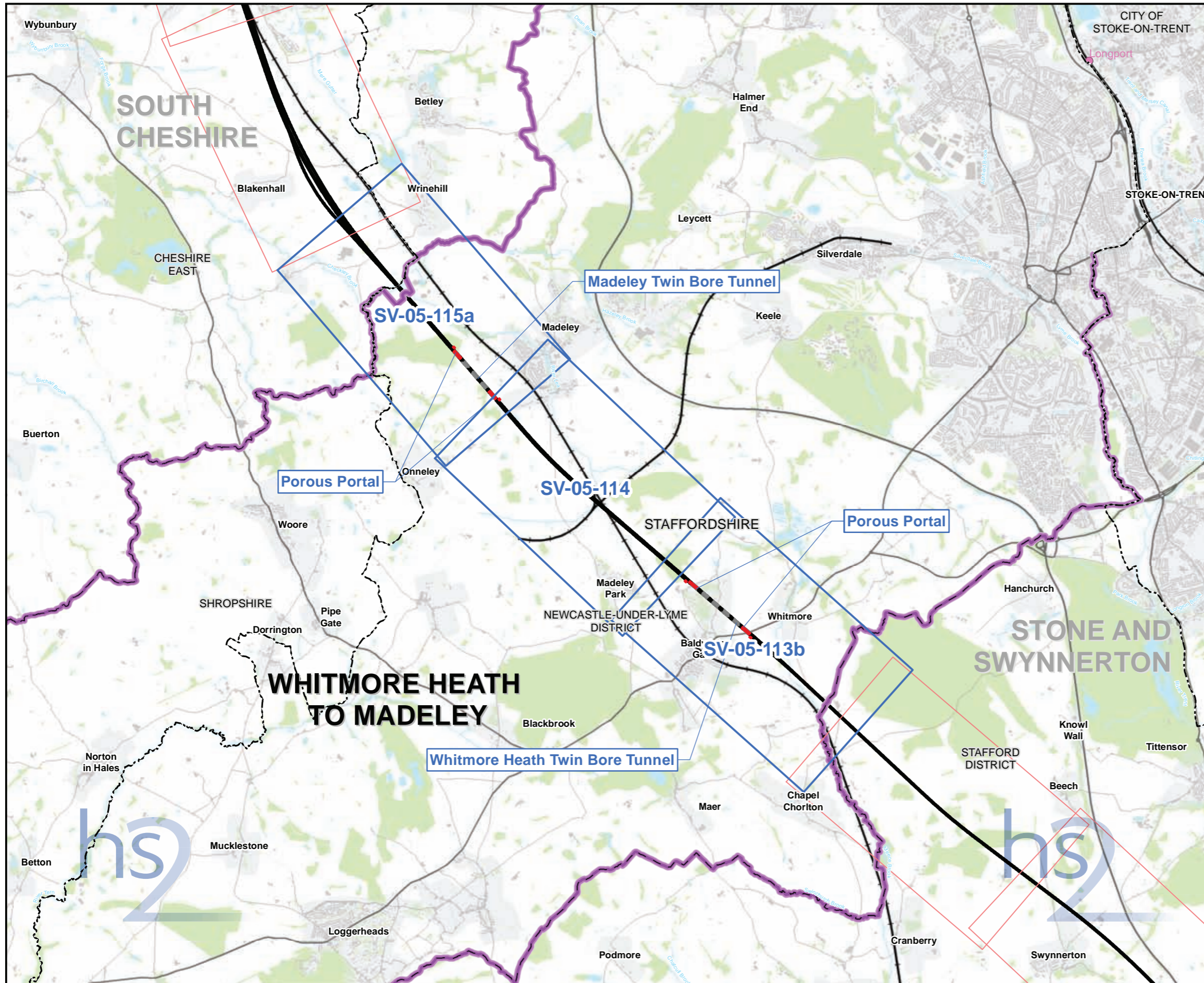
Date: 07/06/17

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High Speed Rail (West Midlands-Crewe)

Environmental Statement

**SV-05 – Operational Noise and Vibration Impacts  
and Likely Significant Effects**



### Map Series Information:

SV-05 presents the direct operational noise impacts and likely significant effects of the scheme.

The SV-05 figure series necessarily contains a large amount of information relating to the operational noise and vibration assessment. It is designed to communicate visually the assessment process from the prediction of impacts to the determination of likely residual significant effects. The corresponding text is included in Vol2.

Key items on the figure series include:

- the Proposed Scheme (the proposed railway alignments and surrounding associated earthworks/roads);
- blue and green lines representing the wayside airborne noise mitigation measures included in the Proposed Scheme;
- the study areas, which indicate the areas within which direct operational sound and vibration impacts of the scheme have been quantitatively assessed;
- the calculated scheme direct impacts, displayed as colour-coded buildings, and symbols representing buildings that would potentially qualify for noise insulation;
- sound contours representing sound produced by the new railway (displayed in a simpler manner than on SV-01 in order not to obscure other features on the figure series); and
- labels indicating where the likely residual direct noise and/or vibration significant effects have been identified.

The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

A more detailed explanation of each legend item included on the figures can be found in the data dictionary.

Note: Not all data layers in the legend are represented on every map.

Main Map Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area

Map Number	SV-05-INDEX-CA4
Map Name	Index Map of: Operational Noise and Vibration Impacts and Likely Significant Effects
	Community Area 4: Whitmore Heath to Madeley

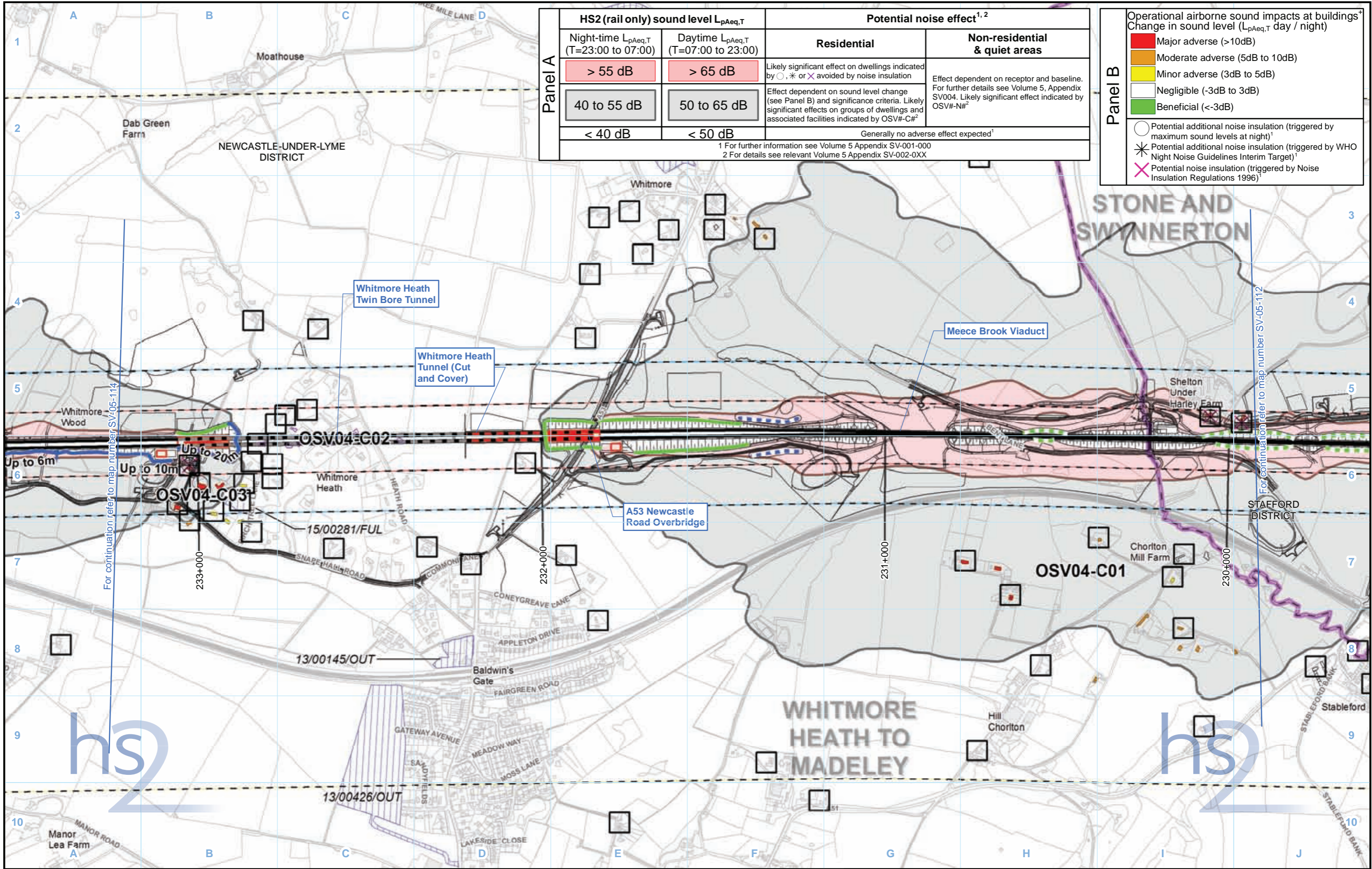
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Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or X avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	Generally no adverse effect expected <sup>1</sup>
< 40 dB	< 50 dB			

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

Panel B	Operational airborne sound impacts at buildings <sup>1</sup> Change in sound level ( $L_{pAeq,T}$ day / night)
Red	Major adverse (>10dB)
Orange	Moderate adverse (5dB to 10dB)
Yellow	Minor adverse (3dB to 5dB)
White	Negligible (-3dB to 3dB)
Green	Beneficial (<-3dB)

○ Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>  
\* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>  
X Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

Committed developments - SV Only

Envisaged mitigation to avoid / reduce significant noise effects:

- Landscaping and/or fence barriers\*
- Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

- Other environmental e.g. landscaping
- Engineering e.g. cuttings

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-113b

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 4:  
Whitmore Heath to Madeley

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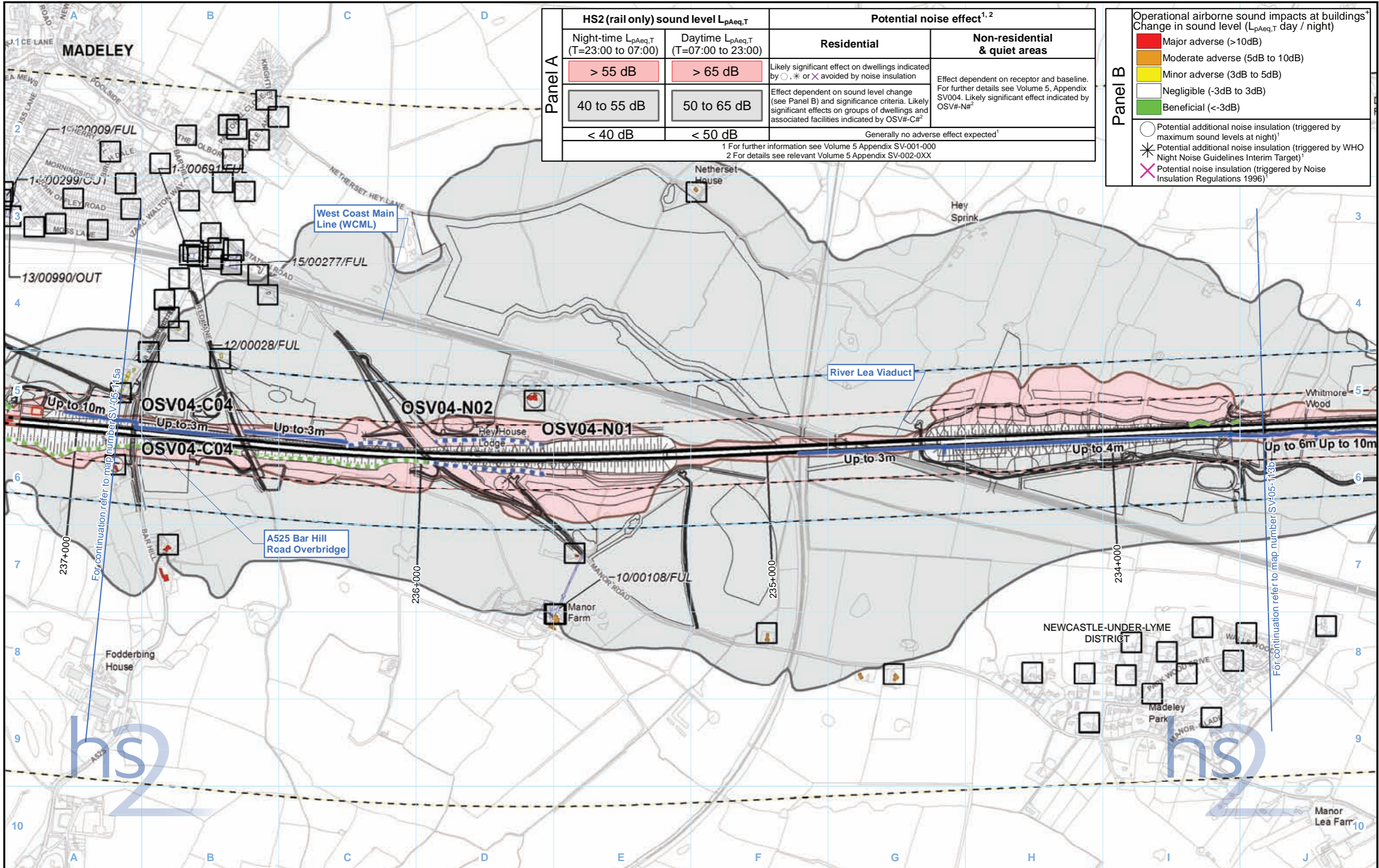
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HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1,2</sup>	
Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or X avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	Generally no adverse effect expected <sup>1</sup>
< 40 dB	< 50 dB		

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

Operational airborne sound impacts at buildings <sup>1</sup> Change in sound level ( $L_{pAeq,T}$ day / night)	
Major adverse (>10dB)	Potential additional noise insulation (triggered by maximum sound levels at night) <sup>1</sup>
Moderate adverse (5dB to 10dB)	Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target) <sup>1</sup>
Minor adverse (3dB to 5dB)	Potential noise insulation (triggered by Noise Insulation Regulations 1996) <sup>1</sup>
Negligible (-3dB to 3dB)	
Beneficial (<-3dB)	

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

Committed developments - SV Only

Envisaged mitigation to avoid / reduce significant noise effects:

- Landscaping and/or fence barriers\*
- Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

- Other environmental e.g. landscaping
- Engineering e.g. cuttings

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-114

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 4: Whitmore Heath to Madeley

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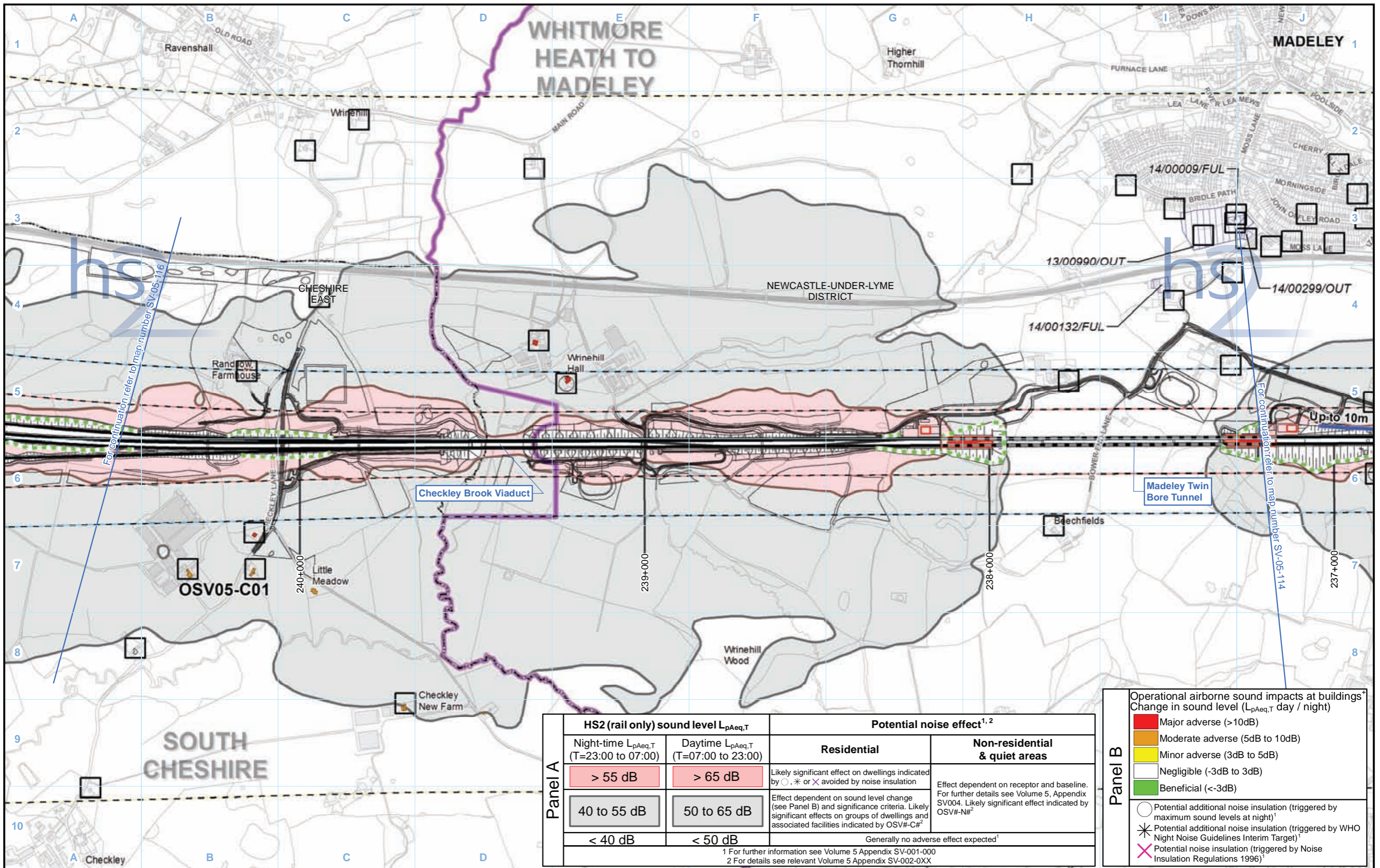
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Doc Number: C861-ARP-EV-MAP-000-135114-P03

Date: 07/06/17





Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect <sup>1, 2</sup>	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# <sup>2</sup>
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>	Generally no adverse effect expected <sup>1</sup>
< 40 dB	< 50 dB			

1 For further information see Volume 5 Appendix SV-001-000  
2 For details see relevant Volume 5 Appendix SV-002-0XX

**Operational airborne sound impacts at buildings\***  
Change in sound level ( $L_{pAeq,T}$  day / night)

- Major adverse (>10dB)
- Moderate adverse (5dB to 10dB)
- Minor adverse (3dB to 5dB)
- Negligible (-3dB to 3dB)
- Beneficial (<-3dB)

**Panel B**

- Potential additional noise insulation (triggered by maximum sound levels at night)<sup>1</sup>
- \* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)<sup>1</sup>
- ✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)<sup>1</sup>

**Legend - General features**

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

**Legend - Sound related features**

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

\* Residential buildings only  
\* Labelled with total barrier height above rail level  
\*\* HS2 train only  $L_{pAFmax} + 2.5dB$  façade correction

**Legend - Sound related features**

Committed developments - SV Only

Envisaged mitigation to avoid / reduce significant noise effects:

- Landscaping and/or fence barriers\*
- Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

- Other environmental e.g. landscaping
- Engineering e.g. cuttings

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact\*
- $L_{pAFmax}$  exceeds 60dB façade\*\*

Map Number: SV-05-115a

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Area 4: Whitmore Heath to Madeley

hs2 logo

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