

LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 2 | Map books

CFA15 | Greatworth to Lower Boddington

November 2013

ES 3.2.2.15



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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Map series name	Map series description
CT-05 – Construction Phase	These maps show the land potentially required during construction, the construction features, access requirements and infrastructure associated with construction of the Proposed Scheme. The maps also show the construction phase arrangements for public access using Public Rights of Way. The base mapping is reflective of 2013 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 is reflective of 2013 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 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.
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.
SV-05 – Operational Airborne 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 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

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 London-West Midlands Environmental Statement (ES) contain Ordnance Survey (OS) data. HS2 Ltd uses the most up-to-date mapping available, where possible, supplied by the OS. 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, for example: 77+000.

Chainage (known as reference chainage) is referenced from Euston station, which is 0+000, and the value presented is in metres. For example, 77+000 refers to the point 77,000m, or 77km, 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 scales, chainage is shown at 1km intervals.

Chainage has been included on the maps as a useful tool for comparing 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 the West Midlands to the left.

The exceptions to this are map series LV-02, LV-03, LV-04, LV-07 and LV-08, which present the alignment running from the bottom to the 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 the West Midlands to the top.

Map books

There are a total of 76 map books in the ES, spread across Volumes 2, 4 and 5. A list of the titles is provided in the table below for reference.

Name	Name
Volume 2 Map Books Community Forum Area: 01 Euston – Station and Approach	Volume 5 Map Books: Ecology – Community Forum Area: 05 Northolt Corridor
Volume 2 Map Books Community Forum Area: 02 Camden Town and HS1 Link	Volume 5 Map Books: Ecology – Community Forum Area: 06 South Ruislip to Ickenham
Volume 2 Map Books Community Forum Area: 03 Primrose Hill to Kilburn (Camden)	Volume 5 Map Books: Ecology – Community Forum Area: 07 Colne Valley
Volume 2 Map Books Community Forum Area: 04 Kilburn (Brent) to Old Oak Common	Volume 5 Map Books: Ecology – Community Forum Area: 08 The Chalfonts and Amersham
Volume 2 Map Books Community Forum Area: 05 Northolt Corridor	Volume 5 Map Books: Ecology – Community Forum Area: 09 Central Chilterns
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Volume 2 Map Books Community Forum Area: 23 Balsall Common and Hampton-in-Arden	Volume 5 Map Books: Land Quality
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Volume 5 Map Books: Agriculture, Forestry and Soils	Volume 5 Map Books: Socio-Economic
Volume 5 Map Books: Air Quality	Volume 5 Map Books: Sound, Noise and Vibration – Euston and London Metropolitan
Volume 5 Map Books: Community	Volume 5 Map Books: Sound, Noise and Vibration – Country South
Volume 5 Map Books: Cultural Heritage – Euston and London Metropolitan	Volume 5 Map Books: Sound, Noise and Vibration – Country North
Volume 5 Map Books: Cultural Heritage – Country South	Volume 5 Map Books: Sound, Noise and Vibration – West Midlands Metropolitan
Volume 5 Map Books: Cultural Heritage – Country North	Volume 5 Map Books: Traffic and Transport
Volume 5 Map Books: Cultural Heritage – West Midlands Metropolitan	Volume 5 Map Books: Water Resources – Euston and London Metropolitan
Volume 5 Map Books: Ecology – Community Forum Area: 01 Euston - Station and Approach	Volume 5 Map Books: Water Resources – Country South
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Data dictionary and definitions

Data dictionary and definitions

Legend features	Definition	Source	Copyright
5m contours	A contour line showing points of equal elevation (height) above a reference level, such as mean sea level, and therefore giving an indication of the topography, showing valleys and hills, and the steepness of slopes. Spaced at intervals of 5m.	High Speed Two (HS2) Ltd	
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	
Ancient Woodland	Ancient Woodland Inventory. Ancient Woodland is land that has had continuous woodland cover since at least AD1600.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
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	
Chainage	Chainage (known as reference chainage) is referenced from Euston Station, which is 0+000, and the value presented is in metres. E.g. 77+000 refers to the point, 77,000m, or 77km, 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. 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.	High Speed Two (HS2) Ltd	
Committed developments	This informs the assessment of the future baseline. 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. Cumulative development is unimplemented but committed 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.	High Speed Two (HS2) Ltd	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.

Legend features	Definition	Source	Copyright
Community Forum boundary	The Environmental Statement has been split into 26 sections called Community Forum Areas.	High Speed Two (HS2) Ltd	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Conservation area	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.	Local Authorities	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Construction compounds	See main construction compounds.	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 and database rights 2013 Ordnance Survey Licence Number 100049190.
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 and database rights 2013 Ordnance Survey Licence Number 100049190.
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 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 (green tunnels marked separately): 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	
Envisaged mitigation further reducing noise effects	Other environmental features e.g. landscaping: These lines represent environmental mitigation features provided for reasons	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	<p>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).</p> <p>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 reduce or remove a likely significant noise effect. Examples include cuttings and safety barriers on viaducts which are not close to sensitive receptors.</p>		
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 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	
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 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 and non-residential receptors have been quantitatively assessed. This area is defined as within 85m of the route.	High Speed Two (HS2) Ltd	
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	
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	

Legend features	Definition	Source	Copyright
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	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.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
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.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
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.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Local Nature Reserve (LNR)	An 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 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf

Legend features	Definition	Source	Copyright
Local Wildlife Site (LWS) - county/metropolitan value	<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>Supplied by Ecorecord, Warwickshire County Council, Birmingham Council</p> <p>Greenspace Information for Greater London (GiGL)</p> <p>Northamptonshire County Council</p> <p>Buckinghamshire County Council</p> <p>Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)</p> <p>Hertfordshire Biological Record Centre</p> <p>Staffordshire Ecological Record (SER)</p>	<p>Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)</p> <p>Map derived from GiGL data 2013 (where a map shows information derived from GiGL data). This data incorporates biodiversity data supplied to HS2 by Northamptonshire Biodiversity Records Centre and The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN), and is copyright to Wildlife Trust BCN and/or its partners.</p> <p>This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012.</p> <p>Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.</p> <p>Incorporates biodiversity data supplied to High Speed Two (HS2) by Hertfordshire Biological Records Centre and is copyright to Hertfordshire County Council, Hertfordshire Biological Records Centre and/or its partners.</p> <p>Copyright © Staffordshire Ecological Record Partnership, 2013. The information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER. All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions. The presence of a marked boundary within SER information does not imply any rights of public</p>

Legend features	Definition	Source	Copyright
			access.
Local Wildlife Site (LWS) - less than county/metropolitan value	<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>Supplied by Ecorecord, Warwickshire County Council, Birmingham Council. Greenspace Information for Greater London (GiGL)</p> <p>Northamptonshire County Council</p> <p>Buckinghamshire County Council</p> <p>Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)</p> <p>Hertfordshire Biological Record Centre</p> <p>Staffordshire Ecological Record (SER)</p>	<p>Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)</p> <p>Map derived from GiGL data 2013 (where a map shows information derived from GiGL data).</p> <p>This data incorporates biodiversity data supplied to HS2 by Northamptonshire Biodiversity Records Centre and The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN), and is copyright to Wildlife Trust BCN and/or its partners.</p> <p>This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012.</p> <p>Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.</p> <p>Incorporates biodiversity data supplied to High Speed Two (HS2) by Hertfordshire Biological Records Centre and is copyright to Hertfordshire County Council, Hertfordshire Biological Records Centre and/or its partners.</p> <p>Copyright © Staffordshire Ecological Record Partnership, 2013. The information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER. All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or</p>

Legend features	Definition	Source	Copyright
			omissions. The presence of a marked boundary within SER information does not imply any rights of public access.
Main construction compound	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	
Minor ground-borne noise or vibration impact	Buildings at which a minor operational ground-borne sound or vibration impact is predicted from the Proposed Scheme.	High Speed Two (HS2) Ltd	
National Nature Reserve (NNR)	A National Nature Reserve (NNR) is the land declared under the National Parks and Access to the Countryside Act 1949 or Wildlife and Countryside Act (1981) as amended.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
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	
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	
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	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.	High Speed Two (HS2) Ltd	
Public Rights of Way	Public rights of way are highways which can be used for the following purposes:	Buckinghamshire County Council Birmingham City Council	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.

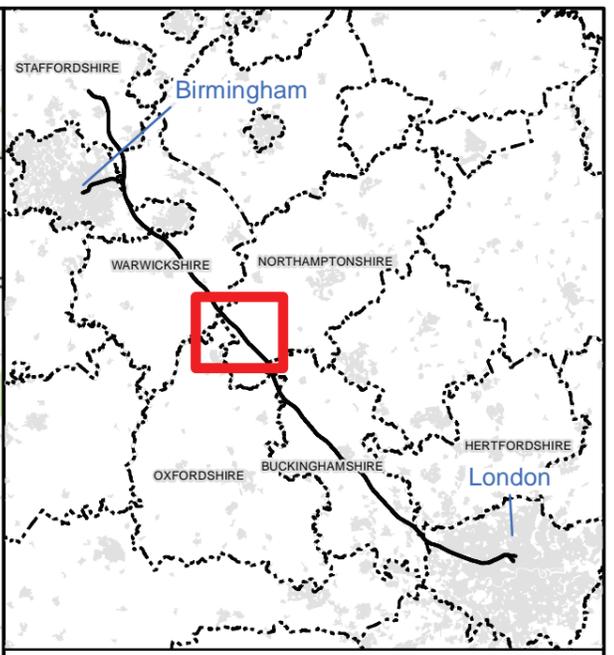
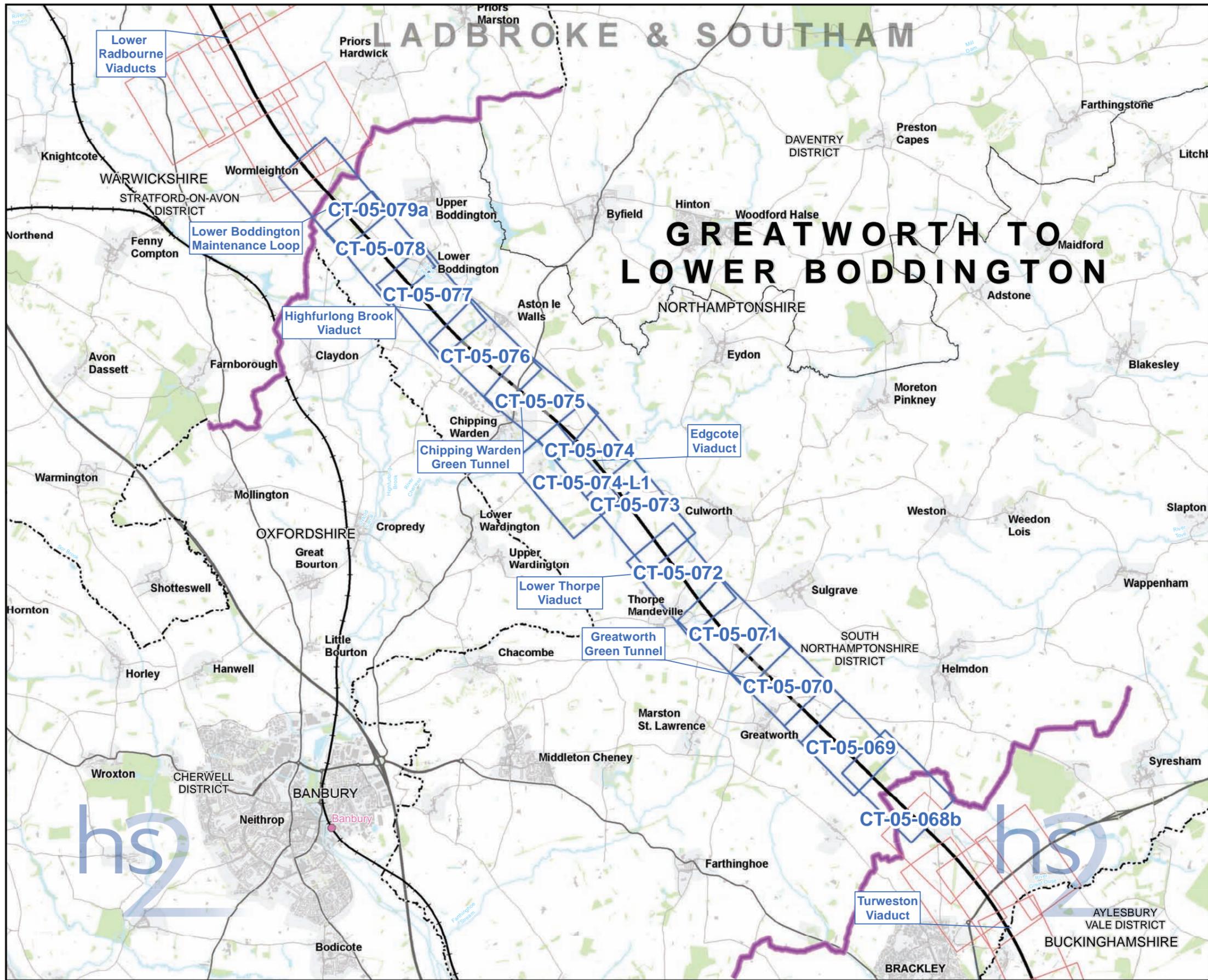
Legend features	Definition	Source	Copyright
	<ul style="list-style-type: none"> - Footpaths - pedestrians only - Bridleways - pedestrians, cyclists and equestrians - Restricted byways - as bridleways plus non-motorised vehicles - Byways open to all traffic. Definitive Map data supplied by surveying authorities (i.e. county councils, London Boroughs and metropolitan borough councils in the West Midlands).	Coventry City Council City of Westminster Hertfordshire County Council London Borough of Brent London Borough of Camden London Borough of Ealing London Borough of Hammersmith & Fulham London Borough of Hillingdon Northamptonshire County Council Oxfordshire County Council Royal Borough of Kensington & Chelsea Solihull Metropolitan Borough Council Staffordshire County Council Warwickshire County Council	This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012. Copyright Buckinghamshire County Council. © Copyright Coventry City Council © Northamptonshire County 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, line-side access paths and cable routes for electrification and communication systems.	High Speed Two (HS2) Ltd	
Registered Park or Garden	Parks and Gardens of special historic interest. Supplied by English Heritage. 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).	High Speed Two (HS2) Ltd	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
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	
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.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Significantly affected viewpoint	This dataset shows the locations of the visual receptors from which the scheme's visual impact has been assessed and shows	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	whether or not the impact is significant or non-significant during construction and operation.		
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 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Stopped-up PRoW	Public right of way that will be closed due to construction of the scheme.	High Speed Two (HS2) Ltd	
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 diversions/ realignments	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	
Tunnel portal	The footprint of a tunnel portal.	High Speed Two (HS2) Ltd	
Tunnel's external extent	The external excavated extent of each tunnel bore.	High Speed Two (HS2) Ltd	
Water body	Based on Ordnance Survey Vector Map District.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Watercourse	The Detailed River Network (DRN) is the only large-scale, accurate and fully attributed digital river centreline covering England and Wales.	Environment Agency	Contains Environment Agency information © Environment Agency and database right.
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 and database rights 2013 Ordnance Survey Licence Number 100049190.
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	

LONDON-WEST MIDLANDS 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 2013 Ordnance Survey (OS) data.

Main Map Legend

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

Map Number	CT-05-INDEX-CFA15
Map Name	Index Map of: Construction Phase
	Community Forum Area CFA15: Greatworth to Lower Boddington

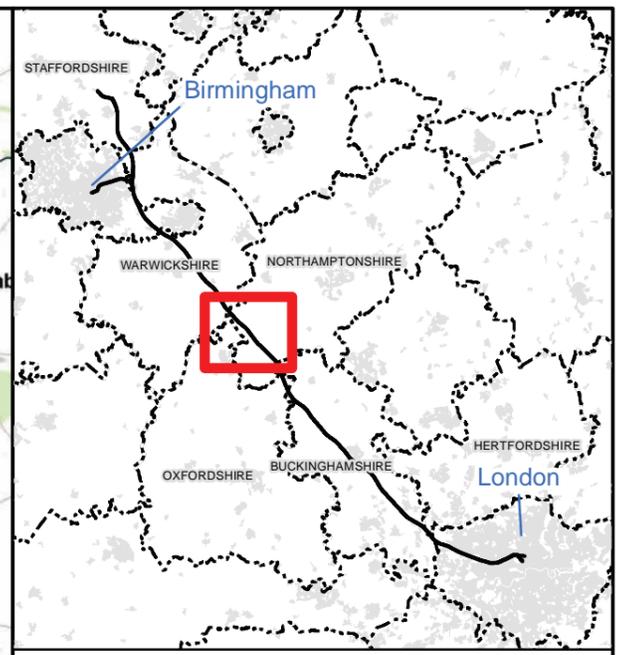
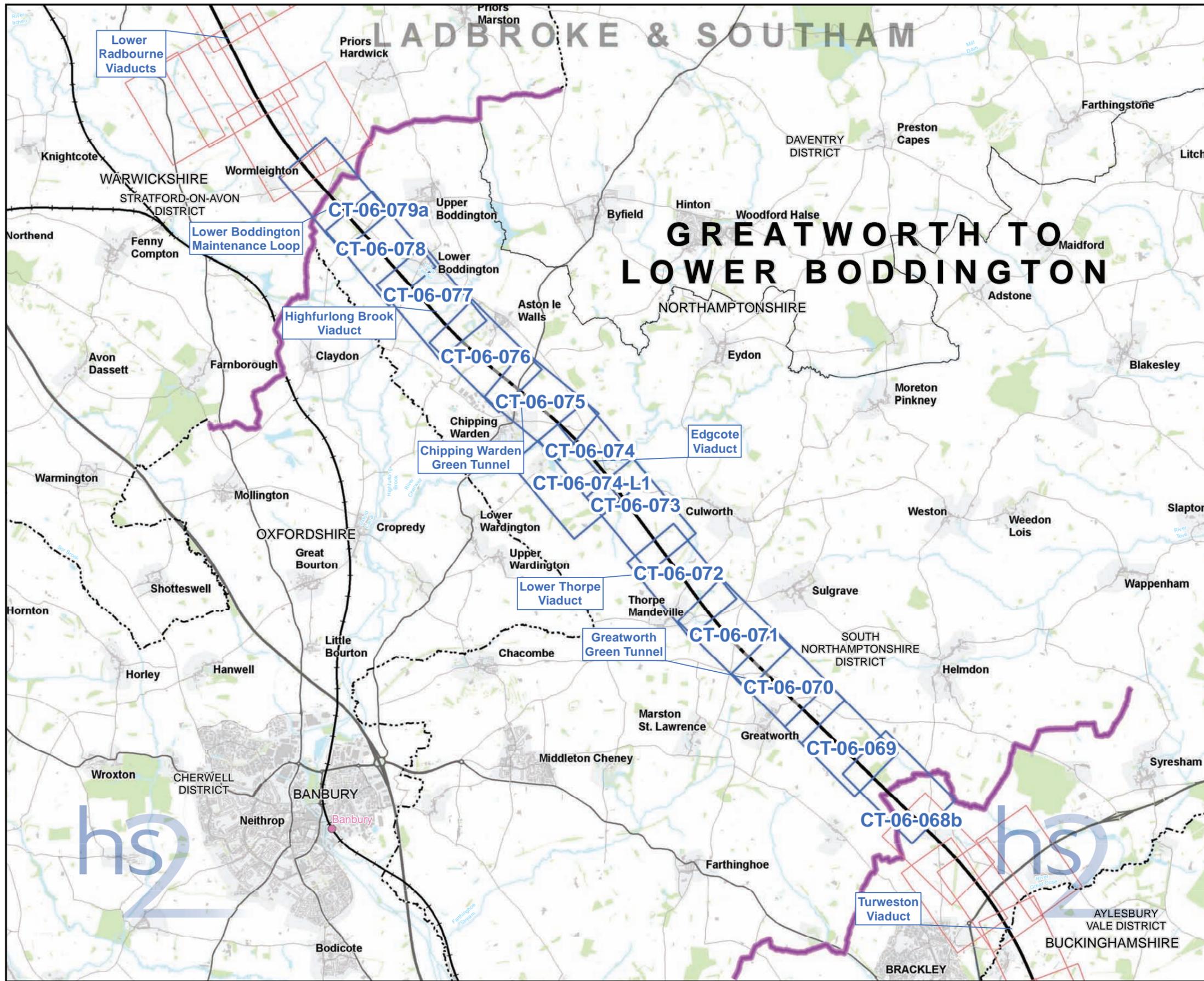
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Doc Number: C250-ARP-EV-MAP-000-004201--P05.00 **Date:** 29/10/13



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 is reflective of 2013 Ordnance Survey (OS) data.

Main Map Legend

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

Map Number	CT-06-INDEX-CFA15
Map Name	Index Map of: Proposed Scheme
	Community Forum Area CFA15: Greatworth to Lower Boddington

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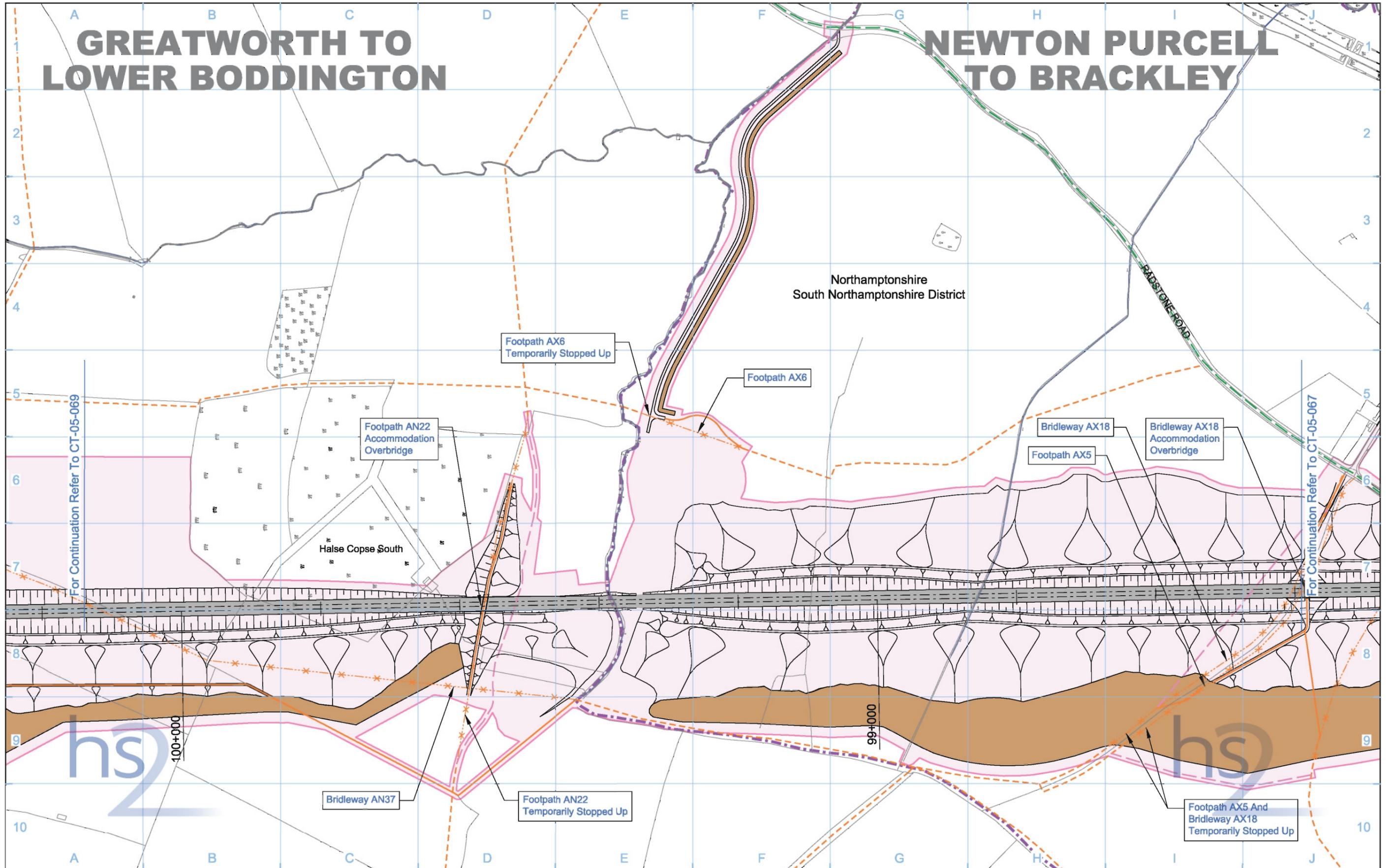
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GREATWORTH TO LOWER BODDINGTON

NEWTON PURCELL TO BRACKLEY



Legend

Depot, station, headhouse or portal building	Rail alignment formation	Community forum boundary	Stopped-up PRoW
Tunnel portal	Landscape earthworks	Existing watercourse	Temporary PRoW diversion / realignment
Main construction compound	Engineering earthworks	Tunnels external extent	Temporary highway diversion / realignment
Satellite construction compound	County boundary	Construction traffic route	- UT - Main utility works
Temporary material stockpile	Borough / District boundary	Existing public right of way (PRoW)	
	Land potentially required during construction	New, diverted or realigned PRoW	

Chainage (e.g. 10+000)

Rail alignment

Map Number: **CT-05-068b**

Map Name: **Construction Phase**

Community Forum Area: **CFA15**
Greatworth to Lower Boddington

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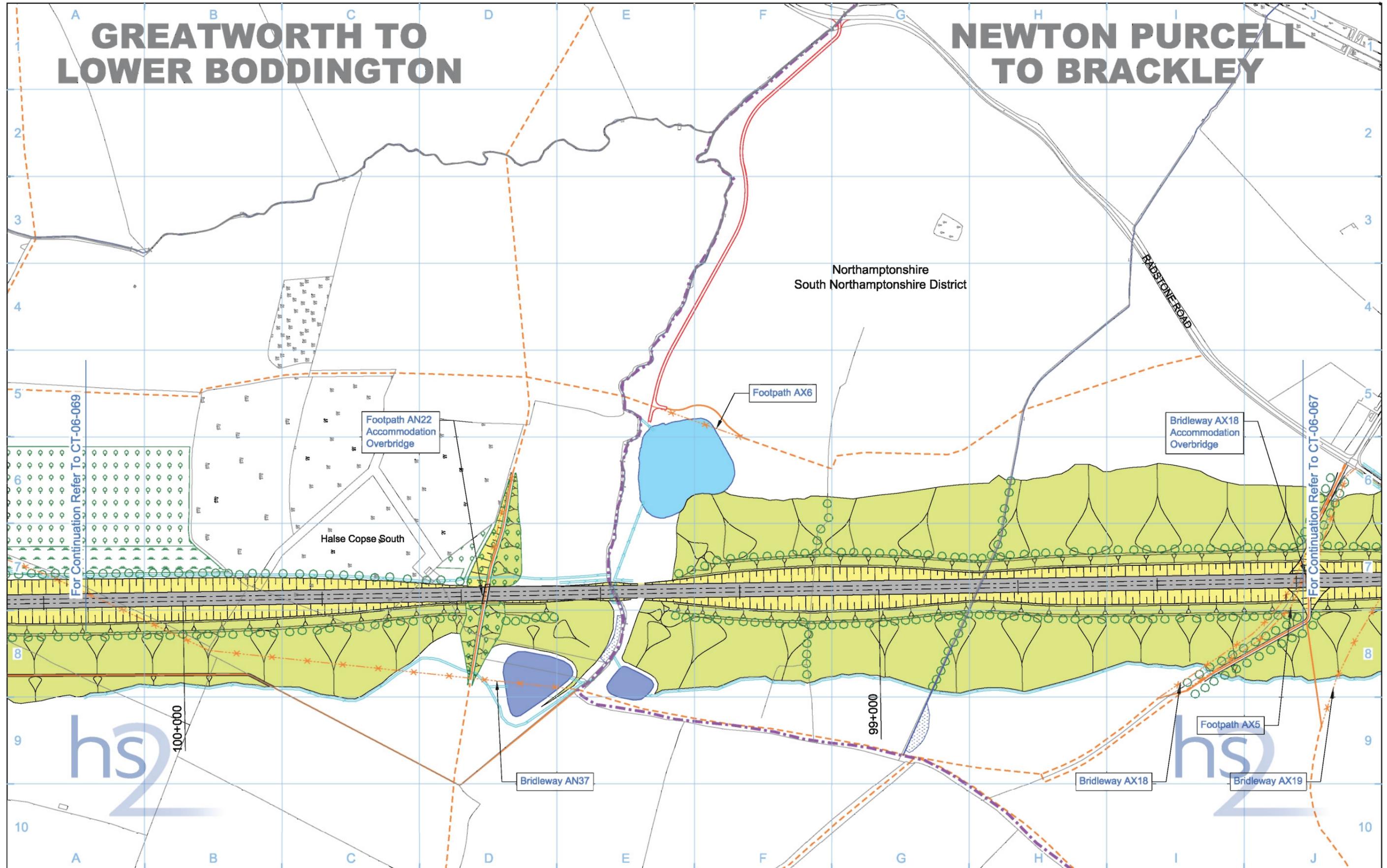
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Doc Number: C222-ATK-EV-DPL-020-051501 P03 Date: 22/10/13

GREATWORTH TO LOWER BODDINGTON

NEWTON PURCELL TO BRACKLEY



Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-068b
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

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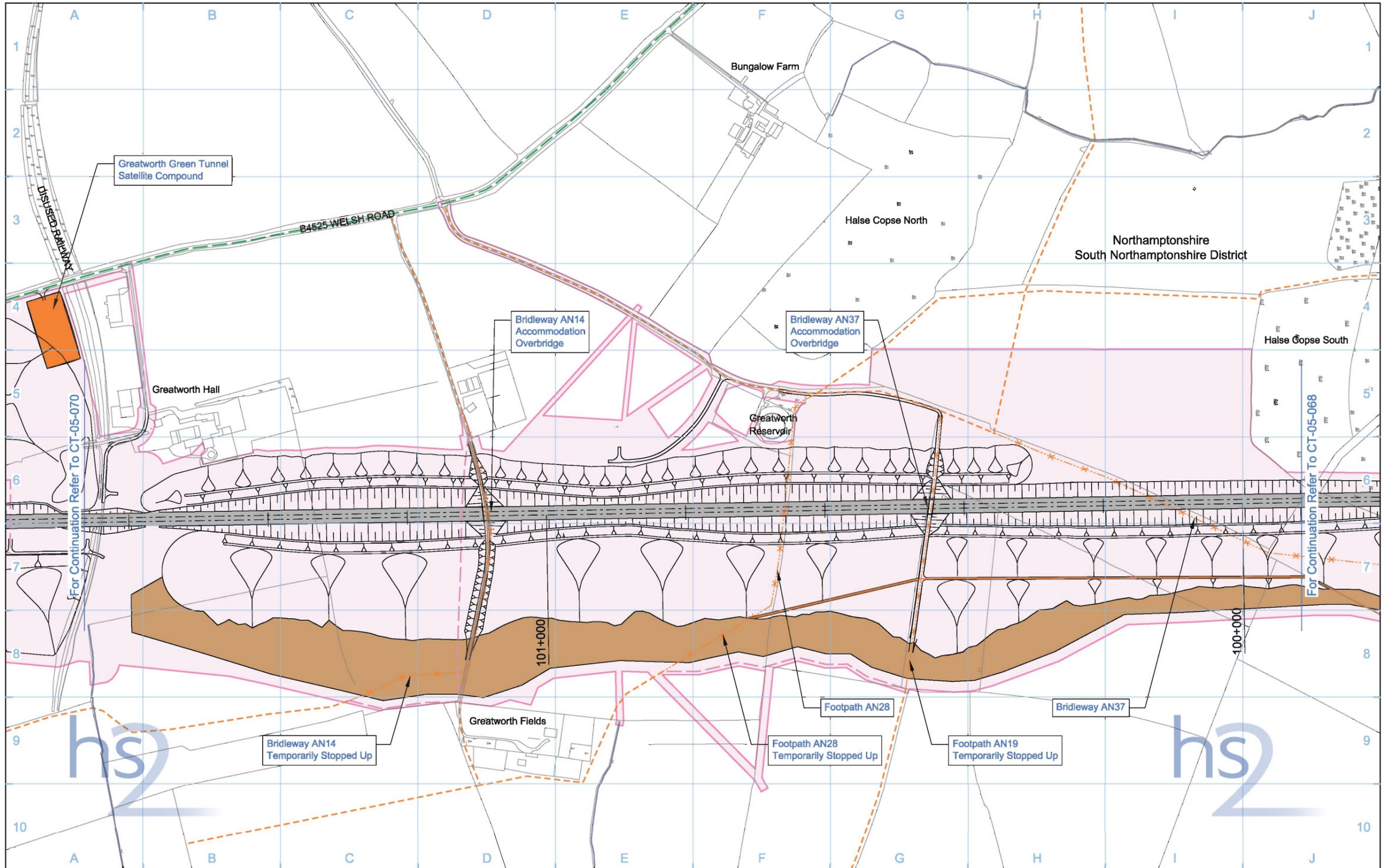
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Doc Number: C222-ATK-EV-DPL-020-061501 P03 Date: 22/10/13



Legend			
	Depot, station, headhouse or portal building		Community forum boundary
	Tunnel portal		Existing watercourse
	Main construction compound		Tunnels external extent
	Satellite construction compound		Construction traffic route
	Temporary material stockpile		Existing public right of way (PRoW)
	Rail alignment formation		Stopped-up PRoW
	Landscape earthworks		Temporary PRoW diversion / realignment
	Engineering earthworks		Temporary highway diversion / realignment
	County boundary		UT - Main utility works
	Borough / District boundary		Chainage (e.g. 10+000)
	Land potentially required during construction		Rail alignment
	New, diverted or realigned PRoW		

Map Number	CT-05-069
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

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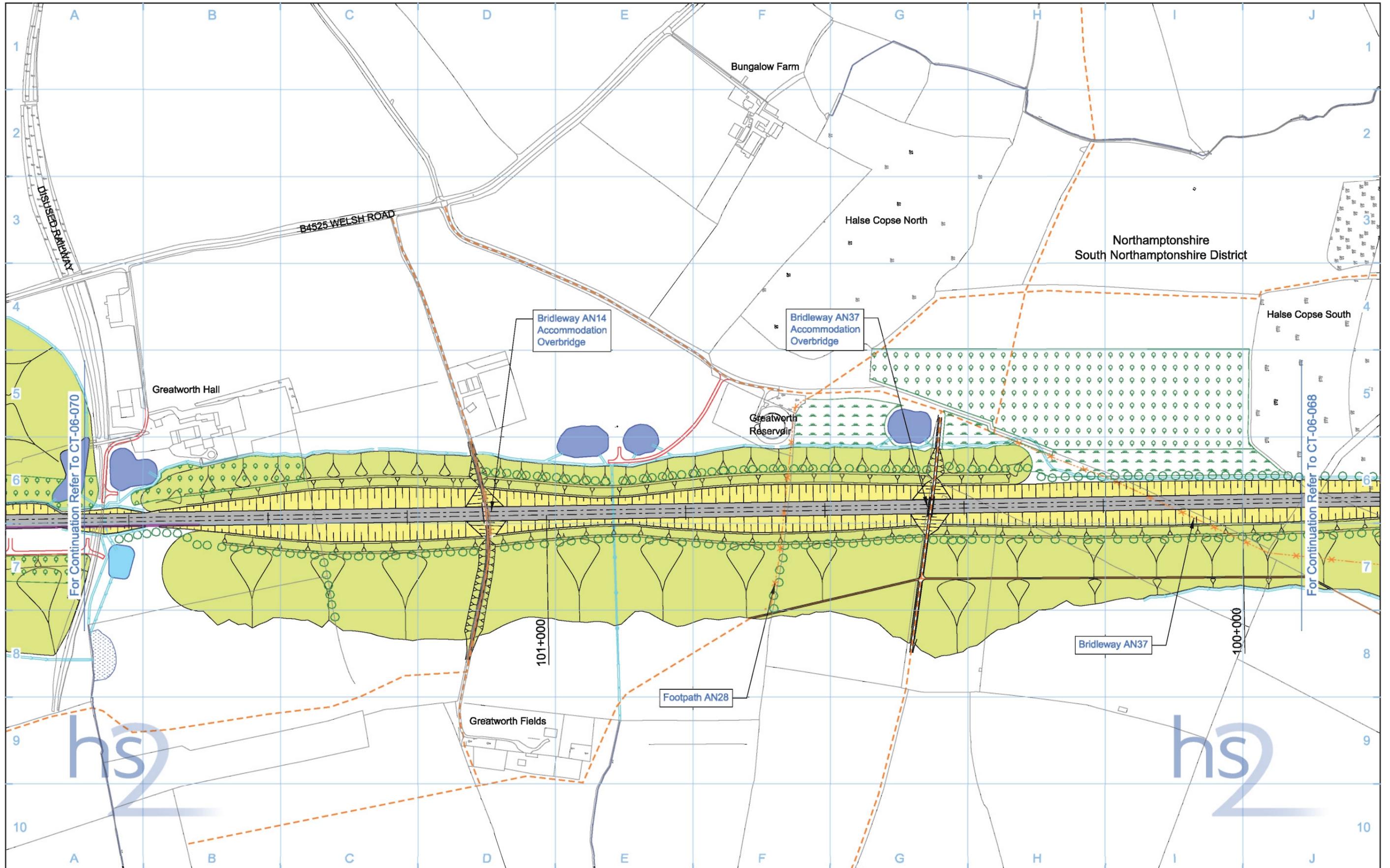
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Doc Number: C222-ATK-EV-DPL-020-051502 P03 Date: 22/10/13



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
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-069
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

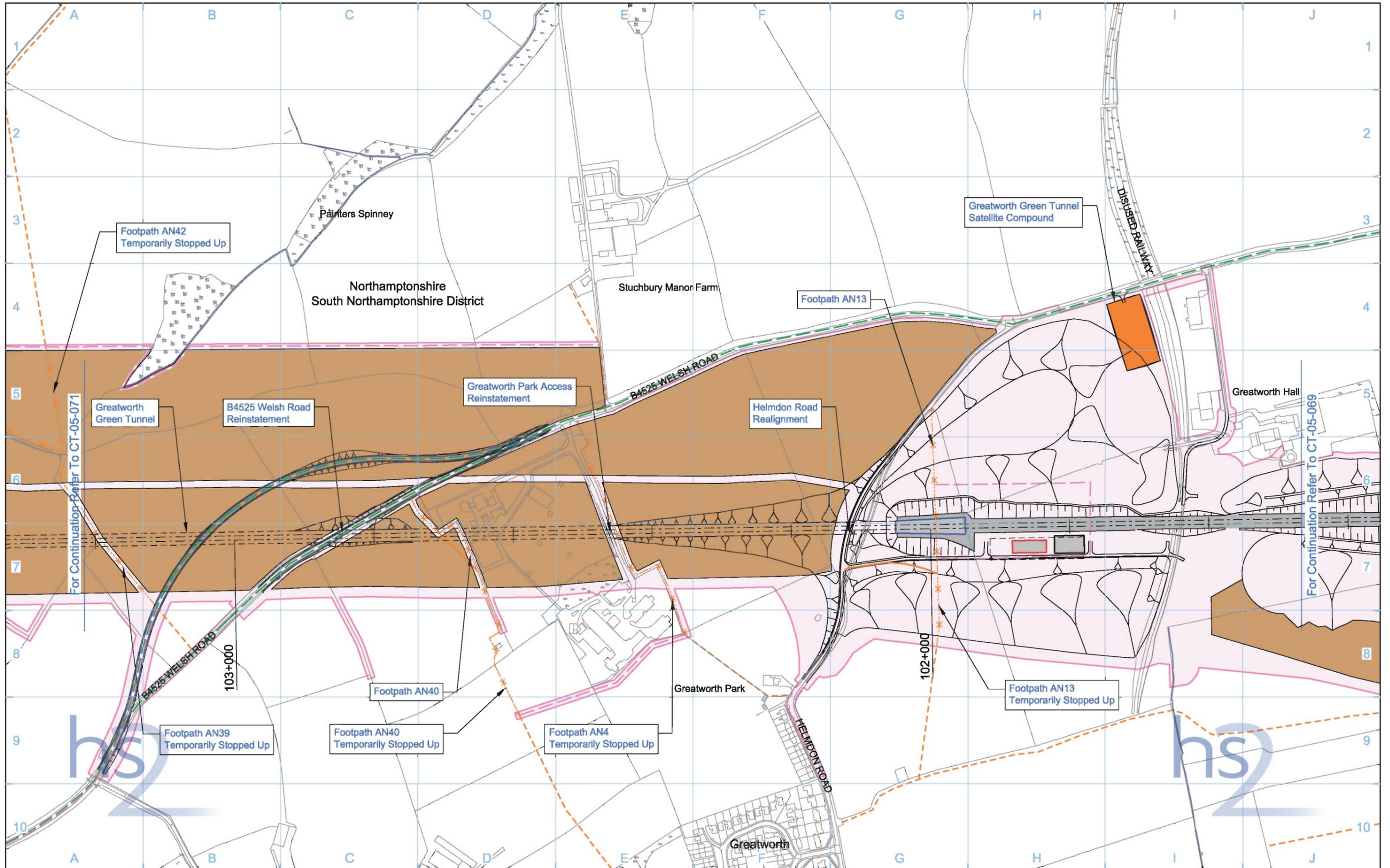
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Legend			
Depot, station, headhouse or portal building	Rail alignment formation	Community forum boundary	Stopped-up PRoW
Tunnel portal	Landscape earthworks	Existing watercourse	Temporary PRoW diversion / realignment
Main construction compound	Engineering earthworks	Tunnels external extent	Temporary highway diversion / realignment
Satellite construction compound	County boundary	Construction traffic route	Main utility works
Temporary material stockpile	Borough / District boundary	Existing public right of way (PRoW)	
	Land potentially required during construction	New, diverted or realigned PRoW	

Map Number	CT-05-070
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

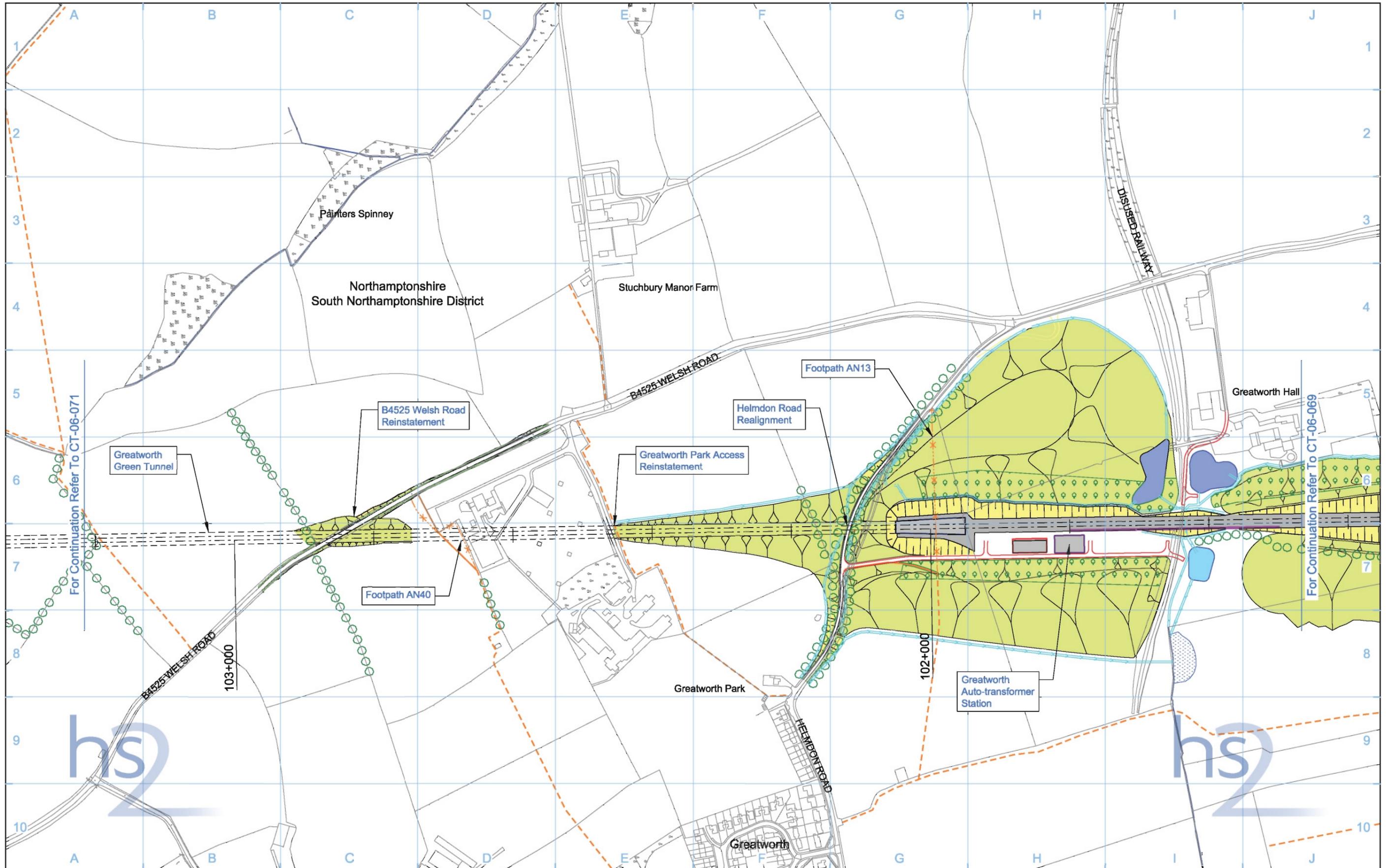
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- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Electricity substation
 - Land drainage area
 - Ecological mitigation pond
 - Balancing pond
 - Replacement floodplain storage
 - Woodland habitat creation
 - Wetland habitat creation
 - Grassland habitat creation
 - Landscape mitigation planting (scrub / woodland)
 - Grassed areas
 - Sustainable placement
 - Public realm
 - Engineering earthworks
 - Landscape earthworks
 - Rail alignment formation
 - Returned to suitable development use
 - County boundary
 - Borough / District boundary
 - Community forum 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
 - Rail alignment
 - HS2 Access road
 - Noise fence barrier
 - Chainage (e.g. 10+000)

- Public realm
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- Borough / District boundary
- Community forum 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
- Rail alignment
- HS2 Access road
- Noise fence barrier
- Chainage (e.g. 10+000)

- Stopped-up PRoW
- Tunnels external extent
- Rail alignment
- HS2 Access road
- Noise fence barrier
- Chainage (e.g. 10+000)

Map Number: **CT-06-070**

Map Name: **Proposed Scheme**

Community Forum Area: **CFA15**
Greatworth to Lower Boddington

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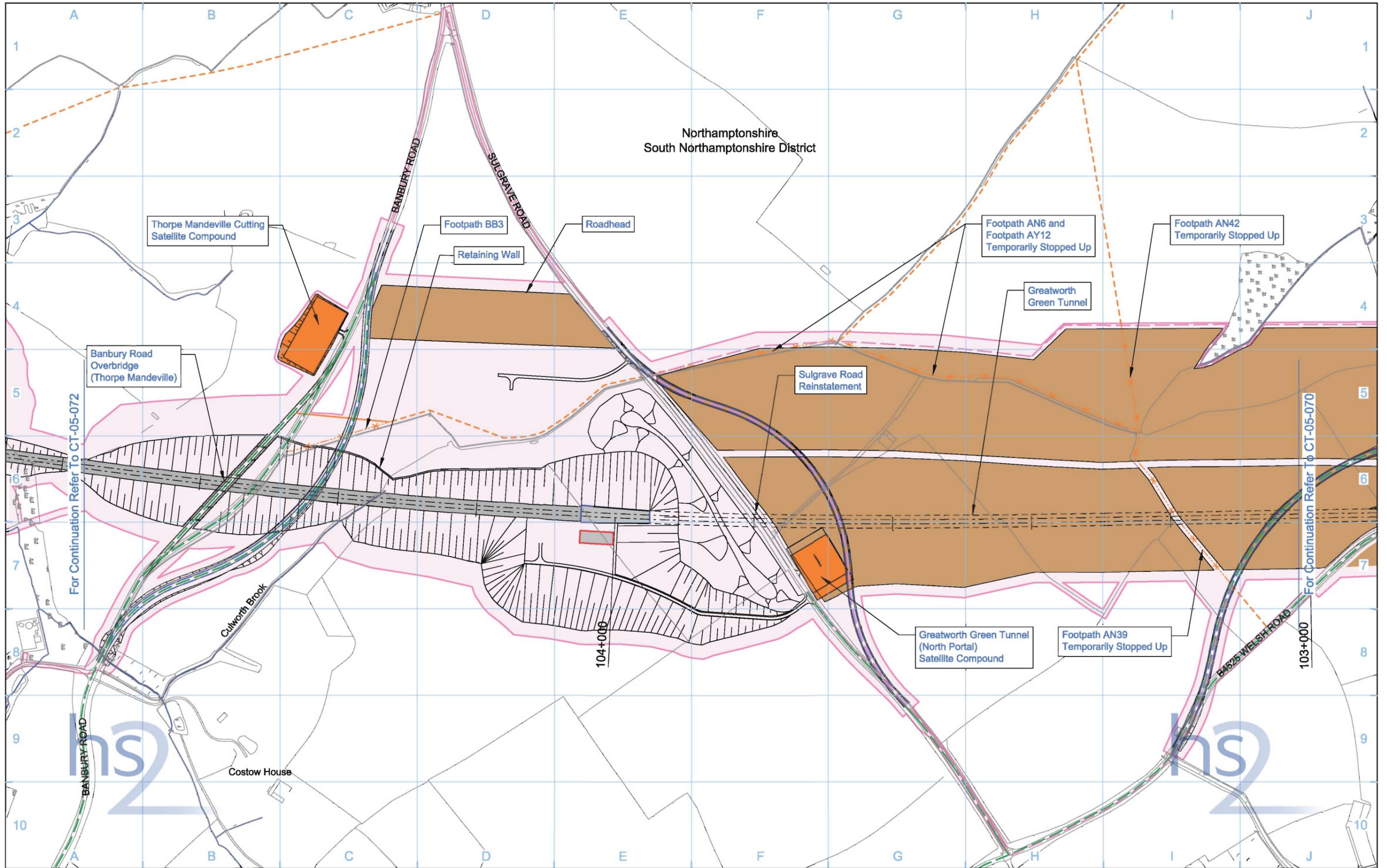
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Legend			
	Depot, station, headhouse or portal building		Community forum boundary
	Tunnel portal		Existing watercourse
	Main construction compound		Temporary PRoW diversion / realignment
	Satellite construction compound		Construction traffic route
	Temporary material stockpile		Existing public right of way (PRoW)
	Rail alignment formation		Stopped-up PRoW
	Landscape earthworks		Temporary PRoW diversion / realignment
	Engineering earthworks		Temporary highway diversion / realignment
	County boundary		UT - Main utility works
	Borough / District boundary		Chainage (e.g. 10+000)
	Land potentially required during construction		Rail alignment

Map Number	CT-05-071
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

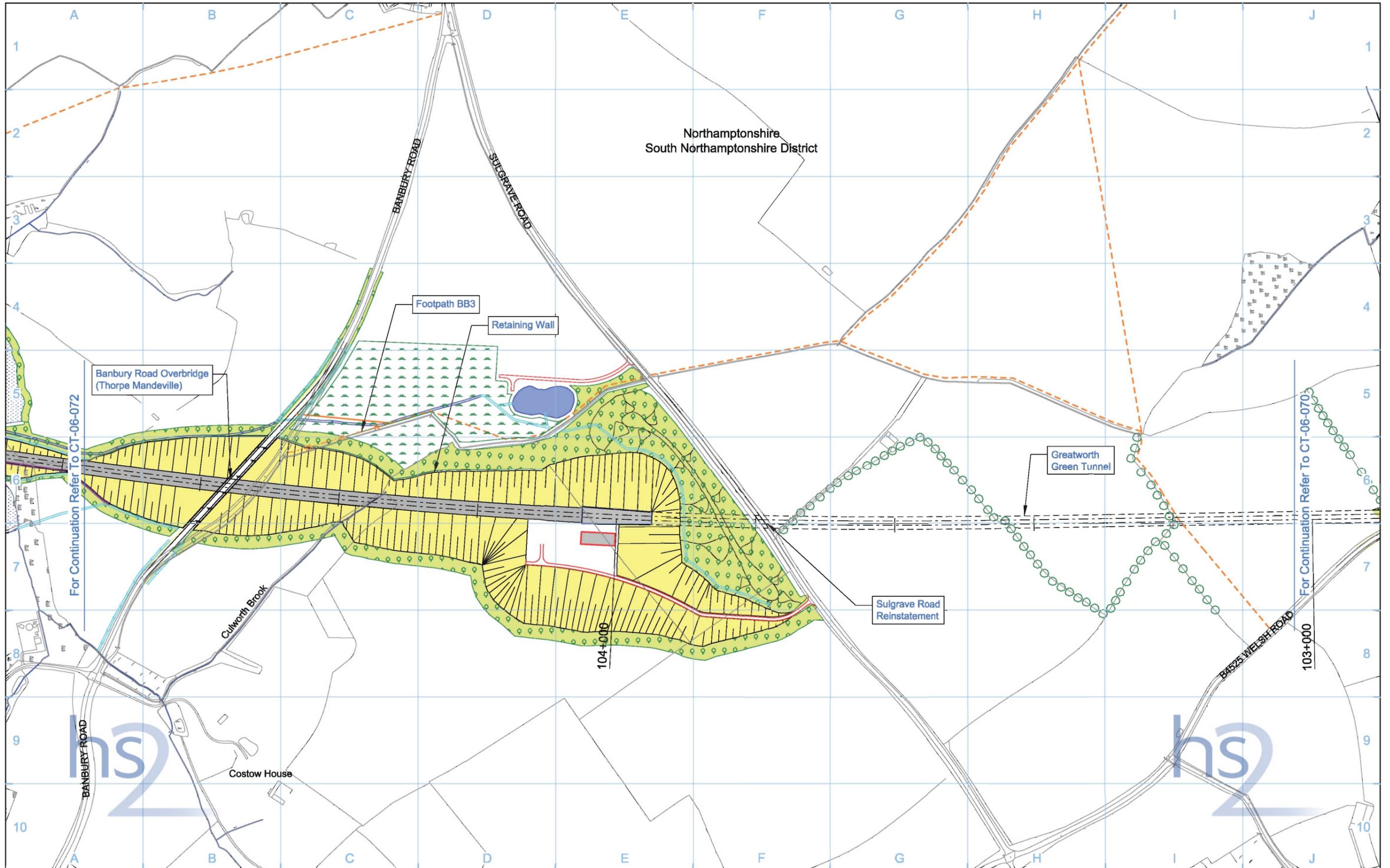
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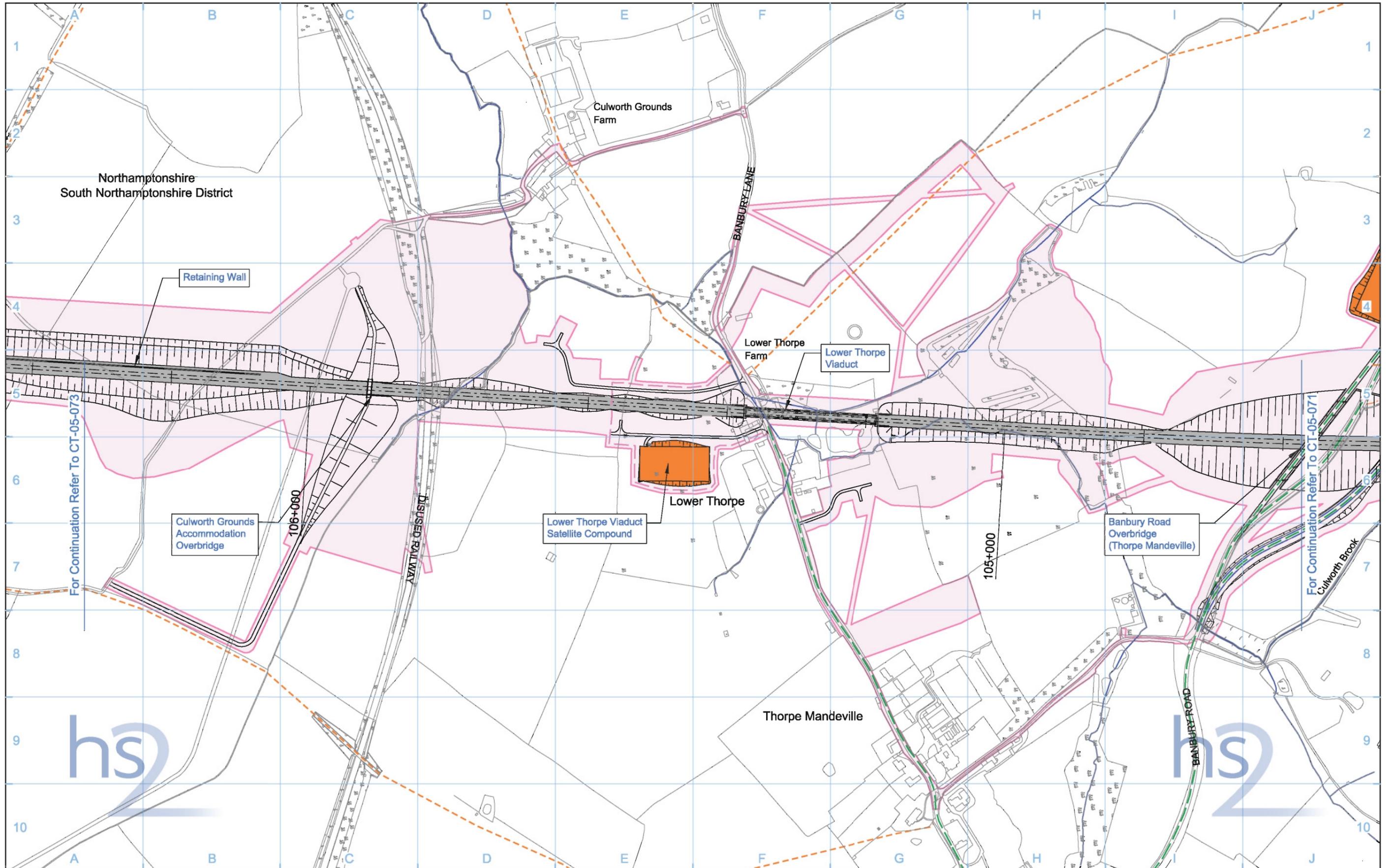
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Legend 		Map Number CT-06-071 Map Name Proposed Scheme Community Forum Area CFA15 Greatworth to Lower Boddington	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England, Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU Scale at A3: 1:5,000 © Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190. Doc Number: C222-ATK-EV-DPL-020-061504 P03 Date: 22/10/13
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary
	Borough / District boundary
	Land potentially required during construction
	Community forum boundary
	Existing watercourse
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Temporary highway diversion / realignment
	UT - Main utility works
	Chainage (e.g. 10+000)
	Rail alignment

Map Number	CT-05-072
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

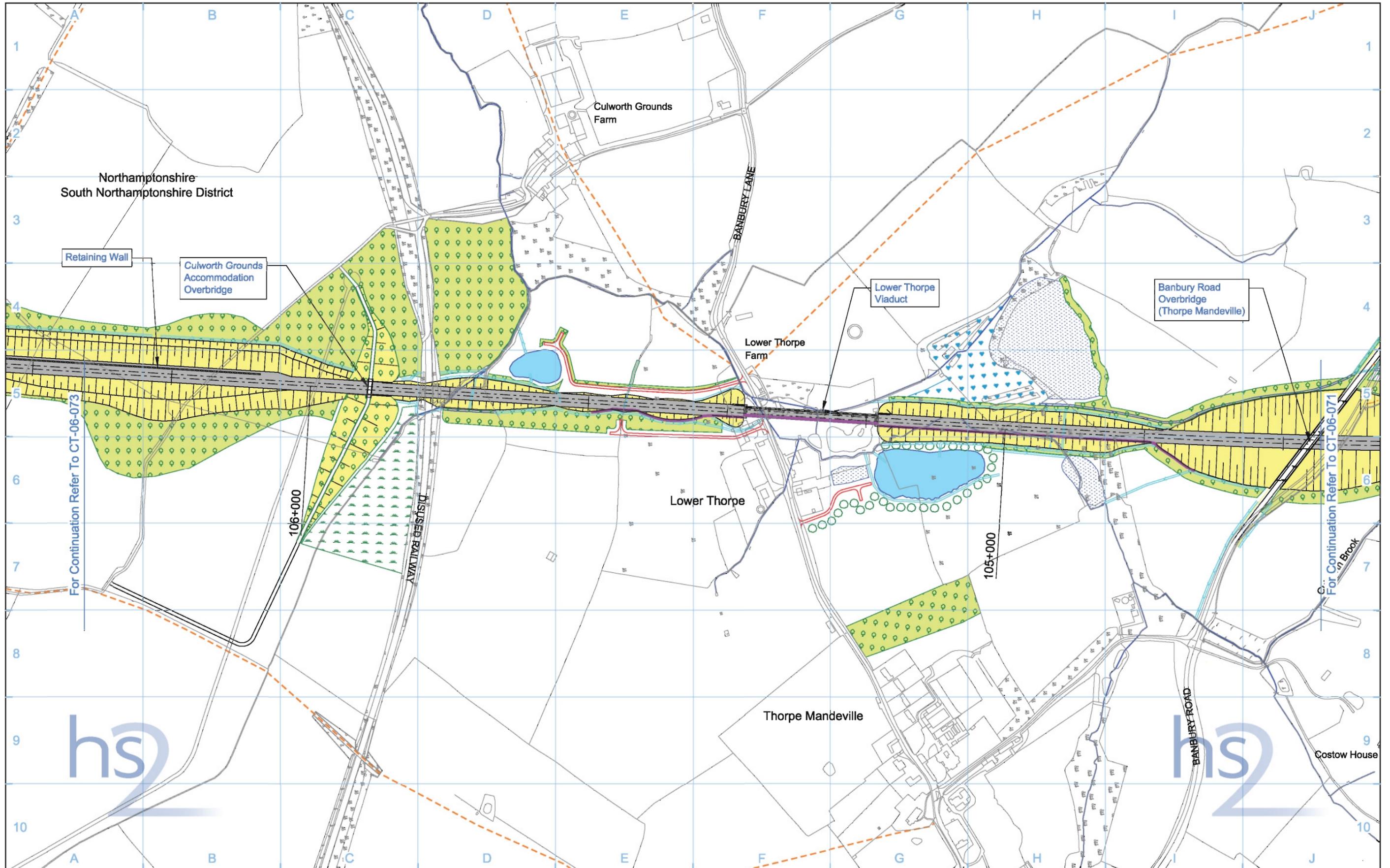
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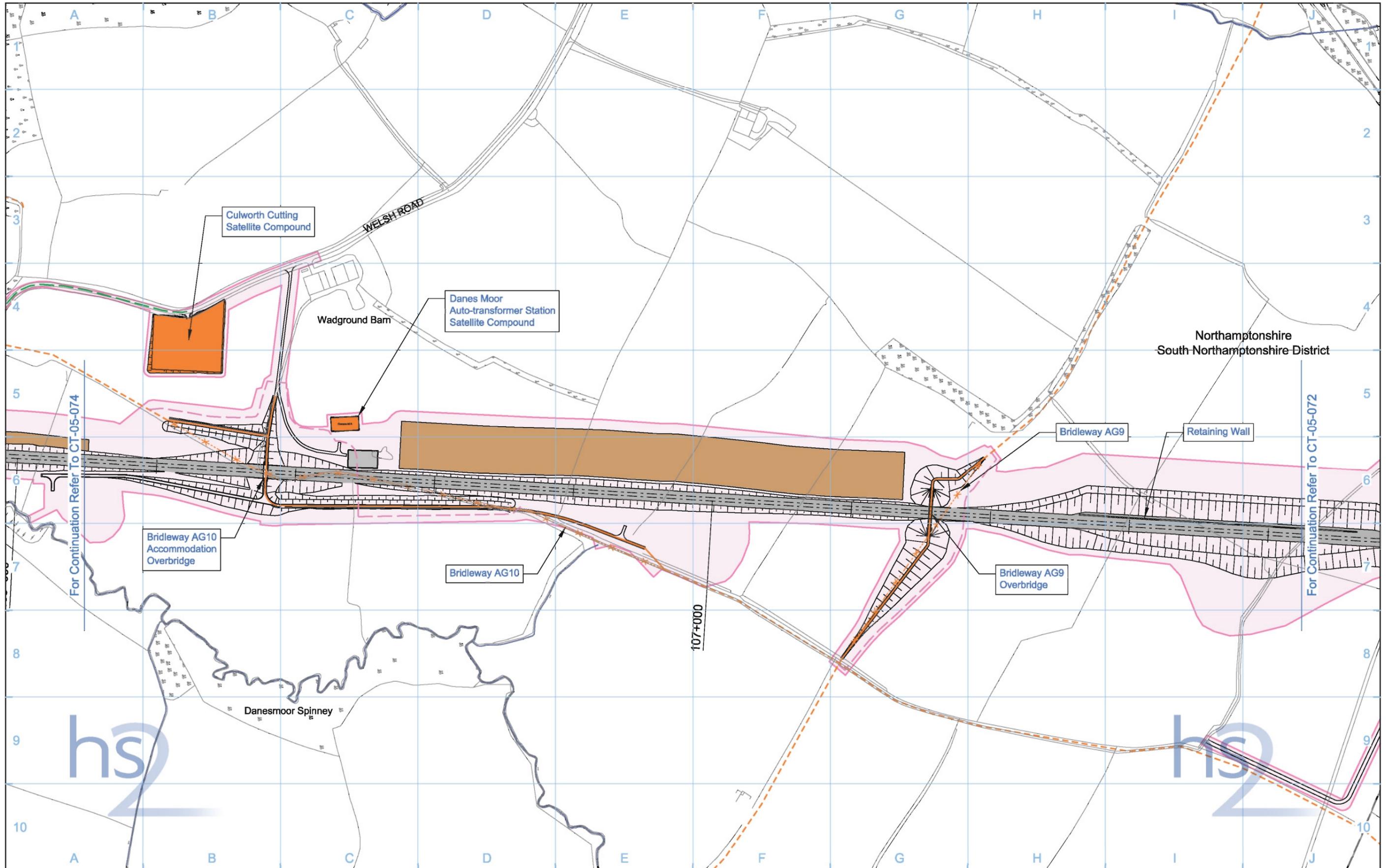
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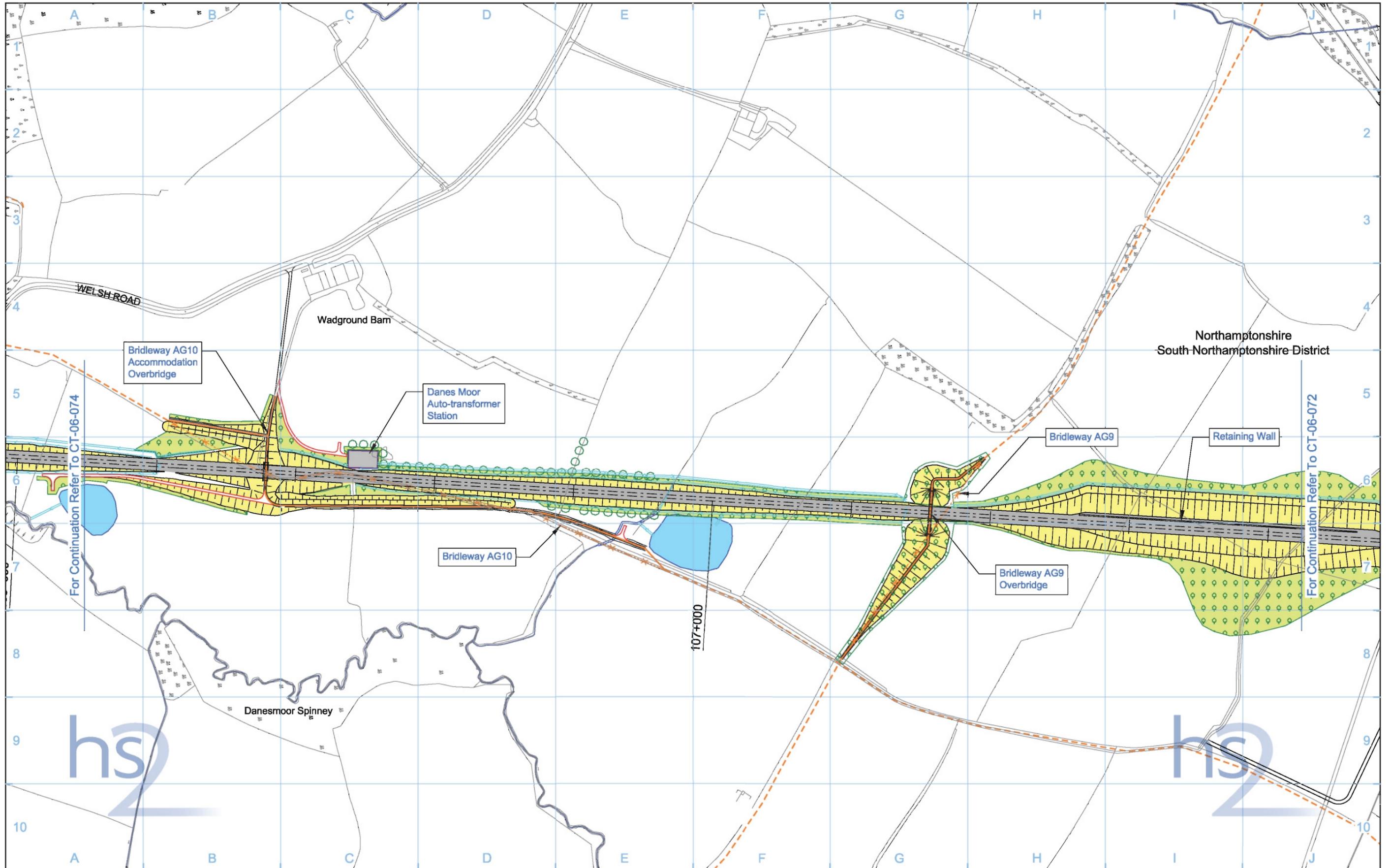
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Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Temporary material stockpile Rail alignment formation Landscape earthworks Engineering earthworks County boundary Borough / District boundary Land potentially required during construction Community forum boundary Existing watercourse Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment Temporary highway diversion / realignment Main utility works 		<ul style="list-style-type: none"> Chainage (e.g. 10+000) Rail alignment 	<p>Map Number CT-05-073</p> <p>Map Name Construction Phase</p> <p>Community Forum Area CFA15 Greatworth to Lower Boddington</p>	<p>Registered in England. Registration number 06791686 Registered office: Eland House, Bressenden Place, London SW1E 6DU</p> <p>Scale at A3: 1:5,000</p> <p>0 50 100 150 200 250 Metres</p> <p>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C222-ATK-EV-DPL-020-051506 P03 Date: 22/10/13</p>
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Legend	
Depot, station, headhouse or portal building	Public realm
Tunnel portal	Woodland habitat creation
Electricity substation	Wetland habitat creation
Land drainage area	Grassland habitat creation
Ecological mitigation pond	Landscape mitigation planting (scrub / woodland)
Balancing pond	Grassed areas
Replacement floodplain storage	Engineering earthworks
Wetland habitat creation	Landscape earthworks
Grassland habitat creation	Rail alignment formation
Landscape mitigation planting (scrub / woodland)	Returned to suitable development use
Grassed areas	County boundary
Sustainable placement	Borough / District boundary
Community forum boundary	Watercourse diversion
Existing watercourse	Ditches - new
Hedgerow habitat creation	Main utility works
UT	Existing public right of way (PRoW)
New, diverted or realigned PRoW	Stopped-up PRoW
Tunnels external extent	Rail alignment
HS2 Access road	Noise fence barrier
Chainage (e.g. 10+000)	

Map Number: **CT-06-073**

Map Name: **Proposed Scheme**

Community Forum Area: **CFA15**
Greatworth to Lower Boddington

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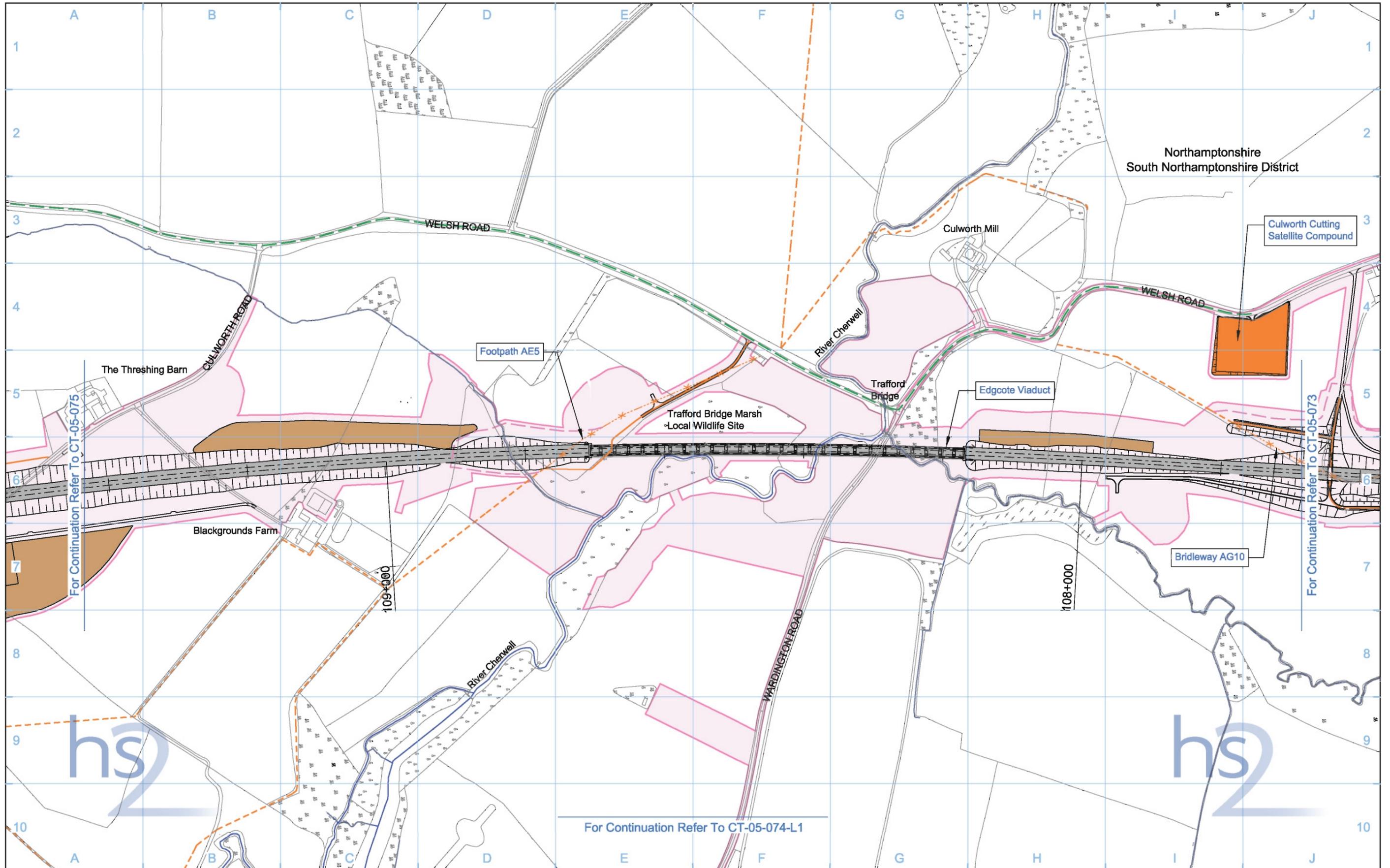
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Northamptonshire
South Northamptonshire District

Culworth Cutting
Satellite Compound

Footpath AE5

Trafford Bridge Marsh
Local Wildlife Site

Edgcote Viaduct

Bridleway AG10

For Continuation Refer To CT-05-074-L1

For Continuation Refer To CT-05-075

For Continuation Refer To CT-05-073

109+000

108+000

hs2

hs2

Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary
	Borough / District boundary
	Land potentially required during construction
	Community forum boundary
	Existing watercourse
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Temporary highway diversion / realignment
	UT - Main utility works
	Chainage (e.g. 10+000)
	Rail alignment

Map Number	CT-05-074
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

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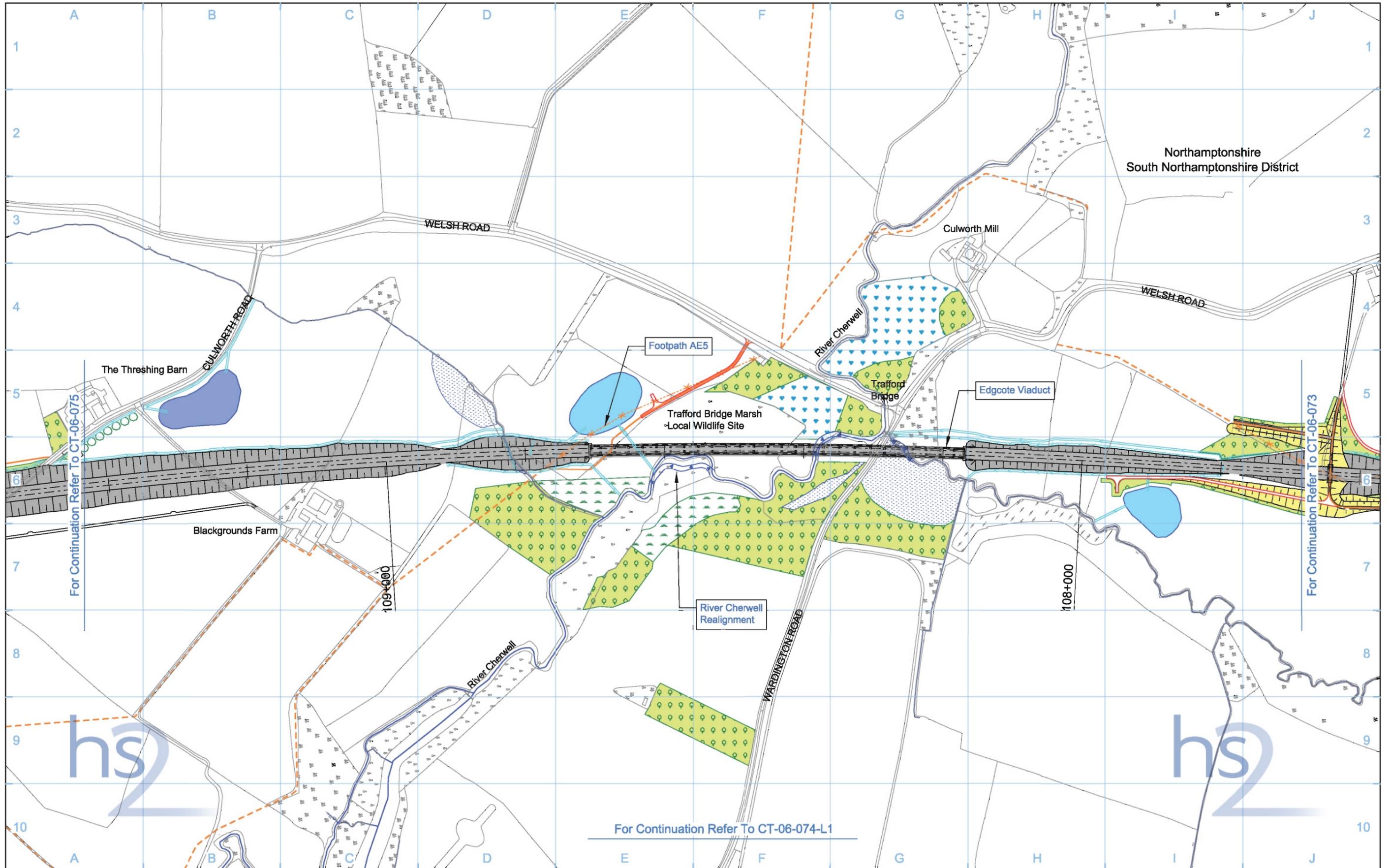
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Northamptonshire
South Northamptonshire District

For Continuation Refer To CT-06-075

For Continuation Refer To CT-06-073

For Continuation Refer To CT-06-074-L1

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
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-074
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

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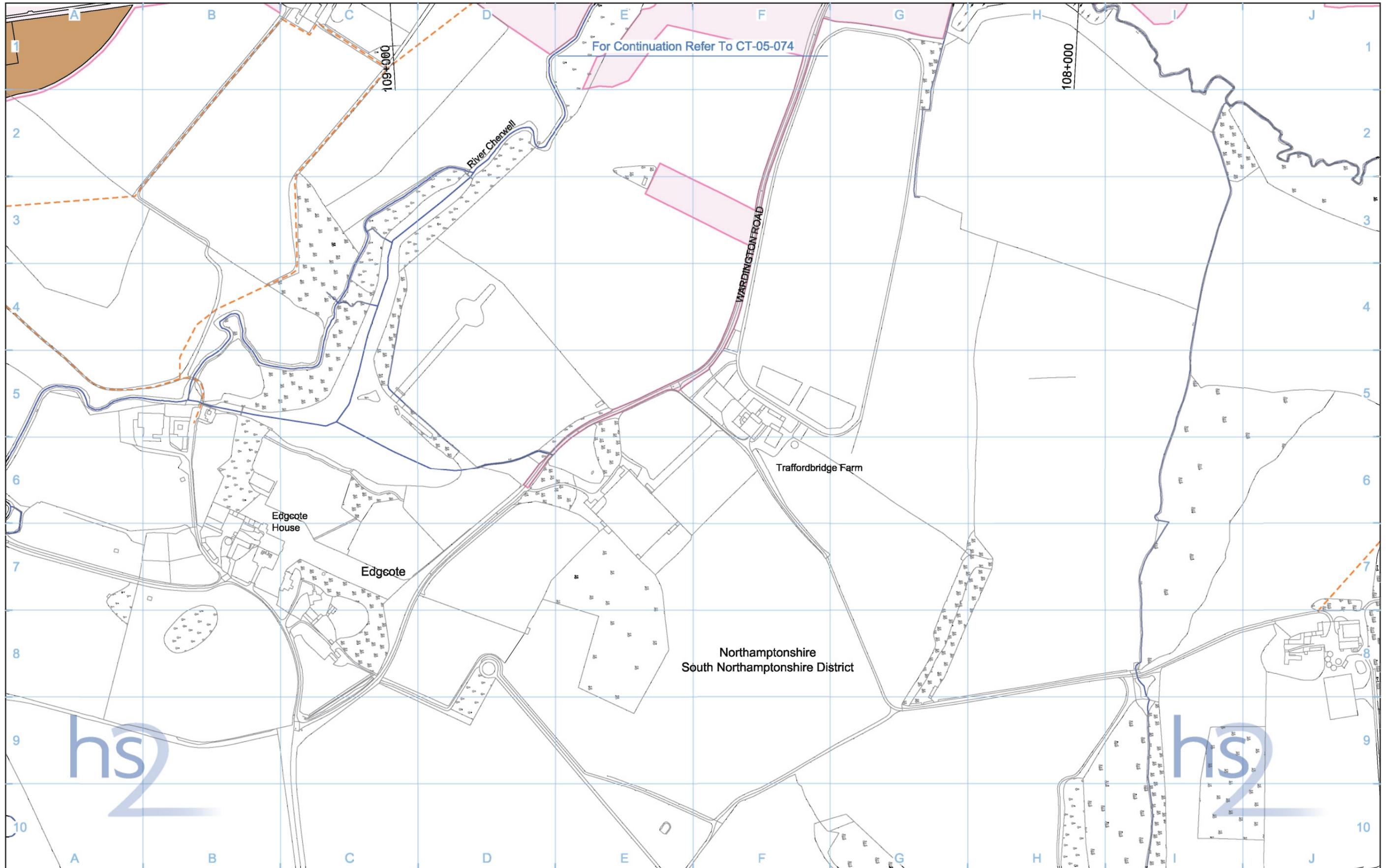
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Legend	
Depot, station, headhouse or portal building	Rail alignment formation
Tunnel portal	Landscape earthworks
Main construction compound	Engineering earthworks
Satellite construction compound	County boundary
Temporary material stockpile	Borough / District boundary
Land potentially required during construction	Community forum boundary
Existing watercourse	Stopped-up PRoW
Tunnels external extent	Temporary PRoW diversion / realignment
Construction traffic route	Temporary highway diversion / realignment
Existing public right of way (PRoW)	Main utility works
New, diverted or realigned PRoW	Chainage (e.g. 10+000)
	Rail alignment

Map Number	CT-05-074-L1
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

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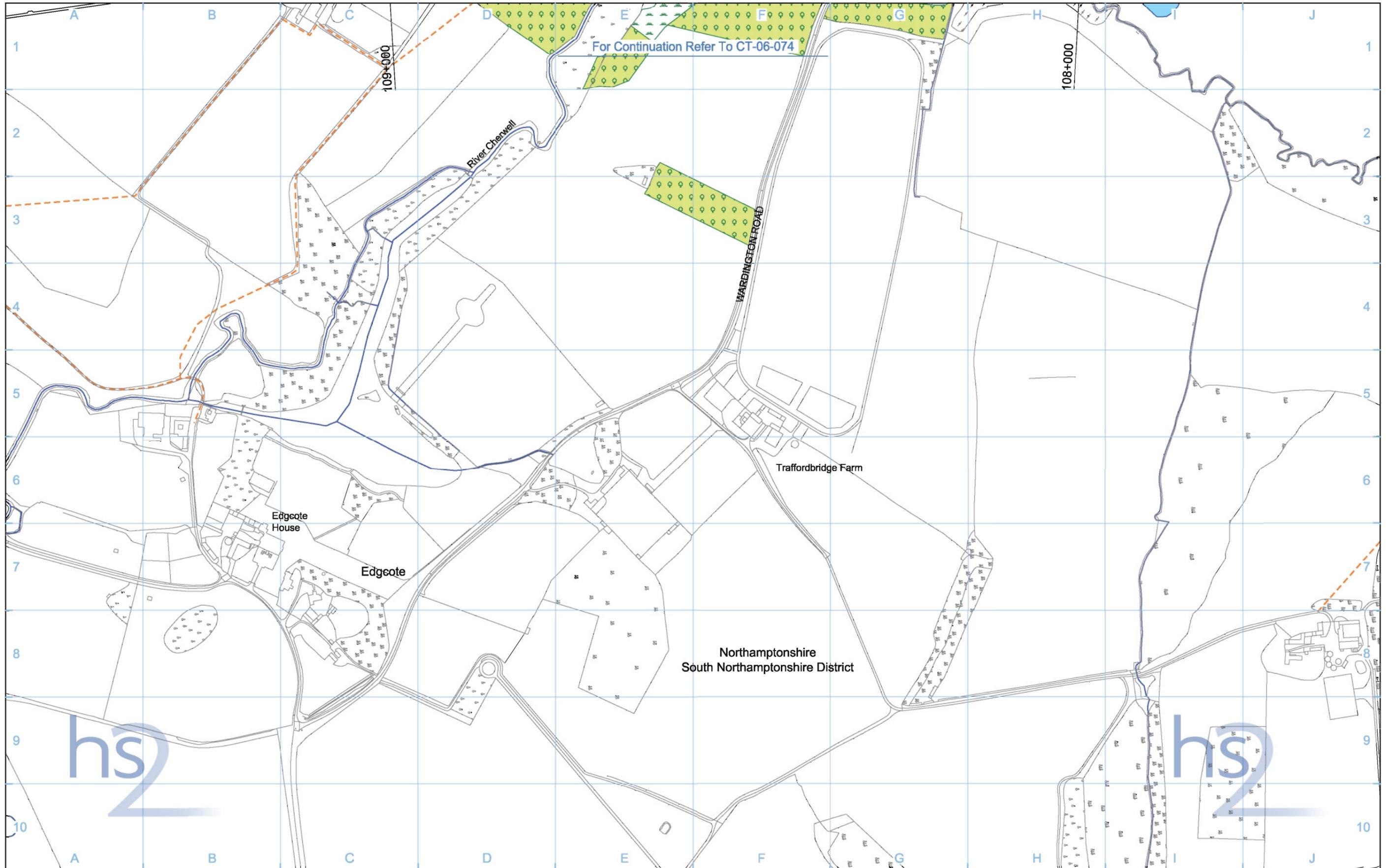
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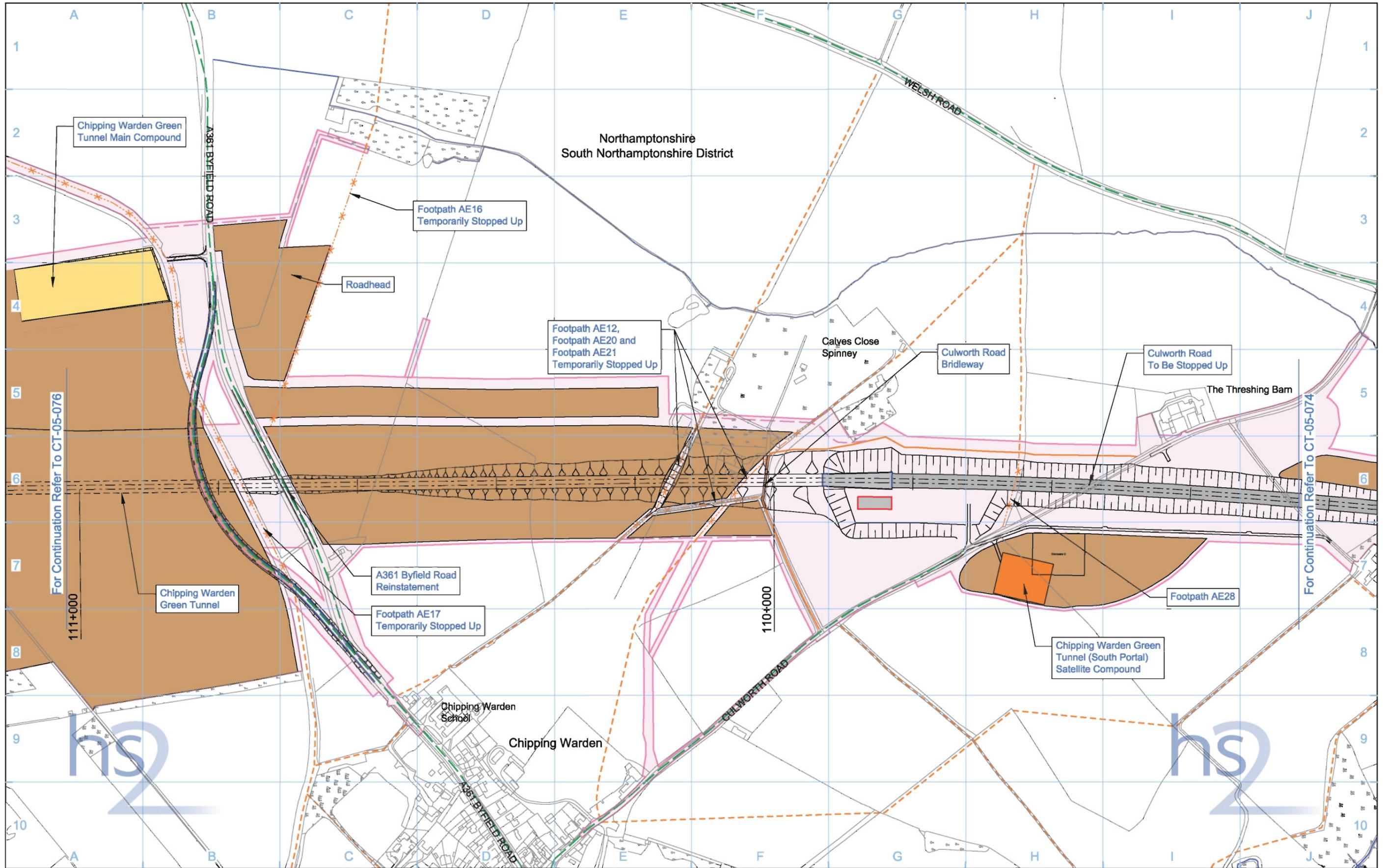
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Doc Number: C222-ATK-EV-DPL-020-051513 P03 **Date:** 22/10/13



Legend 										Map Number CT-06-074-L1	 Scale at A3: 1:5,000 0 50 100 150 200 250 Metres
										Map Name Proposed Scheme	
										Community Forum Area CFA15 Greatworth to Lower Boddington	Doc Number: C222-ATK-EV-DPL-020-061513 P03 Date: 22/10/13



Legend			
	Depot, station, headhouse or portal building		Rail alignment formation
	Tunnel portal		Landscape earthworks
	Main construction compound		Engineering earthworks
	Satellite construction compound		County boundary
	Temporary material stockpile		Borough / District boundary
	Land potentially required during construction		Community forum boundary
	Existing watercourse		Existing public right of way (PRoW)
	Tunnels external extent		New, diverted or realigned PRoW
	Construction traffic route		Stopped-up PRoW
	Temporary PRoW diversion / realignment		Temporary PRoW diversion / realignment
	Temporary highway diversion / realignment		Temporary highway diversion / realignment
	Main utility works		UT - Main utility works

Map Number	CT-05-075
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

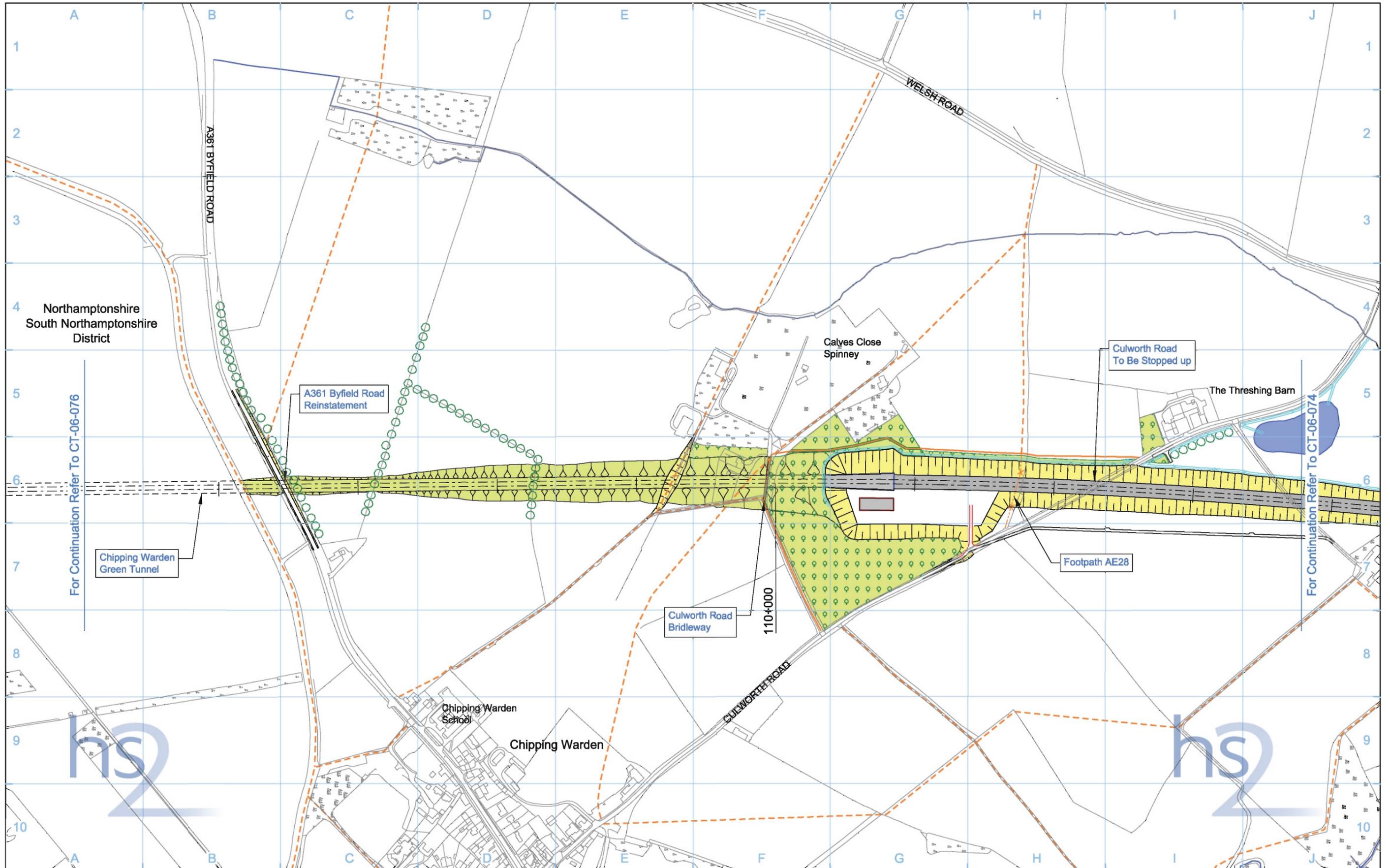
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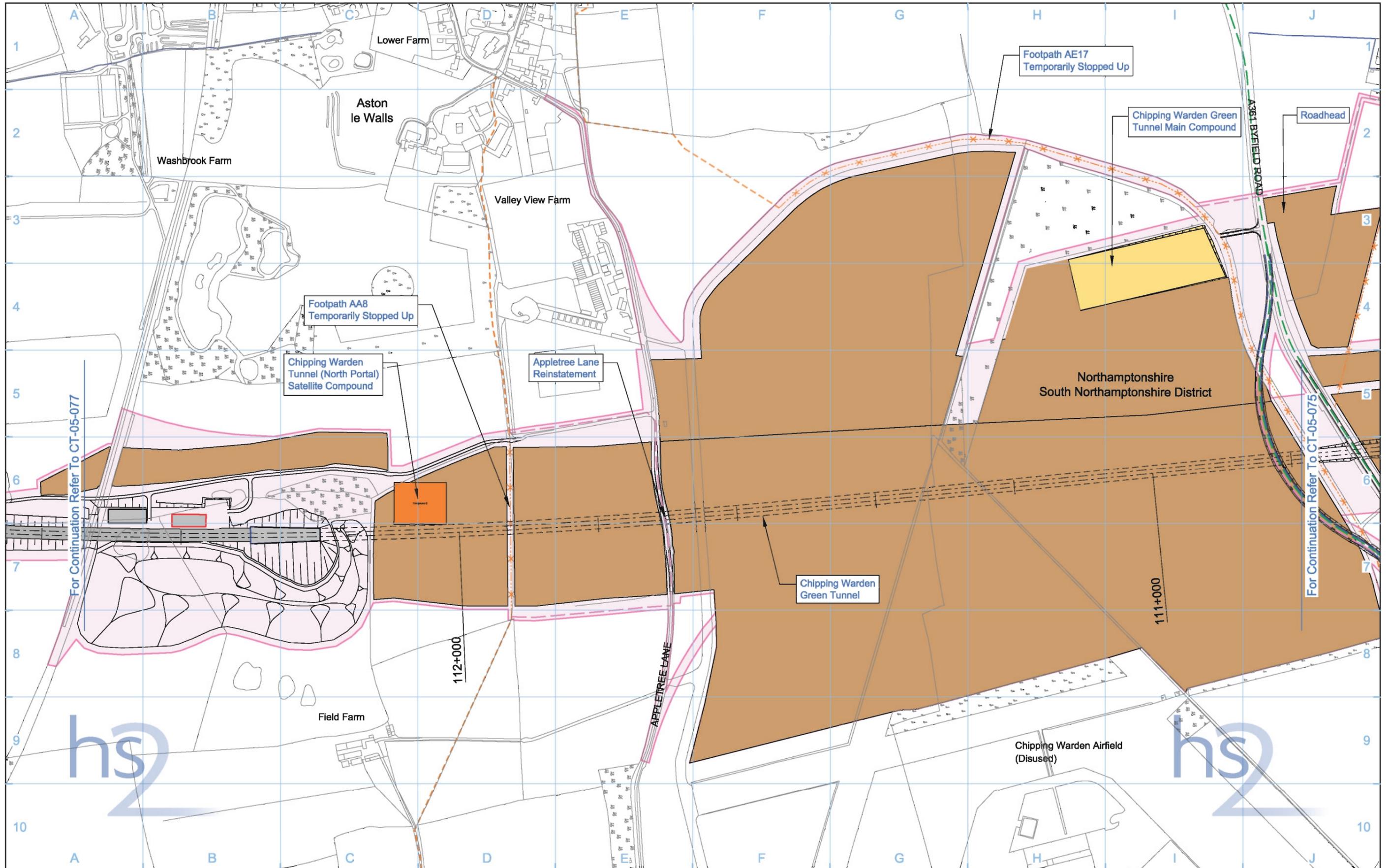
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Legend 		Map Number CT-06-075 Map Name Proposed Scheme Community Forum Area CFA15 Greatworth to Lower Boddington	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England, Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190. Doc Number: C222-ATK-EV-DPL-020-061508 P03 Date: 22/10/13
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Legend			
	Depot, station, headhouse or portal building		Community forum boundary
	Tunnel portal		Existing watercourse
	Main construction compound		Tunnels external extent
	Satellite construction compound		Construction traffic route
	Temporary material stockpile		Existing public right of way (PRoW)
	Rail alignment formation		Stopped-up PRoW
	Landscape earthworks		Temporary PRoW diversion / realignment
	Engineering earthworks		Temporary highway diversion / realignment
	County boundary		UT - Main utility works
	Borough / District boundary		New, diverted or realigned PRoW
	Land potentially required during construction		Chainage (e.g. 10+000)
			Rail alignment

Map Number	CT-05-076
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

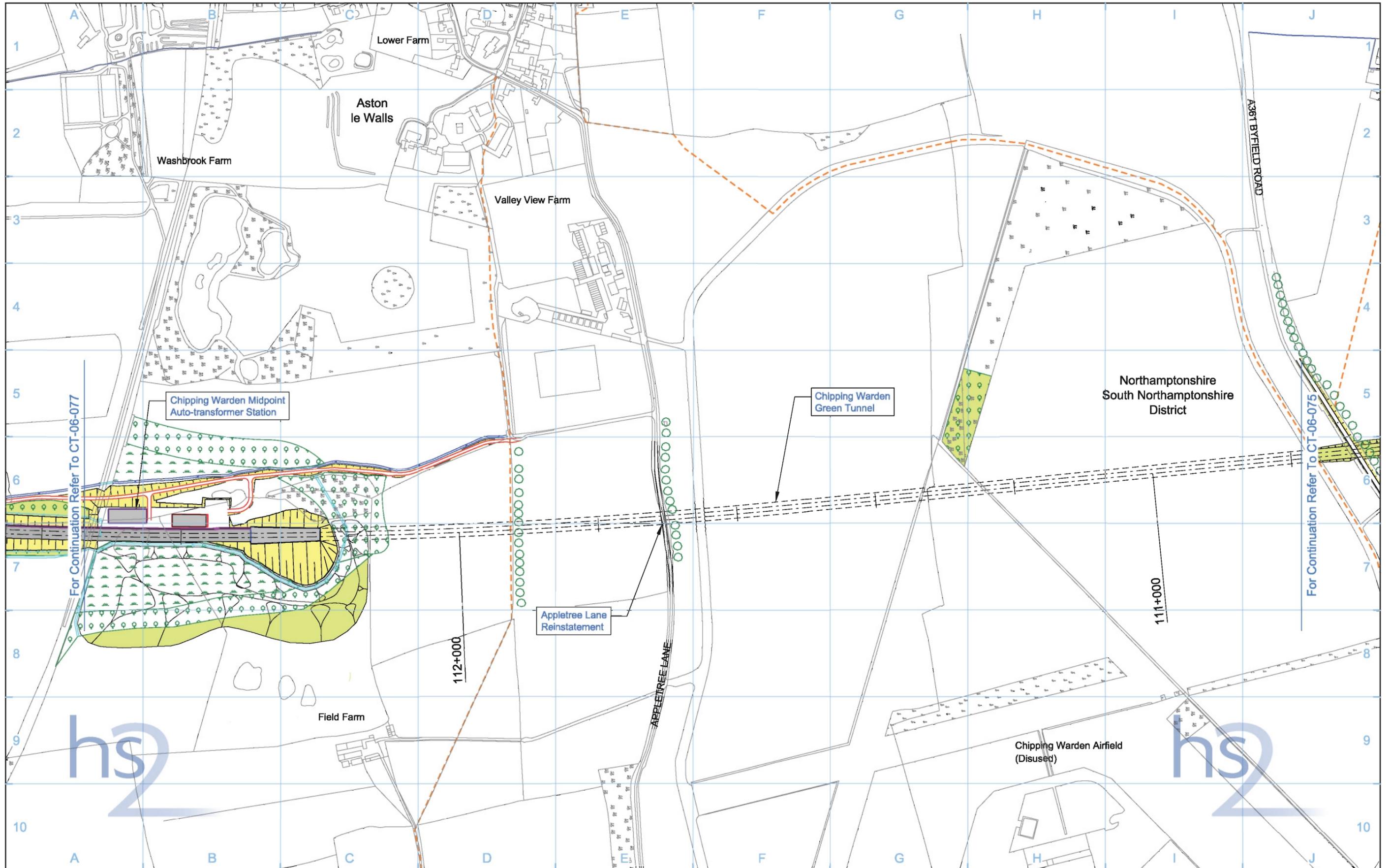
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Doc Number: C222-ATK-EV-DPL-020-051509 **P03** **Date:** 22/10/13



Legend	
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	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
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-076
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

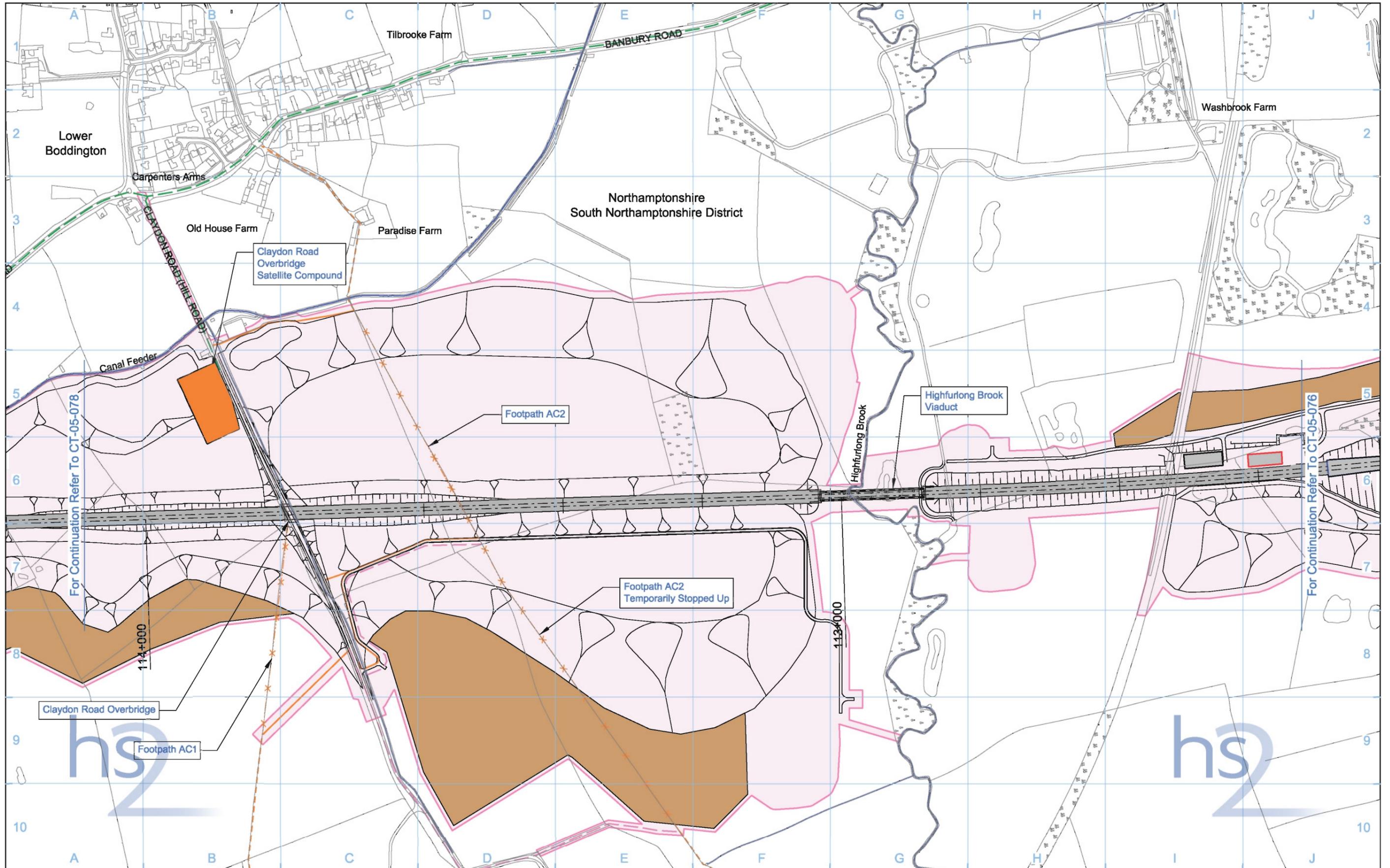
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Legend			
	Depot, station, headhouse or portal building		Rail alignment formation
	Tunnel portal		Existing watercourse
	Main construction compound		Engineering earthworks
	Satellite construction compound		County boundary
	Temporary material stockpile		Borough / District boundary
			Land potentially required during construction
			Community forum boundary
			Tunnels external extent
			Construction traffic route
			Existing public right of way (PRoW)
			Temporary highway diversion / realignment
			UT - Main utility works
			Stopped-up PRoW
			Temporary PRoW diversion / realignment
			Chainage (e.g. 10+000)
			Rail alignment

Map Number	CT-05-077
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

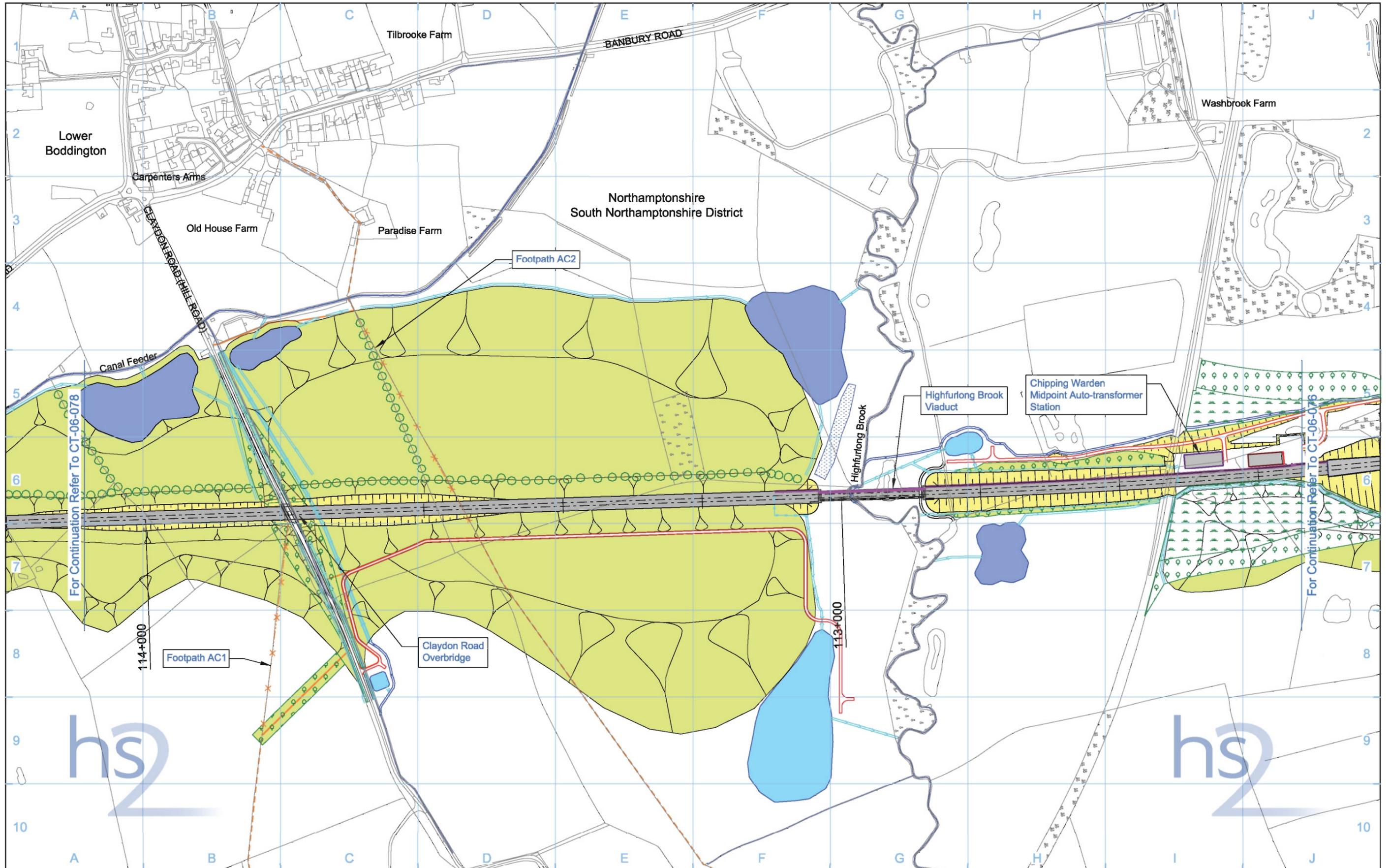
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Legend	
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	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-077
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

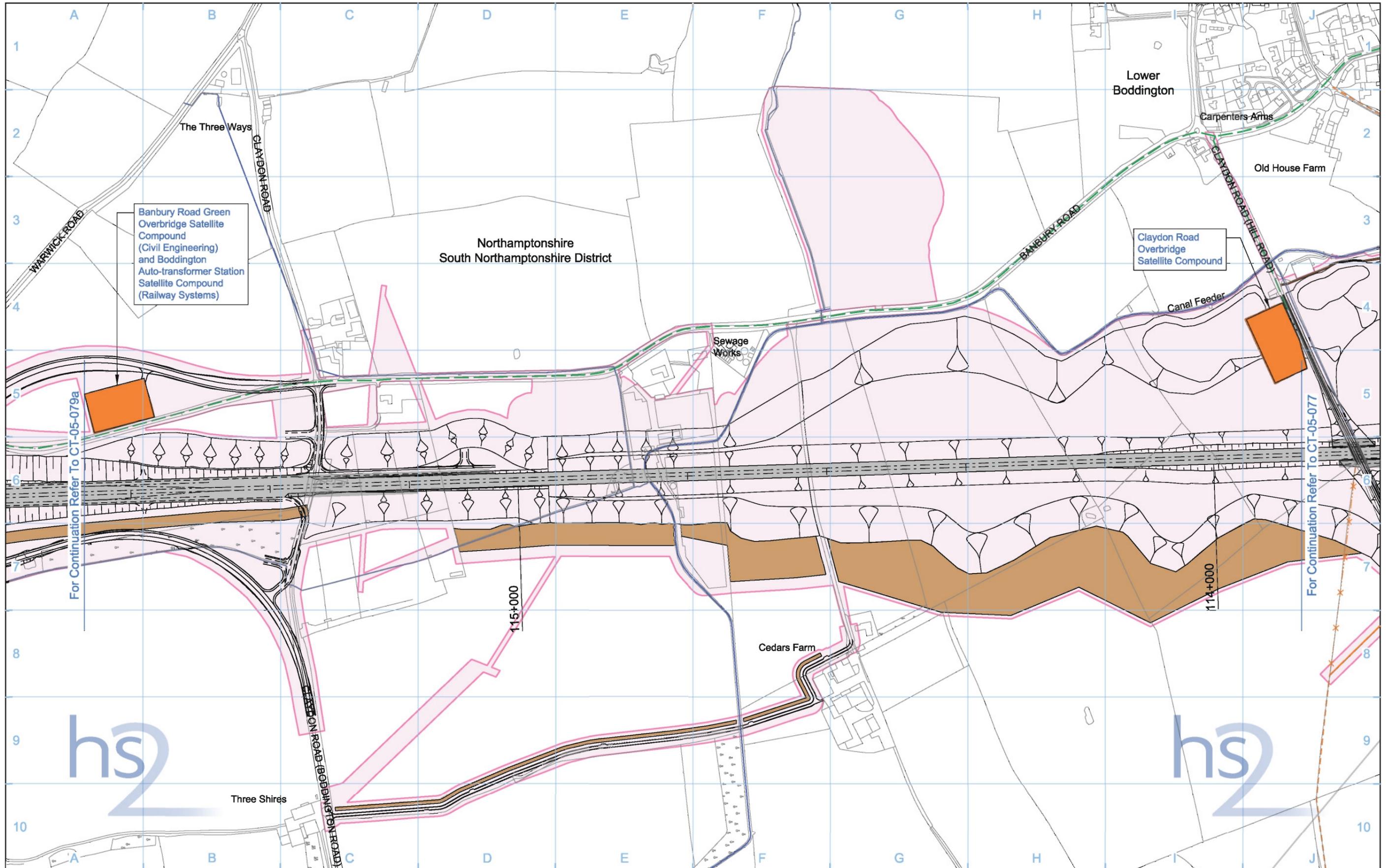
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Legend			
	Depot, station, headhouse or portal building		Rail alignment formation
	Tunnel portal		Existing watercourse
	Main construction compound		Landscape earthworks
	Satellite construction compound		Engineering earthworks
	Temporary material stockpile		County boundary
			Borough / District boundary
			Land potentially required during construction
	Community forum boundary		Tunnels external extent
	Existing watercourse		Construction traffic route
	Temporary PRoW diversion / realignment		Existing public right of way (PRoW)
	Temporary highway diversion / realignment		UT - Main utility works
	New, diverted or realigned PRoW		Stopped-up PRoW
	Chainage (e.g. 10+000)		Rail alignment

Map Number	CT-05-078
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

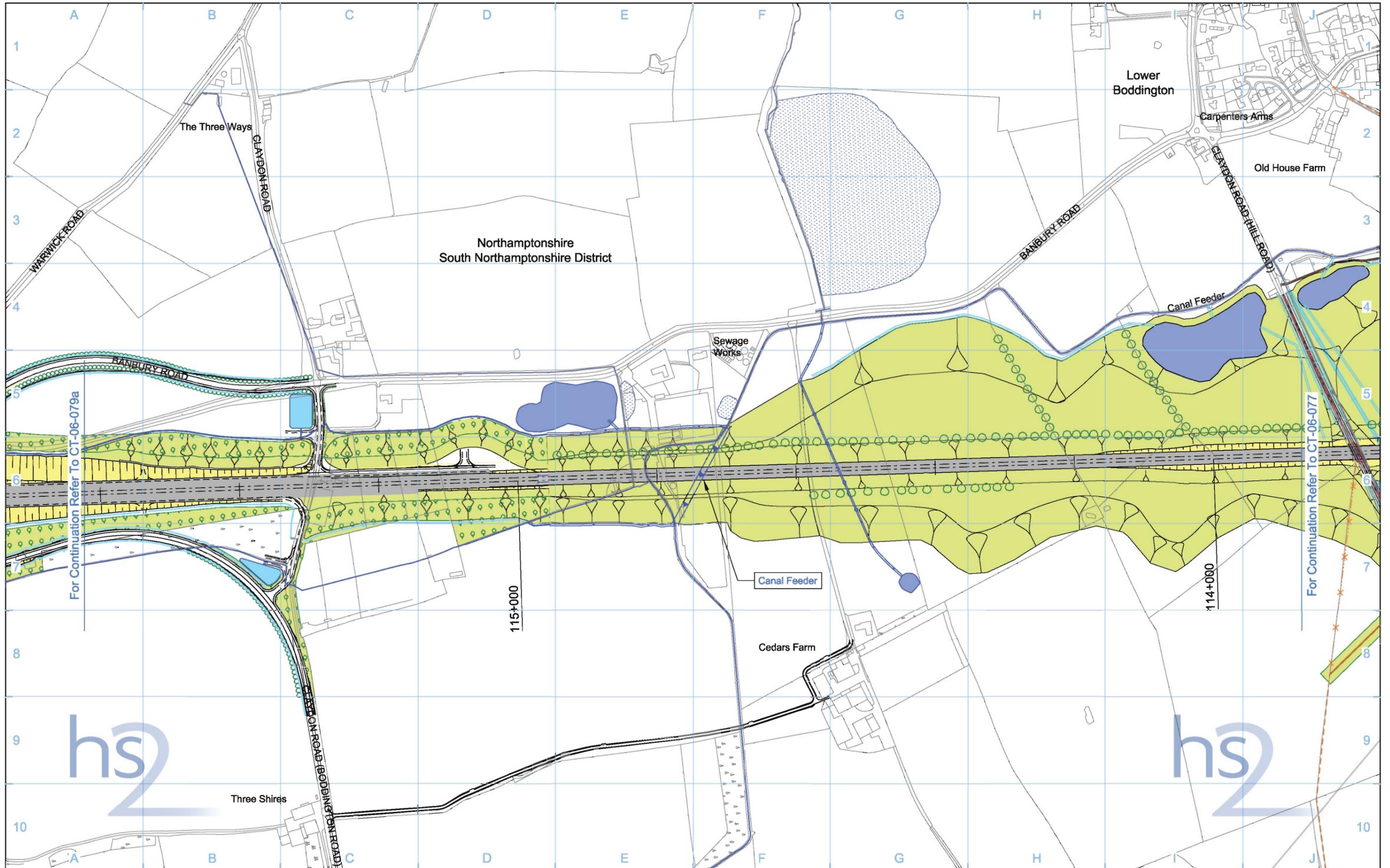
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Doc Number: C222-ATK-EV-DPL-020-051511 **P03** **Date:** 22/10/13



Legend	
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	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
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-078
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

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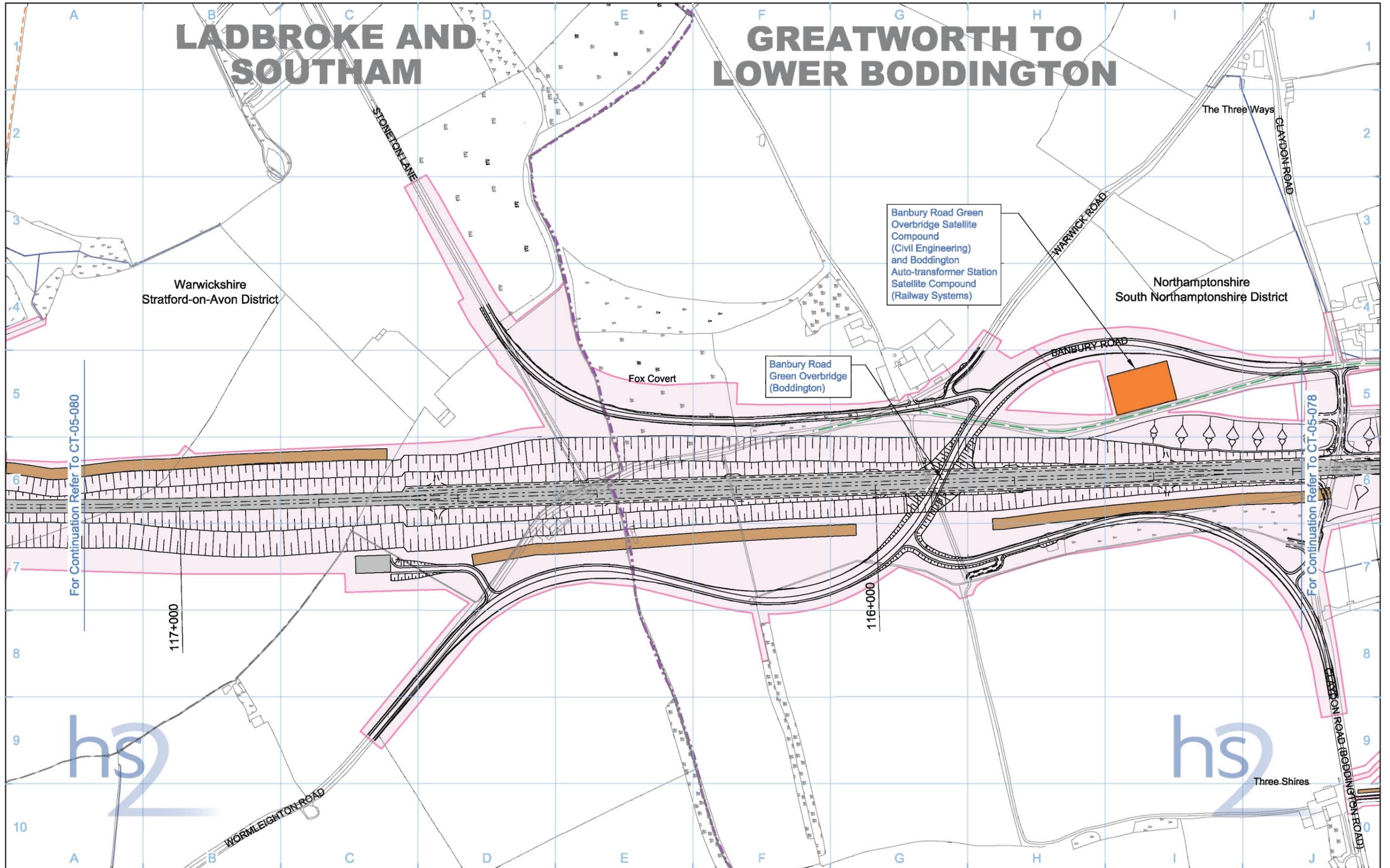
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LADBROKE AND SOUTHAM

GREATWORTH TO LOWER BODDINGTON



Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary
	Borough / District boundary
	Land potentially required during construction
	Community forum boundary
	Existing watercourse
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Temporary highway diversion / realignment
	Main utility works
	Chainage (e.g. 10+000)
	Rail alignment

Map Number	CT-05-079a
Map Name	Construction Phase
Community Forum Area	CFA15 Greatworth to Lower Boddington

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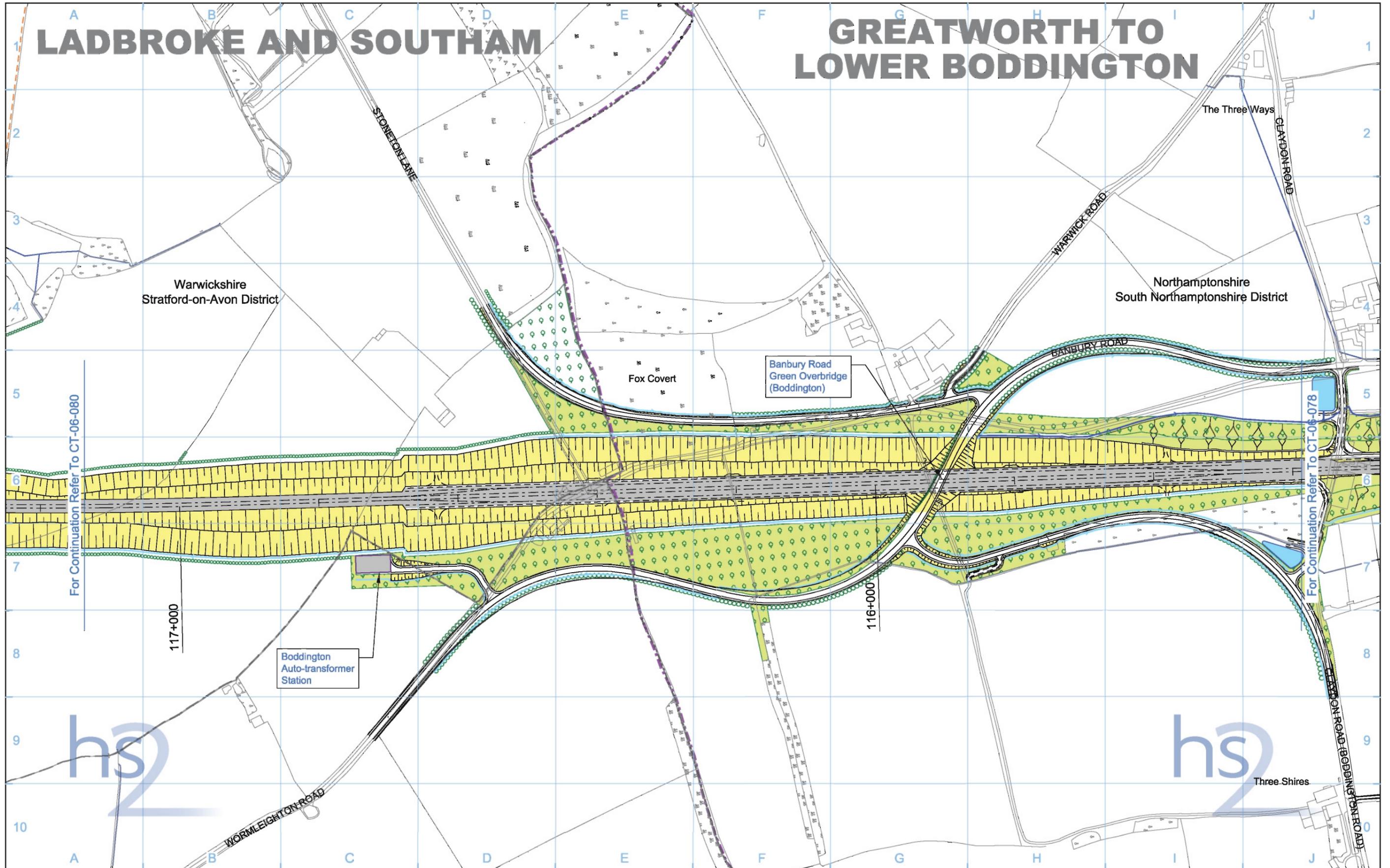
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LADBROKE AND SOUTHAM

GREATWORTH TO LOWER BODDINGTON



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
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community forum 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
	Rail alignment
	HS2 Access road
	Noise fence barrier
	Chainage (e.g. 10+000)

Map Number	CT-06-079a
Map Name	Proposed Scheme
Community Forum Area	CFA15 Greatworth to Lower Boddington

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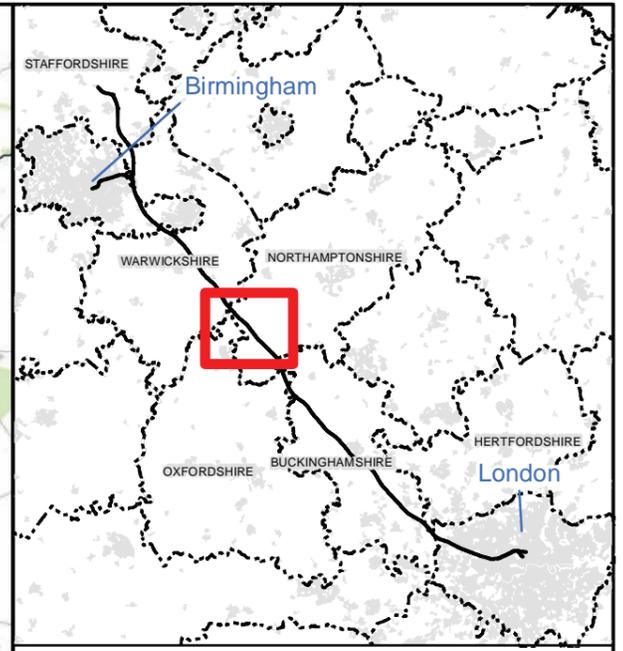
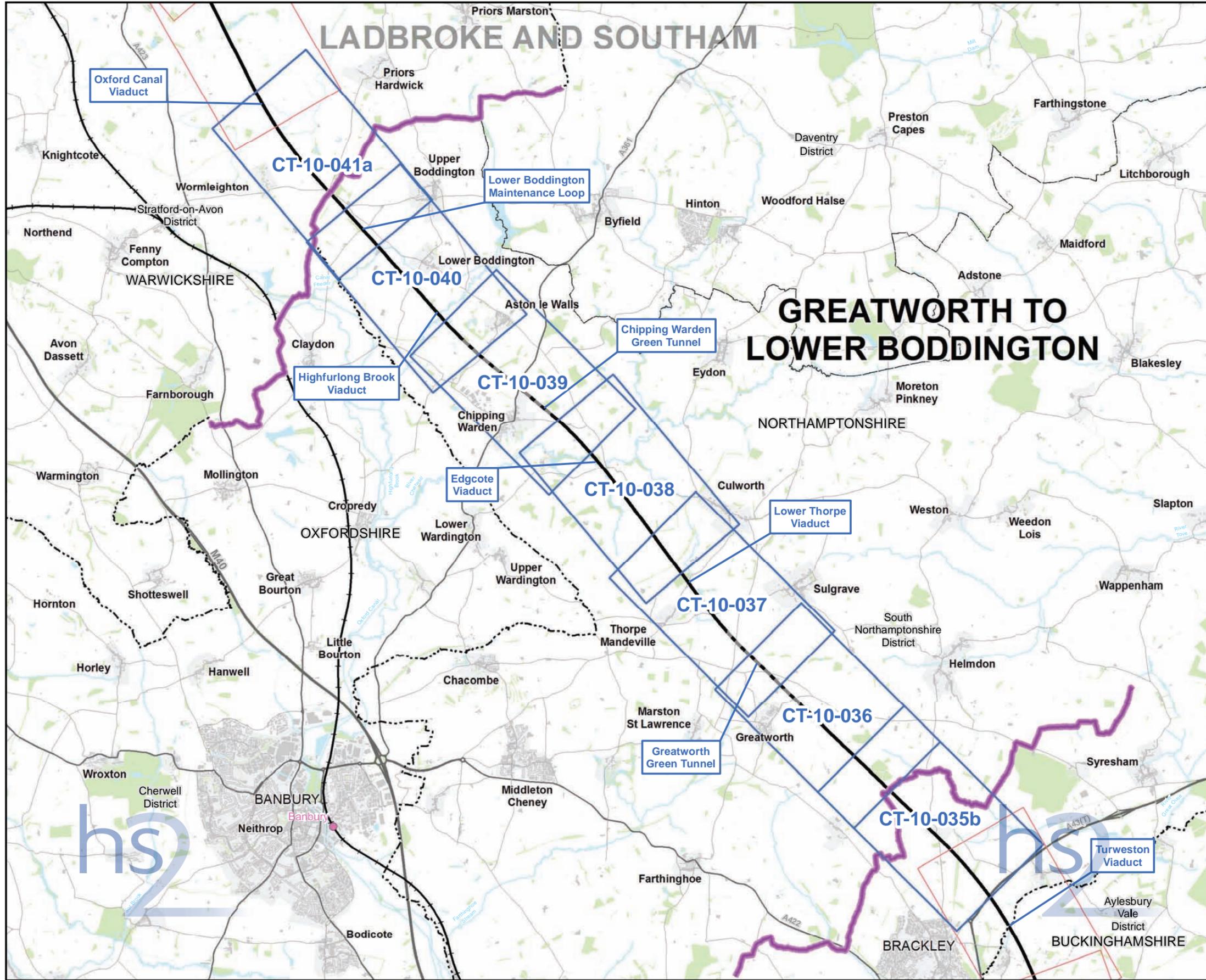
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

CT-10 – Environmental Baseline

LADBROKE AND SOUTHAM

GREATWORTH TO LOWER BODDINGTON



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 forum boundary
 - Existing railway station
 - County boundary
 - District/Borough boundary
 - Map sheets included in this community forum
 - Map sheets not included in this community forum

Map Number	CT-10-INDEX-CFA15
Map Name	Index Map of: Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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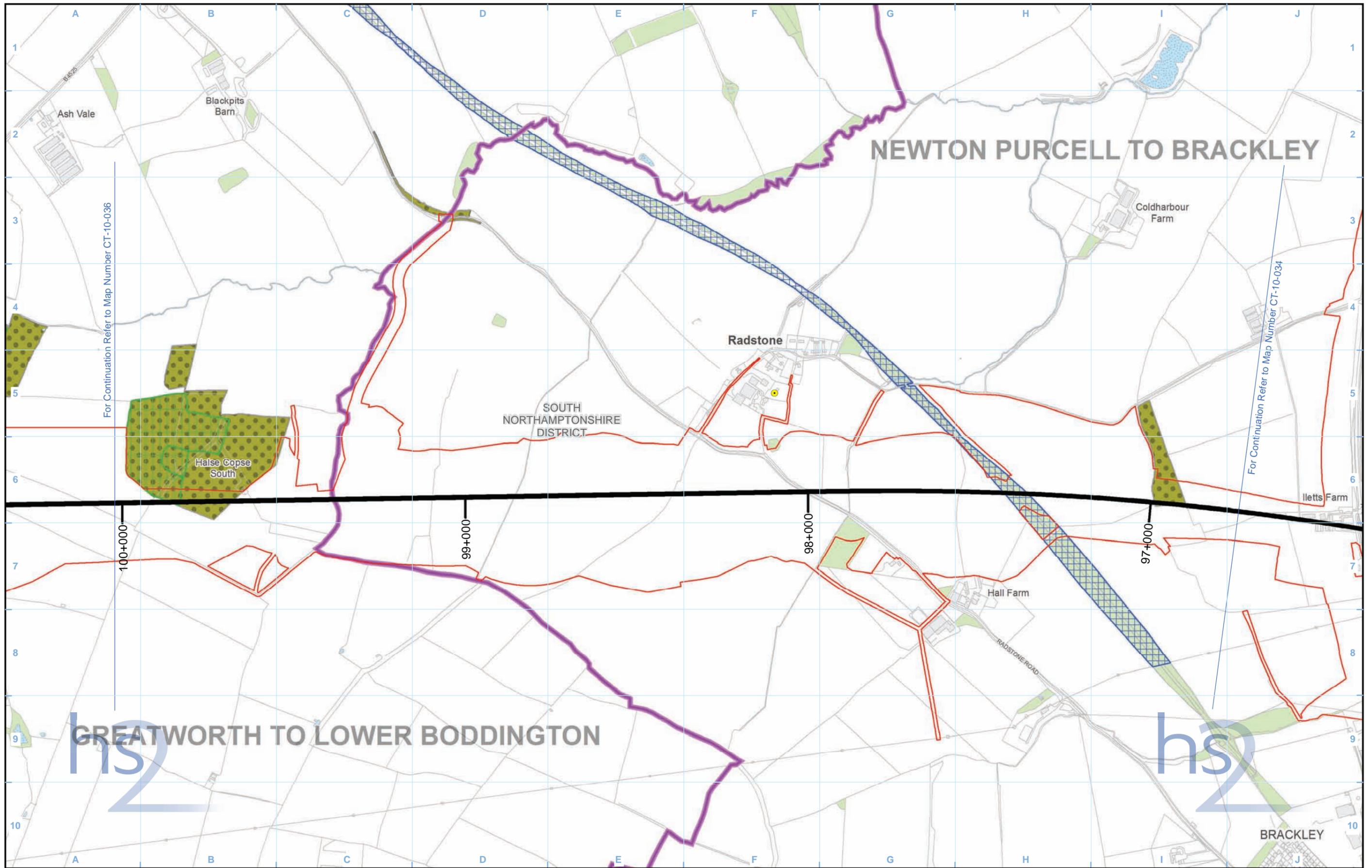
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Doc Number: C252-ETM-EV-MAP-020-002709-P06.00 Date: 25/10/13



NEWTON PURCELL TO BRACKLEY

GREATWORTH TO LOWER BODDINGTON

Legend			
Route in tunnel	Watercourse	Conservation area	Site of Special Scientific Interest (SSSI)
Route on surface	Water body	Scheduled monument	National Nature Reserve (NNR)
Depot, station, headhouse or portal building	Woodland	Listed building Grade I	Local Nature Reserve (LNR)
Land potentially required during construction		Listed building Grade II*	Local Wildlife Site (LWS) - county/metropolitan value
Community forum boundary		Listed building Grade II	Local Wildlife Site (LWS) - less than county/metropolitan value
County boundary		Registered park or garden	Ancient woodland
District/Borough boundary			

Map Number	CT-10-035b
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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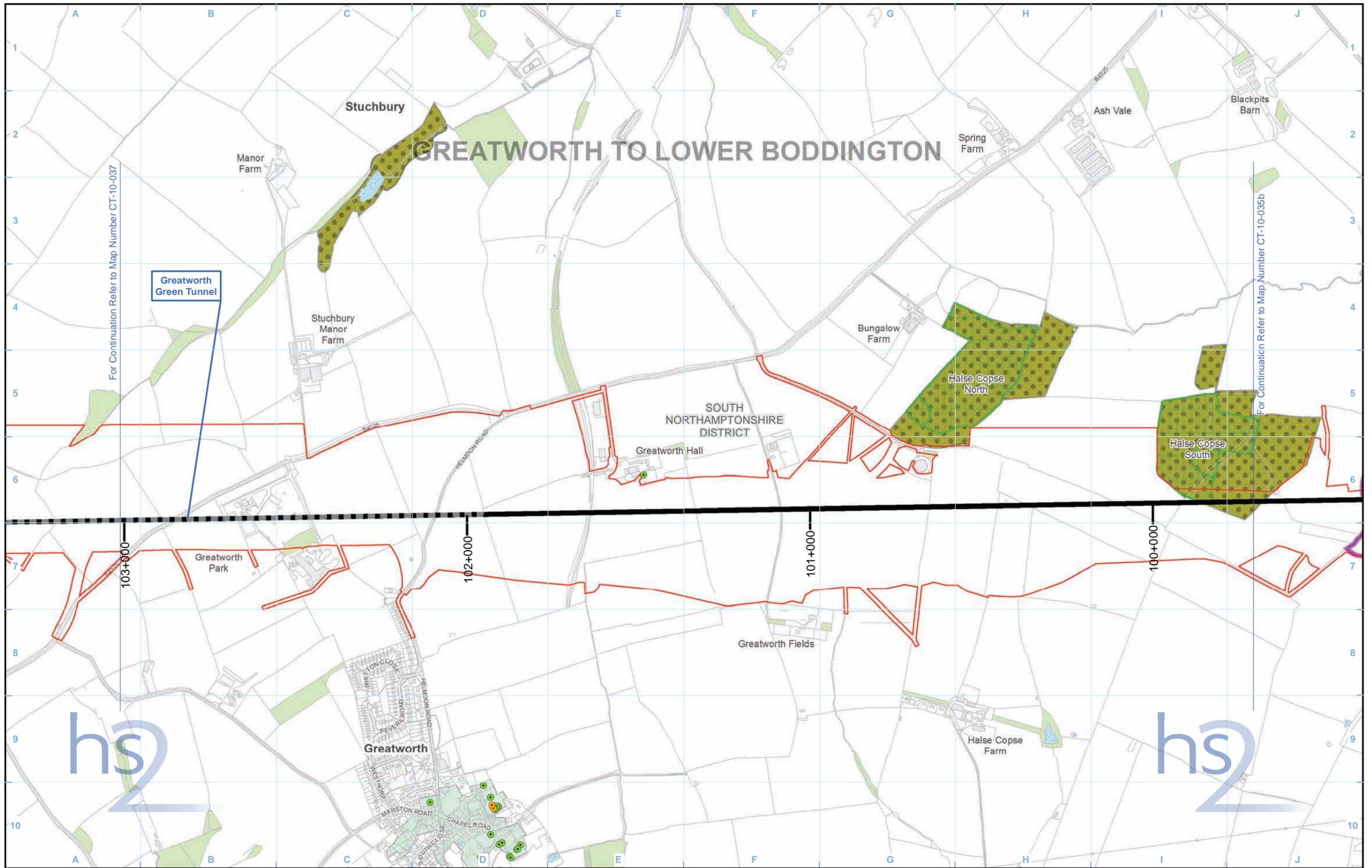
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Date: 25/10/13



Legend			

Map Number	CT-10-036
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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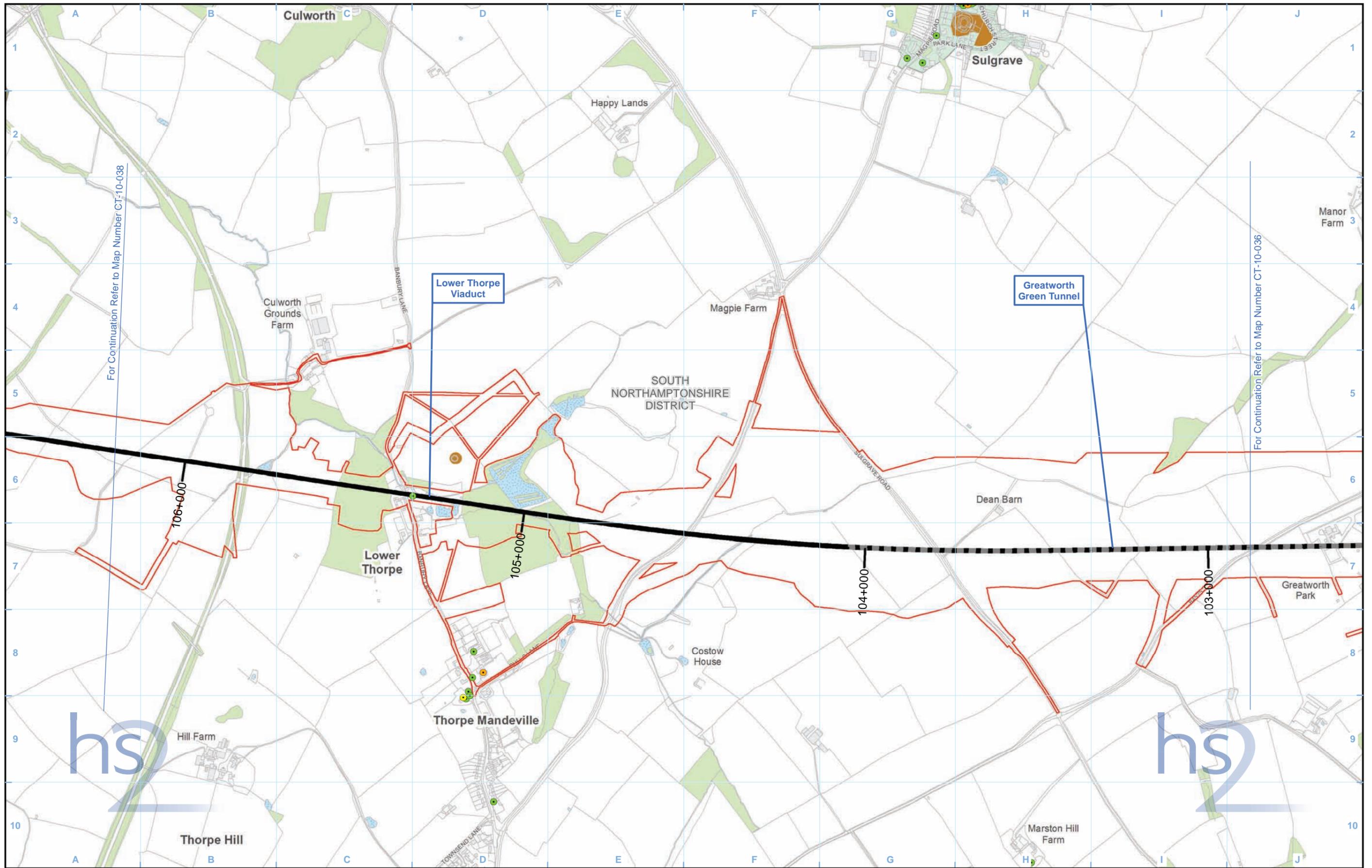
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Doc Number: C252-ETM-EV-MAP-020-001272-P06.00

Date: 25/10/13



For Continuation Refer to Map Number CT-10-038

For Continuation Refer to Map Number CT-10-036



Legend			

Map Number	CT-10-037
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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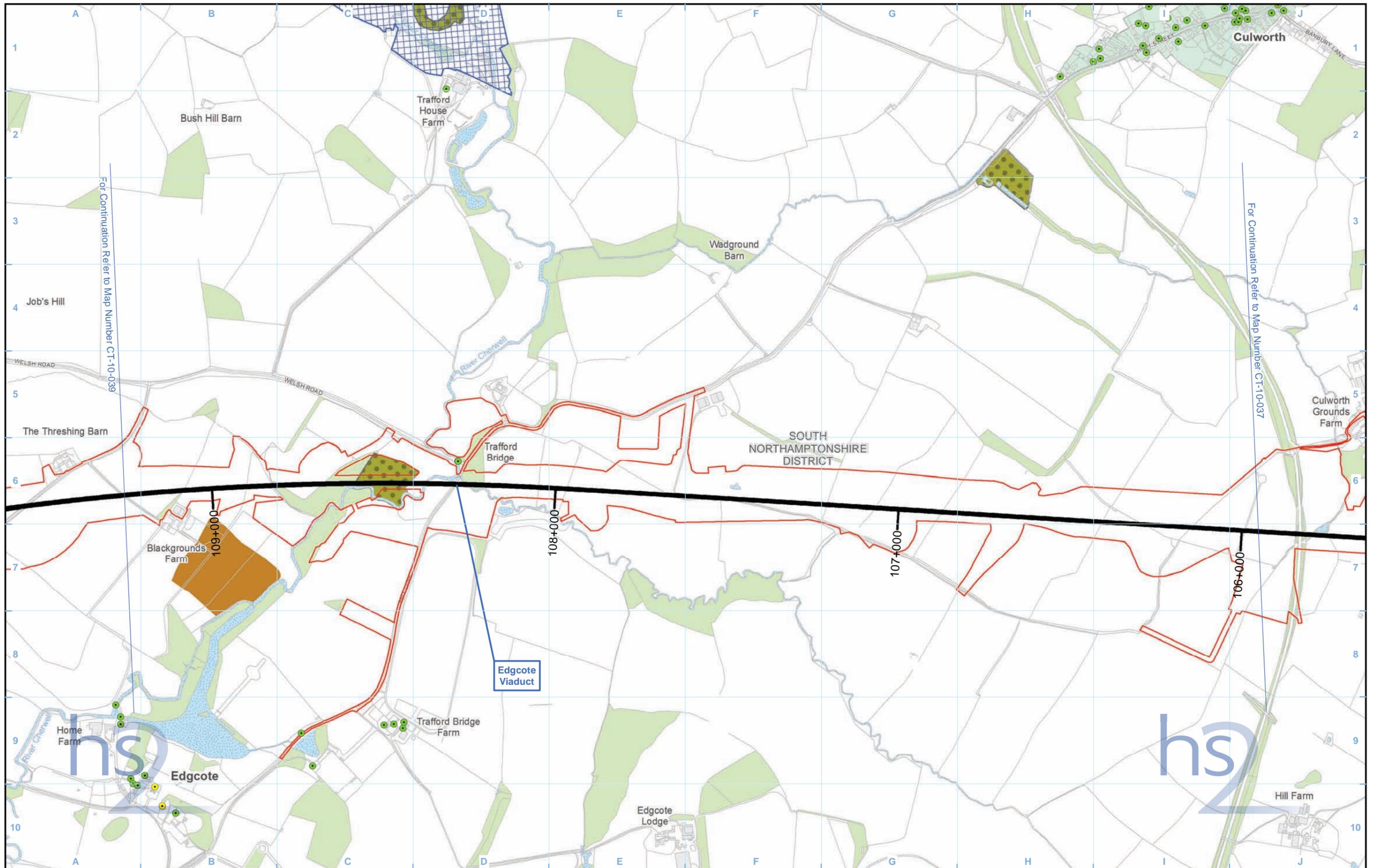
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Doc Number: C252-ETM-EV-MAP-020-001273-P06.00

Date: 25/10/13



Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Conservation area
	Land potentially required during construction		Scheduled monument
	Community forum boundary		Listed building Grade I
	County boundary		Listed building Grade II*
	District/Borough boundary		Listed building Grade II
			Registered park or garden
			Site of Special Scientific Interest (SSSI)
			National Nature Reserve (NNR)
			Local Nature Reserve (LNR)
			Local Wildlife Site (LWS) - county/metropolitan value
			Local Wildlife Site (LWS) - less than county/metropolitan value
			Ancient woodland
			Woodland

Map Number	CT-10-038
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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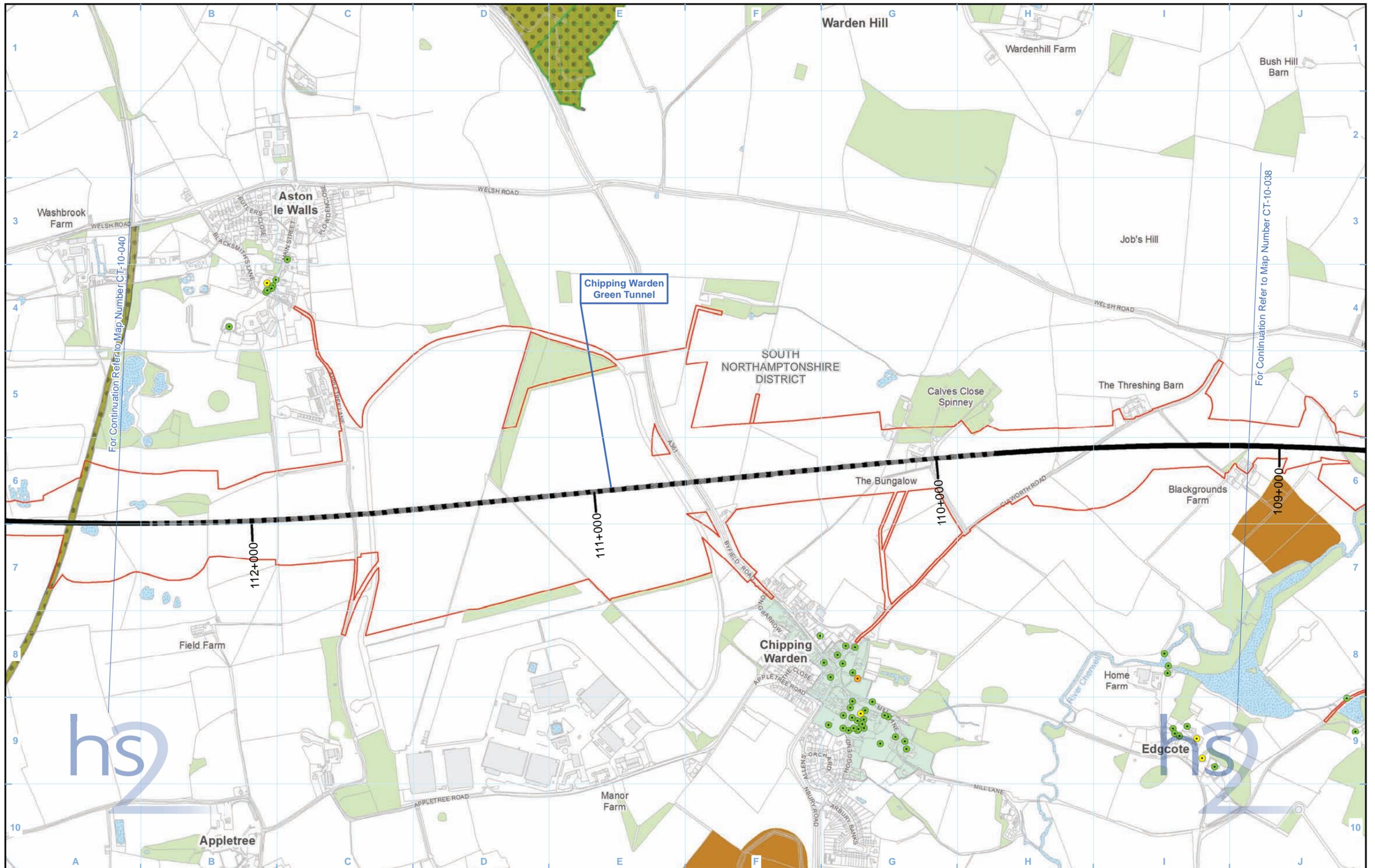
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For Continuation Refer to Map Number CT-10-040

For Continuation Refer to Map Number CT-10-038

Legend			
	Route in tunnel		Conservation area
	Route on surface		Water body
	Depot, station, headhouse or portal building		Listed building Grade I
	Land potentially required during construction		Listed building Grade II*
	Community forum boundary		Listed building Grade II
	County boundary		Registered park or garden
	District/Borough boundary		Ancient woodland
	Site of Special Scientific Interest (SSSI)		Scheduled monument
	National Nature Reserve (NNR)		Local Nature Reserve (LNR)
	Local Wildlife Site (LWS) - county/metropolitan value		Local Wildlife Site (LWS) - less than county/metropolitan value

Map Number	CT-10-039
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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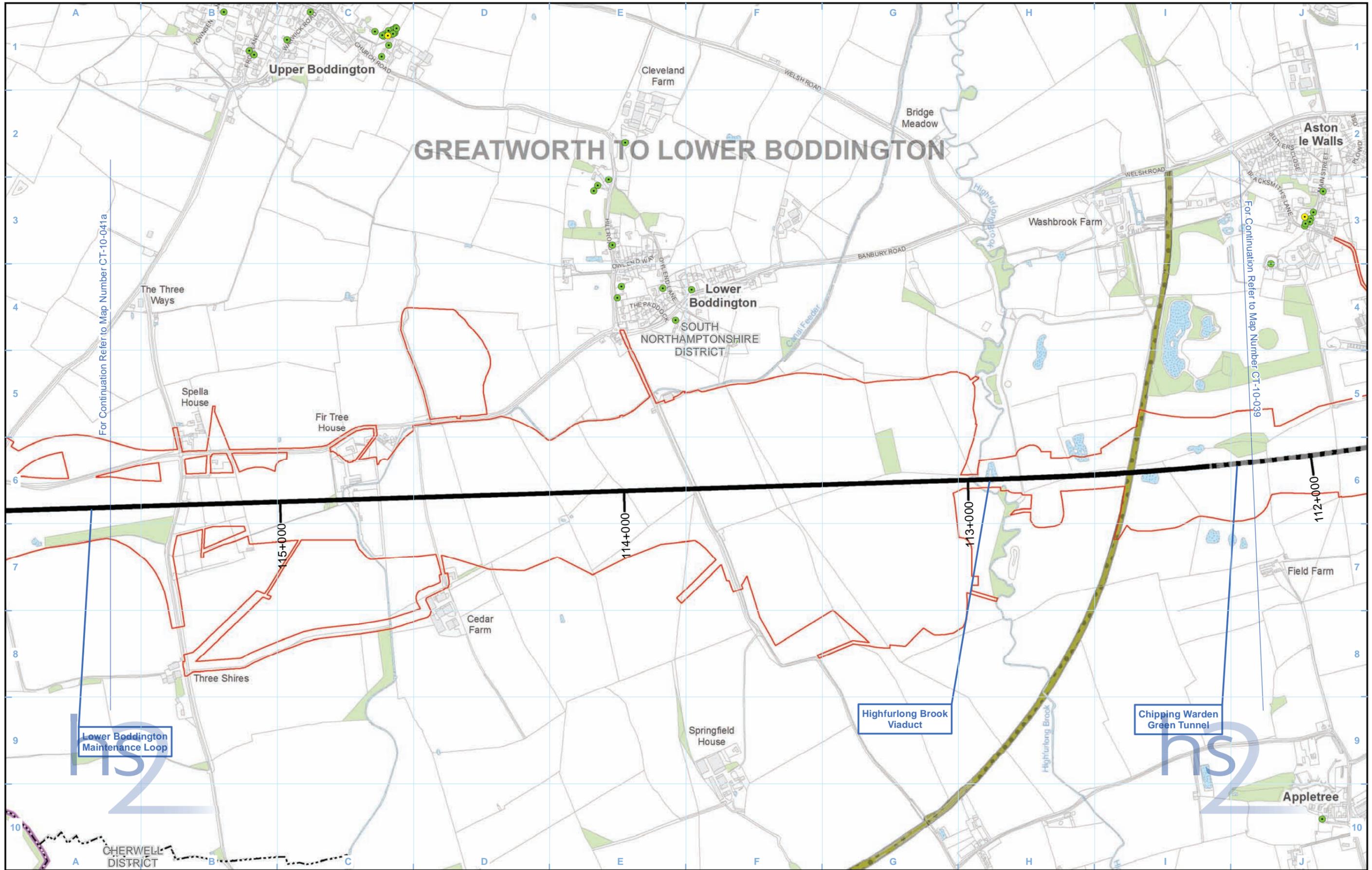
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Metres

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GREATWORTH TO LOWER BODDINGTON

Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Woodland
	Land potentially required during construction		Conservation area
	Community forum 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)
			National Nature Reserve (NNR)
			Local Nature Reserve (LNR)
			Local Wildlife Site (LWS) - county/metropolitan value
			Local Wildlife Site (LWS) - less than county/metropolitan value
			Ancient woodland

Map Number	CT-10-040
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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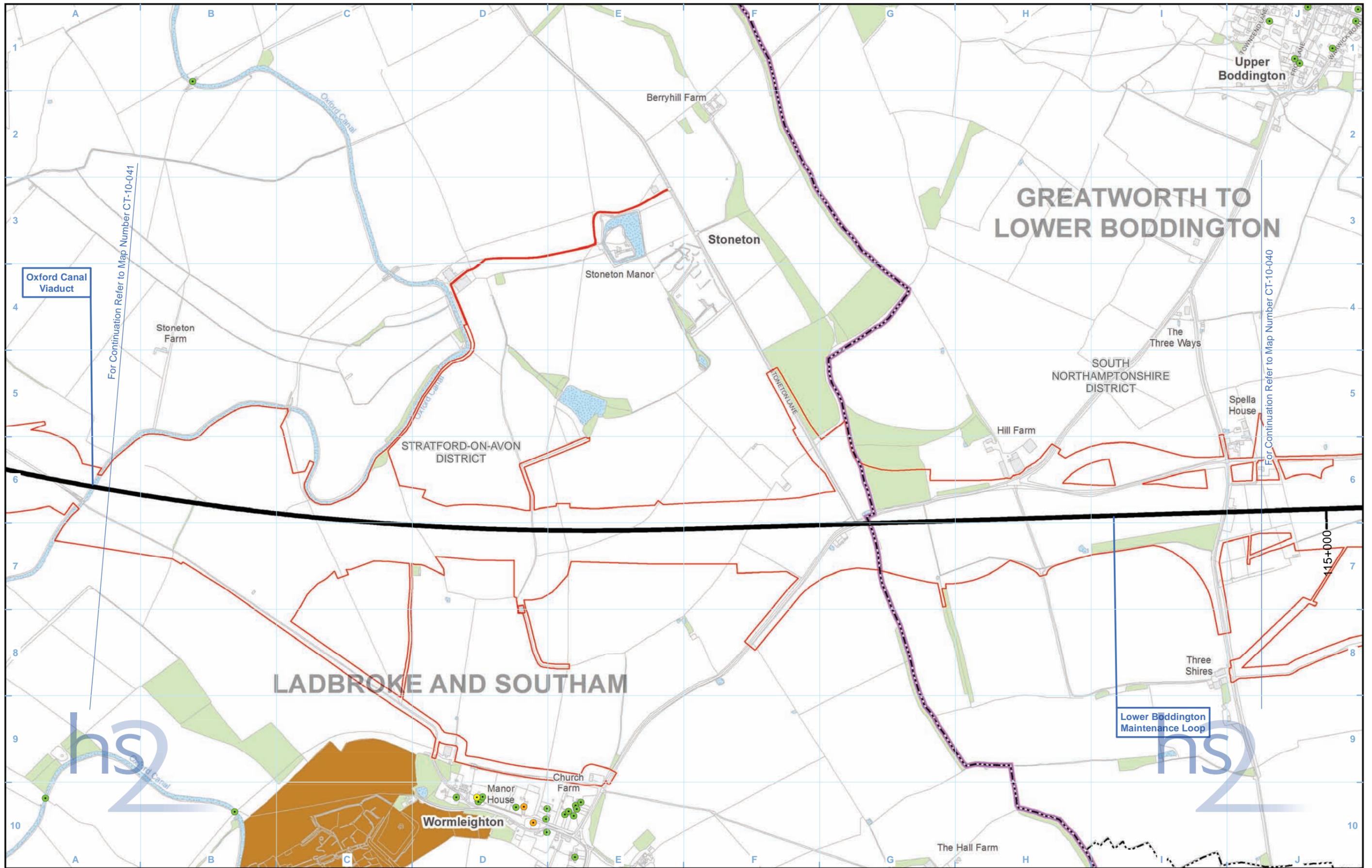
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GREATWORTH TO LOWER BODDINGTON

Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Woodland
	Land potentially required during construction		Conservation area
	Community forum 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)
			National Nature Reserve (NNR)
			Local Nature Reserve (LNR)
			Local Wildlife Site (LWS) - county/metropolitan value
			Local Wildlife Site (LWS) - less than county/metropolitan value
			Ancient woodland

Map Number	CT-10-041a
Map Name	Environmental Baseline
Community Forum Area CFA15: Greatworth to Lower Boddington	

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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

LV-01 - Photomontages

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 195-2-001: View looking north-east from properties on the eastern edge of Greatworth.

Date taken: 30/01/13
Time taken: 14:47
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-057.
For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. 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.

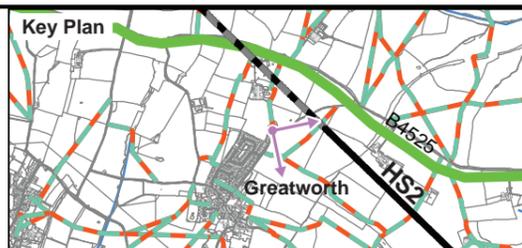


Figure Number	LV-01-097
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 195-2-001
	Community Forum Area CFA15: Greatworth to Lower Boddington

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Date: 17/10/13

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Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 201-2-002: View looking north-east from Banbury Lane towards Lower Thorpe, from the edge of Thorpe Mandeville.

Date taken: 05/04/13
Time taken: 09:02
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-059.
For key plan legend refer to map series LV-04.

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Figure Number	LV-01-098
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 201-2-002
	Community Forum Area CFA15: Greatworth to Lower Boddington



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Current baseline (2012)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 204-2-003: View looking west from properties on southern edge of Culworth.

Date taken: 04/12/12
Time taken: 13:32
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-059.
For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. 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.



Figure Number	LV-01-101
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 204-2-003
	Community Forum Area CFA15: Greatworth to Lower Boddington



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Date: 17/10/13

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information
 Location: Viewpoint 208-2-001: View looking west from Culworth Mill at Trafford Bridge.

Date taken: 20/03/13
 Time taken: 11:38
 Focal length: 57.296mm

Viewpoint location shown on Map LV-04-060.
 For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. 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.



Figure Number	LV-01-103
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 208-2-001
	Community Forum Area CFA15: Greatworth to Lower Boddington

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Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 220-3-001: View looking south-west from the PRow network on the southern edge of Upper Boddington.

Date taken: 30/01/13
Time taken: 13:55
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-063a.
For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. 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.

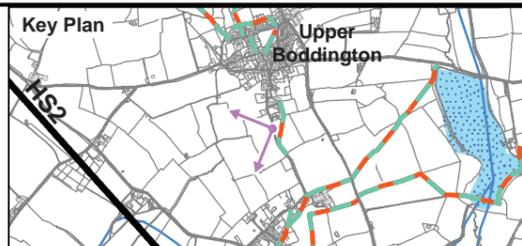


Figure Number	LV-01-106
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 220-3-001
	Community Forum Area CFA15: Greatworth to Lower Boddington

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Current baseline (2013)



Operation Year 15 (2041) - Summer verifiable photomontage



Technical Information

Location: Viewpoint 208-2-001: View looking west from Culworth Mill at Trafford Bridge.

Date taken: 12/09/13
Time taken: 14:40
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-060.
For key plan legend refer to map series LV-04.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2041 (15 years after opening). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. 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.



Figure Number

LV-01-244

Figure Name

Verifiable Photomontage
Operation Year 15 (2041) - Summer
Viewpoint 208-2-001

Community Forum Area CFA15:
Greatworth to Lower Boddington



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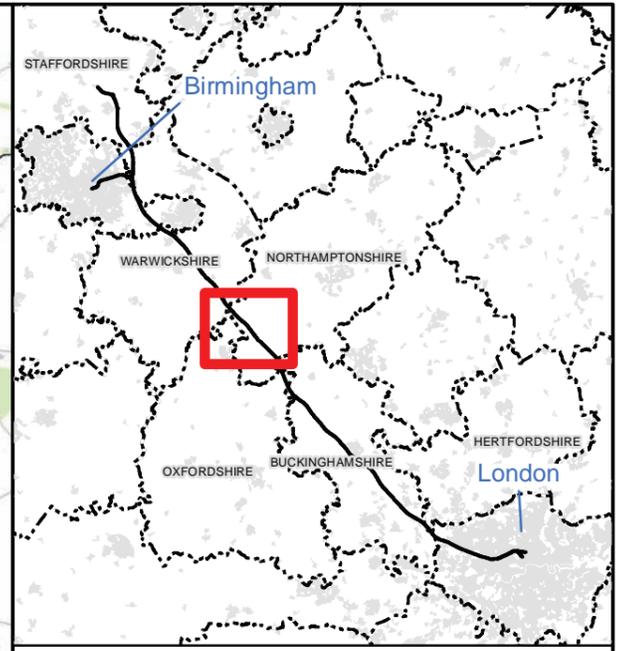
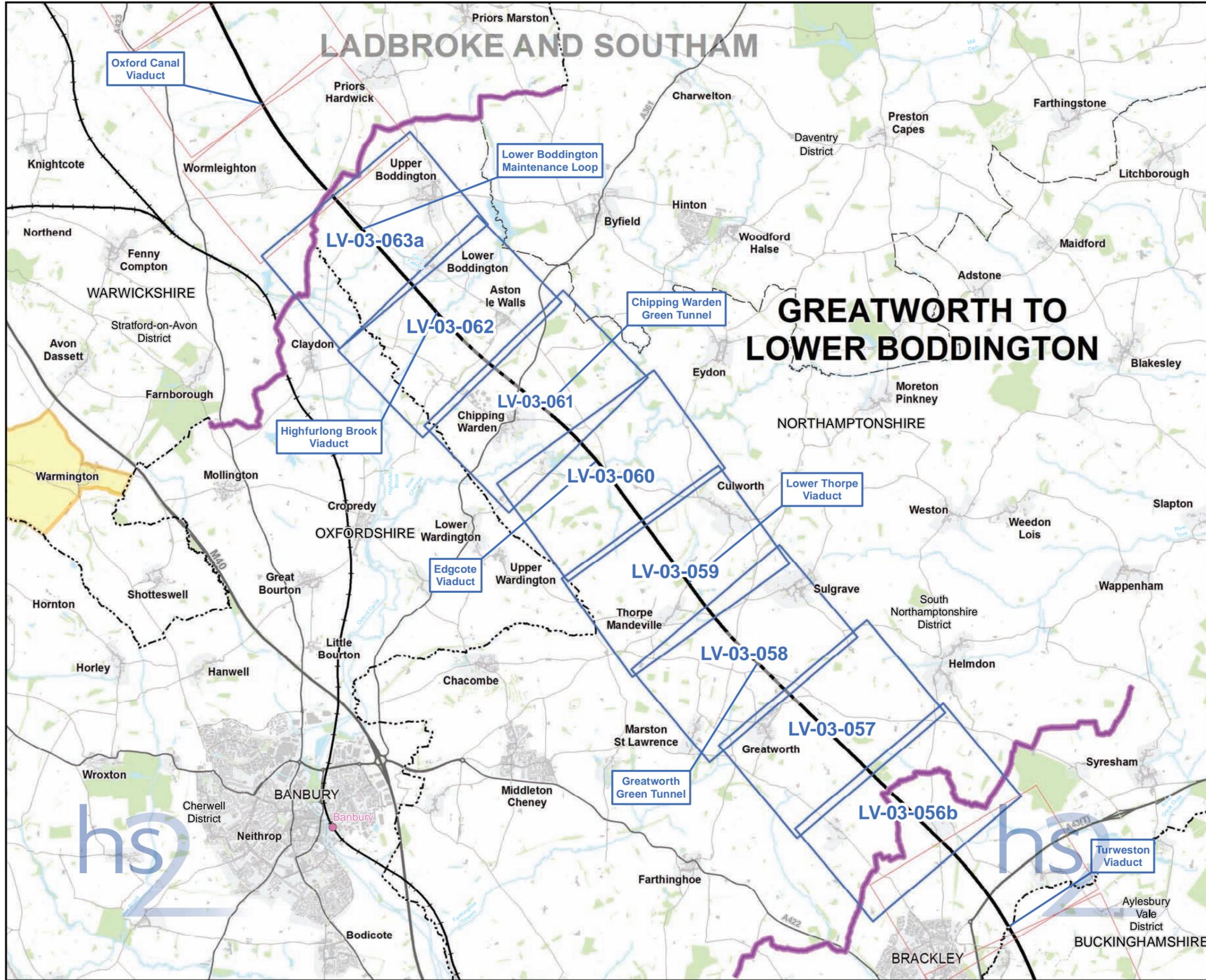
LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

LV-03 - Construction Phase Significantly Affected Viewpoints

LV-04 - Operational Phase Significantly Affected Viewpoints

LADBROKE AND SOUTHAM

GREATWORTH TO LOWER BODDINGTON



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.

Main Map Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- Existing railway station
- County boundary
- District/Borough boundary
- Map sheets included in this community forum
- Map sheets not included in this community forum
- Area of Outstanding Natural Beauty (AONB)

Map Number LV-03-INDEX-CFA15

Map Name
**Index Map of:
 Construction Phase Significantly
 Affected Viewpoints**

Community Forum Area CFA15:
 Greatworth to Lower Boddington

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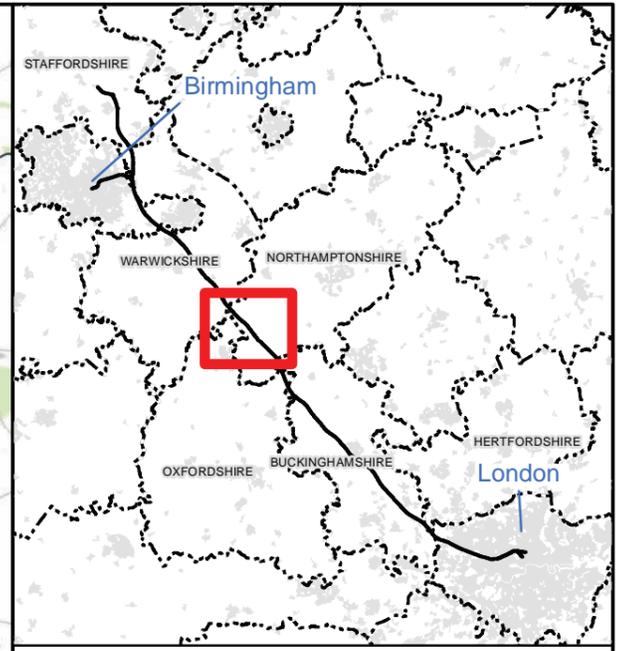
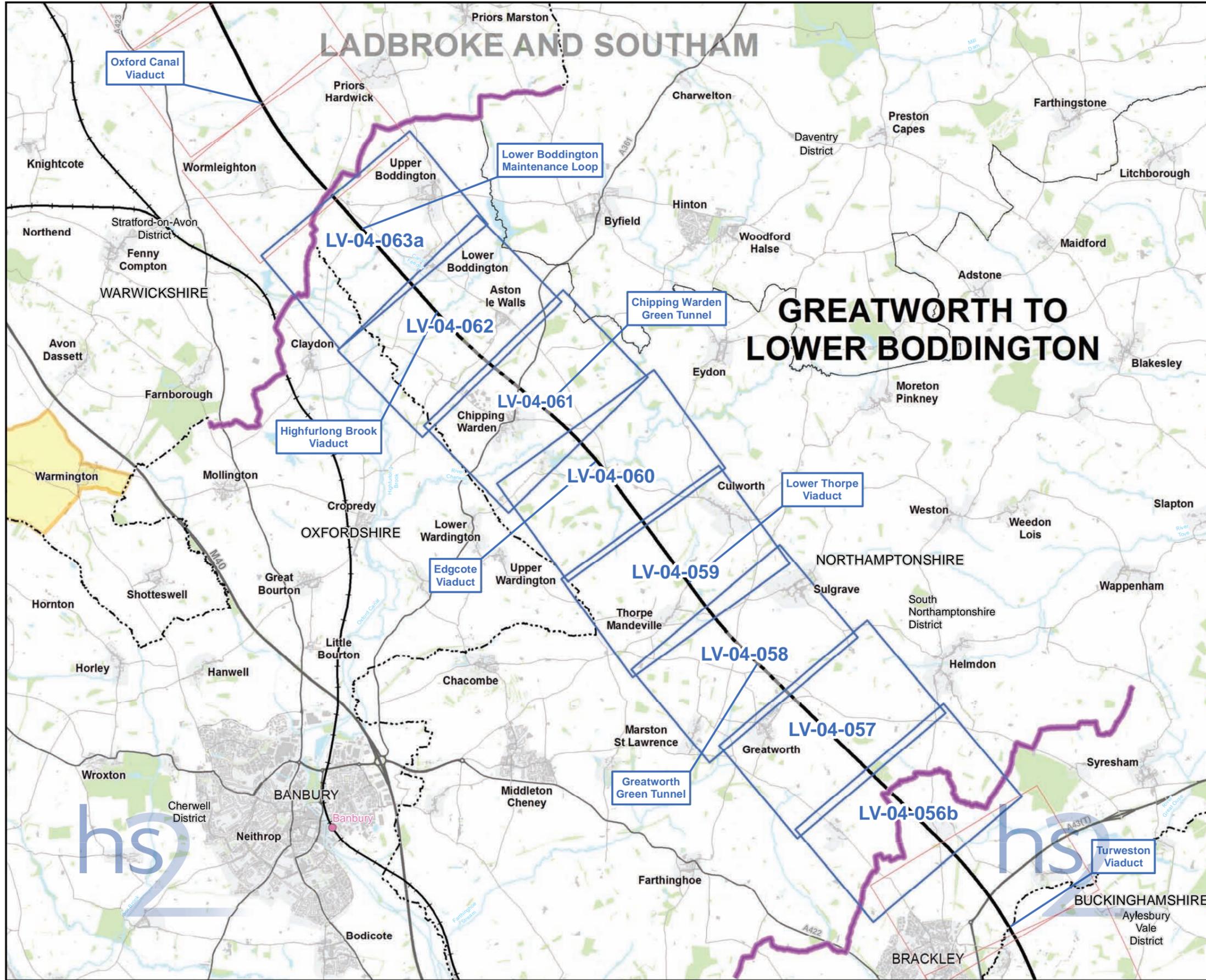
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LADBROKE AND SOUTHAM

GREATWORTH TO LOWER BODDINGTON



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.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community forum boundary
 - Existing railway station
 - County boundary
 - District/Borough boundary
 - Map sheets included in this community forum
 - Map sheets not included in this community forum
 - Area of Outstanding Natural Beauty (AONB)

Map Number LV-04-INDEX-CFA15
 Map Name Index Map of:
 Operational Phase Significantly
 Affected Viewpoints
 Community Forum Area CFA15:
 Greatworth to Lower Boddington

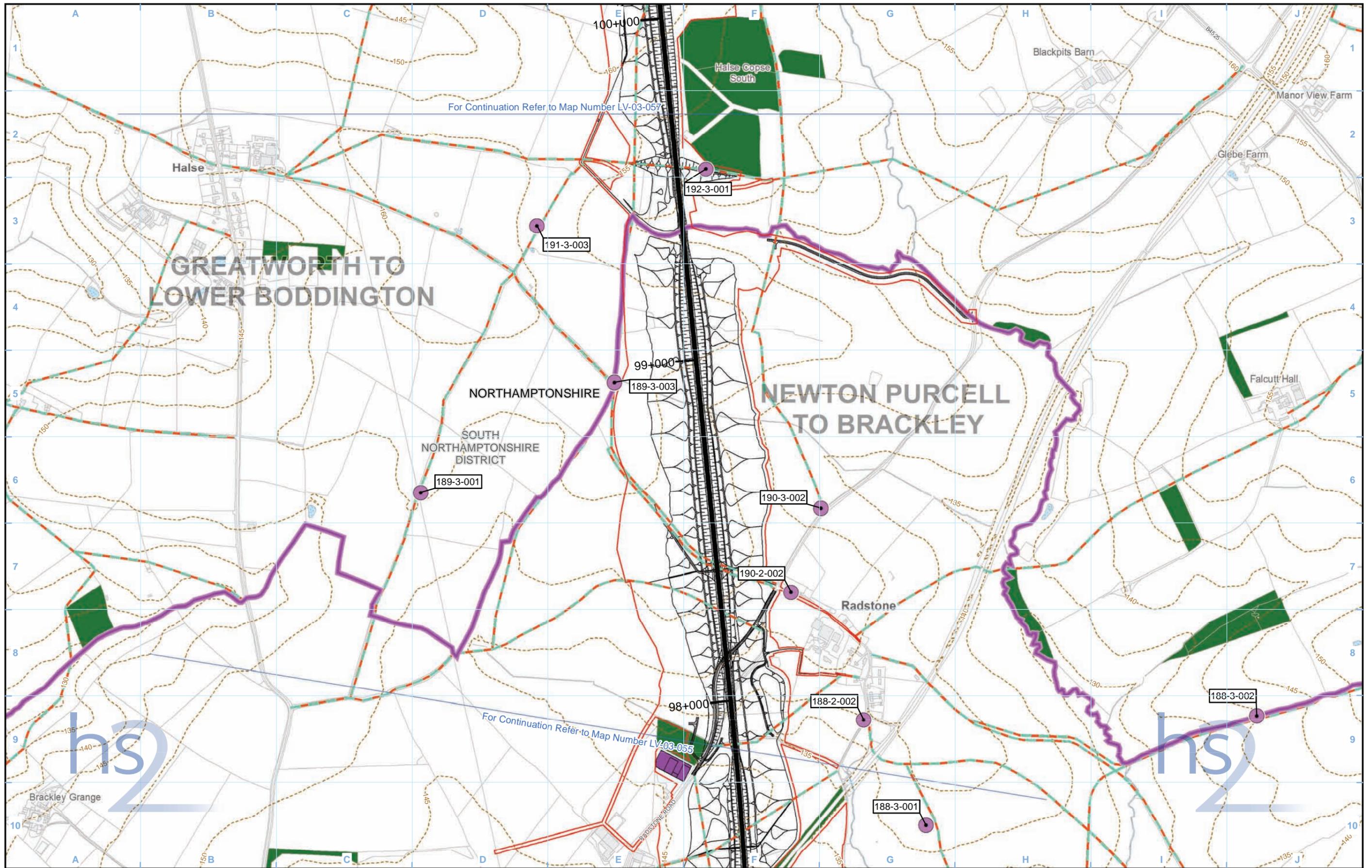
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Legend	
Route in tunnel	District/Borough boundary
Route on surface	Public Rights of Way
Depot, station, headhouse or portal building	5m contours
Land potentially required during construction	Water body
Community forum boundary	Watercourse
County boundary	Existing woodland and tree belts
Construction compounds	Significantly affected viewpoint
Photomontage location	Viewpoint number
Engineering earthworks: Embankment	Non engineering earthworks: Embankment
Engineering earthworks: Cutting	Non engineering earthworks: Cutting

Map Number LV-03-056b

Map Name
Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA15:
 Greatworth to Lower Boddington

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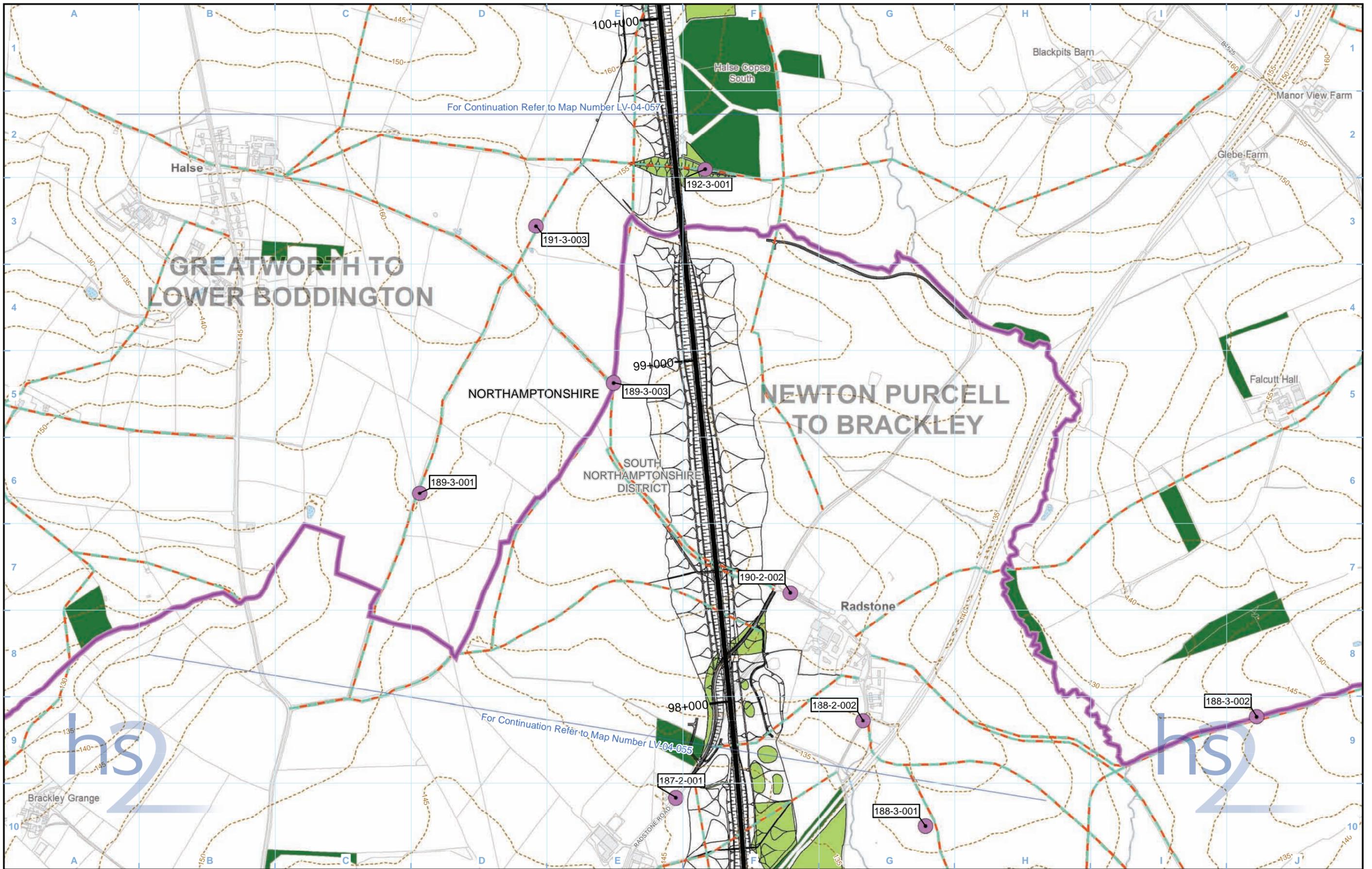
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Legend

Route in tunnel	Public Rights of Way	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	Viewpoint number
Community forum boundary	Watercourse	
County boundary	Existing woodland and tree belts	
District/Borough boundary	Proposed tree planting	

Engineering earthworks:

Embankment
Cutting

Non engineering earthworks:

Embankment
Cutting

Map Number	LV-04-056b
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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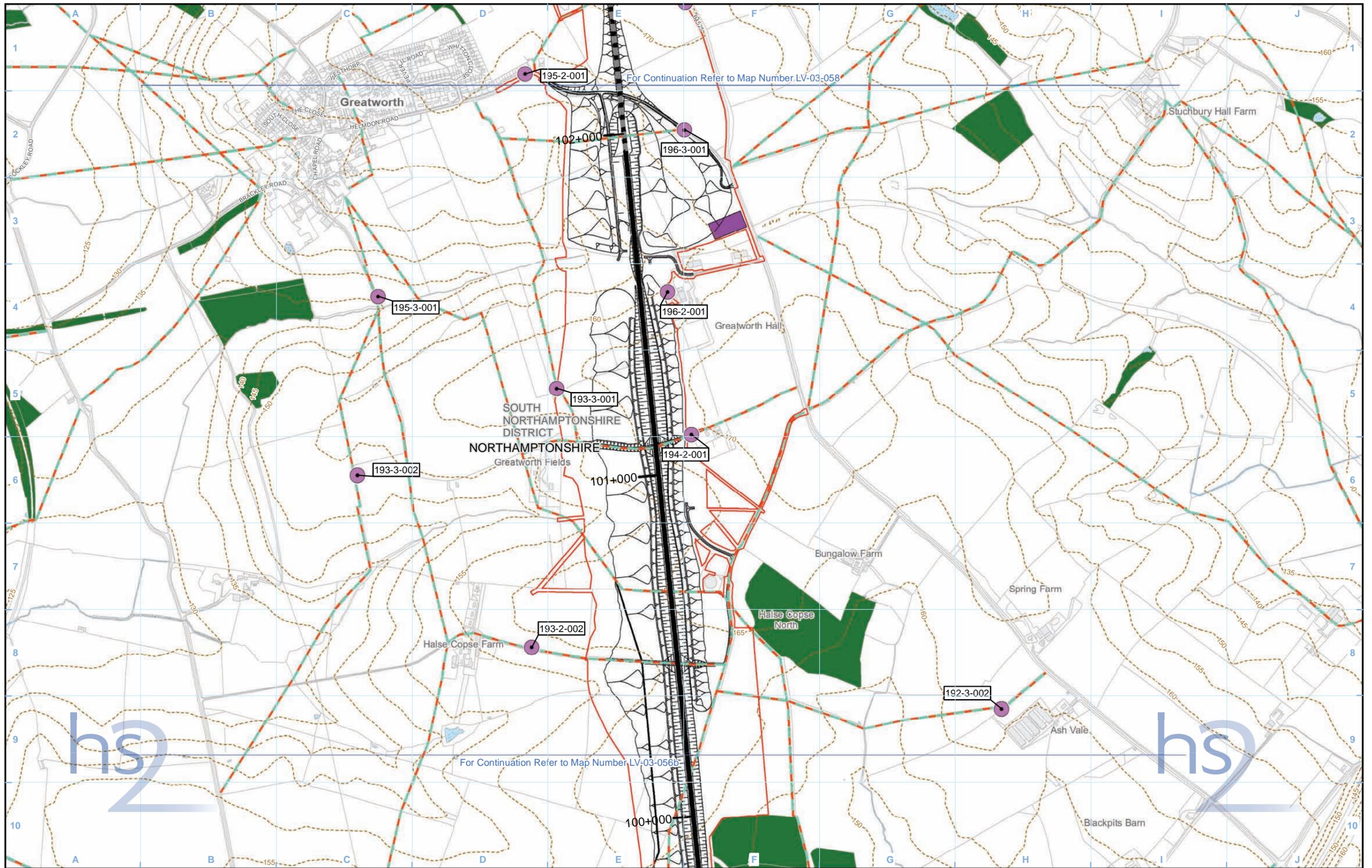
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Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
	Construction compounds
	Significantly affected viewpoint
	Photomontage location
	Viewpoint number
	Engineering earthworks: Embankment
	Cutting
	Non engineering earthworks: Embankment
	Cutting

Map Number	LV-03-057
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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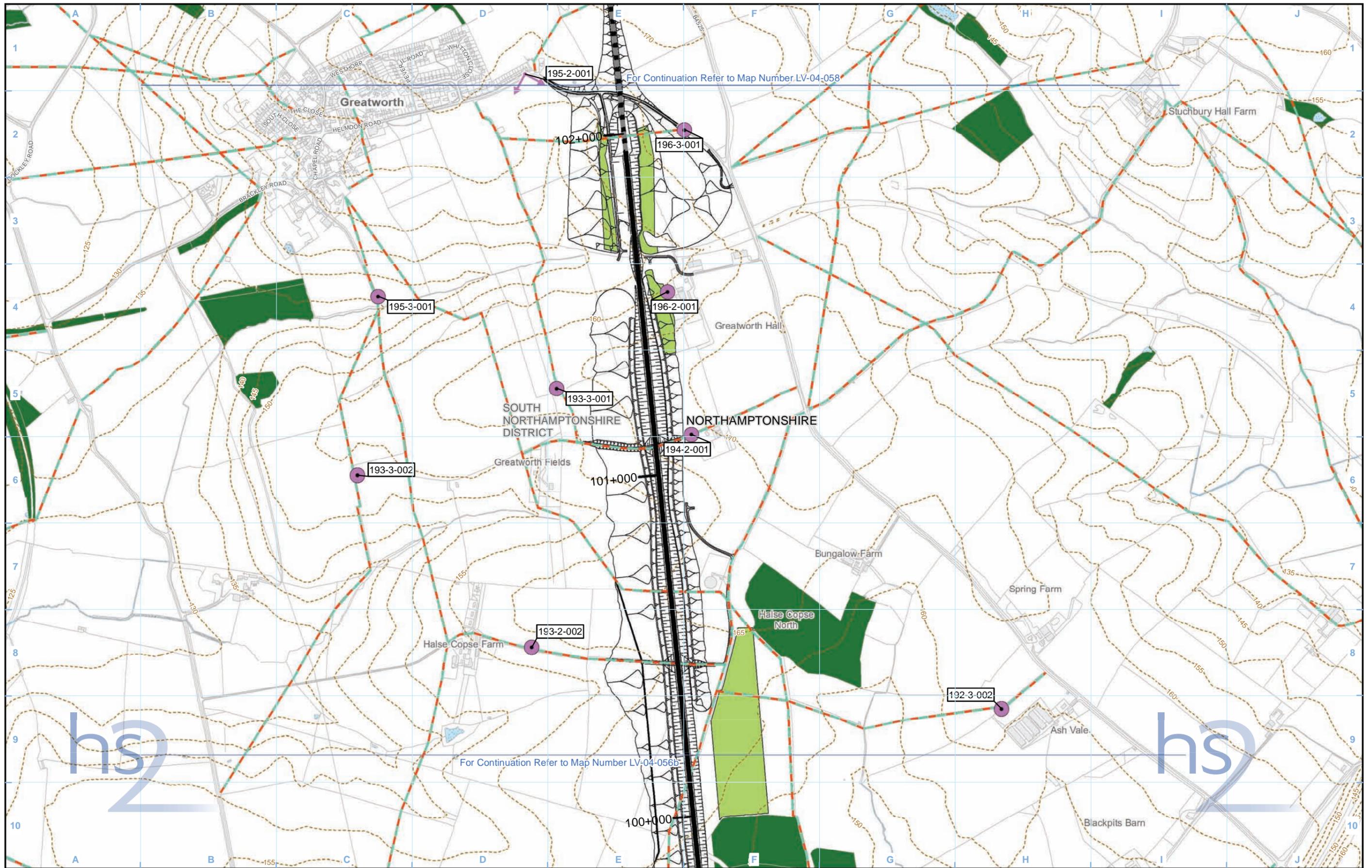
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For Continuation Refer to Map Number LV-04-058

For Continuation Refer to Map Number LV-04-056b

Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
	Proposed tree planting
	Significantly affected viewpoint
	Photomontage location
	Viewpoint number

Engineering earthworks:	
	Embankment
	Cutting
Non engineering earthworks:	
	Embankment
	Cutting

Map Number	LV-04-057
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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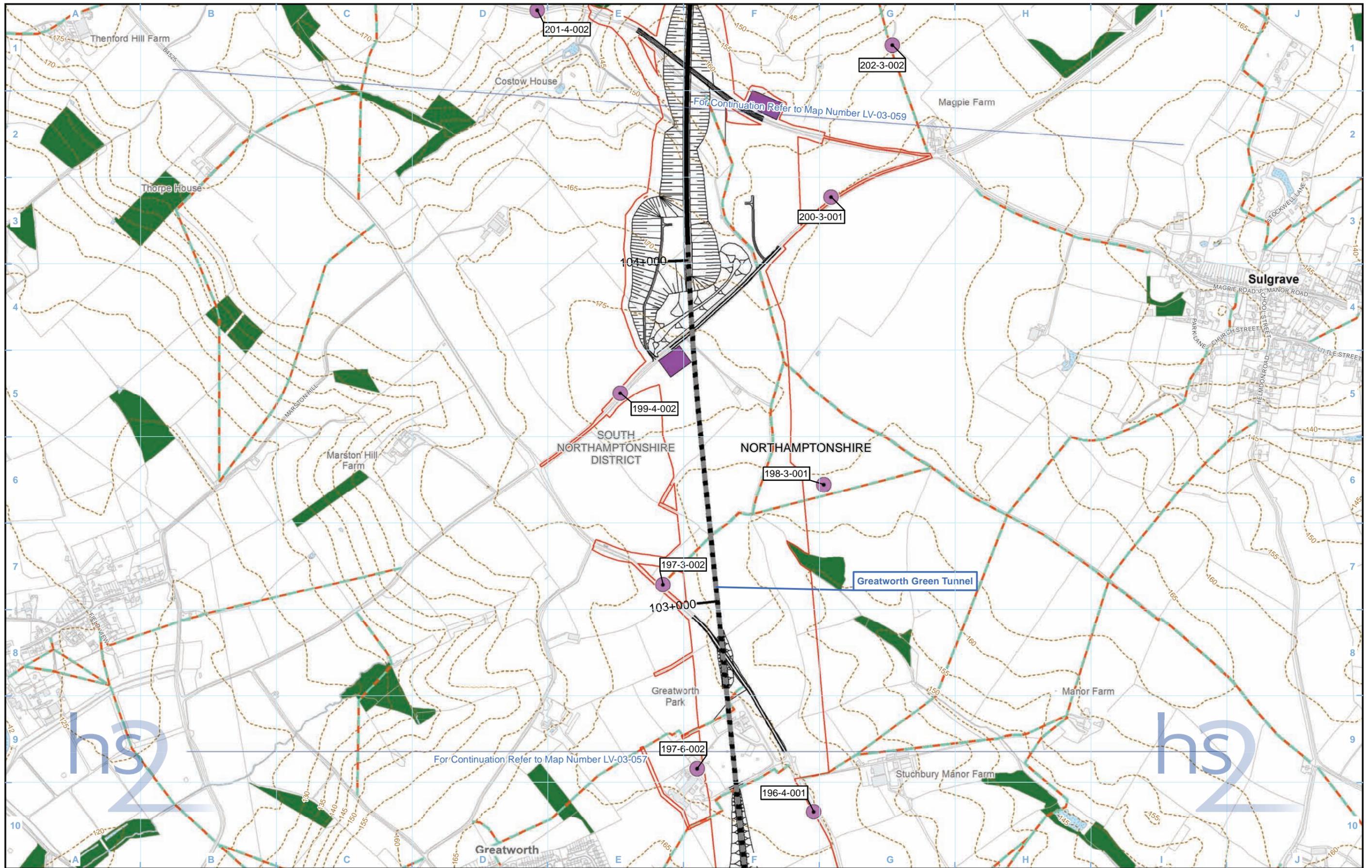
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Metres

Date: 30/10/13



Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
	Construction compounds
	Significantly affected viewpoint
	Photomontage location
	Viewpoint number
	Engineering earthworks: Embankment
	Cutting
	Non engineering earthworks: Embankment
	Cutting

Map Number	LV-03-058
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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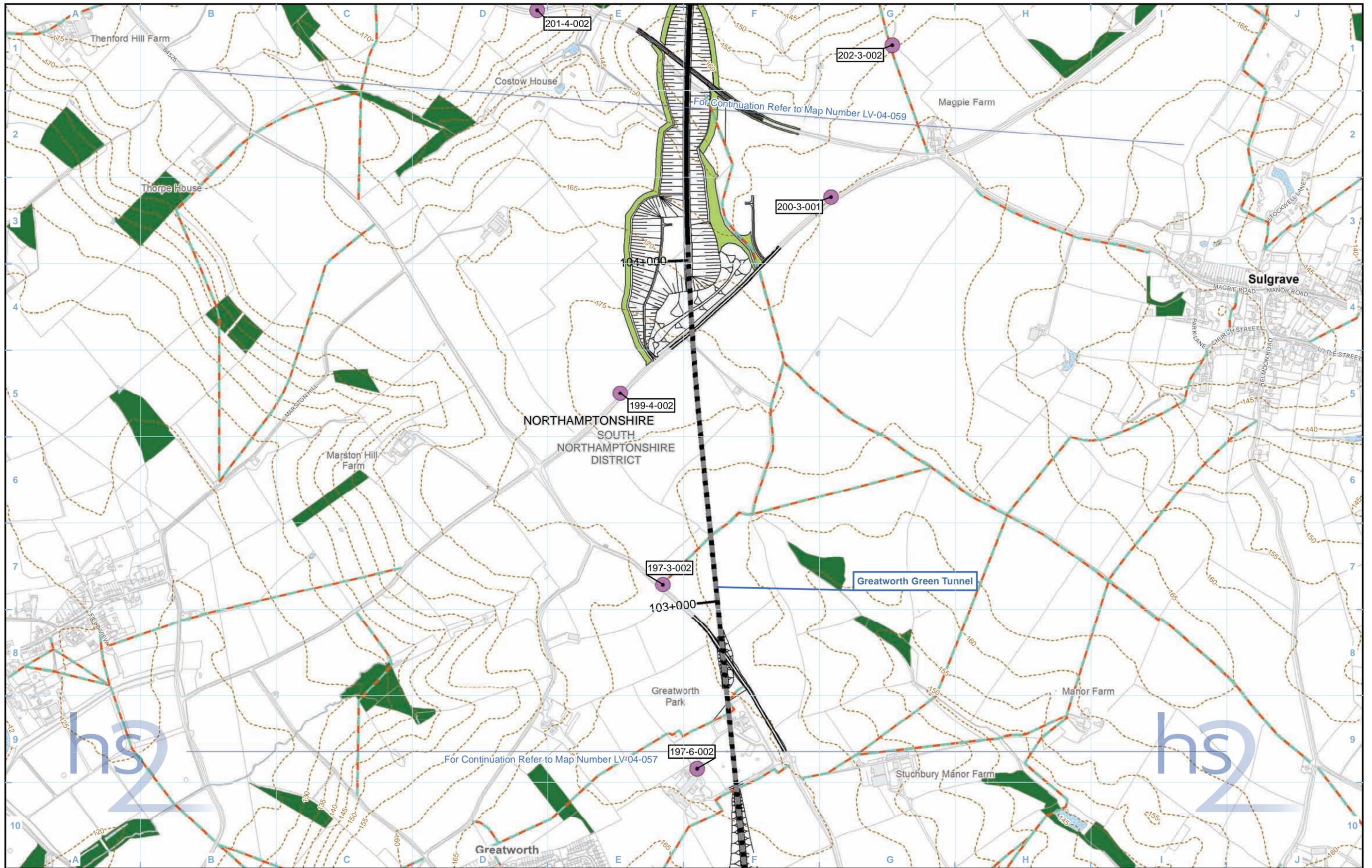
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Metres

Date: 30/10/13



Legend	
Route in tunnel	Public Rights of Way
Route on surface	5m contours
Depot, station, headhouse or portal building	Water body
Community forum boundary	Watercourse
County boundary	Existing woodland and tree belts
District/Borough boundary	Proposed tree planting
Significantly affected viewpoint	Photomontage location
Viewpoint number	Engineering earthworks: Embankment
	Engineering earthworks: Cutting
	Non engineering earthworks: Embankment
	Non engineering earthworks: Cutting

Map Number	LV-04-058
Map Name	Operational Phase Significantly Affected Viewpoints
	Community Forum Area CFA15: Greatworth to Lower Boddington

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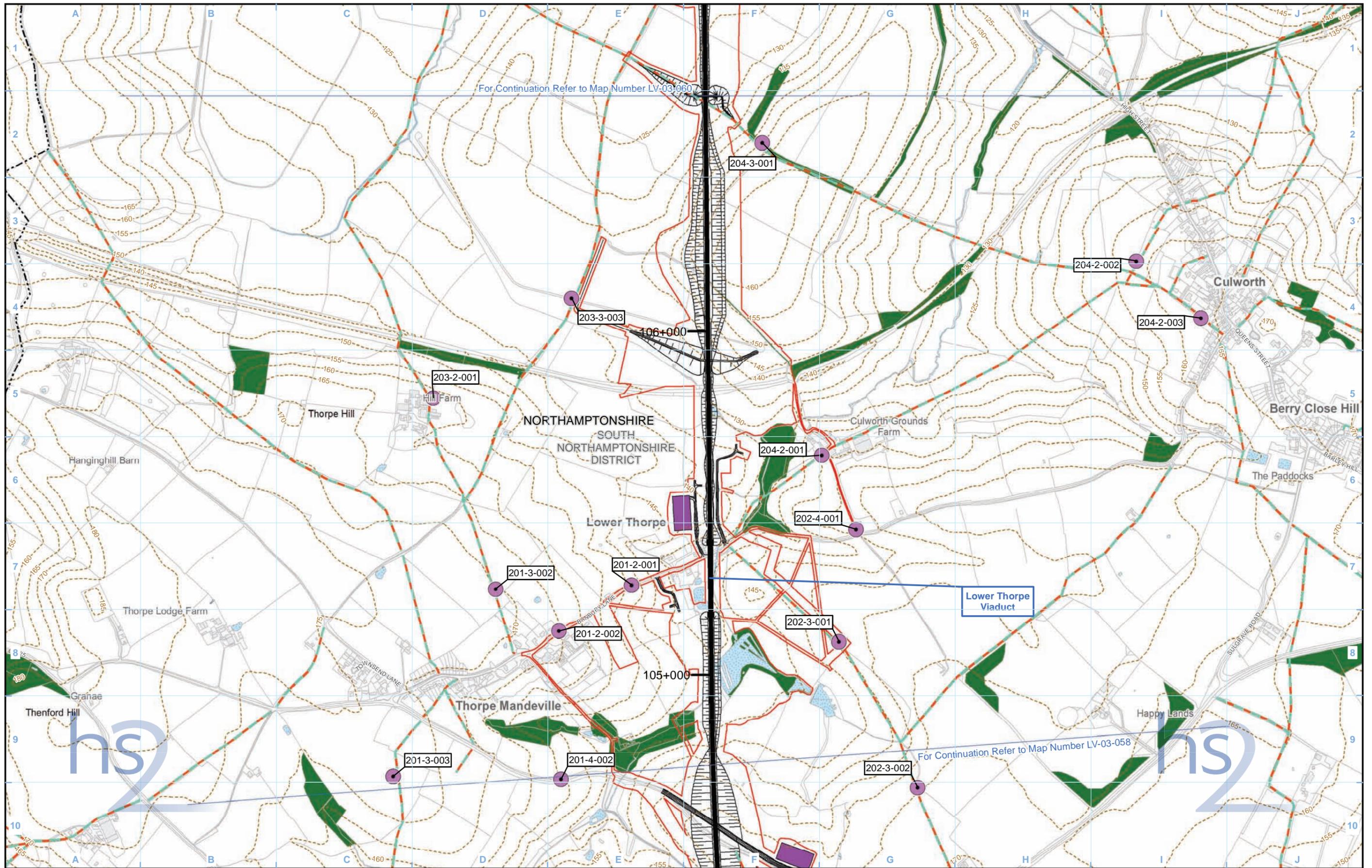
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Metres

Date: 30/10/13



For Continuation Refer to Map Number LV-03-060

For Continuation Refer to Map Number LV-03-058

Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-03-059
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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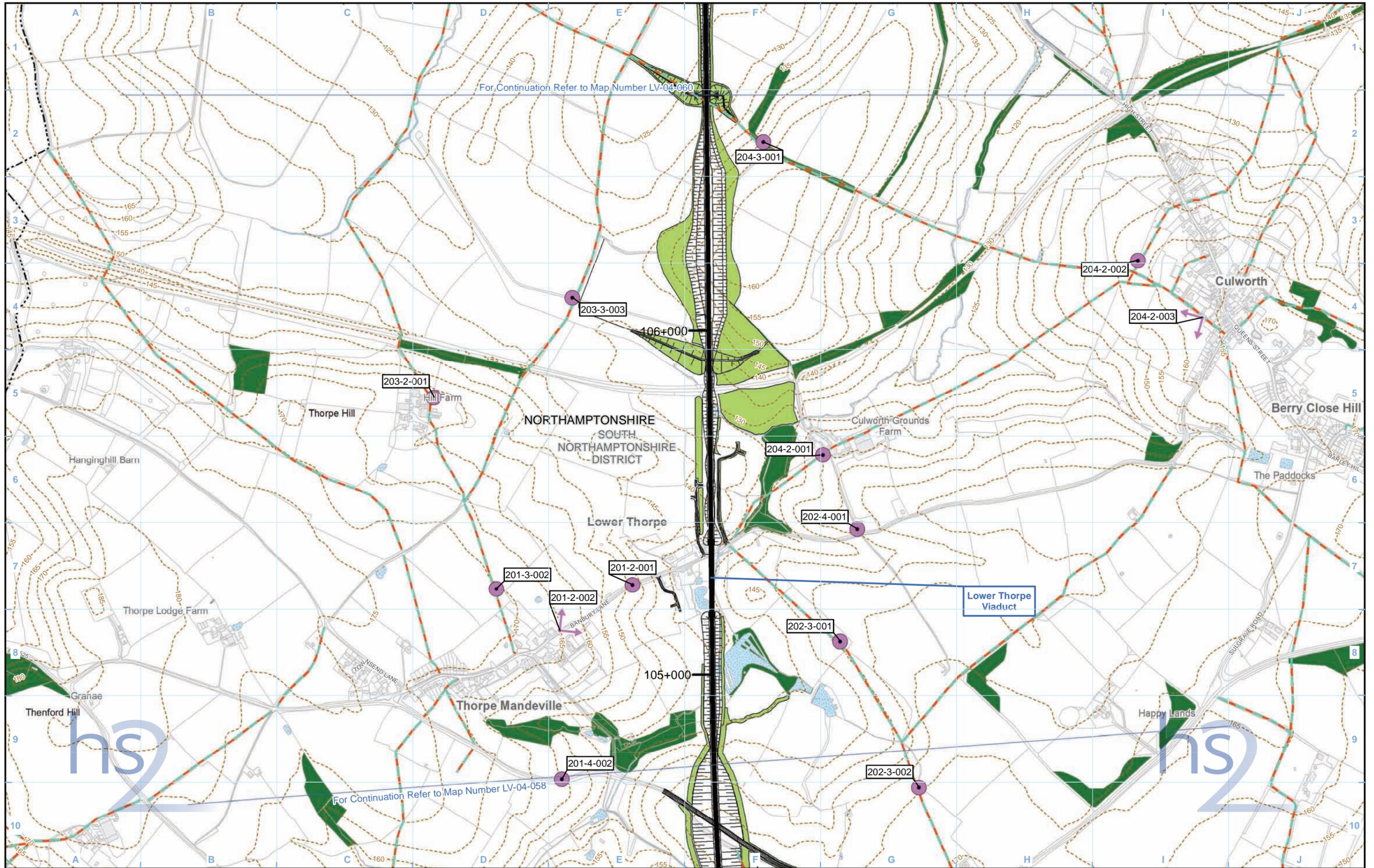
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Date: 30/10/13



Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-04-059
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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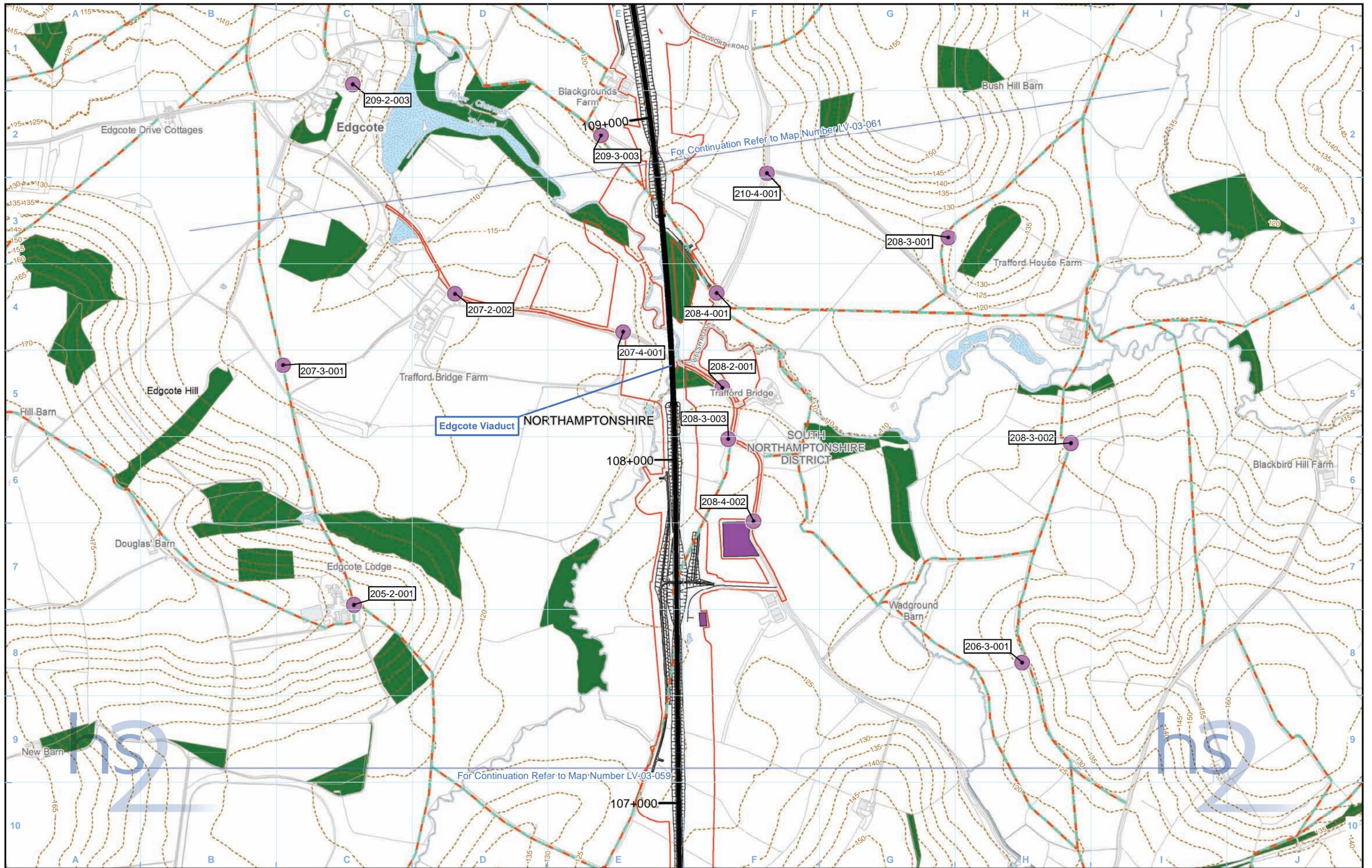
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Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-03-060
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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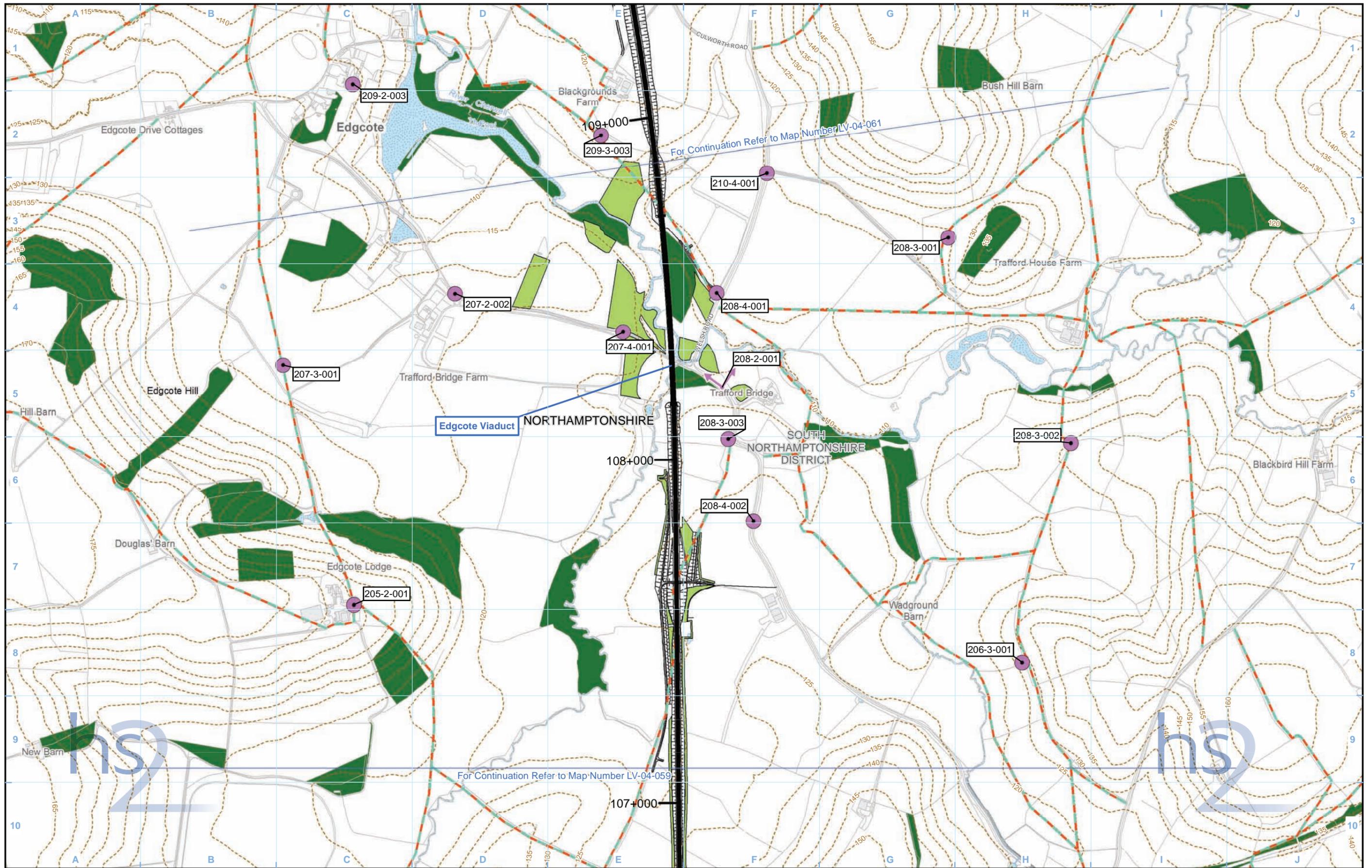
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Doc Number: C252-ETM-EV-MAP-020-001679-P07.00

Date: 30/10/13



Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-04-060
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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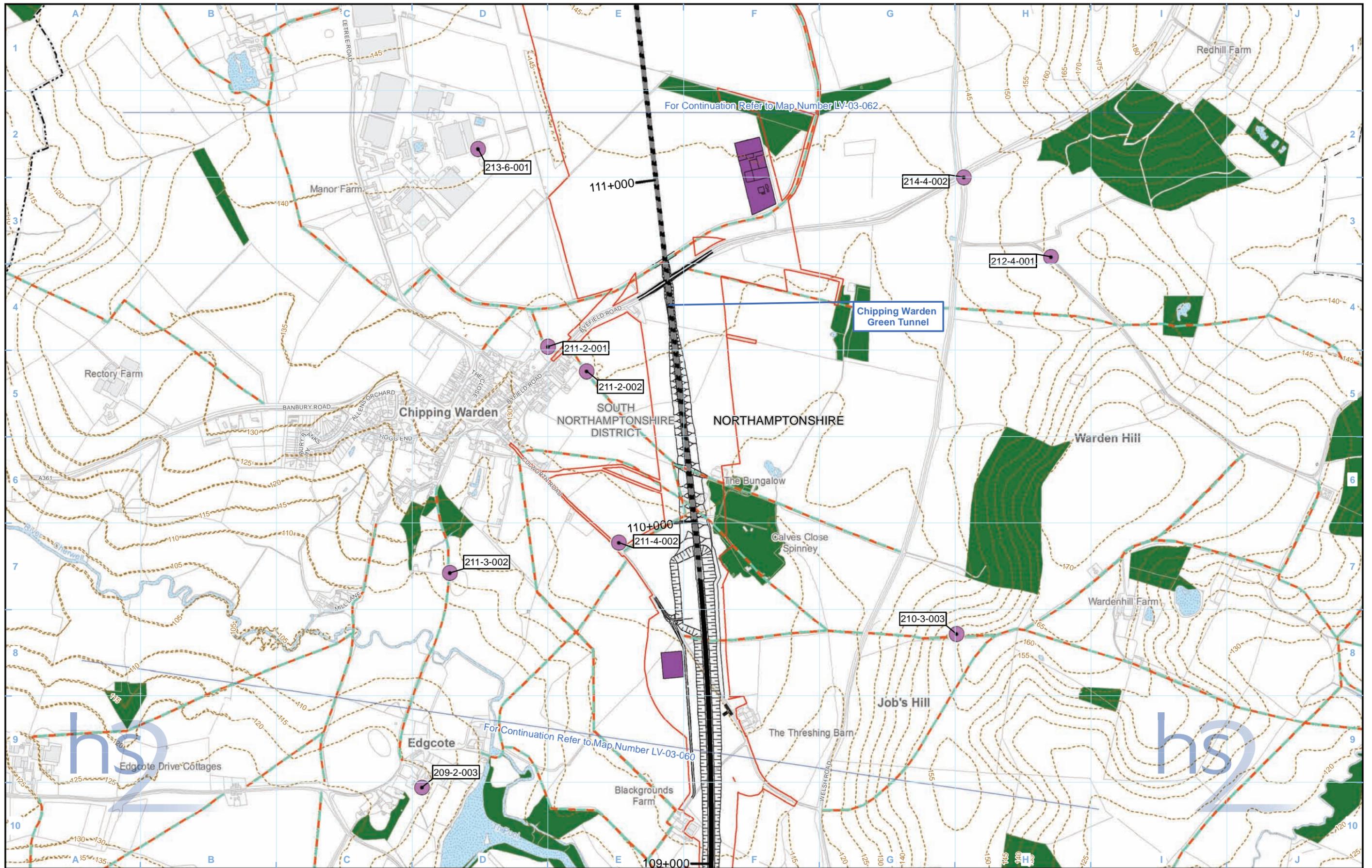
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0 100 200 300 400 Metres

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Legend

	Engineering earthworks:
	Embankment
	Cutting
	Embankment
	Cutting

Map Number	LV-03-061
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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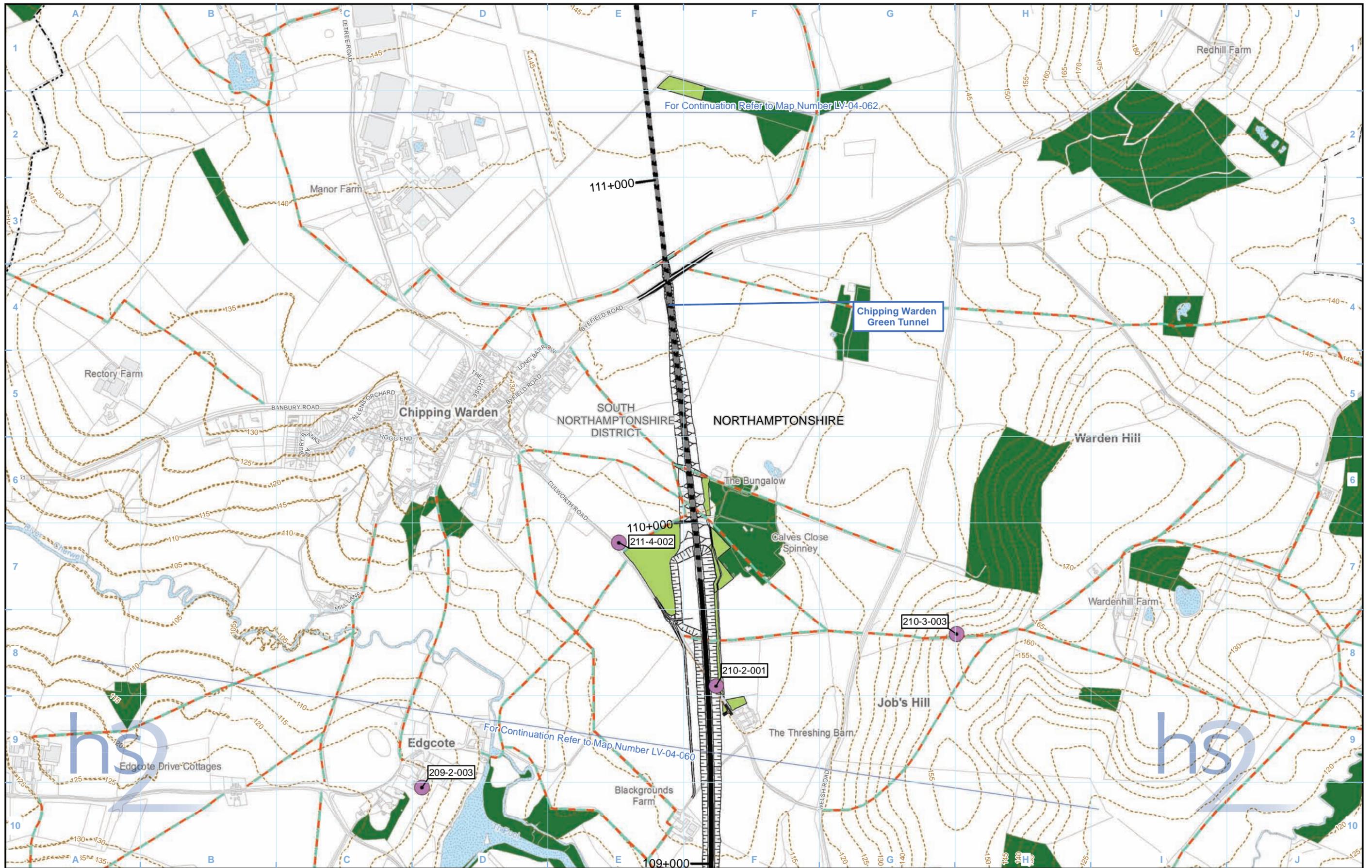
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Date: 30/10/13



Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-04-061
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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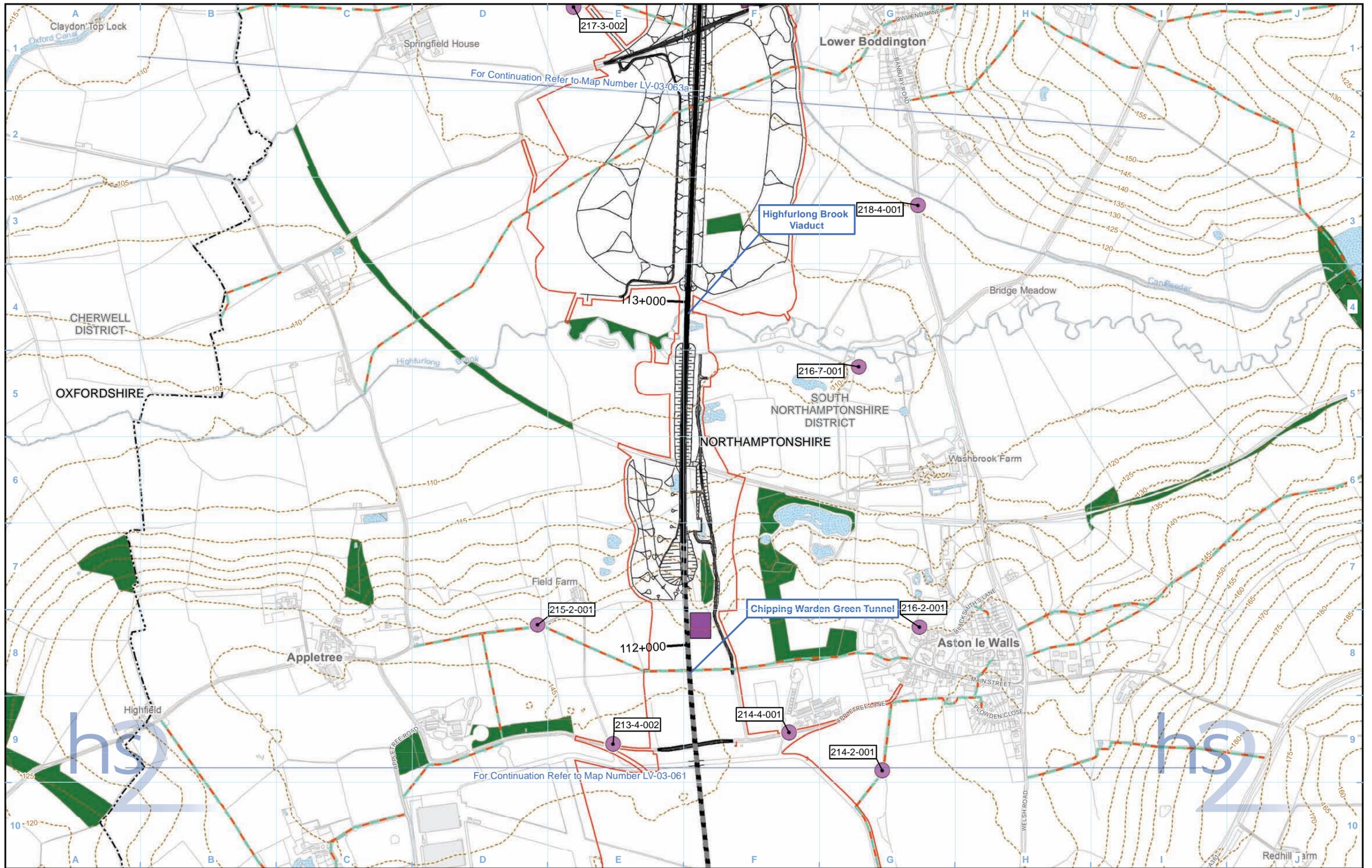
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Date: 30/10/13



Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
	Construction compounds
	Significantly affected viewpoint
	Photomontage location
	Viewpoint number

Engineering earthworks:	
	Embankment
	Cutting
Non engineering earthworks:	
	Embankment
	Cutting

Map Number	LV-03-062
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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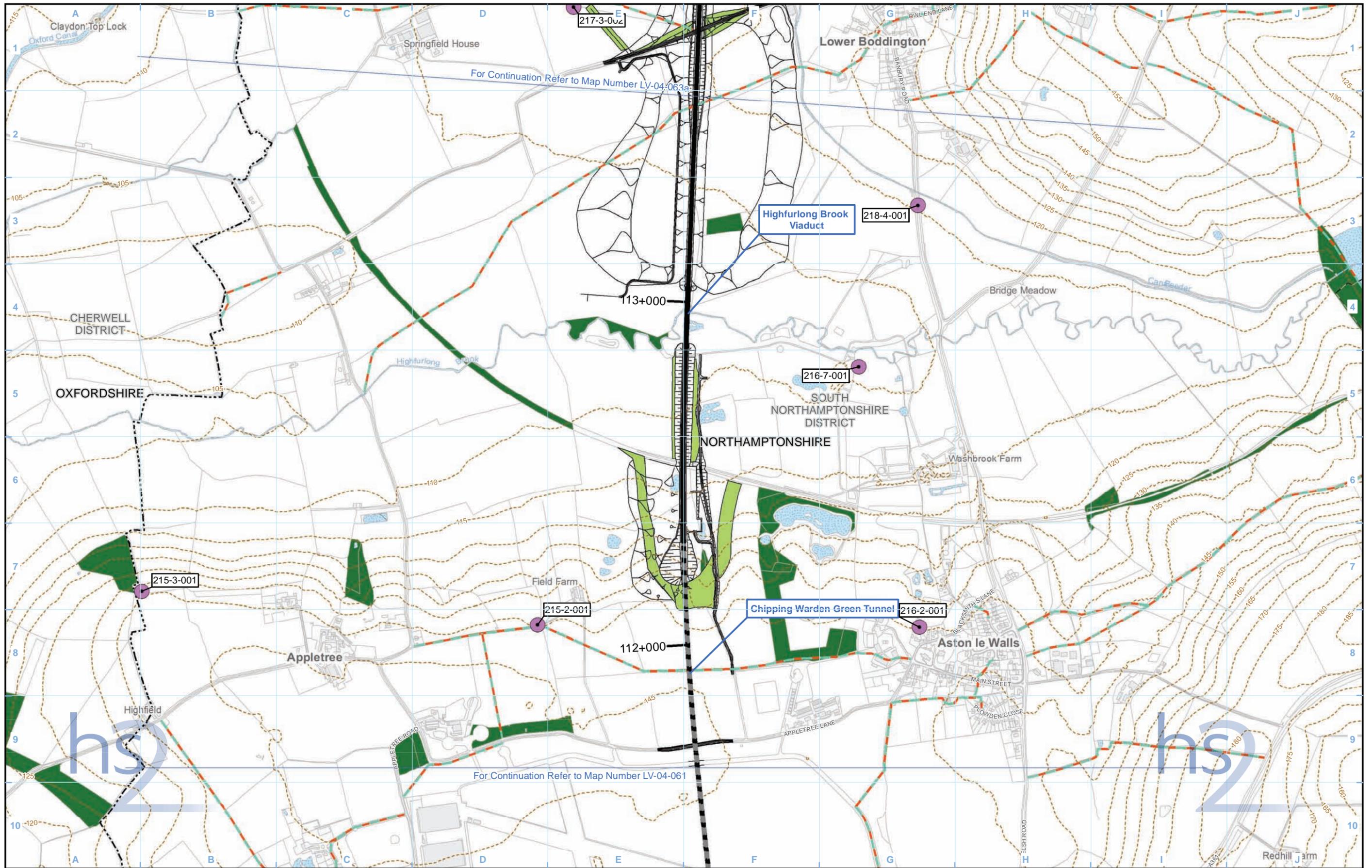
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Doc Number: C252-ETM-EV-MAP-020-001681-P07.00

Scale at A3: 1:10,000

Metres

Date: 30/10/13



Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
	Proposed tree planting
	Significantly affected viewpoint
	Photomontage location
	Viewpoint number

Engineering earthworks:	
	Embankment
	Cutting
Non engineering earthworks:	
	Embankment
	Cutting

Map Number	LV-04-062
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworthy to Lower Boddington	

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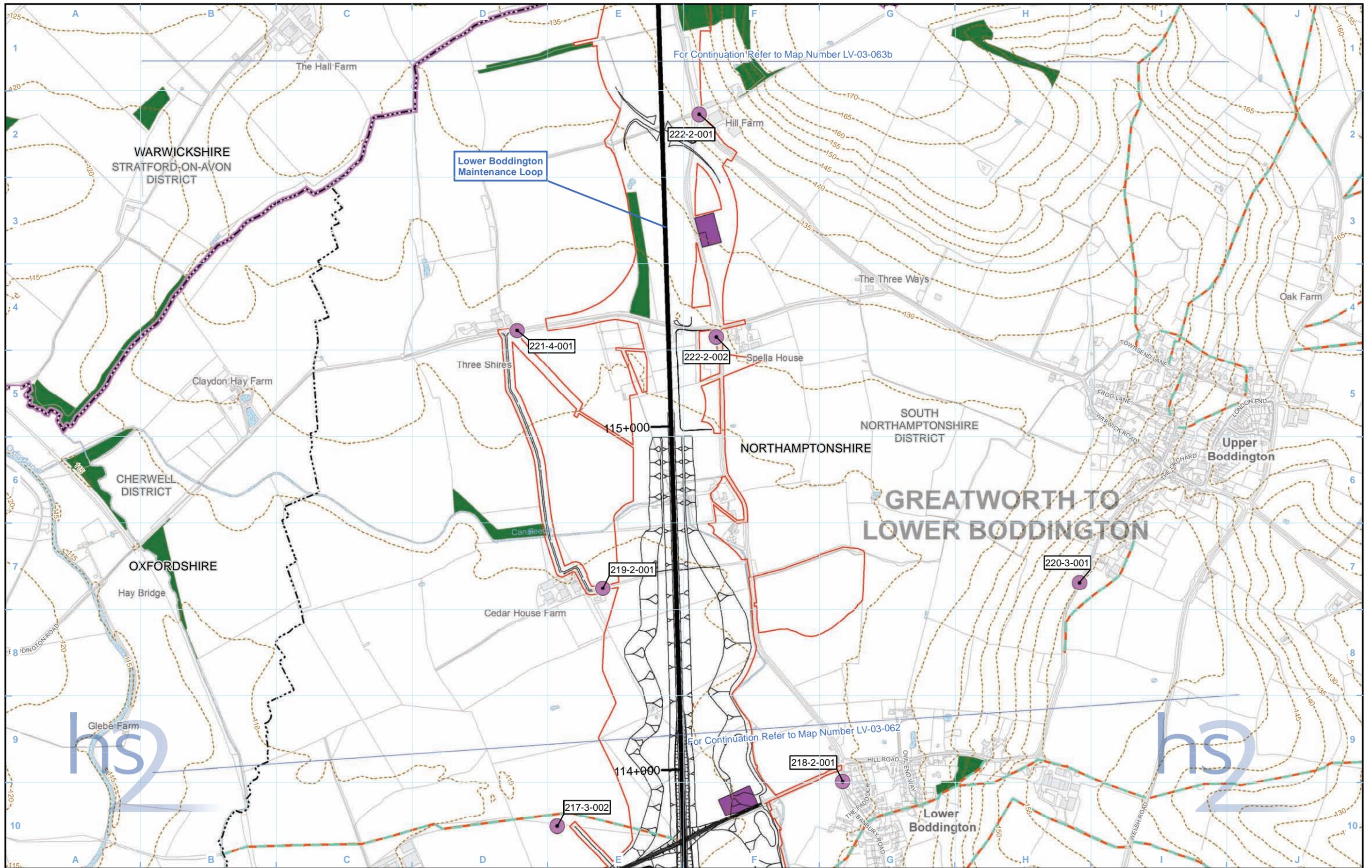
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Doc Number: C252-ETM-EV-MAP-020-001729-P07.00

Scale at A3: 1:10,000

Metres

Date: 30/10/13



For Continuation Refer to Map Number LV-03-063b

For Continuation Refer to Map Number LV-03-062

Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number	LV-03-063a
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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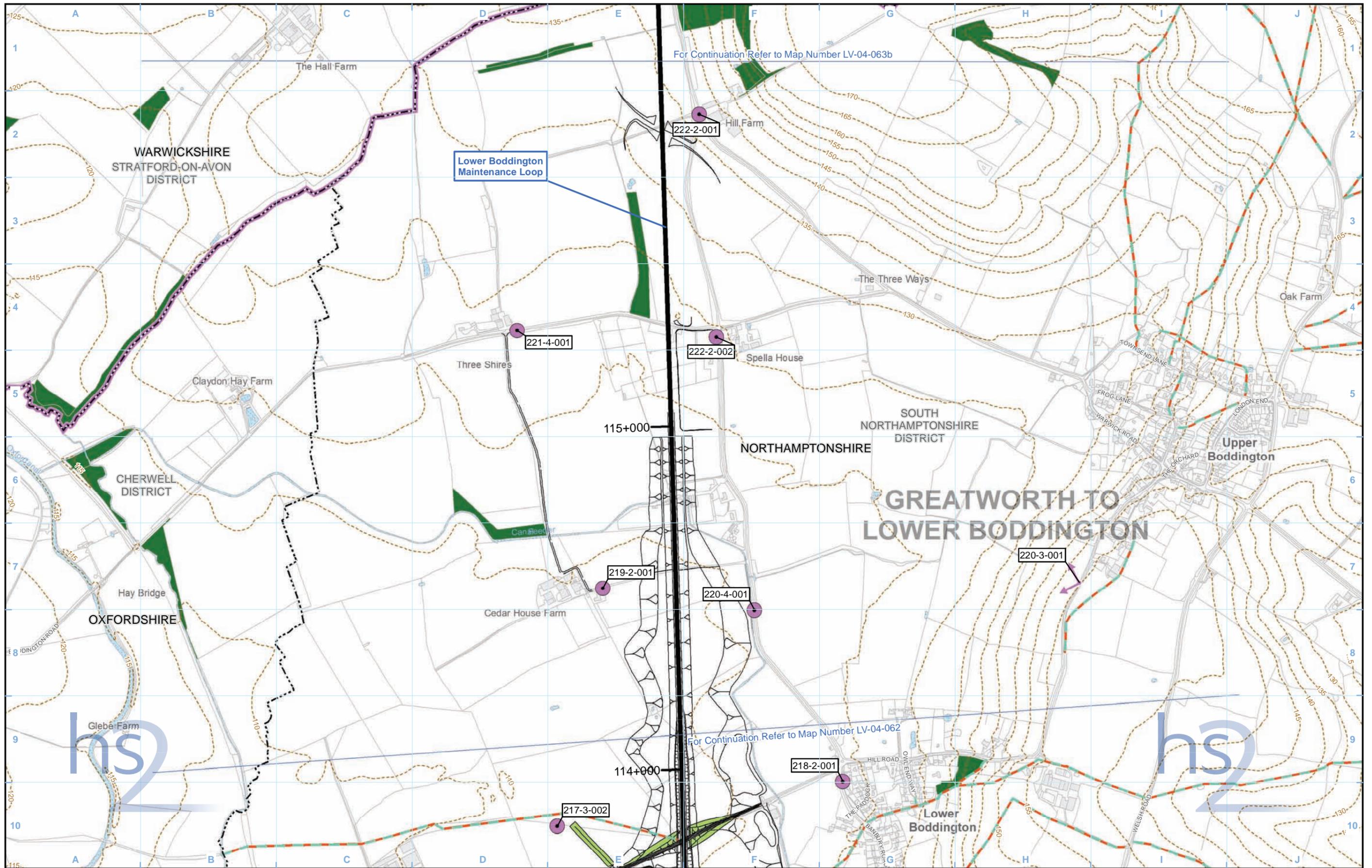
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Doc Number: C252-ETM-EV-MAP-020-001682-P07.00

Date: 30/10/13



Legend

			Engineering earthworks:
			Non engineering earthworks:

	Embankment
	Cutting
	Embankment
	Cutting

Map Number	LV-04-063a
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA15: Greatworth to Lower Boddington	

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Doc Number: C252-ETM-EV-MAP-020-001730-P07.00

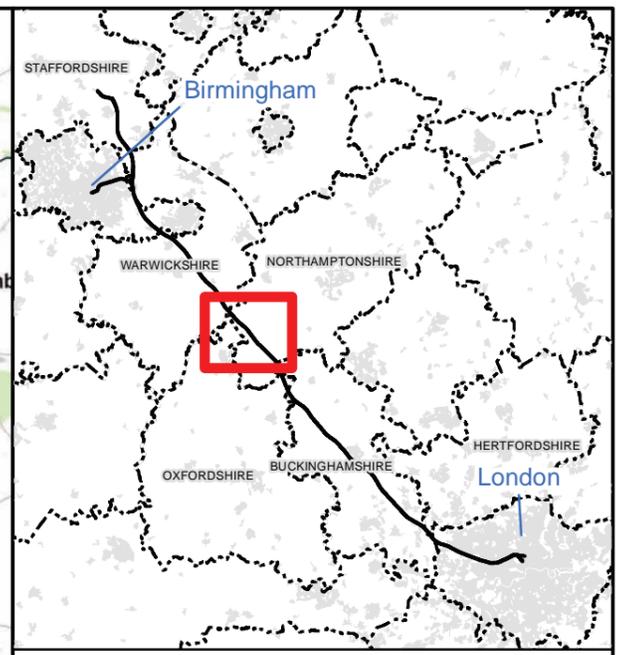
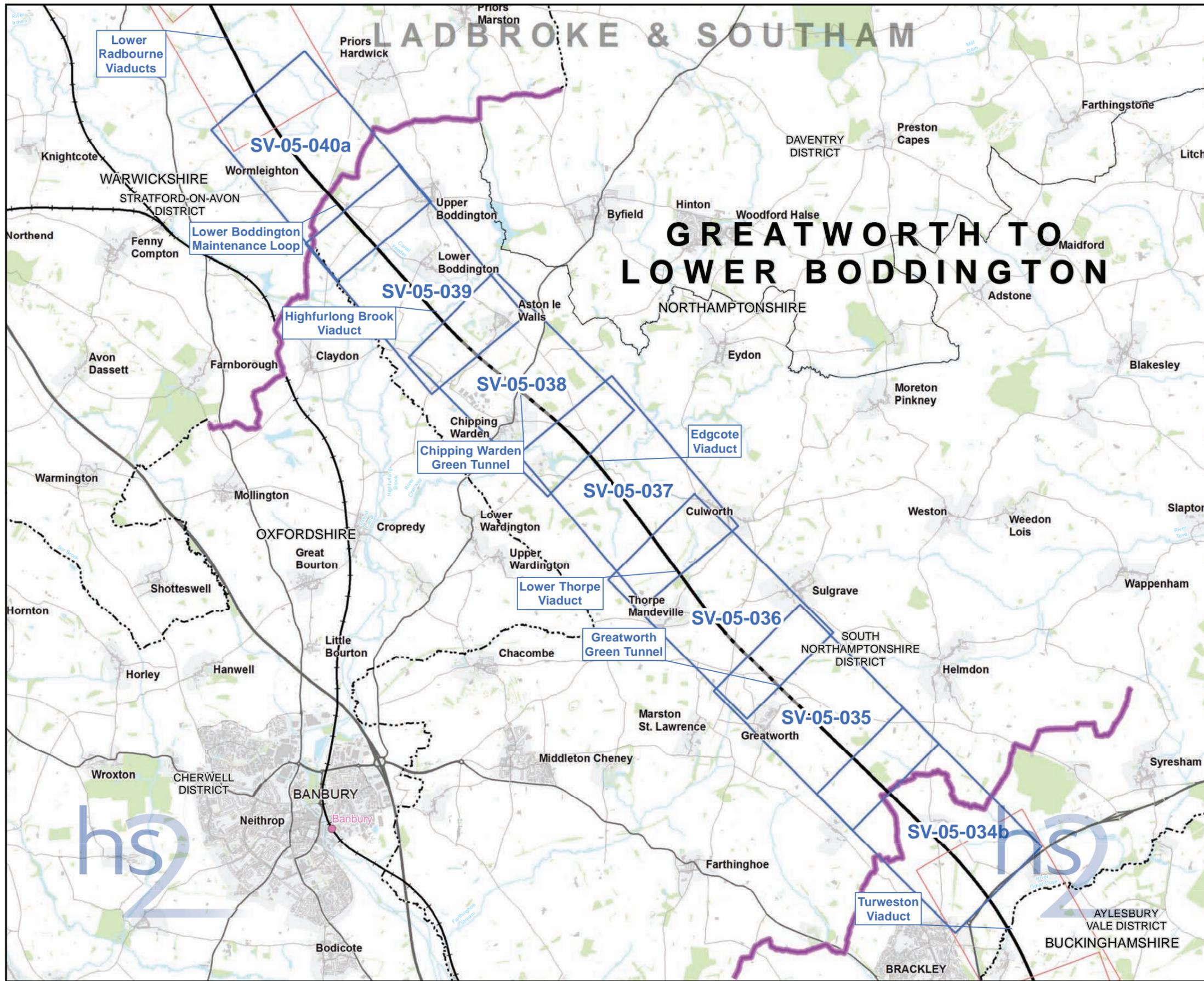
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

SV-05 - Operational Sound 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.

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 forum boundary
- Existing railway station
- County boundary
- District/Borough boundary
- Map sheets included in this community forum
- Map sheets not included in this community forum

Map Number SV-05-INDEX-CFA15

Map Name
**Index Map of:
 Operational Noise and Vibration Impacts
 and Likely Significant Effects**

Community Forum Area CFA15:
 Greatworth to Lower Boddington

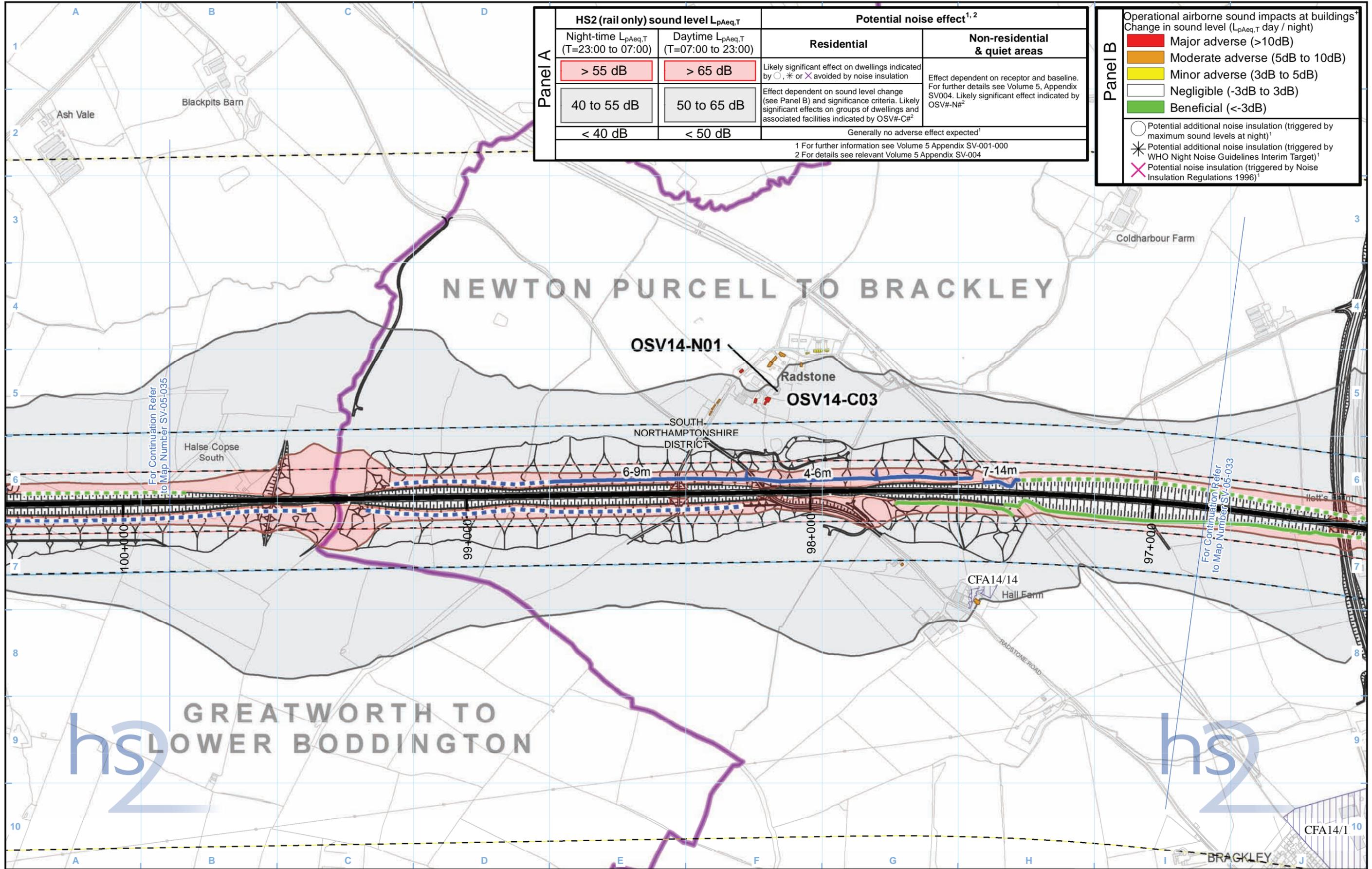
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HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1,2}	
Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings 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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

Operational airborne sound impacts at buildings ⁴ 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)

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

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- Envisaged mitigation to avoid / reduce significant noise effects:
 - Landscaping and/or fence barriers*
 - Engineering e.g. cuttings (green tunnels separately marked)
 - Other environmental e.g. landscaping
 - Engineering e.g. cuttings
- Envisaged measures further reducing noise effects:

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-034b

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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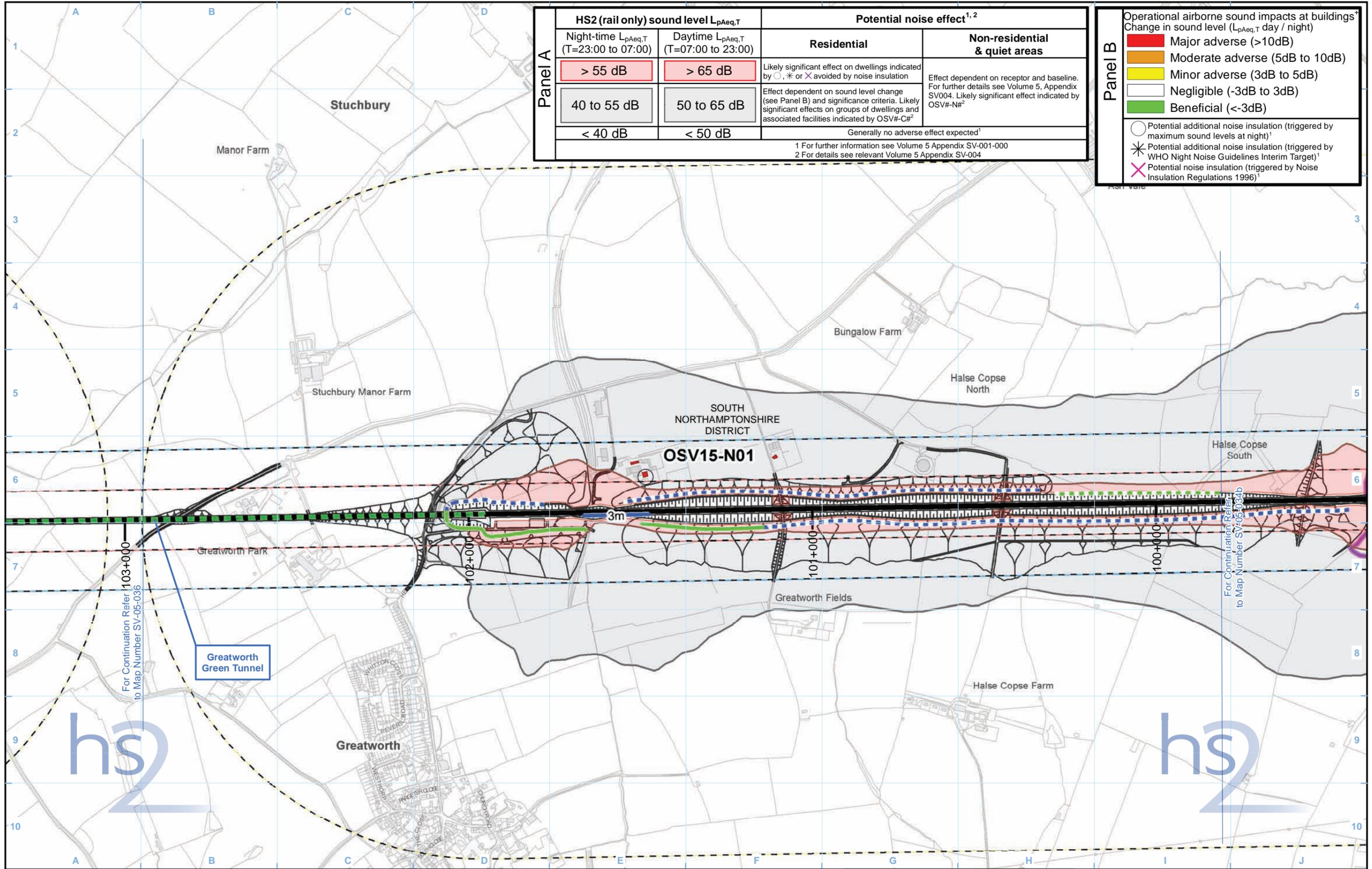
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Doc Number: C250-ARP-EV-MAP-000-003993

Date: 29/10/13



HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1,2}	
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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

Operational airborne sound impacts at buildings ⁴ 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)

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

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-035

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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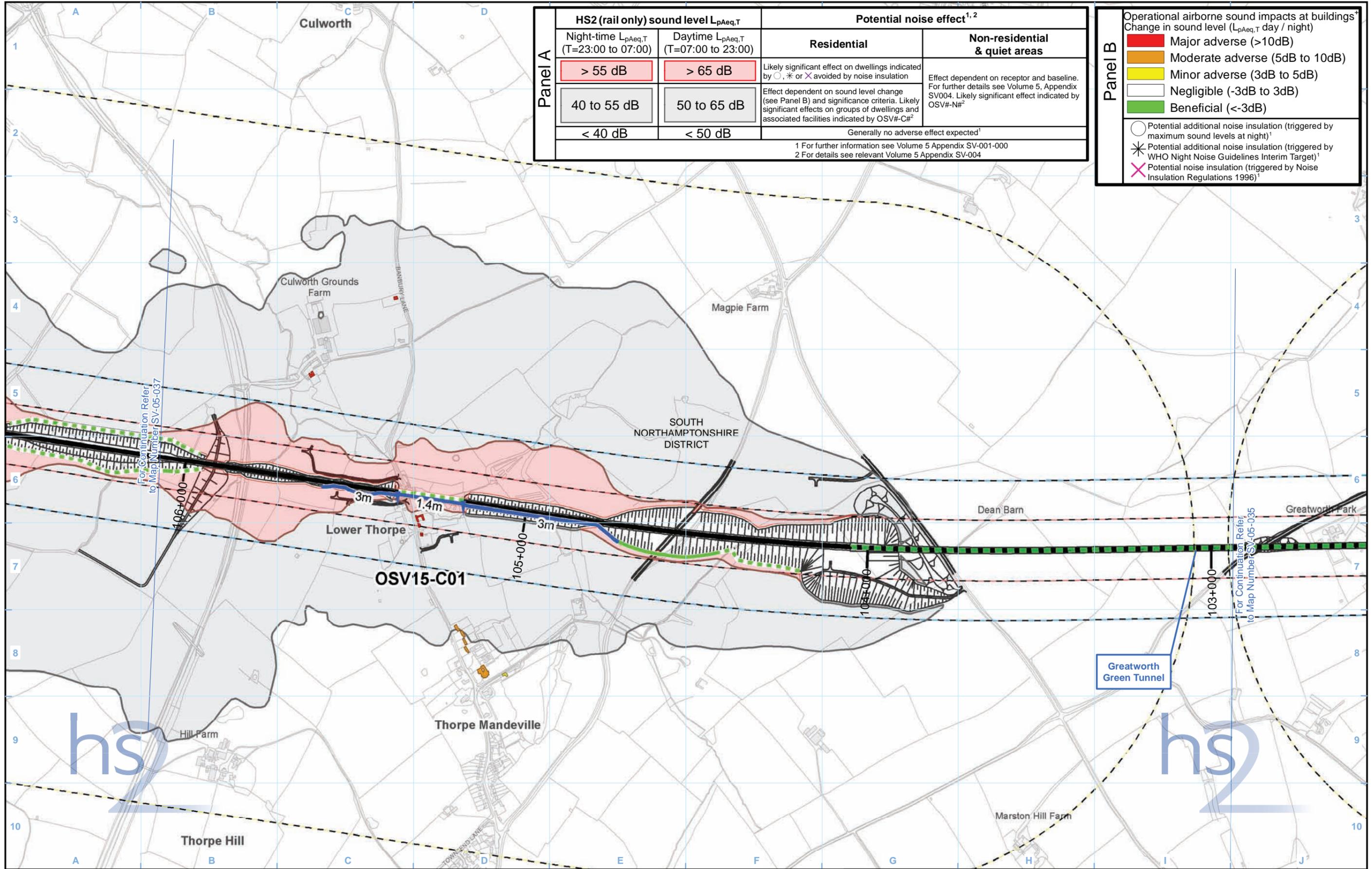
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Date: 29/10/13



HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1,2}	
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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

Operational airborne sound impacts at buildings ¹ 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)

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

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County 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

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-036

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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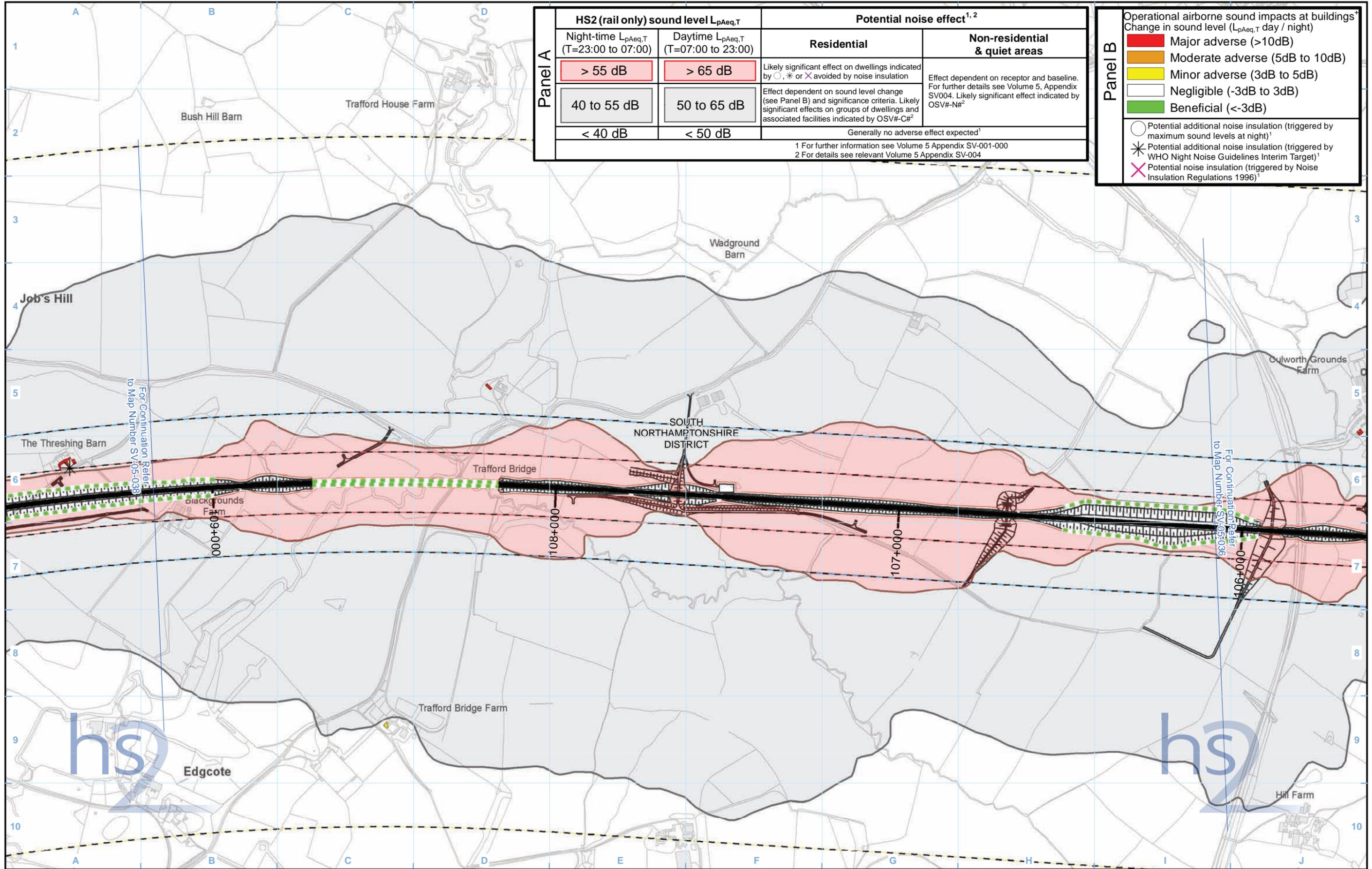
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Date: 29/10/13



HS2 (rail only) sound level L _{pAeq,T}		Potential noise effect ^{1,2}	
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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB		

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

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)

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

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-037

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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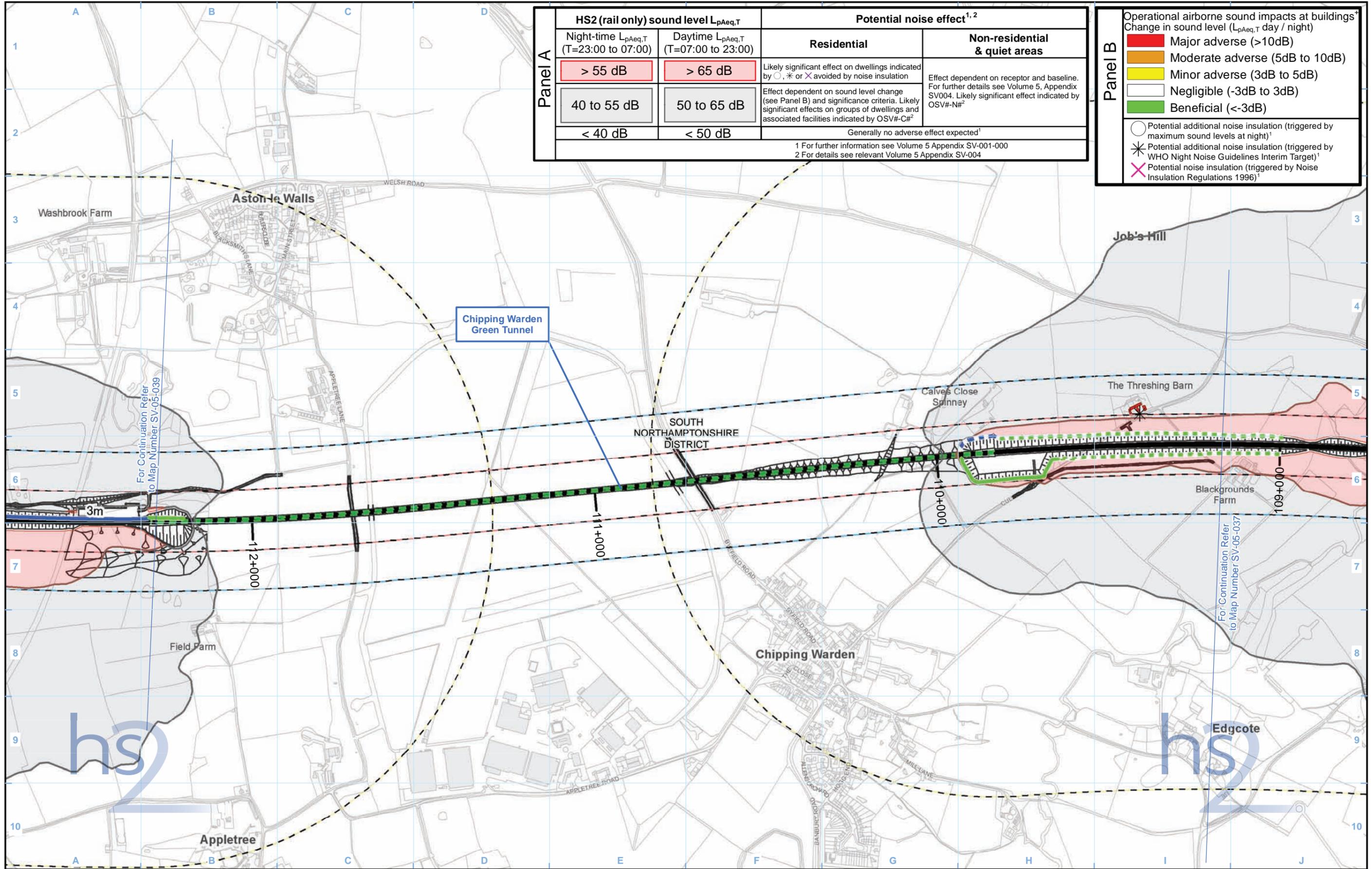
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Date: 29/10/13



HS2 (rail only) sound level L _{pAeq,T}		Potential noise effect ^{1,2}	
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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

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)

○ Potential additional noise insulation (triggered by maximum sound levels at night)¹
* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)¹
✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-038

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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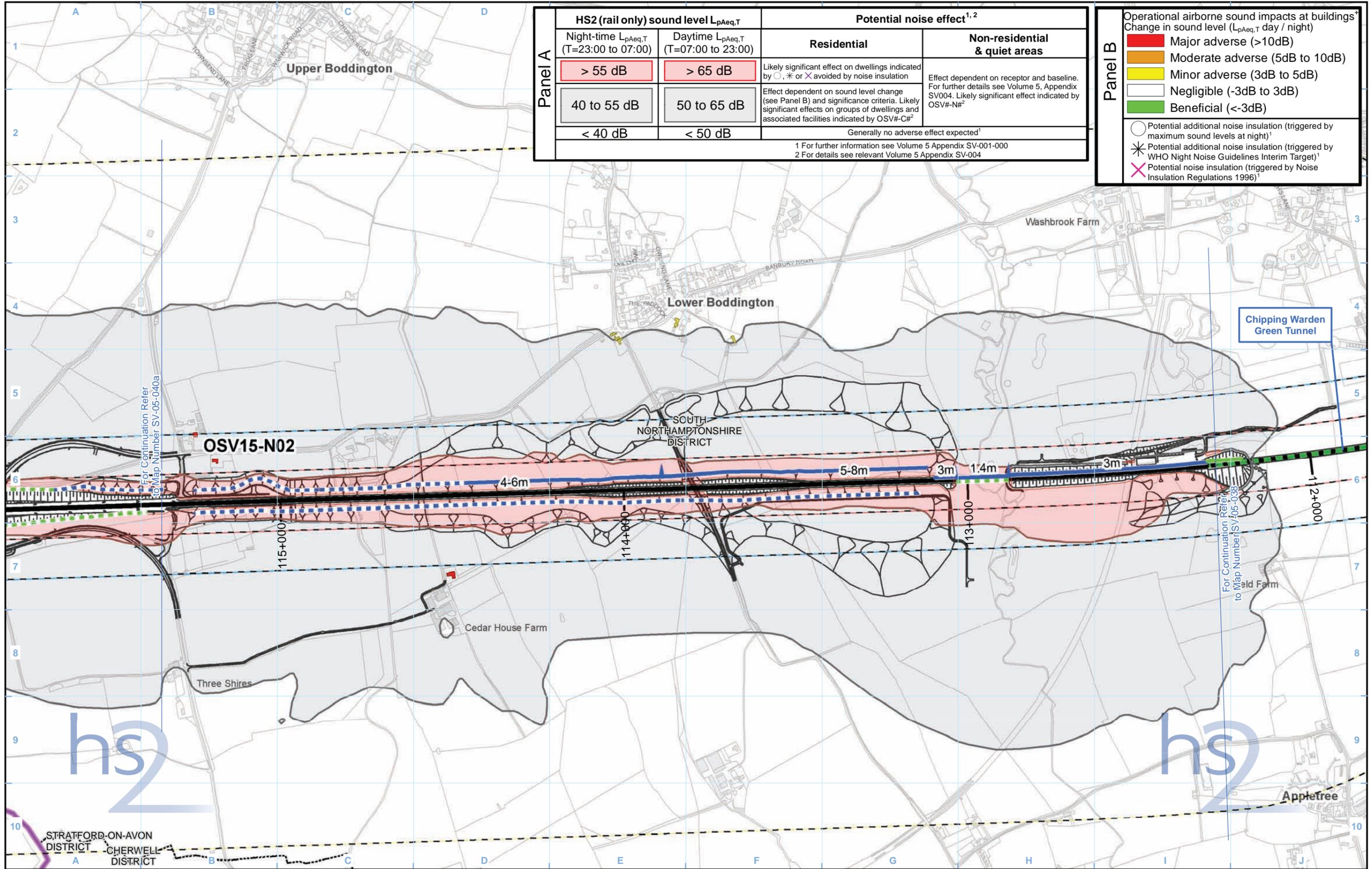
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Date: 29/10/13



HS2 (rail only) sound level L _{pAeq,T}		Potential noise effect ^{1,2}	
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# ²
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# ²	
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

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)

○ Potential additional noise insulation (triggered by maximum sound levels at night)¹
* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)¹
✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-039

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

Community Forum Area CFA15: Greatworth to Lower Boddington

hs2 logo

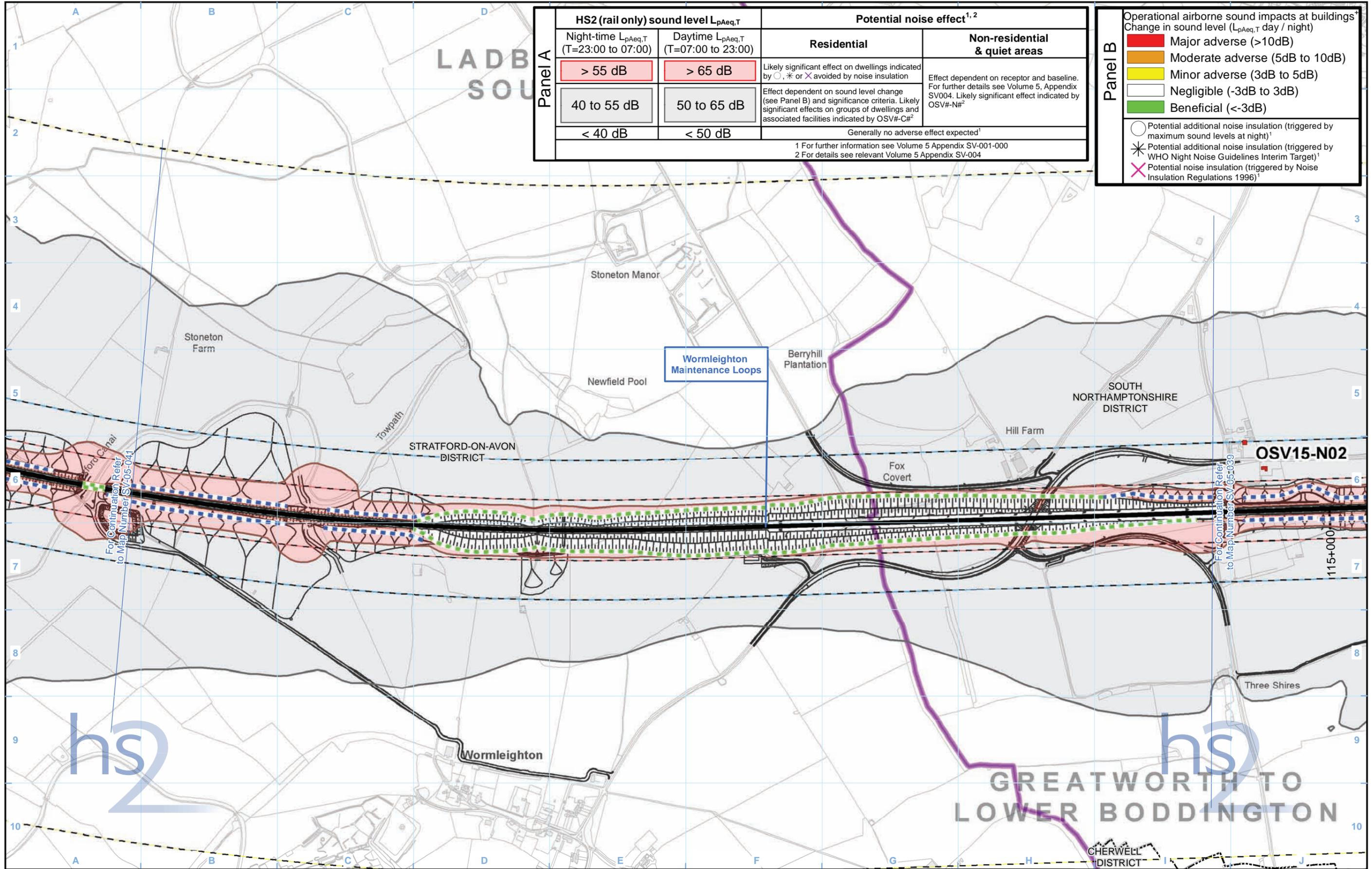
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HS2 (rail only) sound level L _{pAeq,T}		Potential noise effect ^{1,2}	
Night-time L _{pAeq,T} (T=23:00 to 07:00)	Daytime L _{pAeq,T} (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
> 55 dB	> 65 dB	Likely significant effect on dwellings 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# ²
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# ²	Generally no adverse effect expected ¹
< 40 dB	< 50 dB	Generally no adverse effect expected ¹	

1 For further information see Volume 5 Appendix SV-001-000
2 For details see relevant Volume 5 Appendix SV-004

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)

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

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	Cutting

* Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- 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

- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-040a

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

Community Forum Area CFA15: Greatworth to Lower Boddington

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