

# High Speed Rail (West Midlands - Crewe)

## **Environmental Statement**

Volume 5: Map book

CA1: Fradley to Colton

Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)

July 2017 ES 3.5.2.1.12



# High Speed Rail (West Midlands - Crewe)

**Environmental Statement** 

Volume 5: Map book

CA1: Fradley to Colton

Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)

July 2017



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

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

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.gov.uk/hs2

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







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

© High Speed Two (HS2) Limited, 2017, except where otherwise stated.

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

This information is licensed under the Open Government Licence v2.0. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ version/2 **OGL** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk. Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.



Printed in Great Britain on paper containing at least 75% recycled fibre.

### **Contents**

Mapping explanatory notes

Data dictionary and definitions

LV-oo - Route Wide Landscape Character Areas and National Character Areas

| Map series name  | Map series description   |  |  |
|--|--|--|--|
| LV-02 - Landscape Character Areas  | Maps showing the landscape character areas that have been considered for assessment and illustrating significant |  |  |
| LV-02 - Landscape Character Areas  | residual effects during construction and operation.  |  |  |
|  | Maps showing the construction phase zone of theoretical visibility (ZTV) and the viewpoint locations from which  |  |  |
| LV-07 - Construction Phase Zone of Theoretical Visibility (ZTV) and Viewpoints | the visual assessment of the Proposed Scheme has been undertaken. (All significant and non-significant           |  |  |
|  | photomontage locations are shown).   |  |  |
|  | Maps showing the operational phase year one and year fifteen zone of theoretical visibility (ZTV) and the        |  |  |
| LV-o8 - Operational Phase Zone of Theoretical Visibility (ZTV) and Viewpoints  | viewpoint locations from which the visual assessment of the Proposed Scheme has been undertaken. (All            |  |  |
|  | significant and non-significant photomontage locations are shown).   |  |  |
| LV-17 - Routewide Landscape Context  | Maps showing the proposed scheme and planting in context with the wider landscape.                               |  |  |

### Mapping explanatory notes

#### Structure of the HS2 Phase 2a Environmental Statement

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

The ES documentation comprises the following:

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

#### Copyright statements

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

#### **Ordnance Survey data**

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

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

#### Chainage

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

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

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

#### Map orientation

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

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

#### Map books

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

| Name  | Name   |  |  |
|---|--|--|--|
| Volume 2: Map book – CA1: Fradley to Colton                                 | Volume 5: Map book — Land Quality (LQ-01)  |  |  |
| Volume 2: Map book – CA2: Colwich to Yarlet                                 | Volume 5: Map book — CA1: Fradley to Colton - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)         |  |  |
| Volume 2: Map book – CA3: Stone and Swynnerton                              | Volume 5: Map book – CA2: Colwich to Yarlet - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)         |  |  |
| Volume 2: Map book — CA4: Whitmore Heath to Madeley                         | Volume 5: Map book — CA3: Stone and Swynnerton - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)      |  |  |
| Volume 2: Map book – CA5: South Cheshire                                    | Volume 5: Map book – CA4: Whitmore Heath to Madeley - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17) |  |  |
| Volume 4: Map book – Off-route effects                                      | Volume 5: Map book — CA5: South Cheshire - Landscape and visual (LV-00, LV-02, LV-07, LV-08, LV-17)            |  |  |
| Volume 5: Map book – Agriculture, forestry and soils (AG-01, AG-02 & AG-04) | Volume 5: Map book — Planning Data/Committed Development (CT-13)   |  |  |
| Volume 5: Map book – Air quality (AQ-01)                                    | Volume 5: Map book – Socio-Economics (SE-01)   |  |  |
| Volume 5: Map book – Community (CM-o1)                                      | Volume 5: Map book – Sound, Noise and Vibration (SV-01, SV-02, SV-03 & SV-04)                                  |  |  |
| Volume 5: Map book — Cultural Heritage (CH-01, CH-02, CH-03)                | Volume 5: Map book – Traffic and Transport (TR-03, TR-04 & TR-08)  |  |  |
| Volume 5: Map book – Ecology - designated sites (EC-01)                     | Volume 5: Map book – Water Resources and Flood Risk (WR-01, WR-02, WR-03, WR-05, WR-06)                        |  |  |

This page is left intentionally blank

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

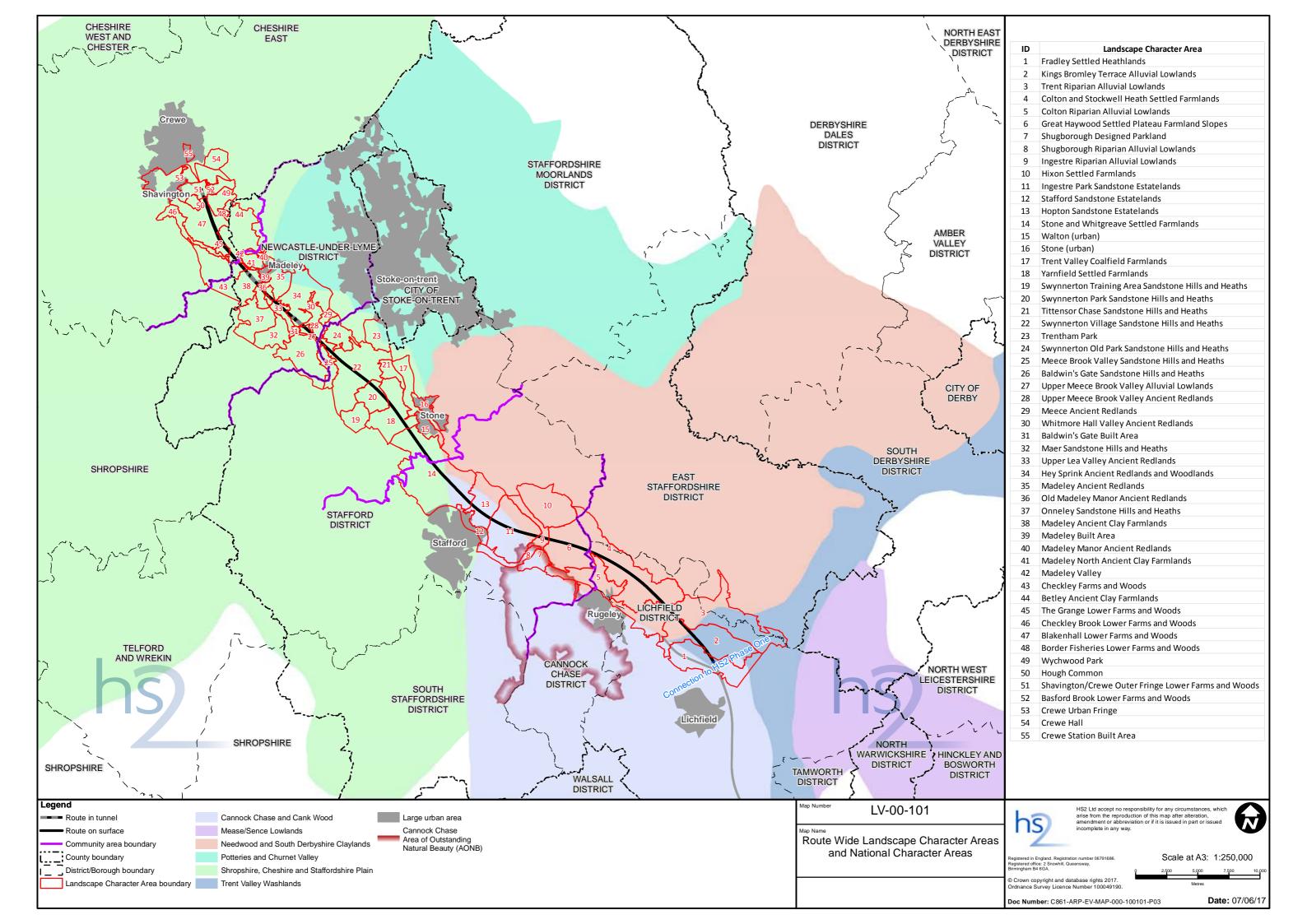
## Data dictionary and definitions

| Legend features                               | Definition  | Source                   | Copyright  |
|---|---|--------------------------|--|
| 5m contours                                   | 5m contour lines showing illustrating the surrounding topography.   | GeoStore                 | ©GeoPerspectives   |
| Area of Outstanding Natural Beauty (AONB)     | An Area of Outstanding Natural Beauty (AONB) is an area of high scenic quality which has statutory protection in order to conserve and enhance the natural beauty of its landscape. AONB landscapes range from rugged coastline to water meadows to gentle lowland and upland moors. Natural England has a statutory power to designate land as Areas of Outstanding Natural Beauty under the Countryside and Rights of Way Act 2000. | Natural England          | © Natural England copyright 2017   |
| Balancing pond                                | The proposed location and extent of balancing ponds for drainage attenuation and infiltration. Outer boundary represents the perimeter.   | High Speed Two (HS2) Ltd |  |
| Community area boundary                       | The Environmental Statement has been split into 5 sections called Community Areas.  | High Speed Two (HS2) Ltd | © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017. |
| Construction compounds                        | Main construction compounds in which main contractors offices and welfare facilities will be located.  Satellite construction compounds which serve local works for major construction elements within a main contract.   | High Speed Two (HS2) Ltd |  |
| County boundary                               | County boundaries from Ordnance Survey boundary mapping.  | Ordnance Survey          | © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017. |
| Depot, station, headhouse or portal building  | Extends to cover operational footprint of each depot and station and the footprint of each tunnel vent shaft and headhouse at surface level. Excludes any ancillary buildings associated with these structures.   | High Speed Two (HS2) Ltd |  |
| District/Borough boundary                     | Ordnance Survey local authority boundary mapping.   | Ordnance Survey          | © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017. |
| 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 |  |
| 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 |  |
| 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 |  |
| Land potentially required during construction | Boundary defining the maximum possible extent of construction works required to build HS2 as far as the current level of design allows. This only covers surface works and includes all tunnel portals, vent shafts and headhouses, but does not apply to wholly tunnelled sections or to air rights. It also encompasses associated highway, access, drainage and utility works.   | High Speed Two (HS2) Ltd |  |
| Landscape character areas (LCA)               | This dataset represents the landscape character areas that have been assessed route wide as defined by the Landscape Architects. Landscape character areas (LCAs) are single unique areas which are the discrete  | High Speed Two (HS2) Ltd |  |

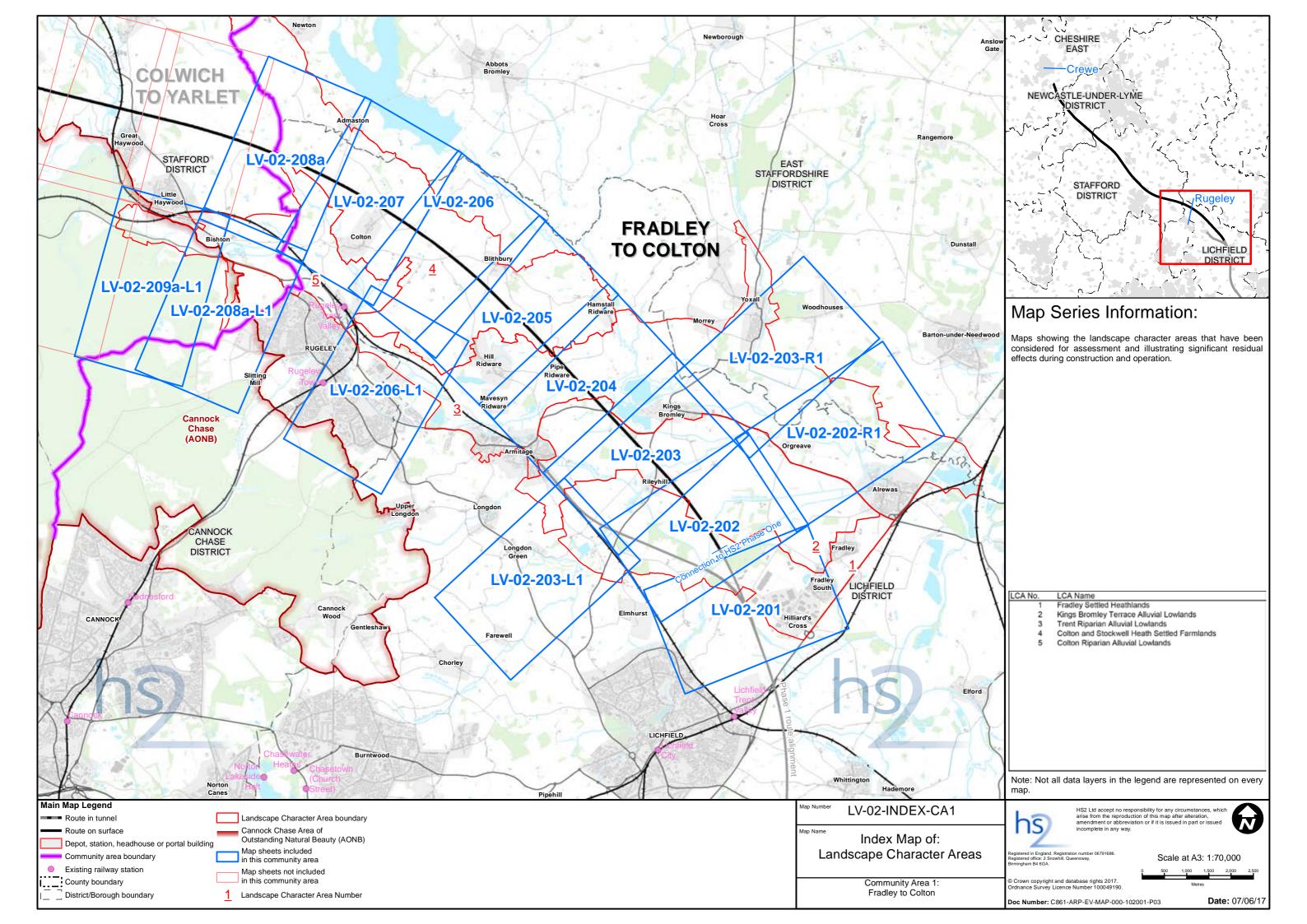
| Legend features   | Definition   | Source   | Copyright   |
|---|--|--|---|
|   | geographical areas of a particular landscape type.   |  |   |
| Non engineering earthworks: Cutting                                   | Cuttings created in the construction of landscape features and mitigation measures.  | 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                           |   |
| Other planting and hedgerows  | Soft landscape design that can include any seeded areas for the purpose of creating grassland except for the engineering earthworks.  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                           |   |
| 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 Rights of Way  | Public rights of way are highways which can be used for the following purposes: - Footpaths - pedestrian's only - Bridleways - pedestrians, cyclists and equestrians - Restricted byways - as bridleways plus non-motorised vehicles - Byways open to all traffic. Definitive Map data supplied by surveying authorities.                                    | Staffordshire County Council Cheshire East Council | © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.  © Staffordshire County Council  © Cheshire East Council |
| 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                           |   |
| Significantly affected viewpoint Non significantly affected viewpoint | This dataset shows the locations of the visual receptors from which the schemes visual impact has been assessed and shows whether or not the impact is significant or non-significant during construction and operation.   | High Speed Two (HS2) Ltd                           |   |
| Water body  | Any mass of water having definite hydrological, physical, chemical and biological characteristics.   | Ordnance Survey                                    | © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2017.  |
| Zone of Theoretical Visibility (ZTV) construction                     | This is a computer generated model showing areas of land within which the activities undertaken during the construction of the scheme may be theoretically visible. ZTV has been used as a tool for identifying likely areas for survey and assessment based on initial scheme design.   | High Speed Two (HS2) Ltd                           |   |
| Zone of Theoretical Visibility (ZTV) operation year 1                 | This is a computer generated model showing areas of land within which the scheme may be theoretically visible on day 1 of operation.   | High Speed Two (HS2) Ltd                           |   |
| Zone of Theoretical Visibility (ZTV) operation year 15                | This is a computer generated model showing areas of land within which the scheme may be theoretically visible after 15 years of operation by incorporating an assumed height of 7.5 metres for any mitigation planting.  | High Speed Two (HS2) Ltd                           |   |

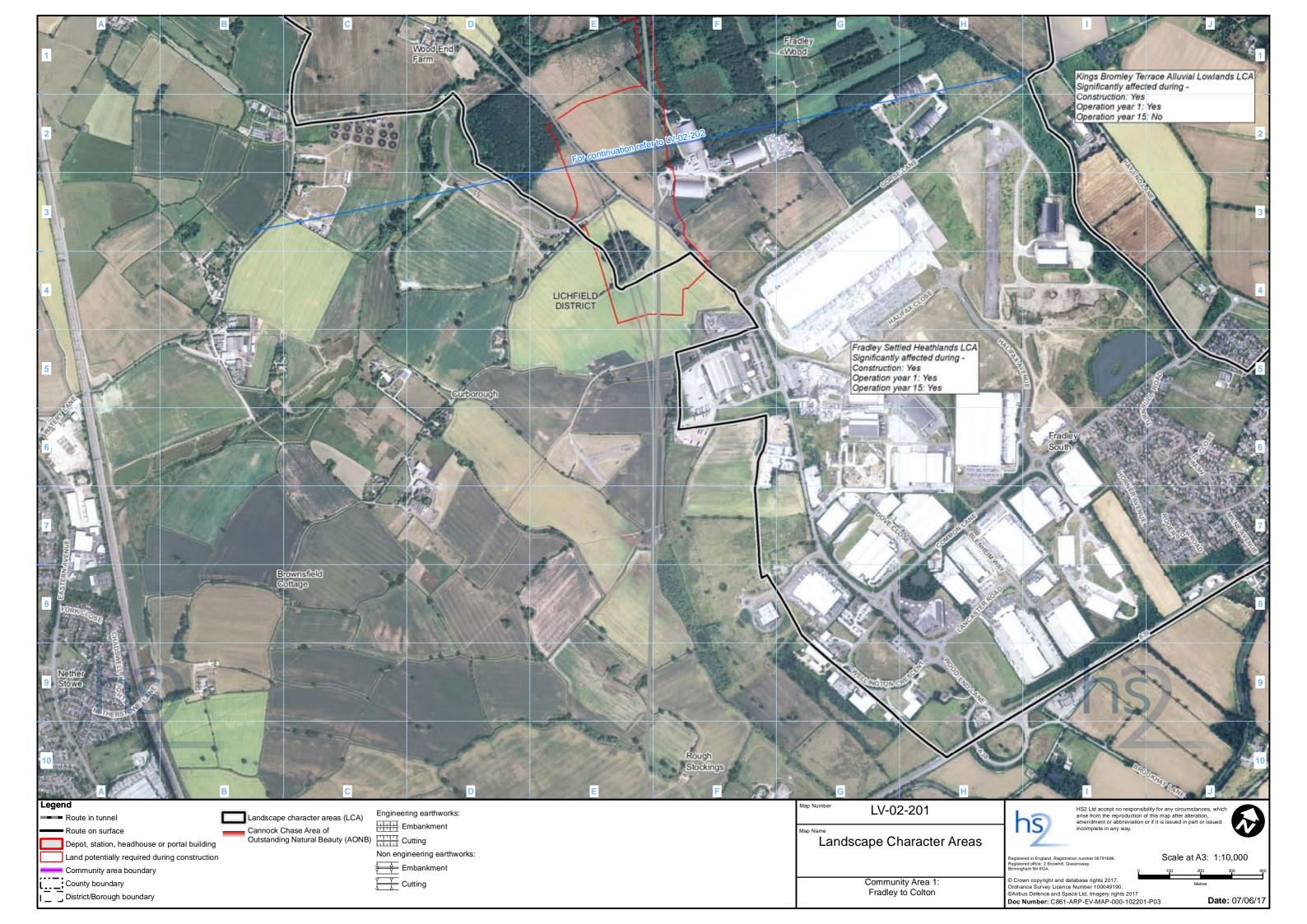
This page is left intentionally blank

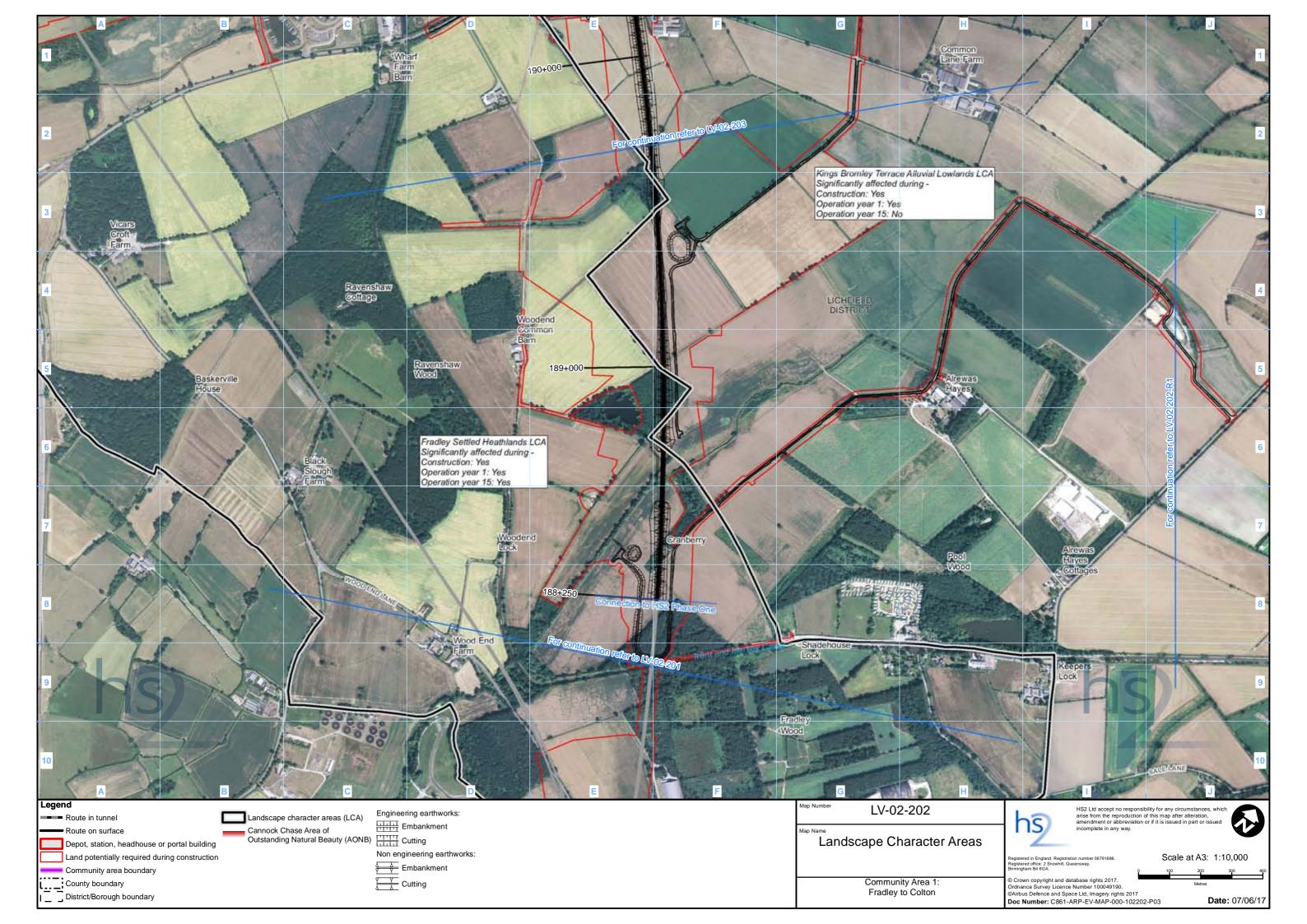
High Speed Rail (West Midlands-Crewe)
Environmental Statement
LV-00 - Route Wide Landscape Character Areas
and National Character Areas

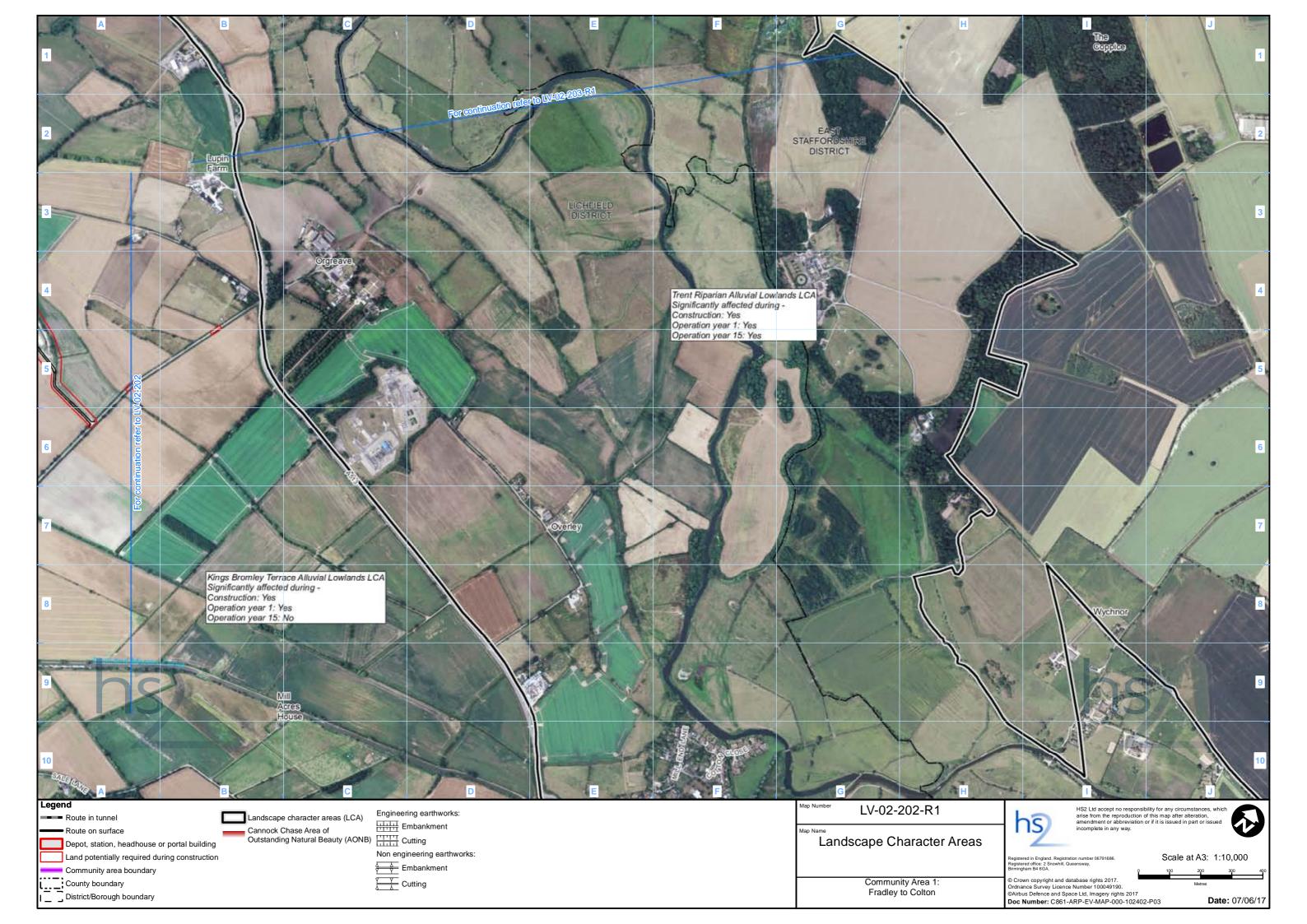


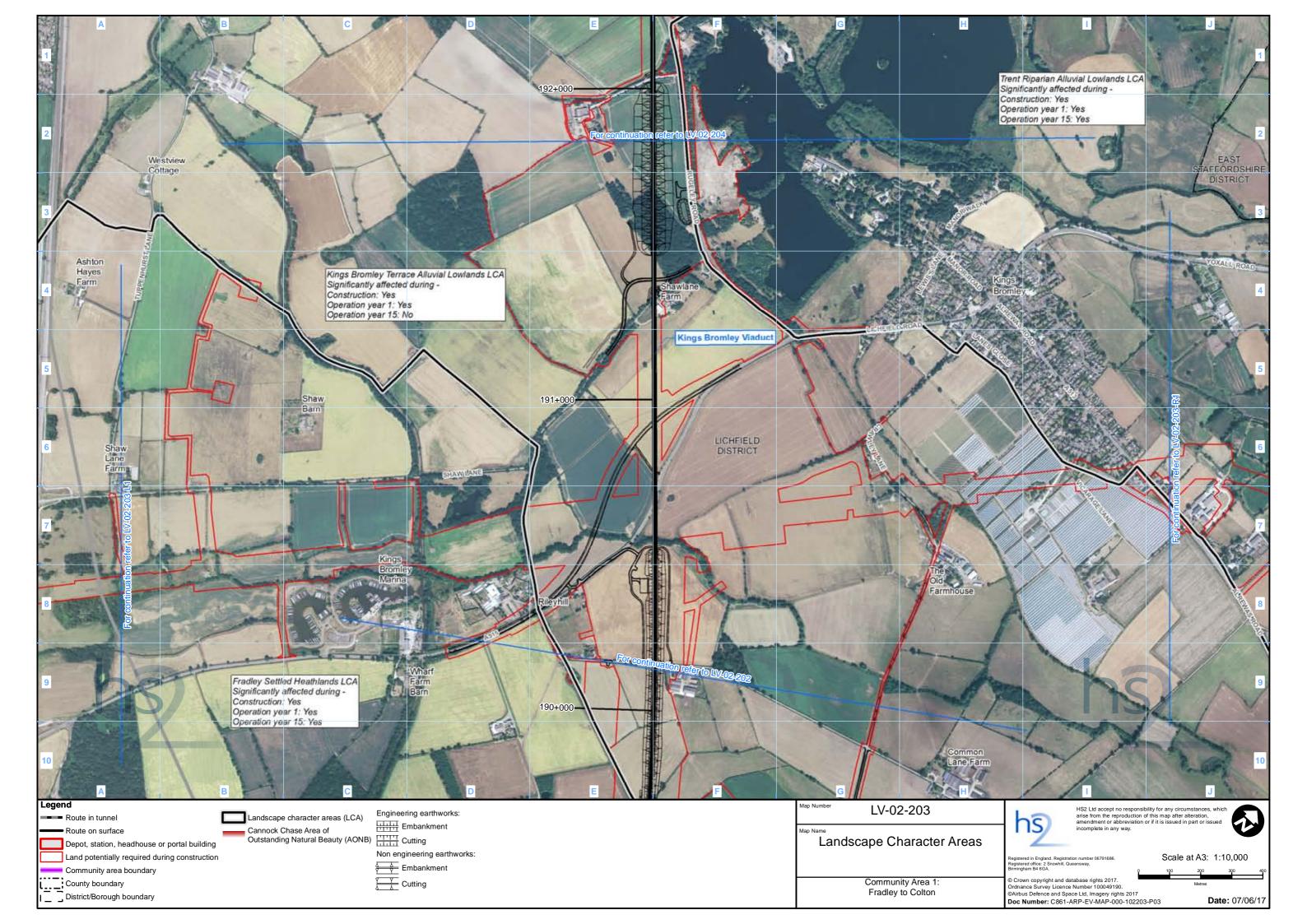
High Speed Rail (West Midlands-Crewe)
Environmental Statement
LV-02 - Landscape Character Areas

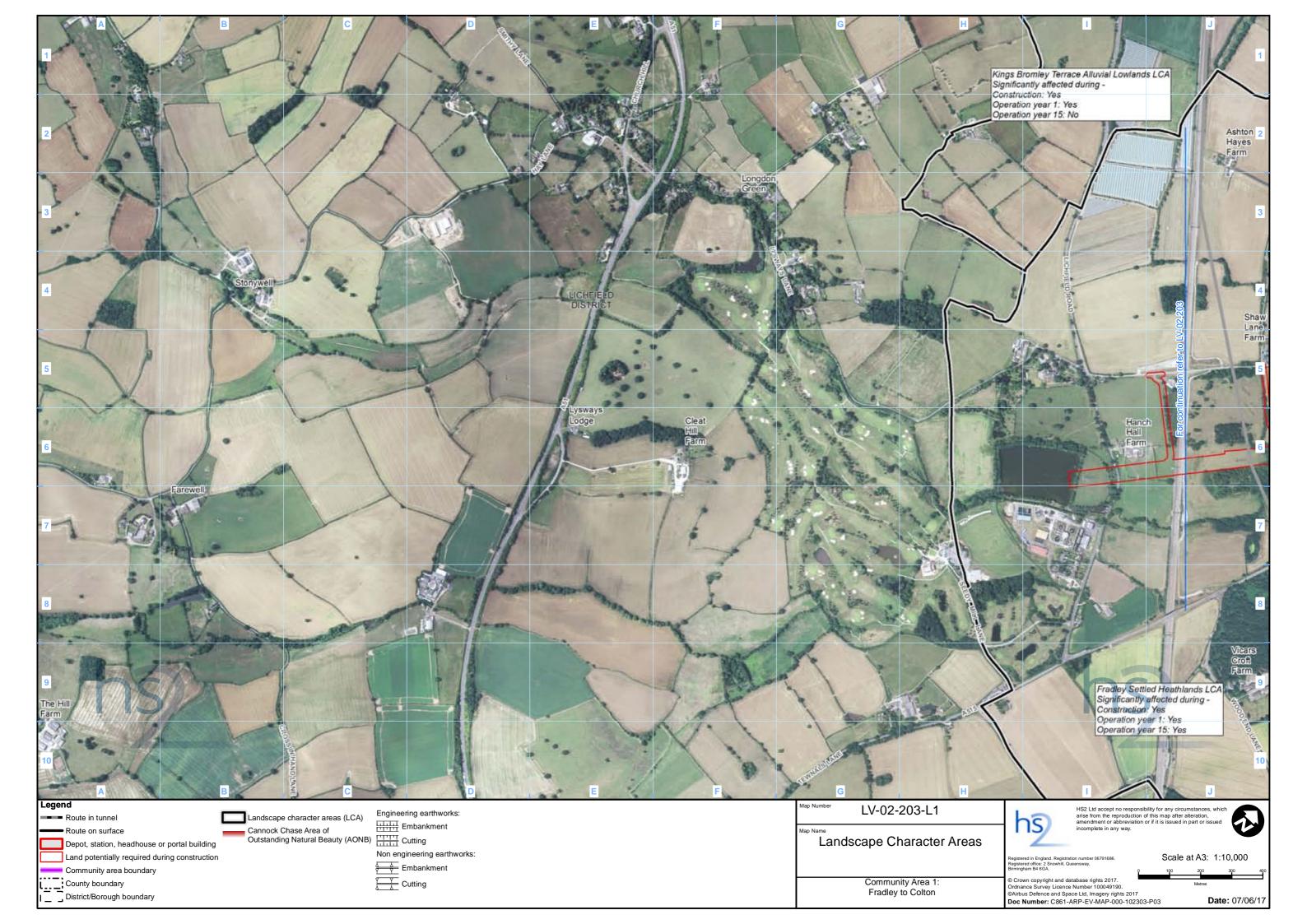


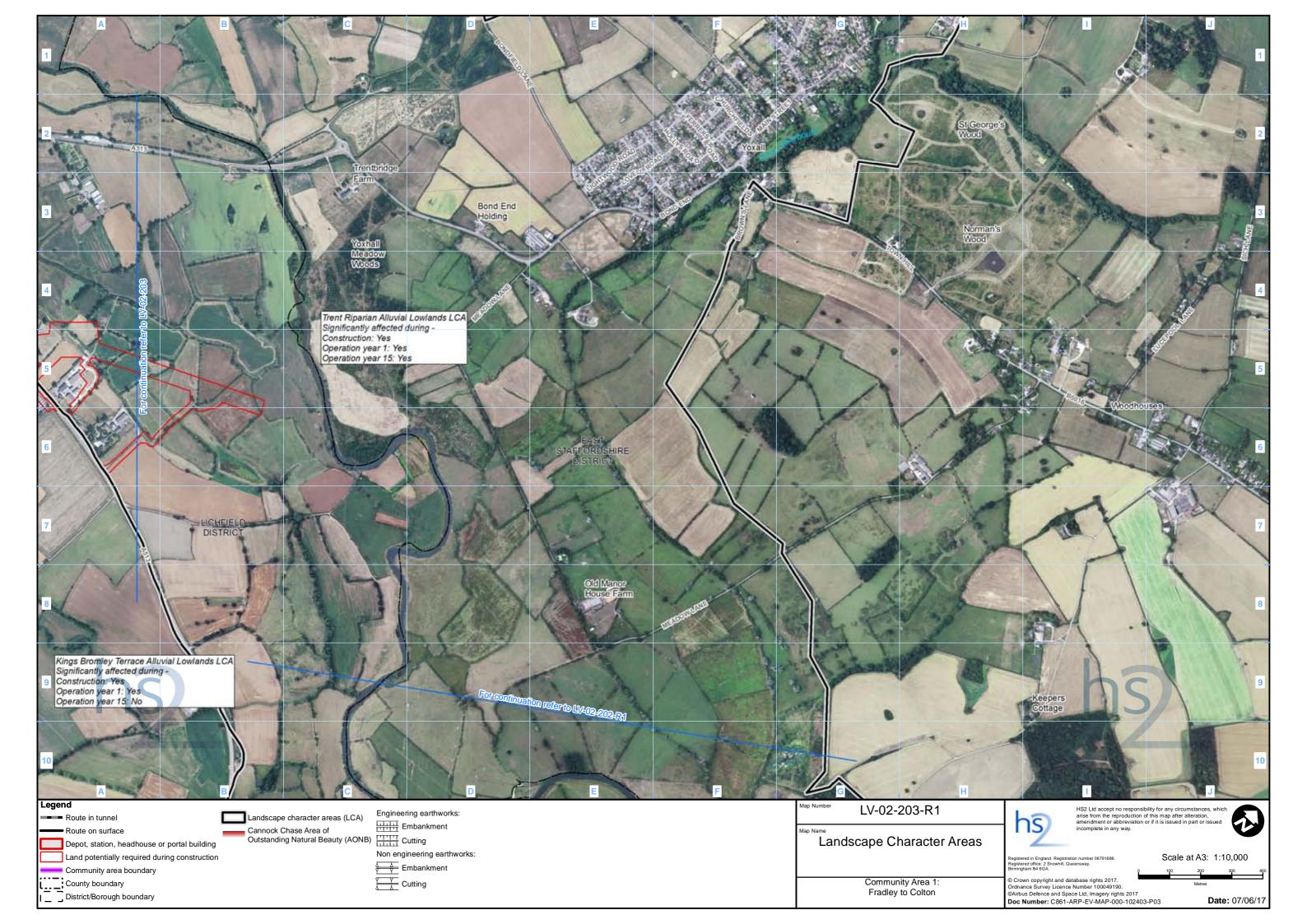


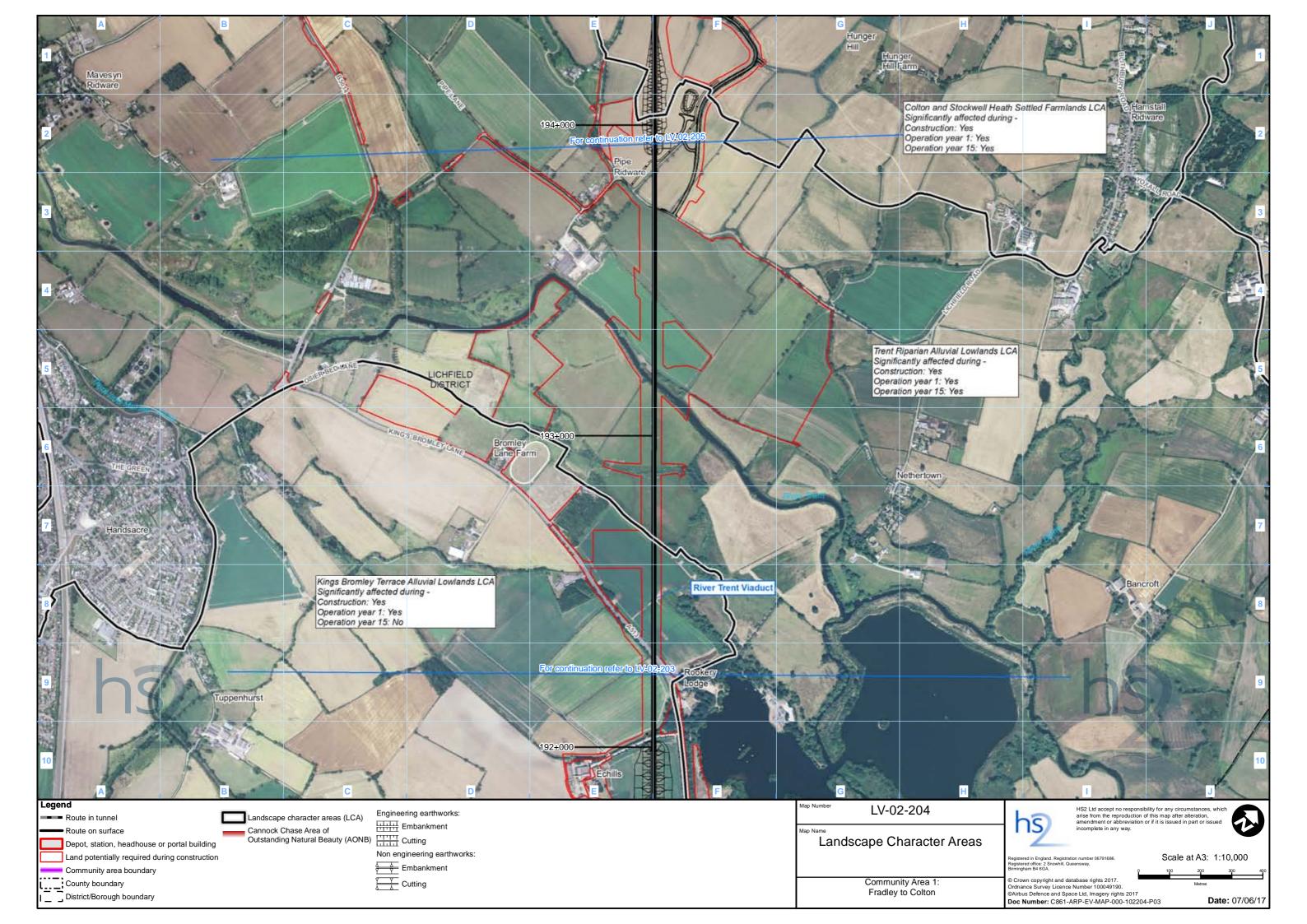


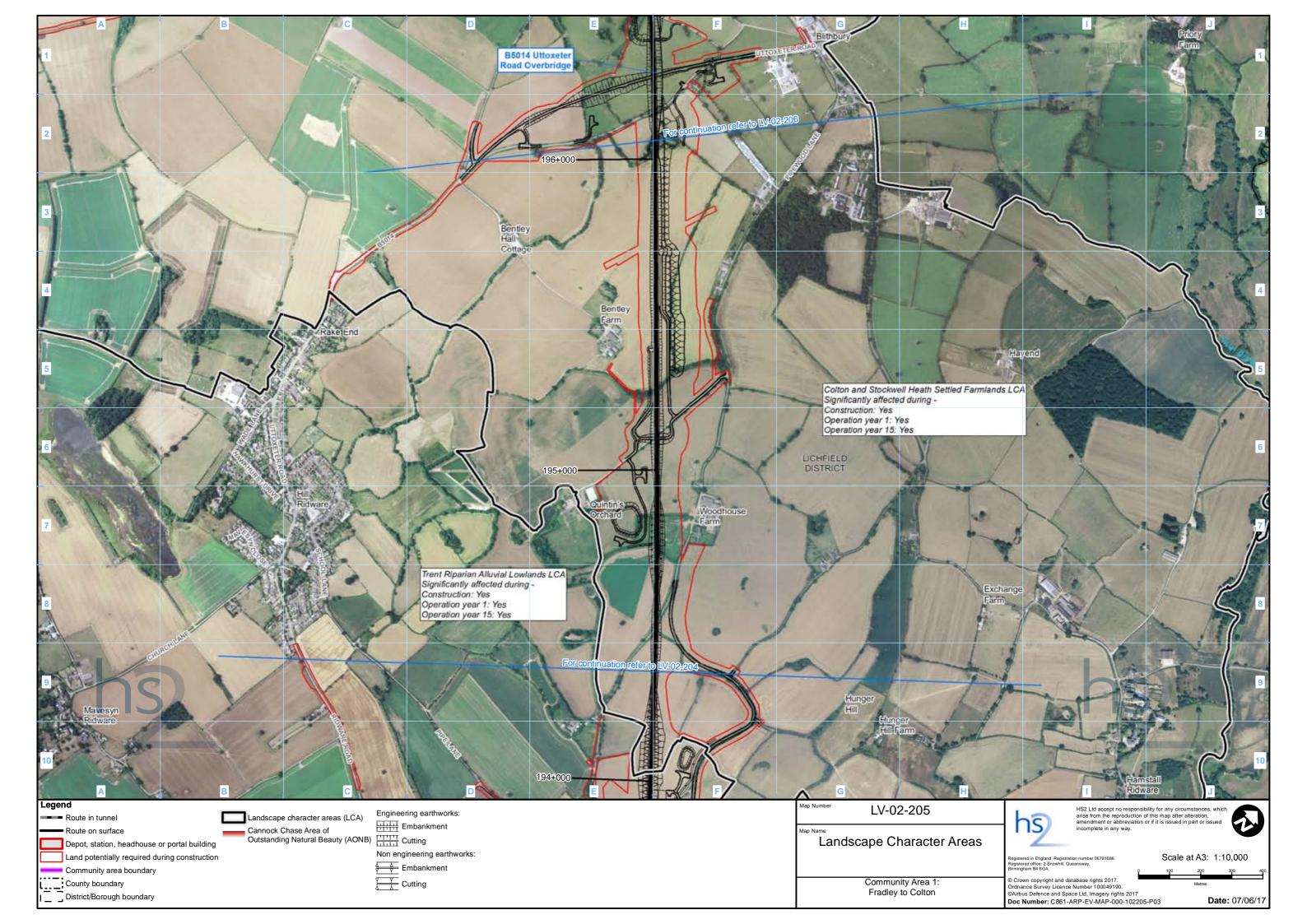


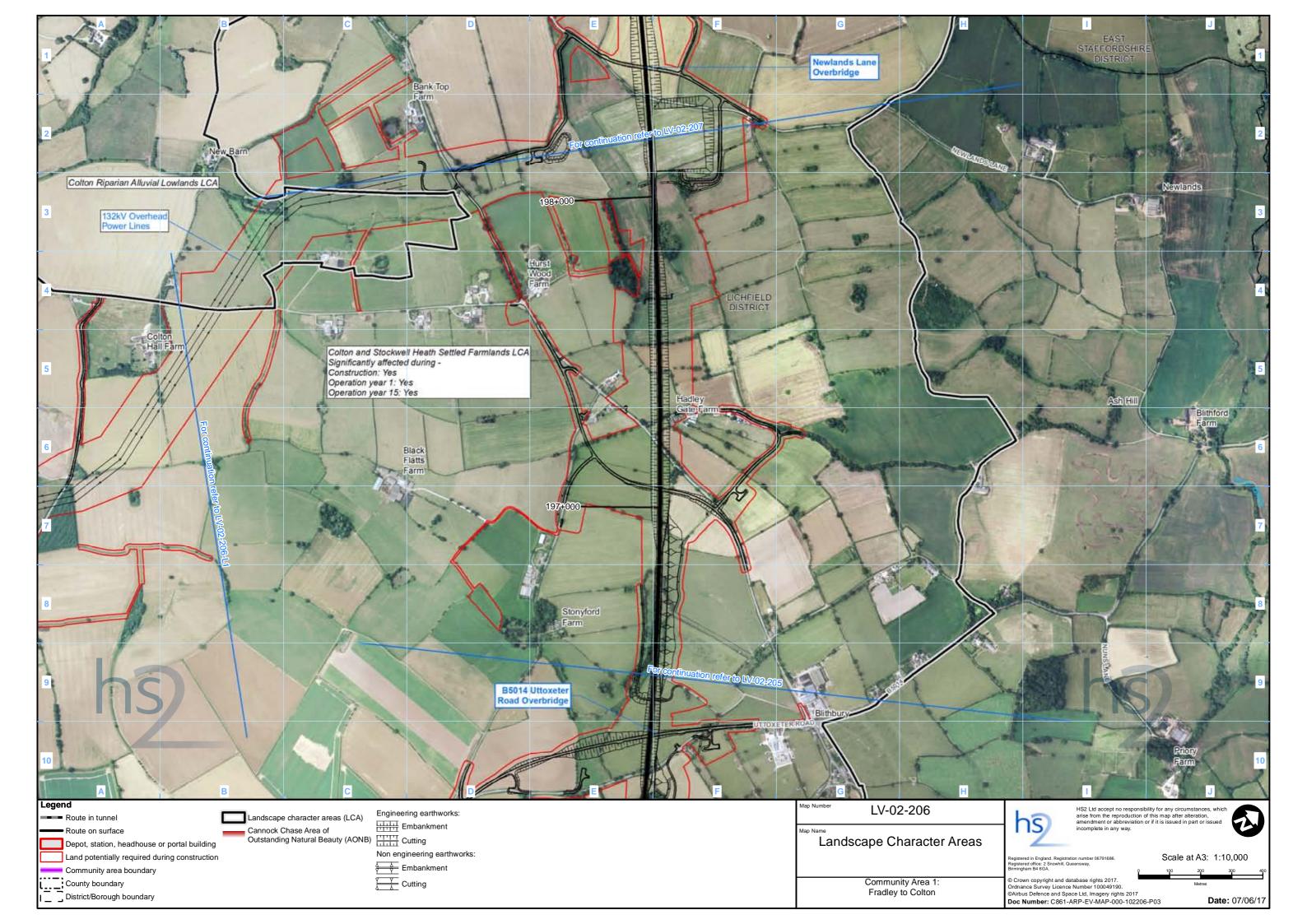


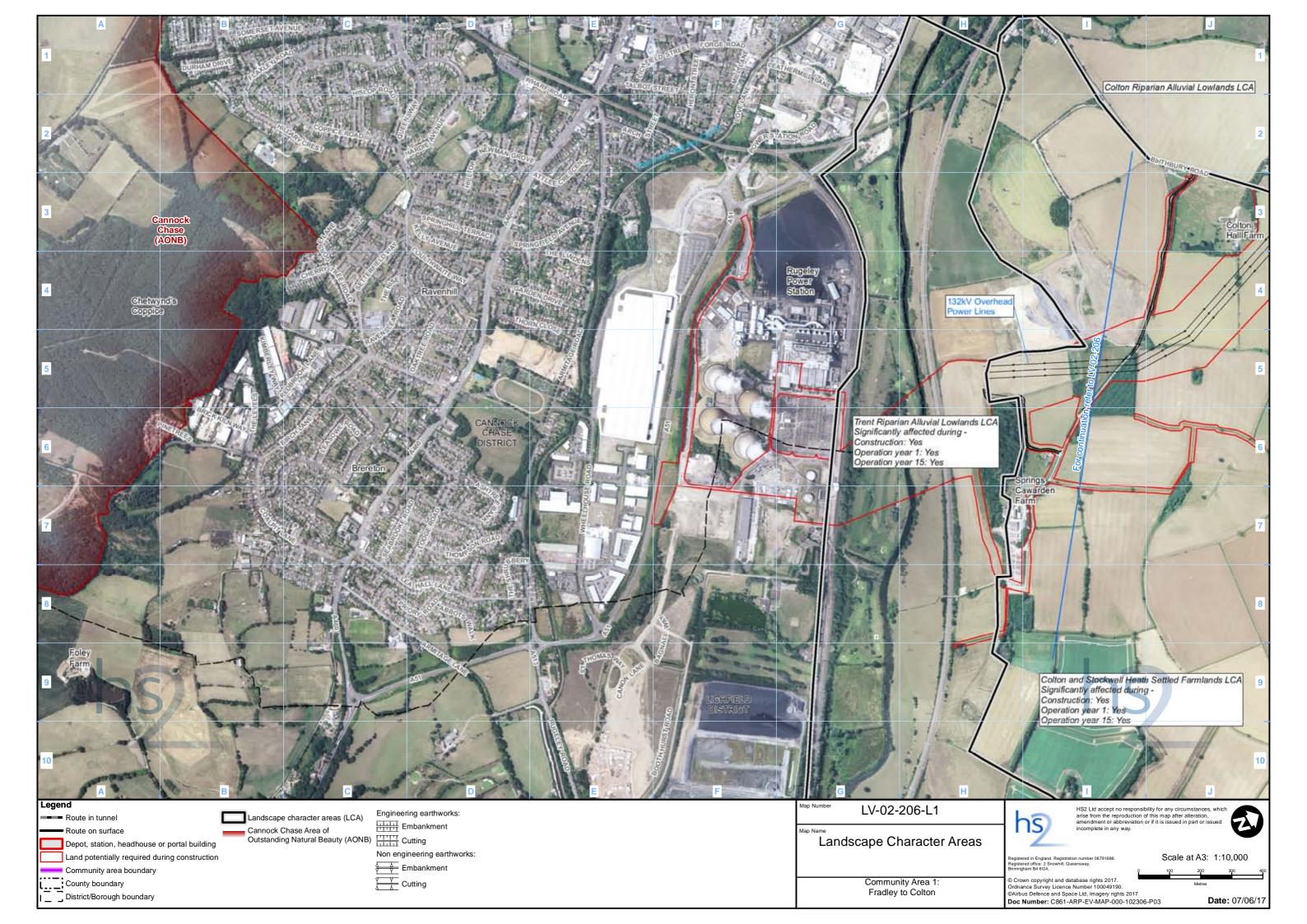


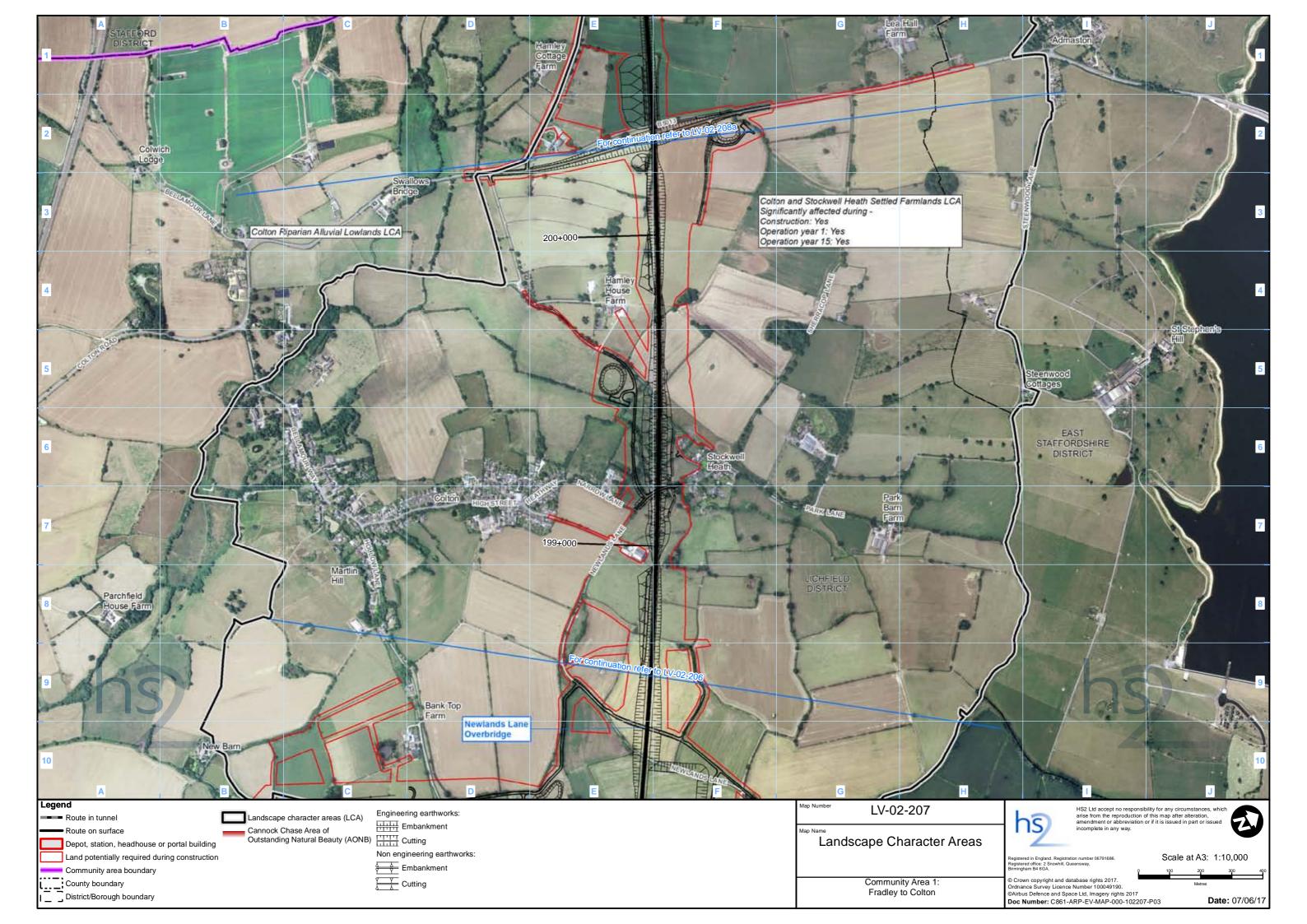


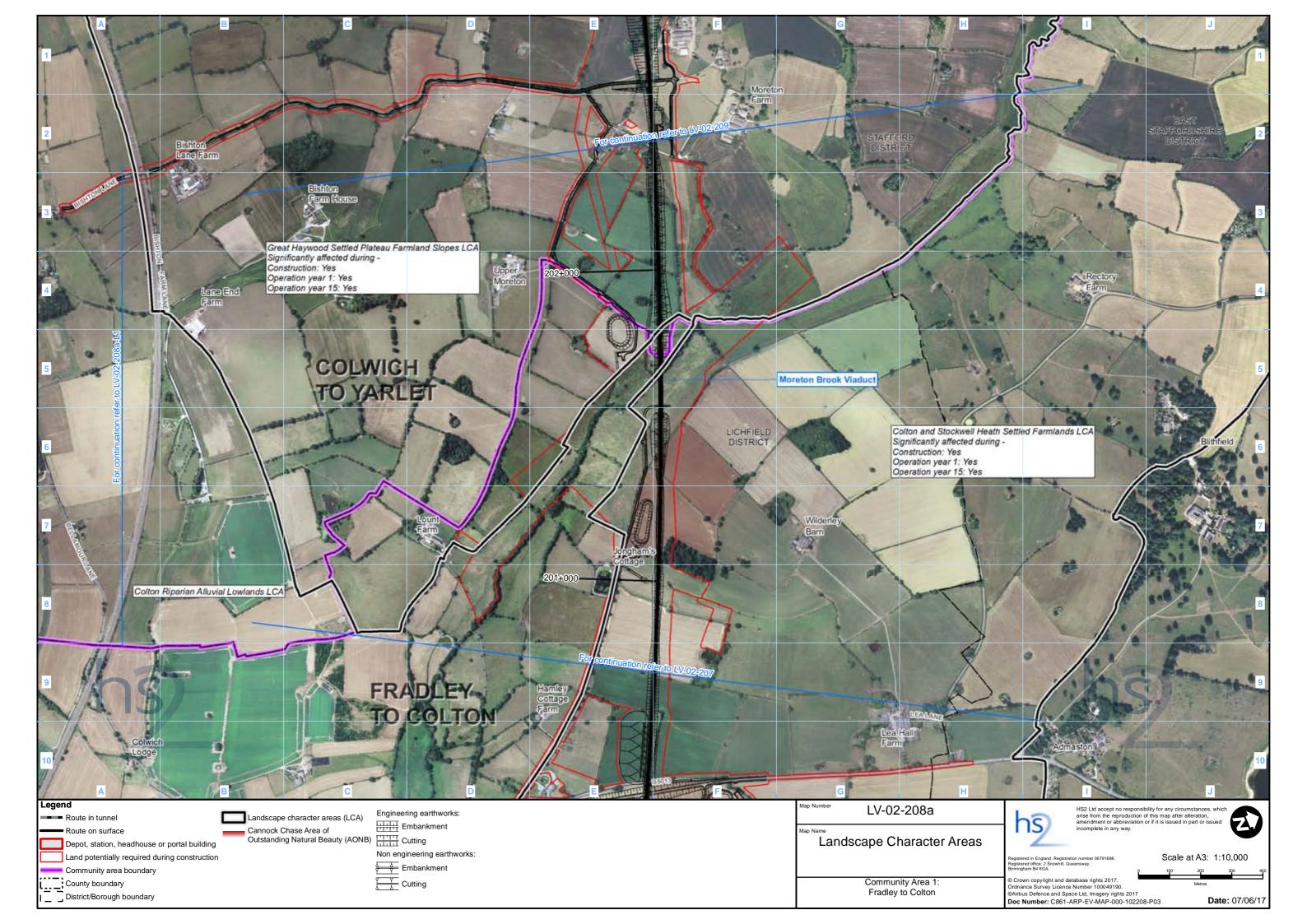


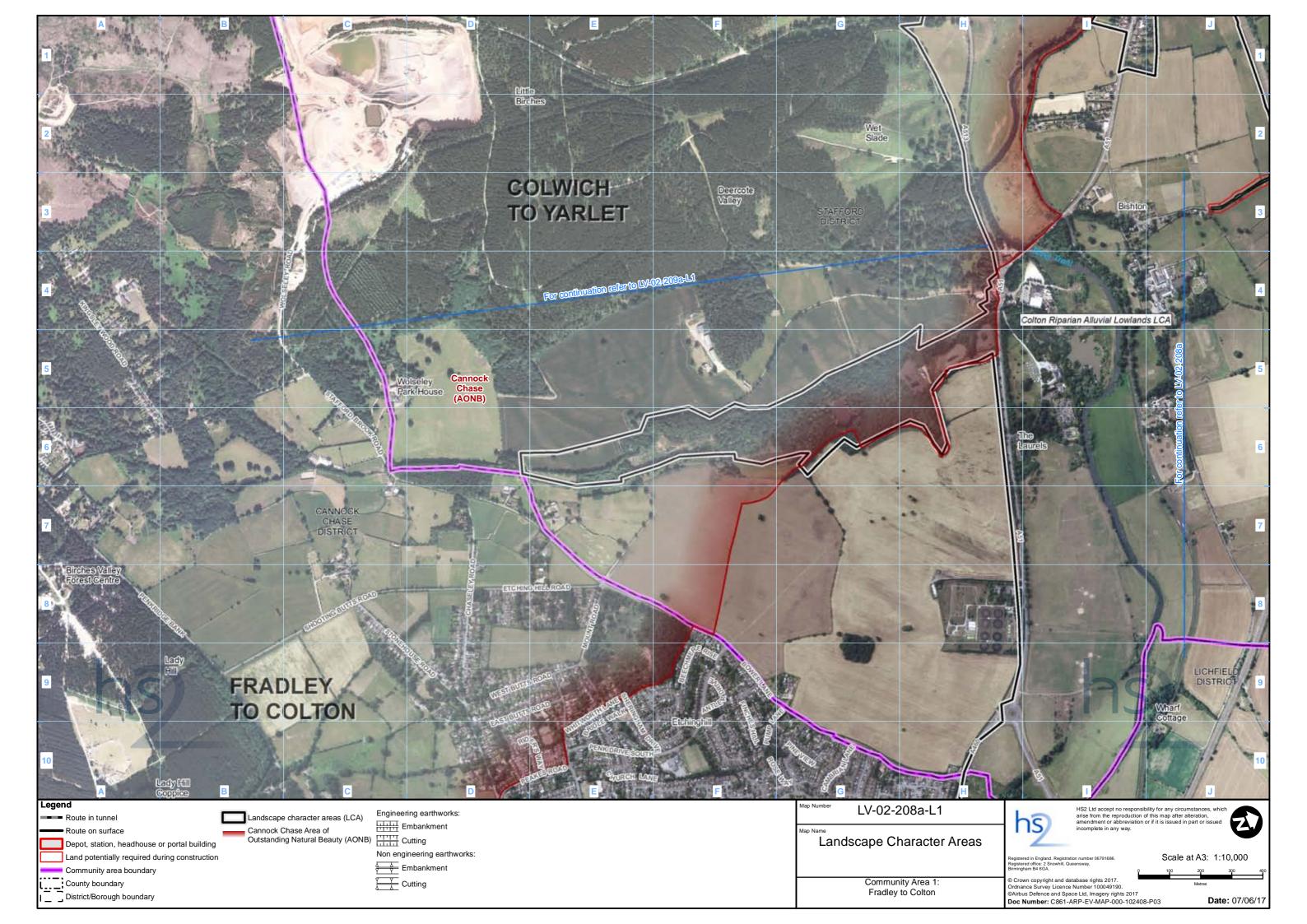


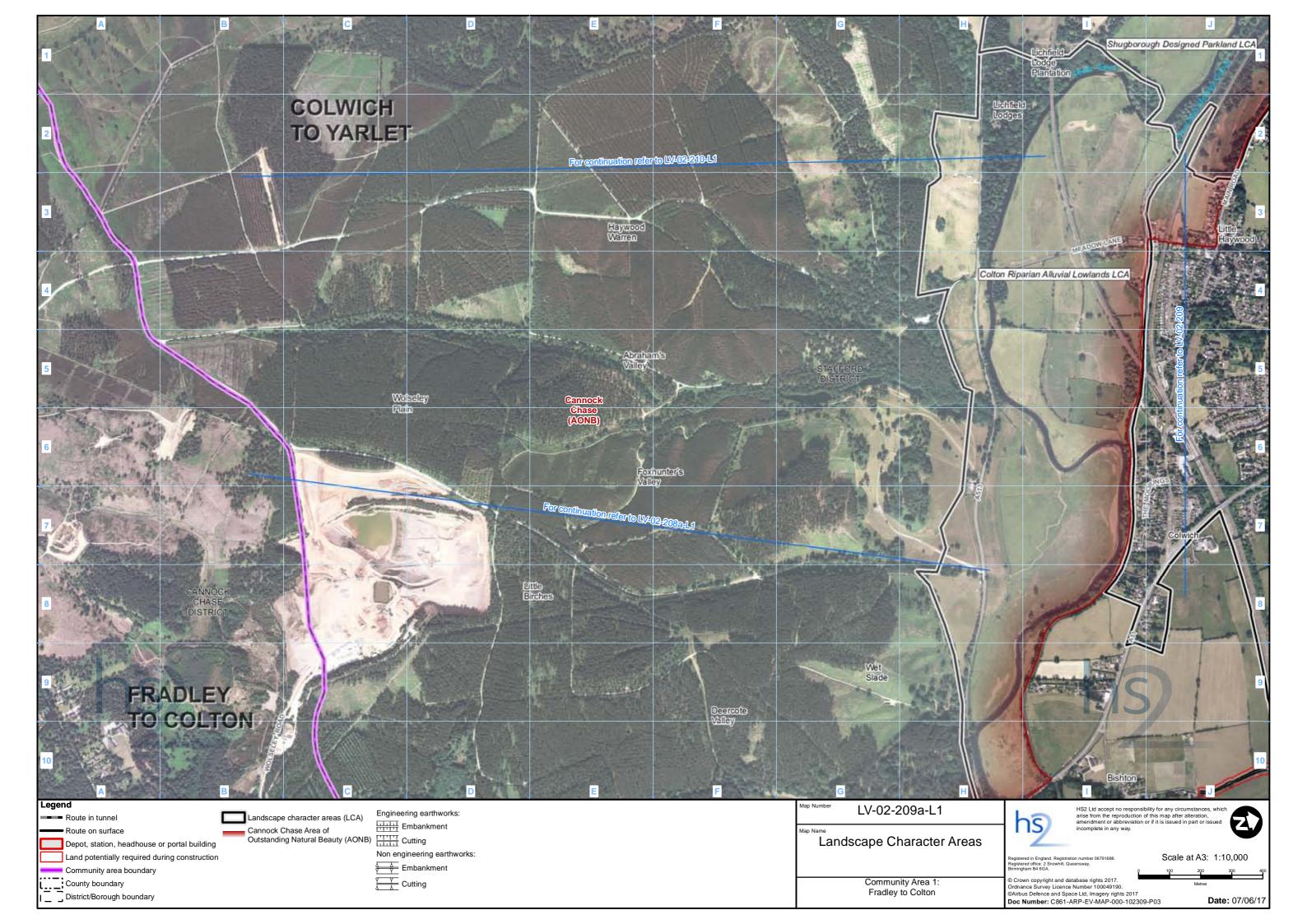










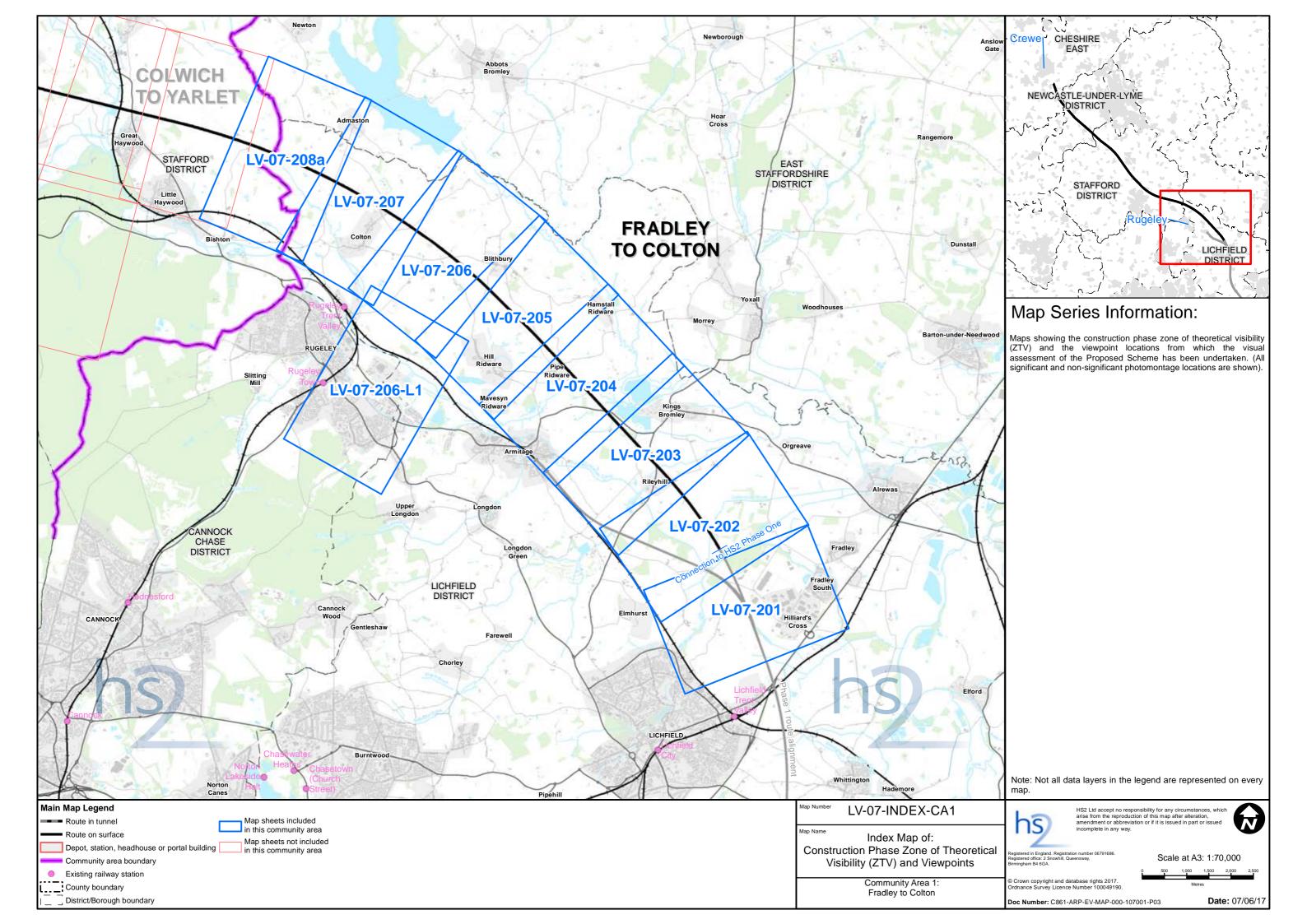


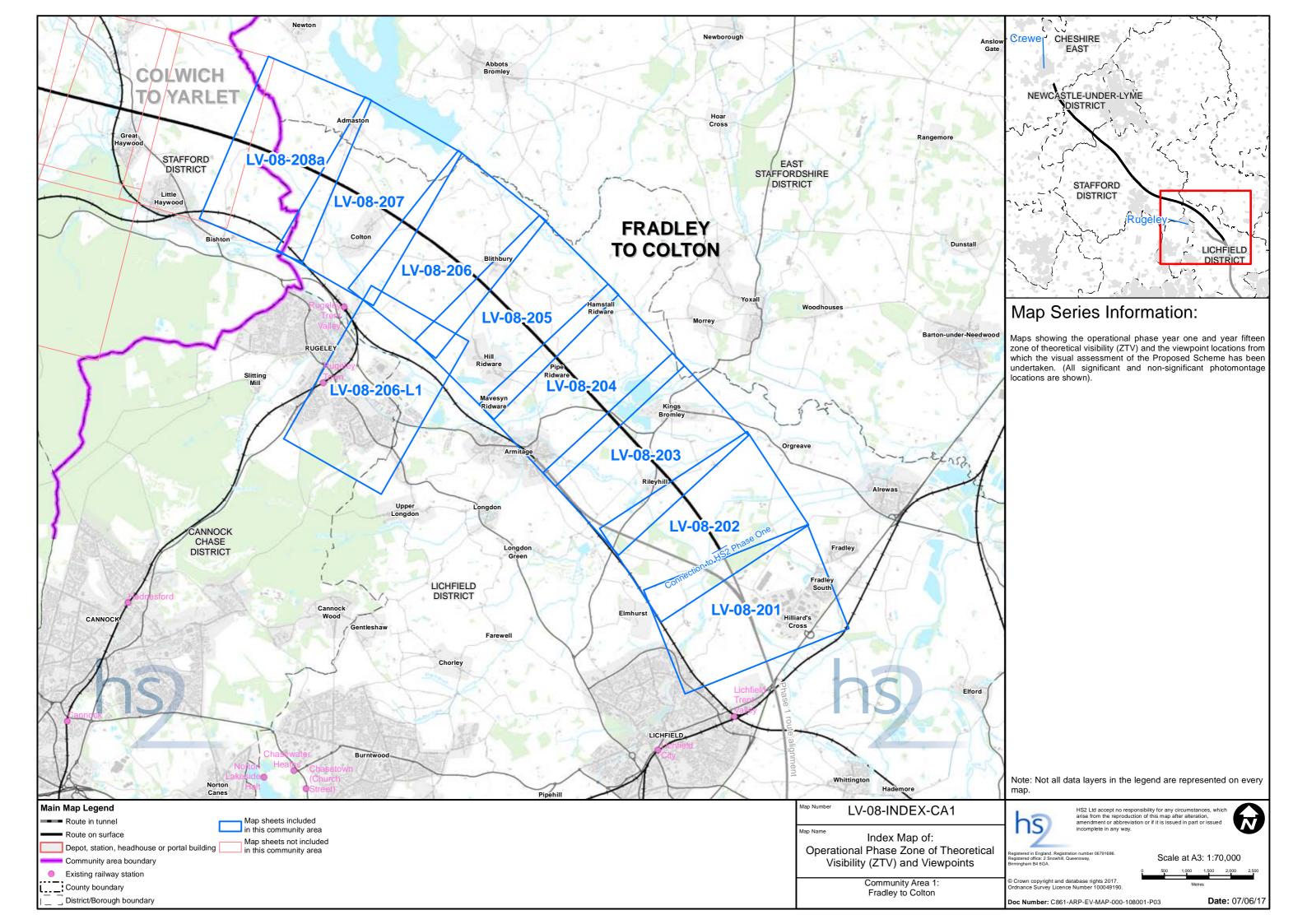
High Speed Rail (West Midlands-Crewe)

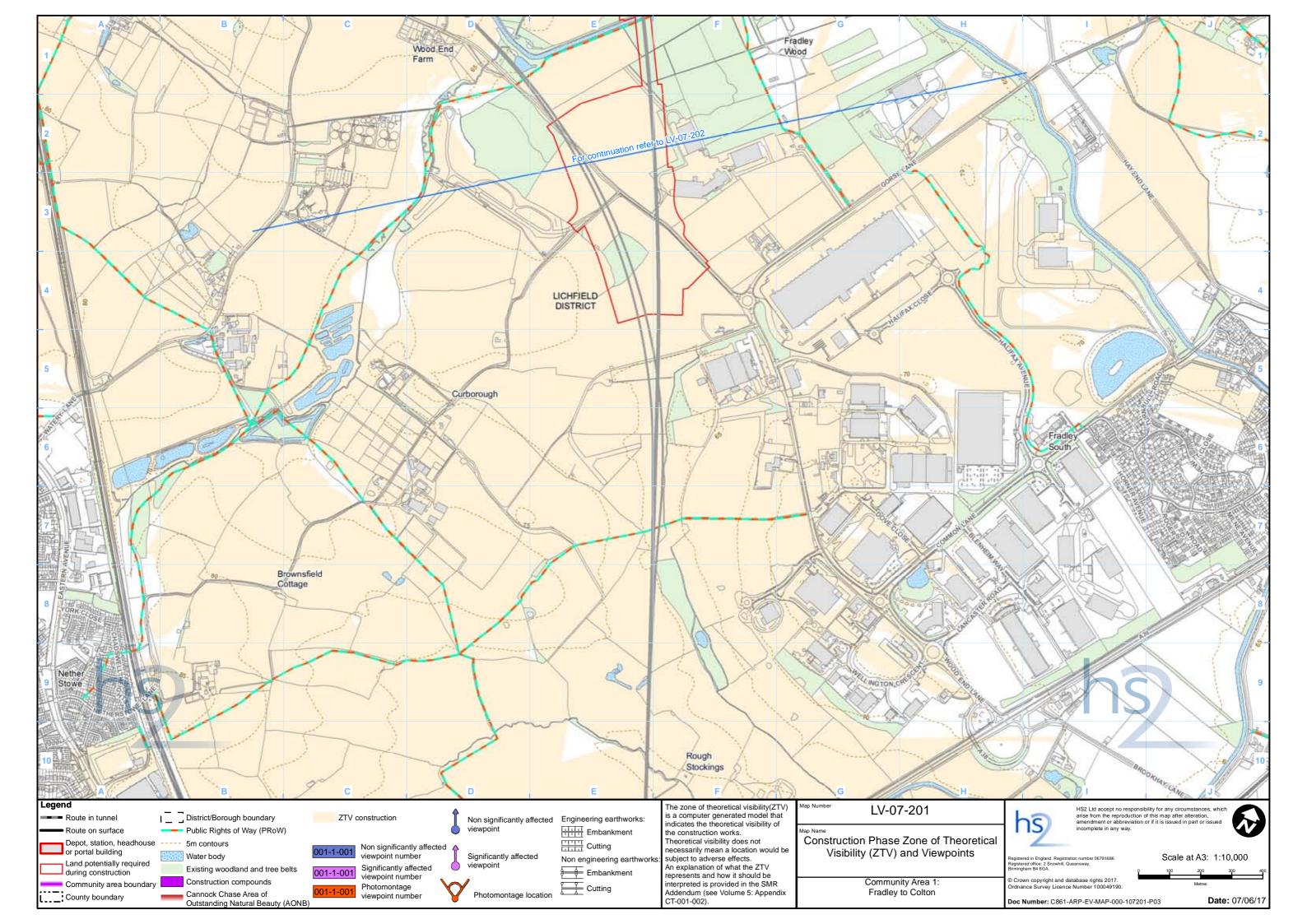
**Environmental Statement** 

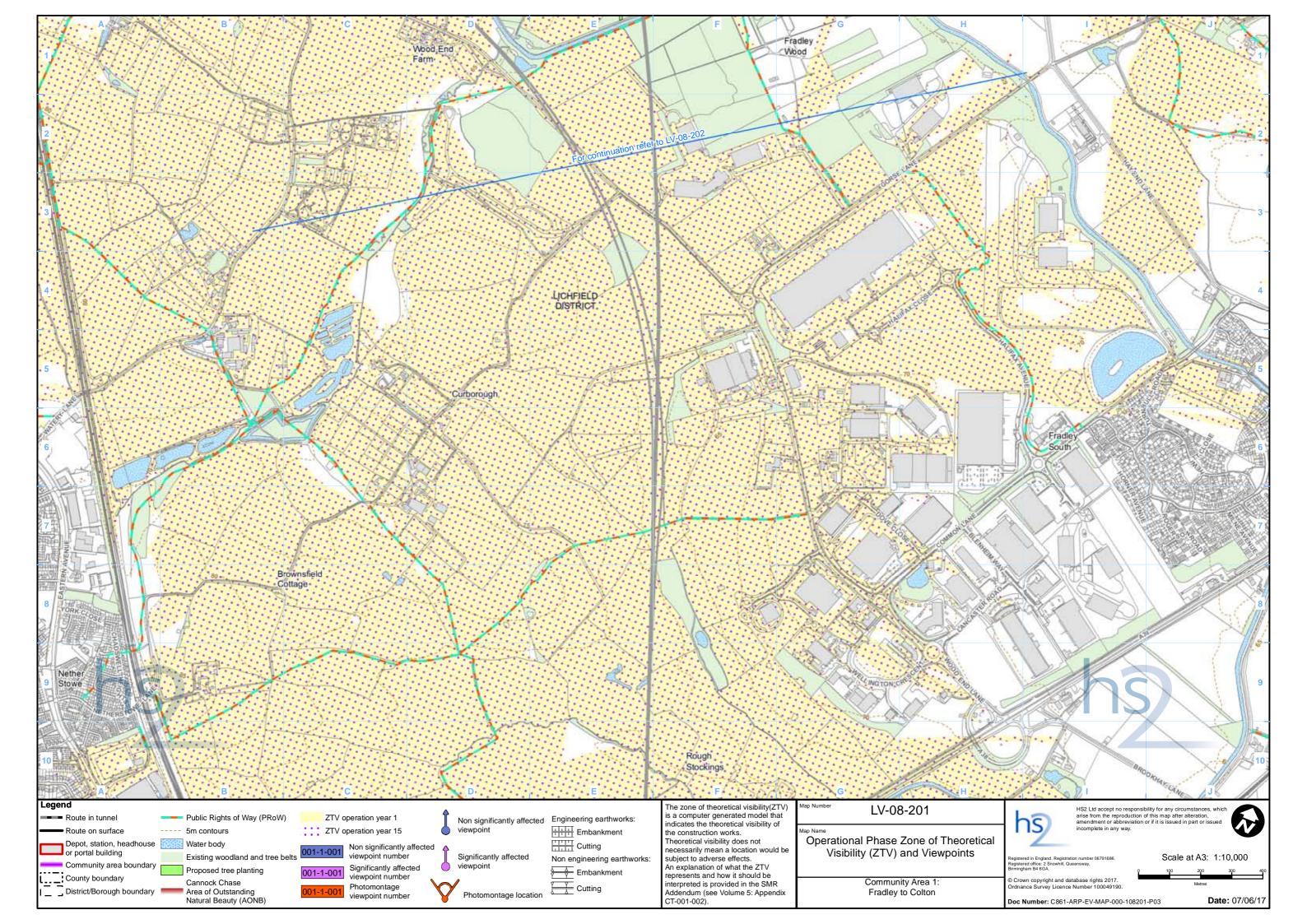
LV-07 - Construction Phase Zone of Theoretical Visibility (ZTV) and Viewpoints

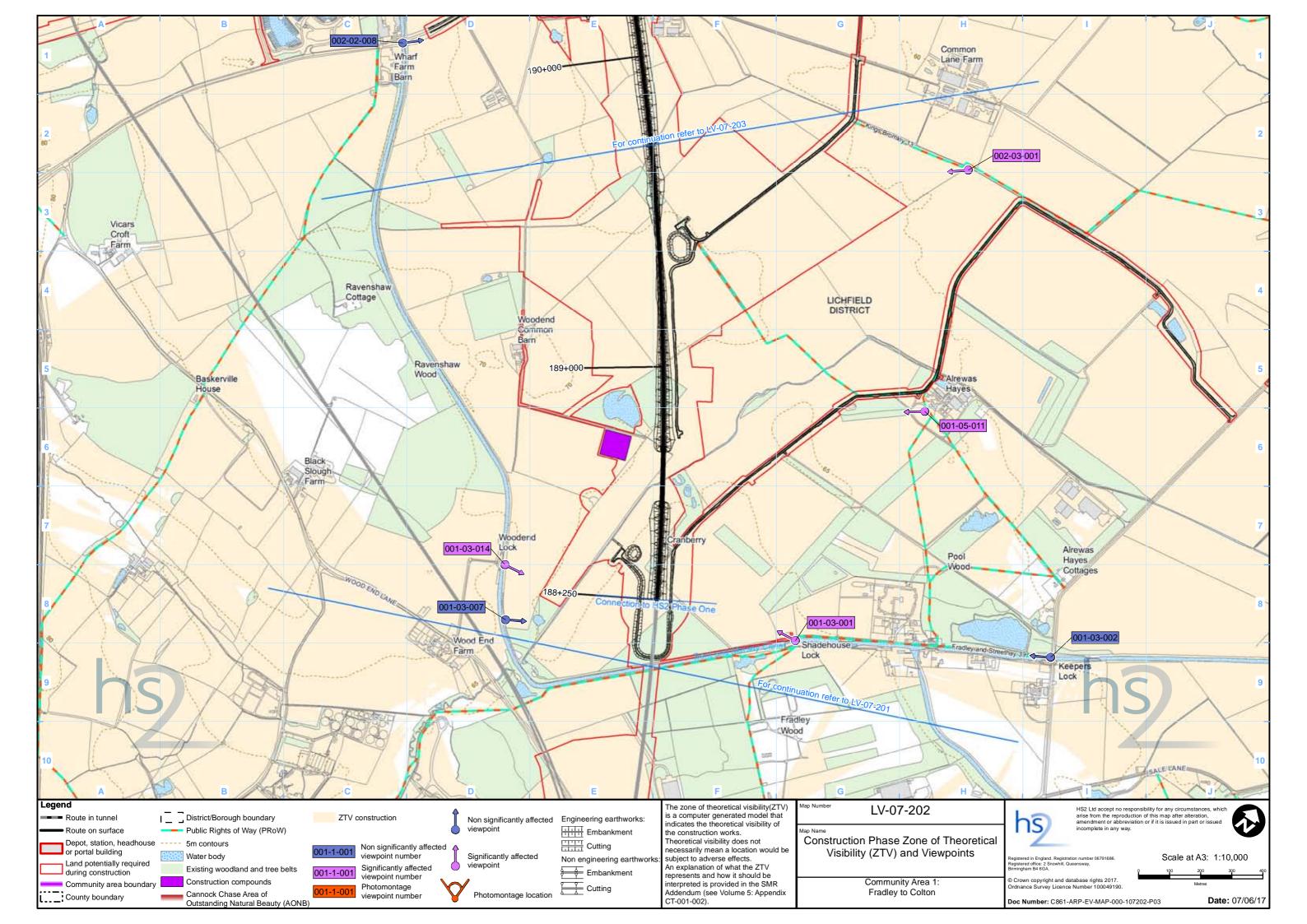
LV-08 - Operational Phase Zone of Theoretical Visibility (ZTV) and Viewpoints

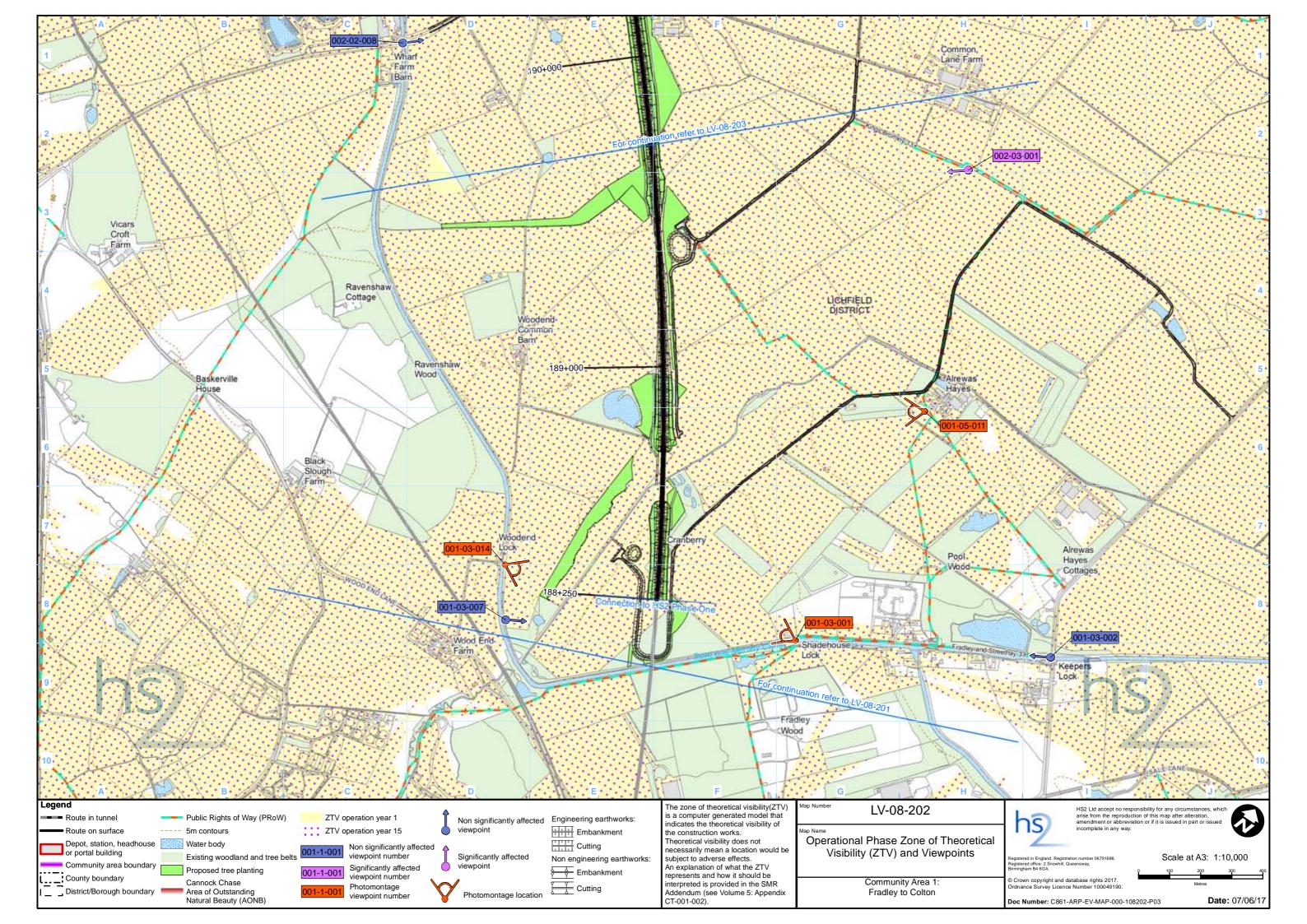


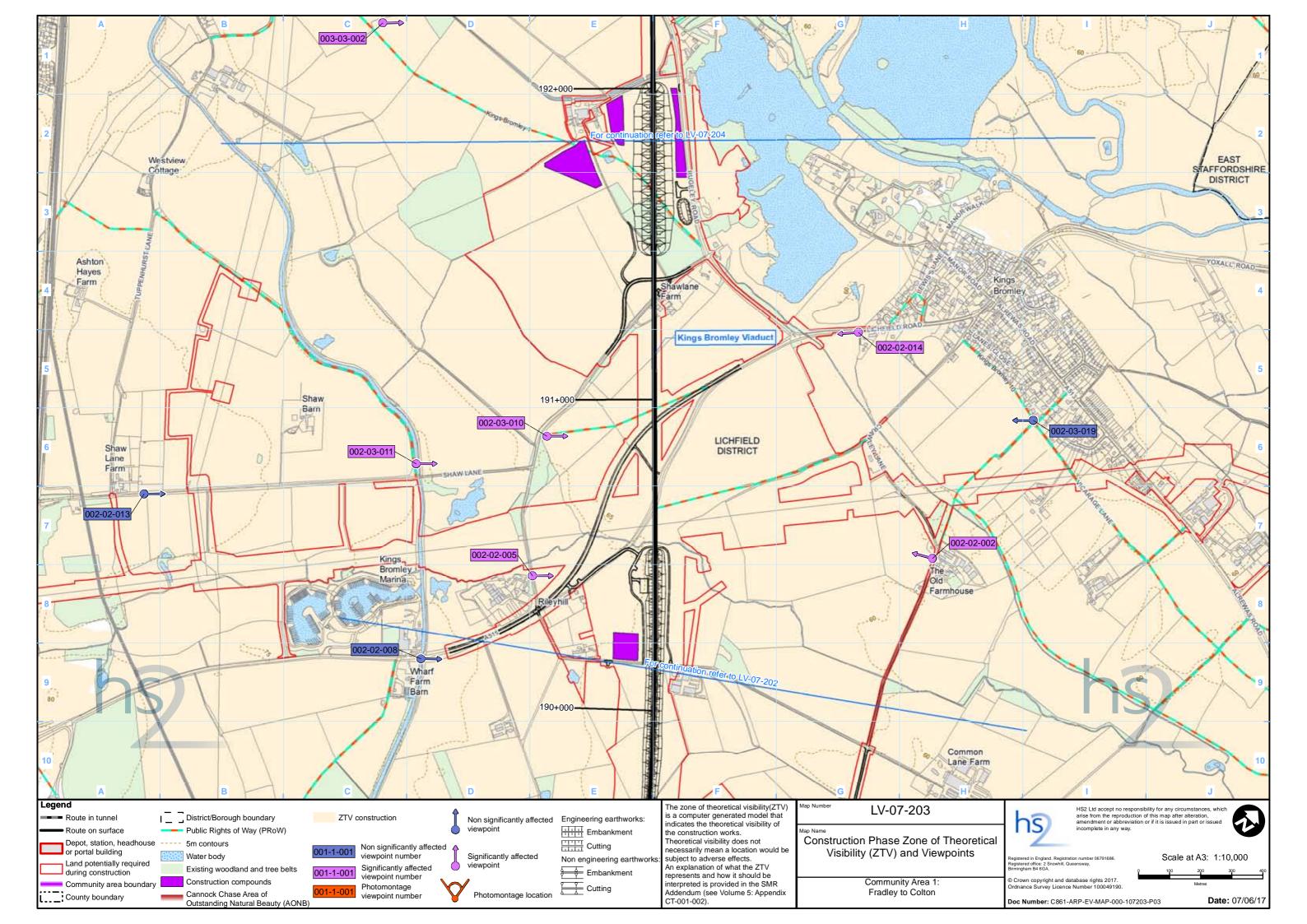


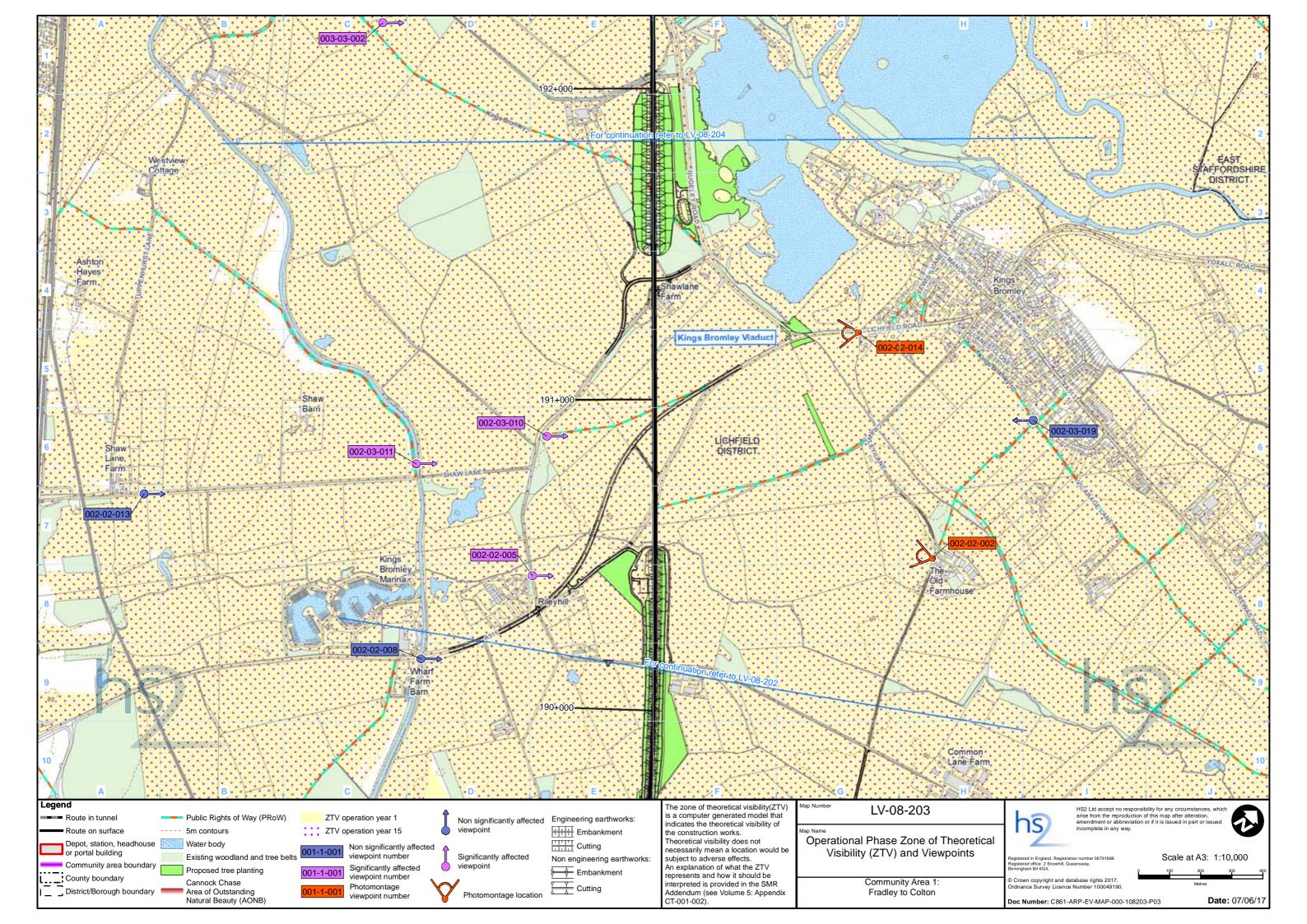


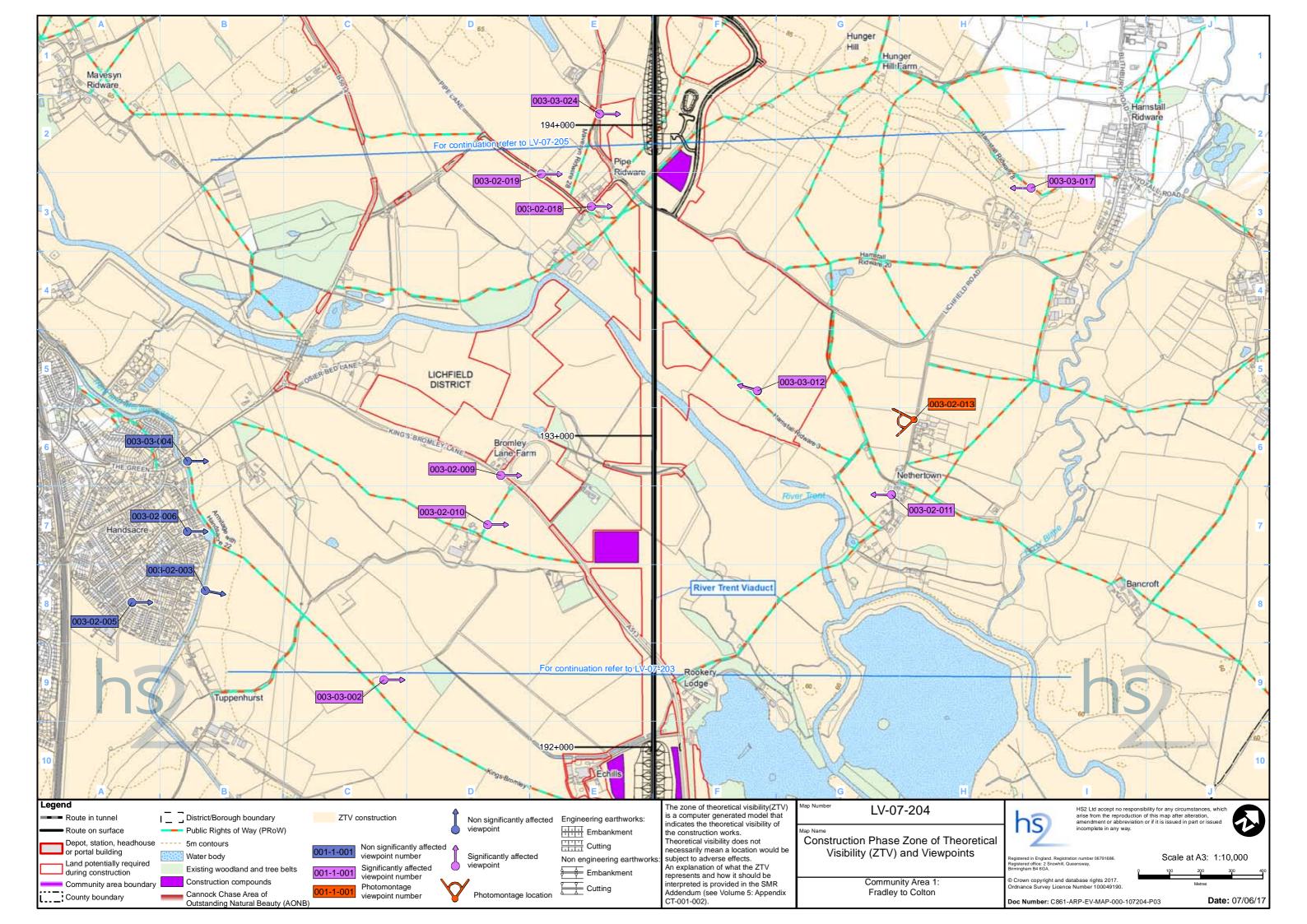


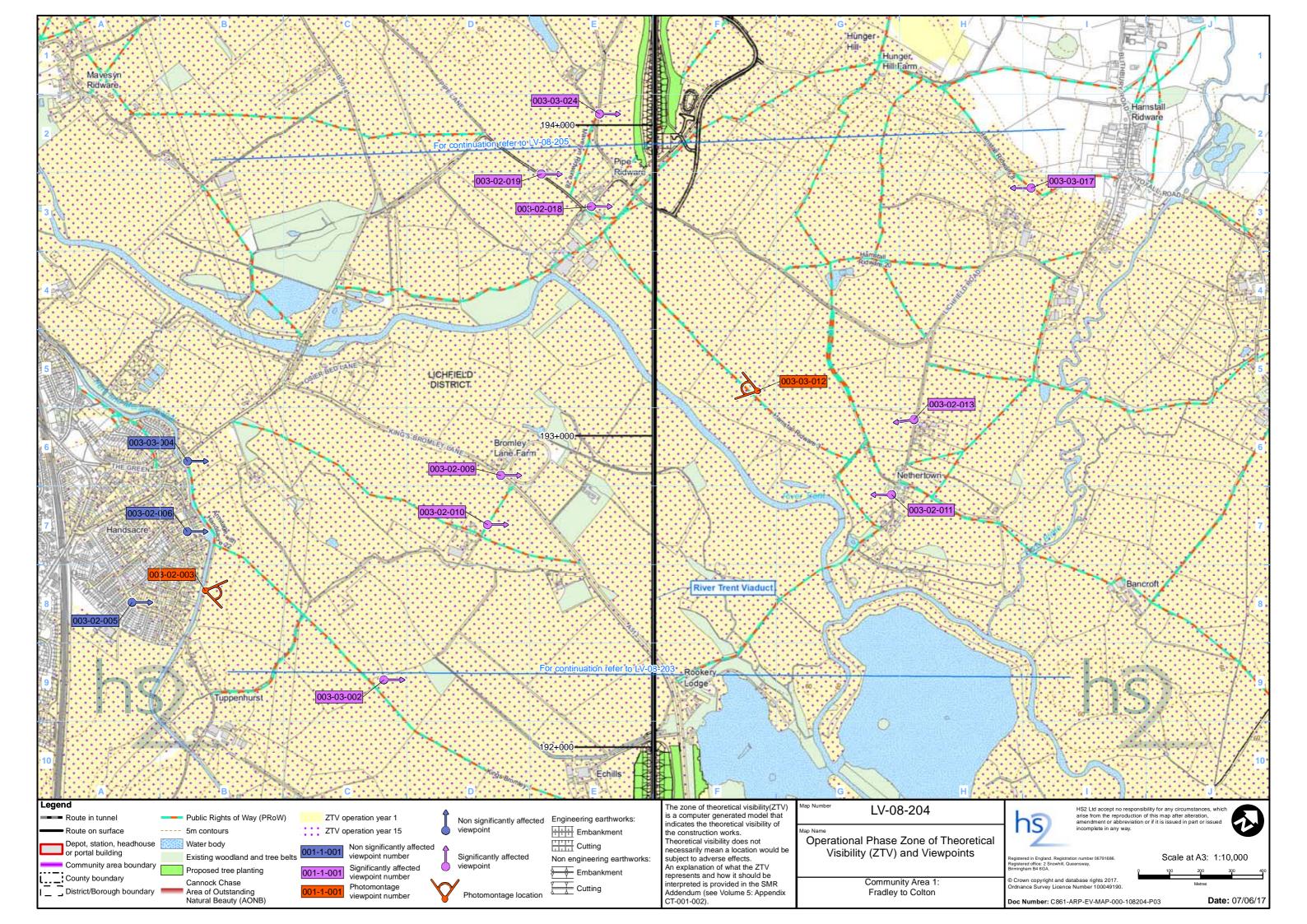


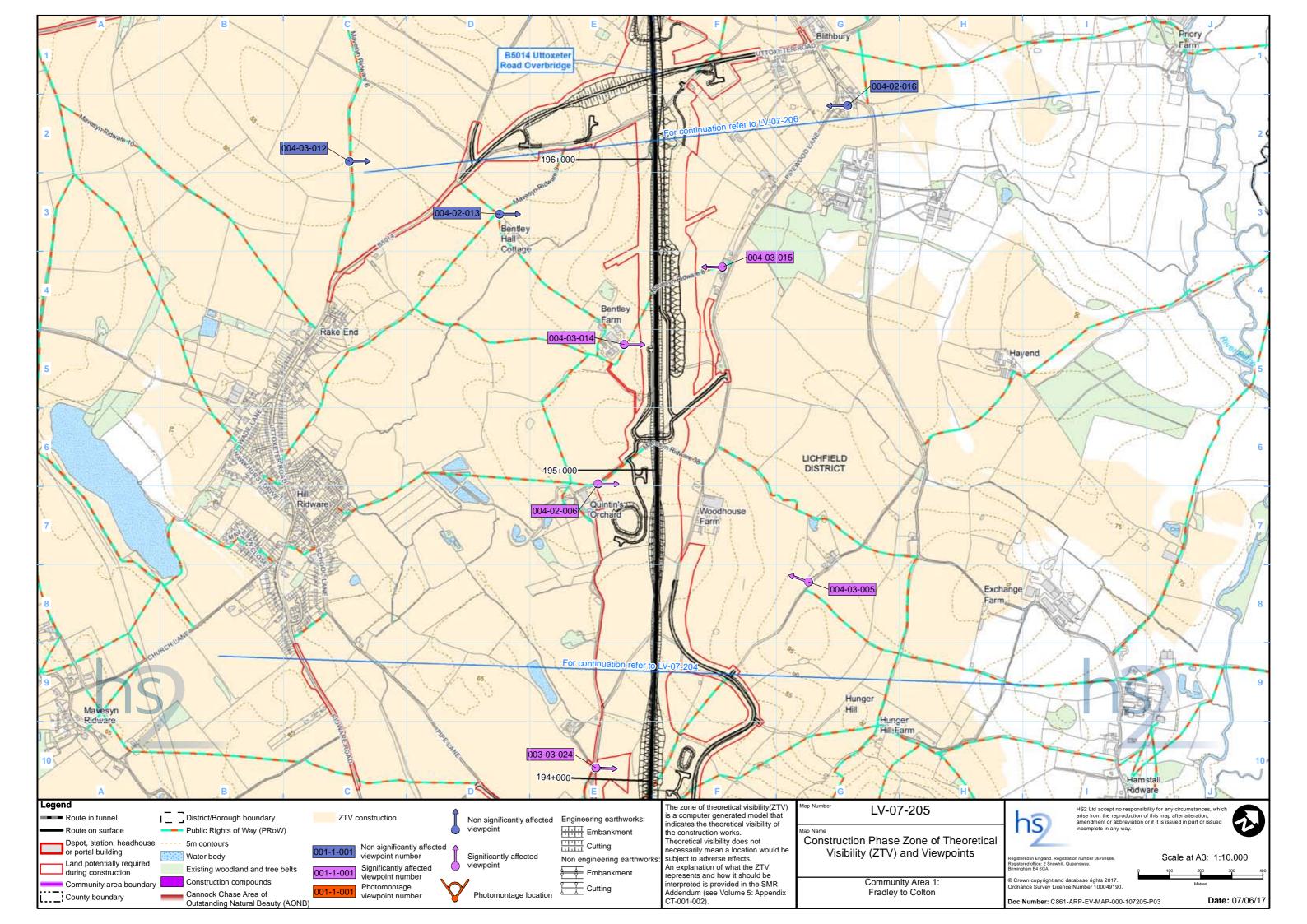


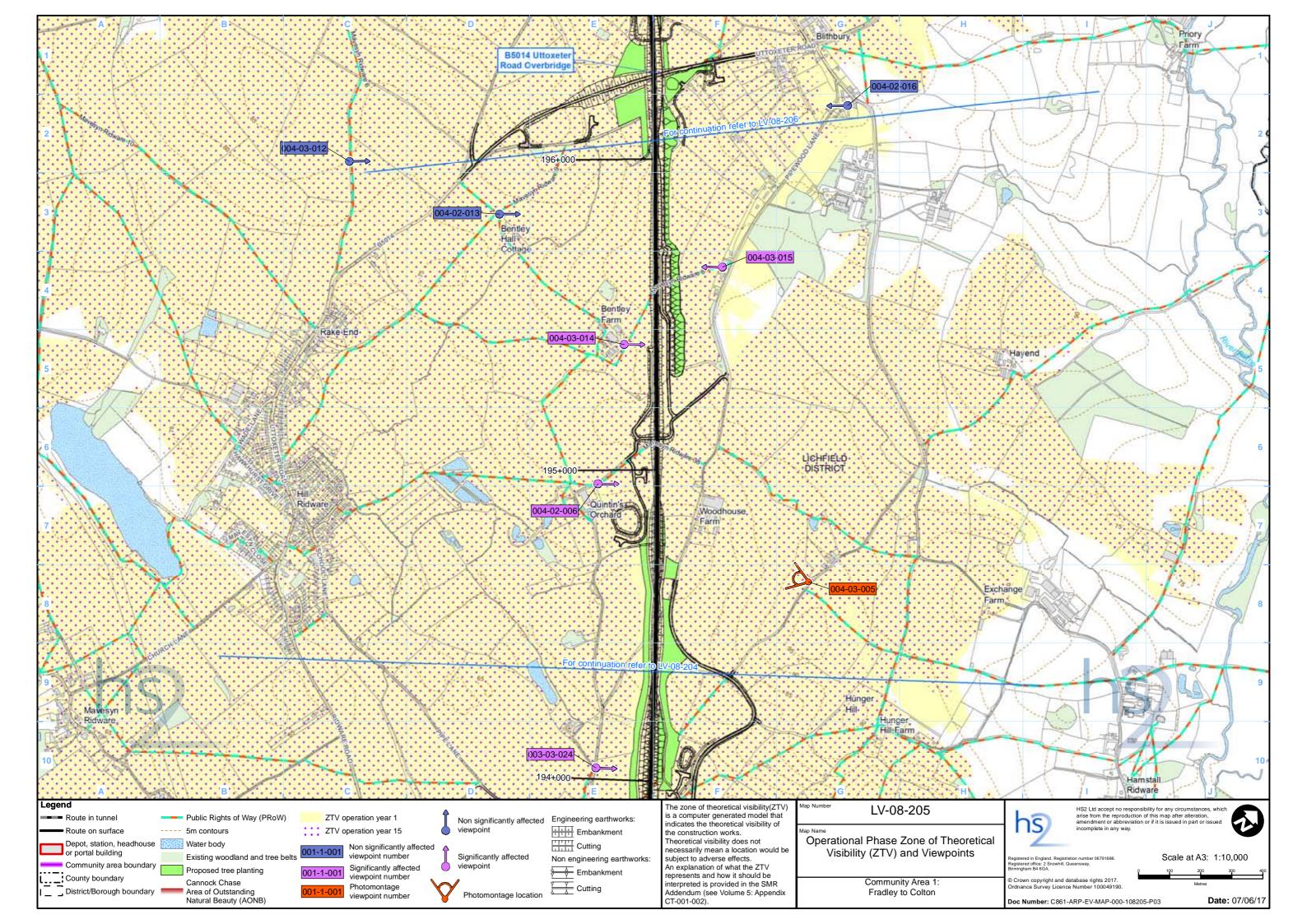


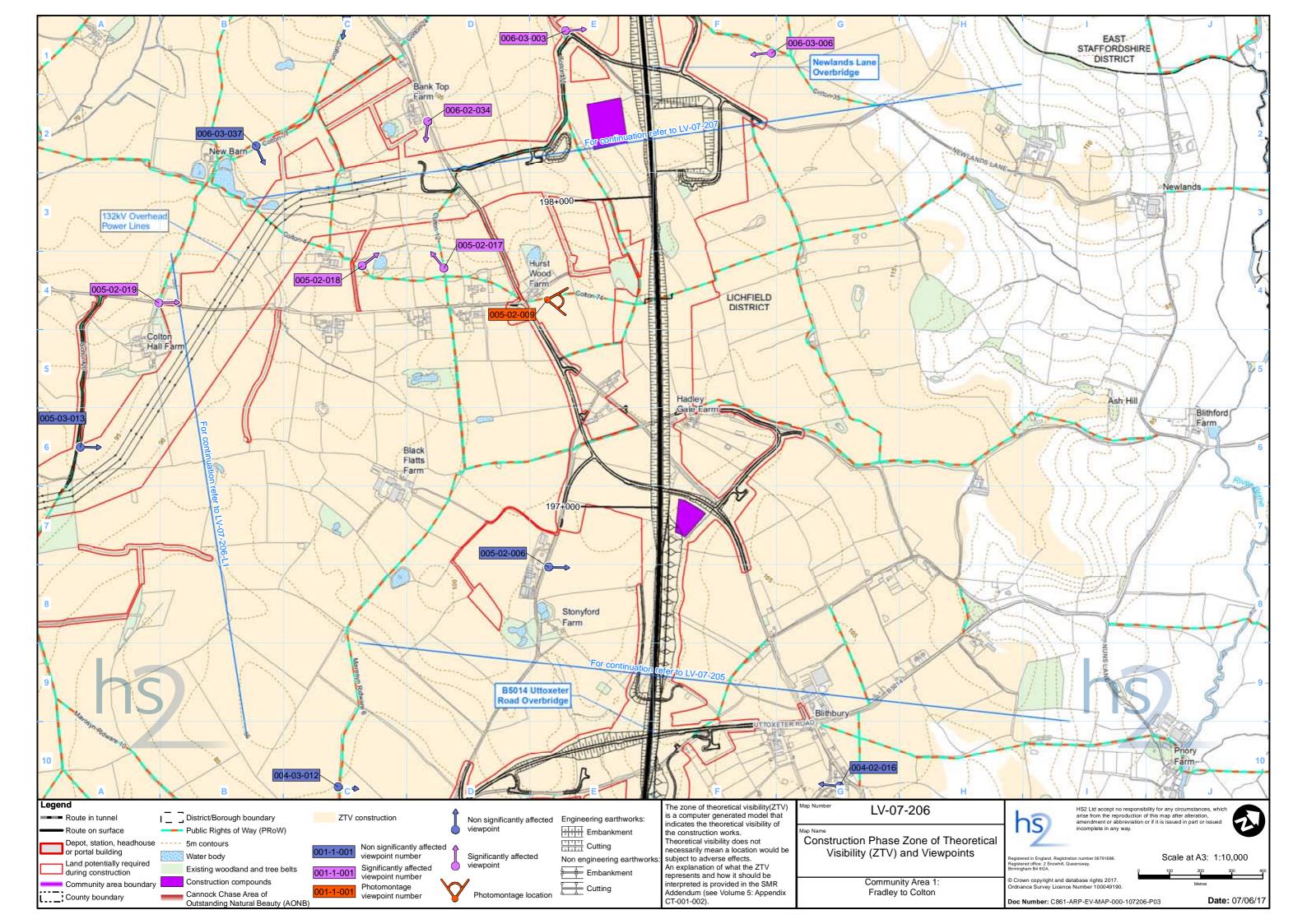


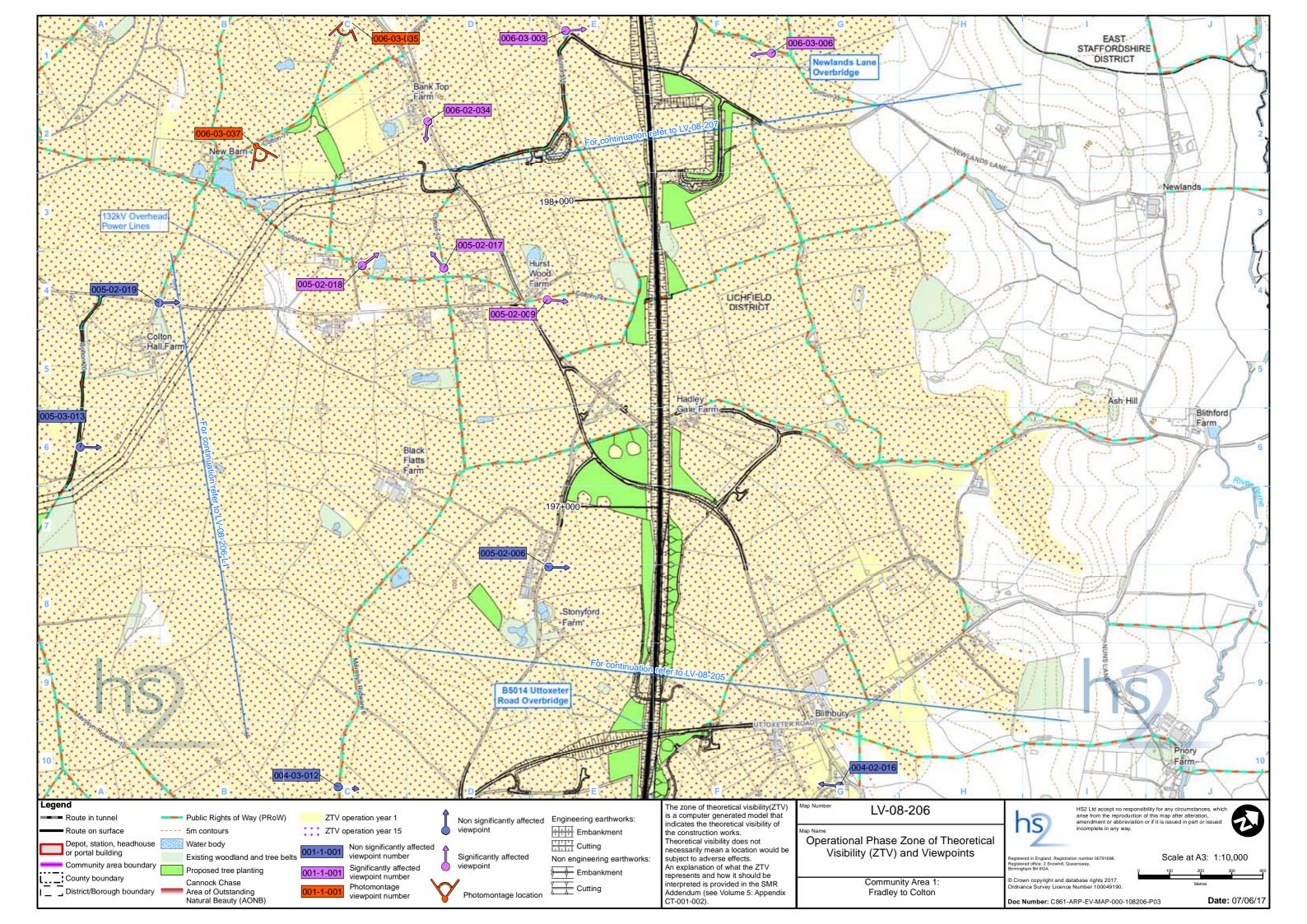


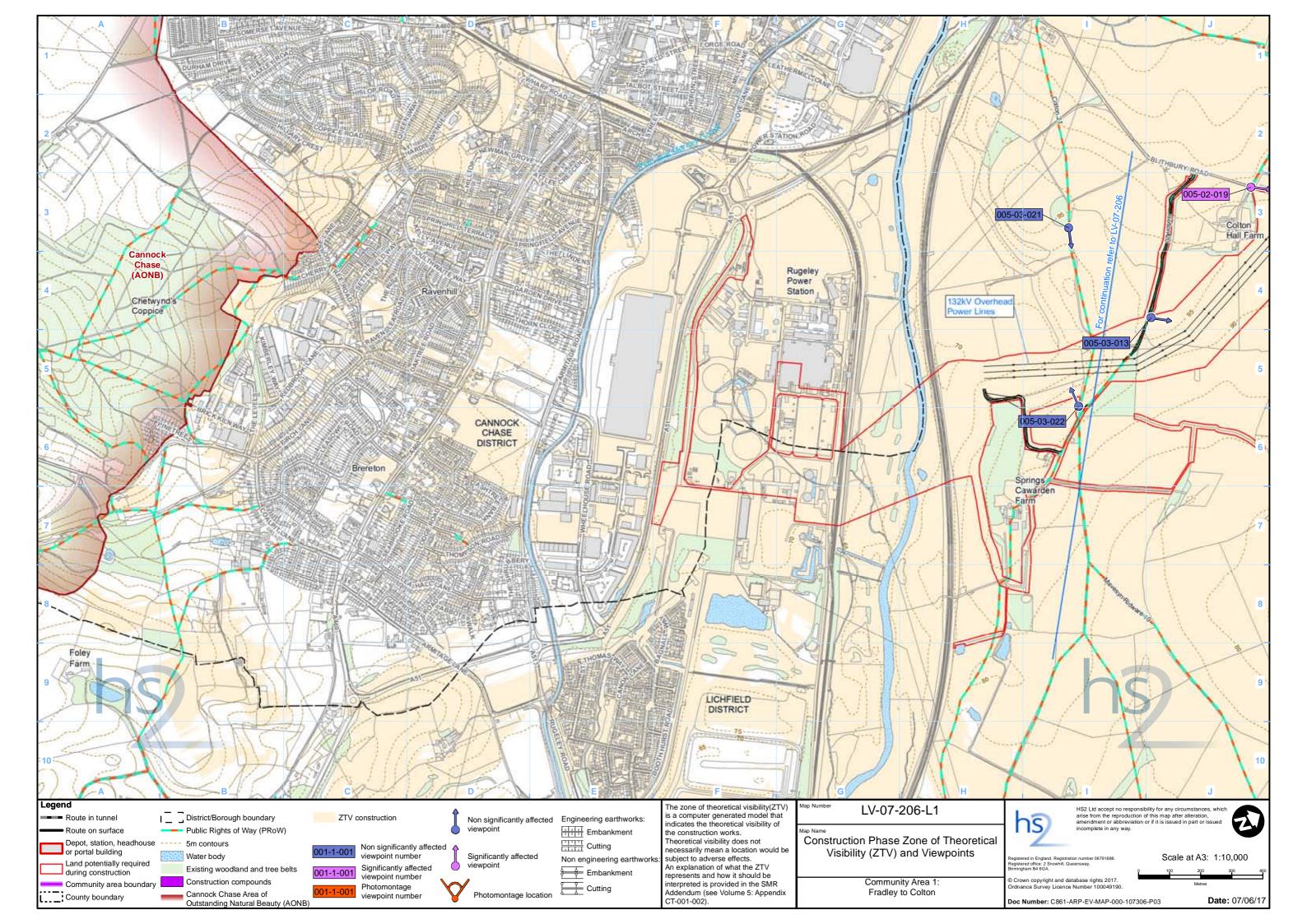


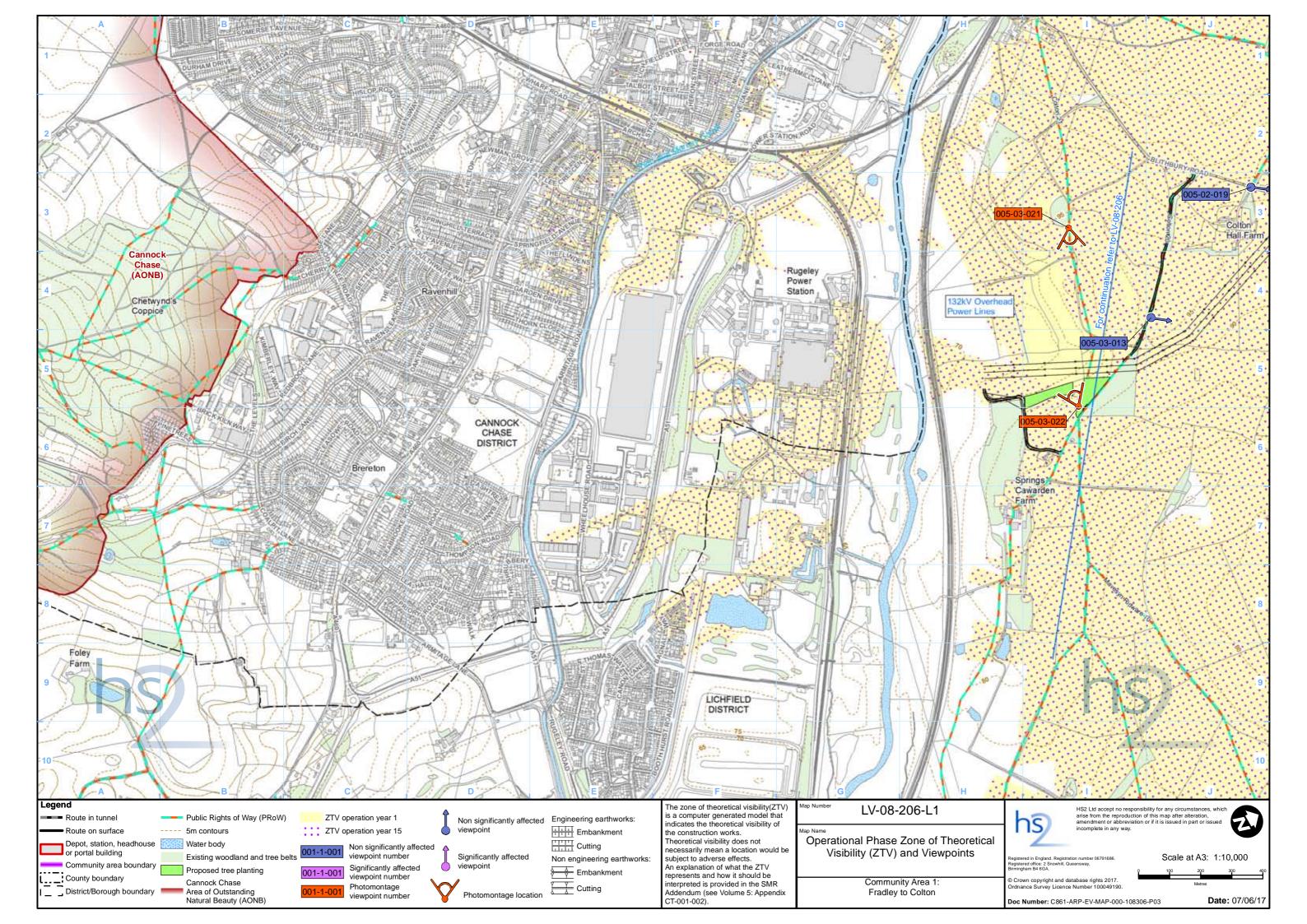


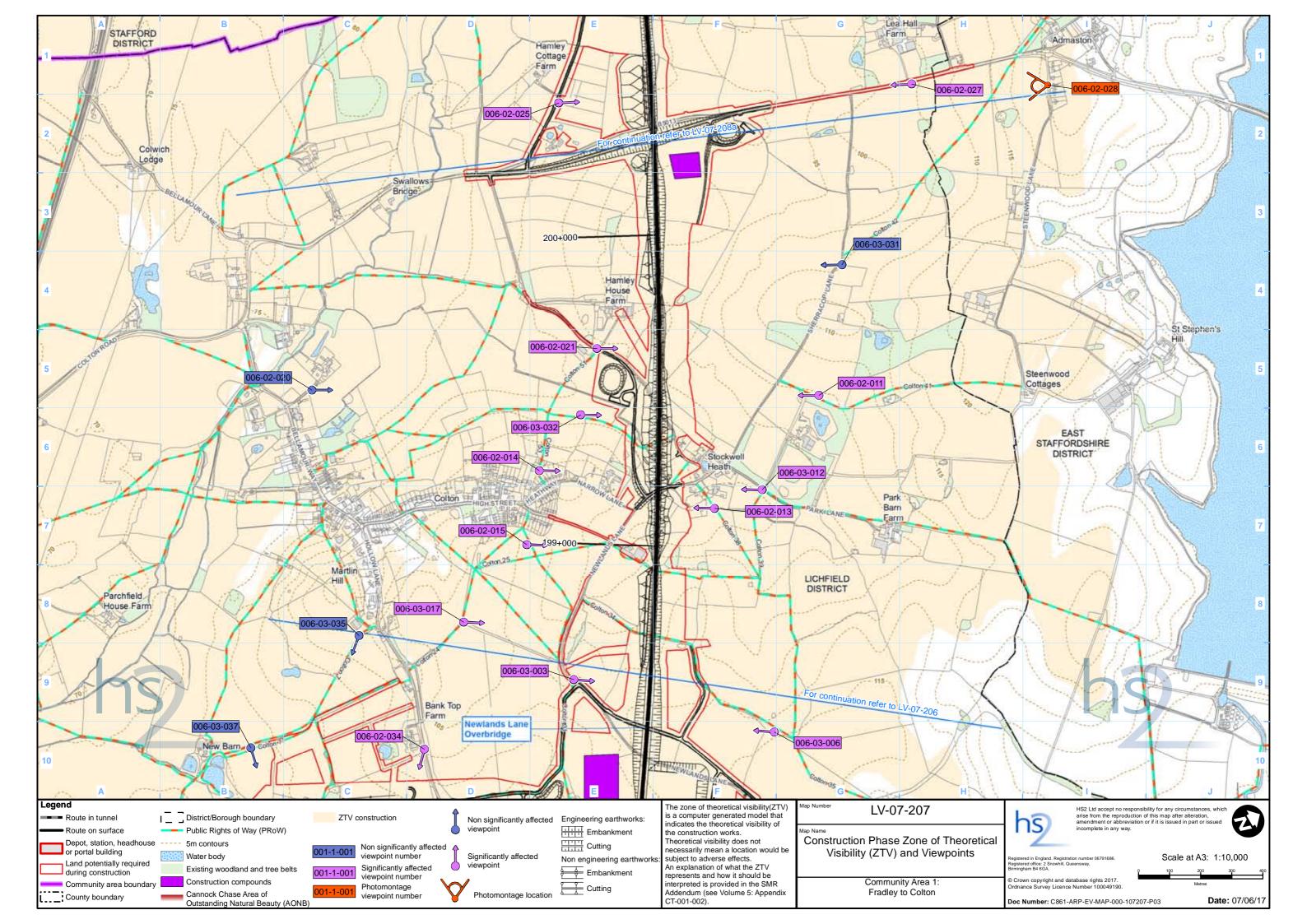


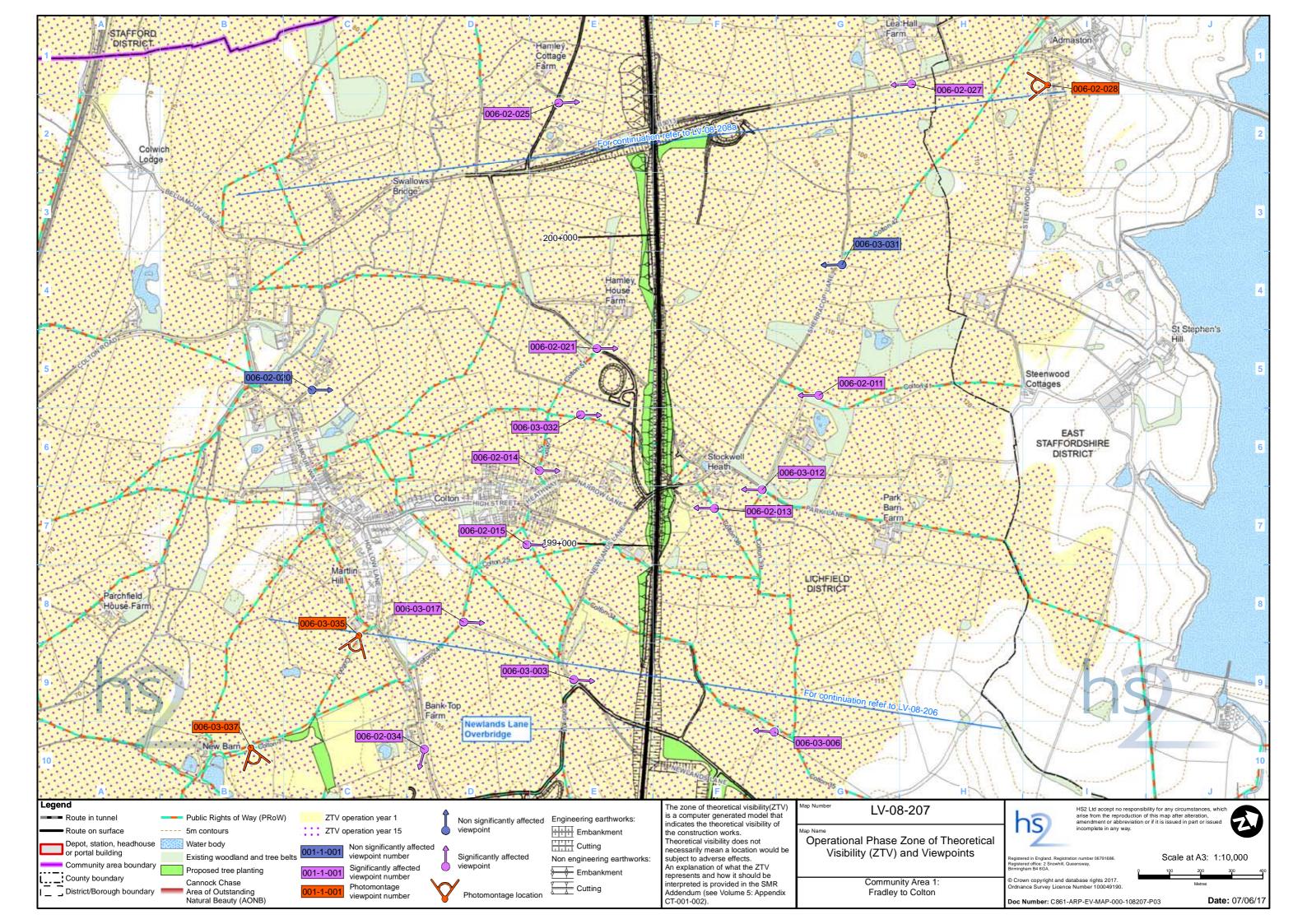


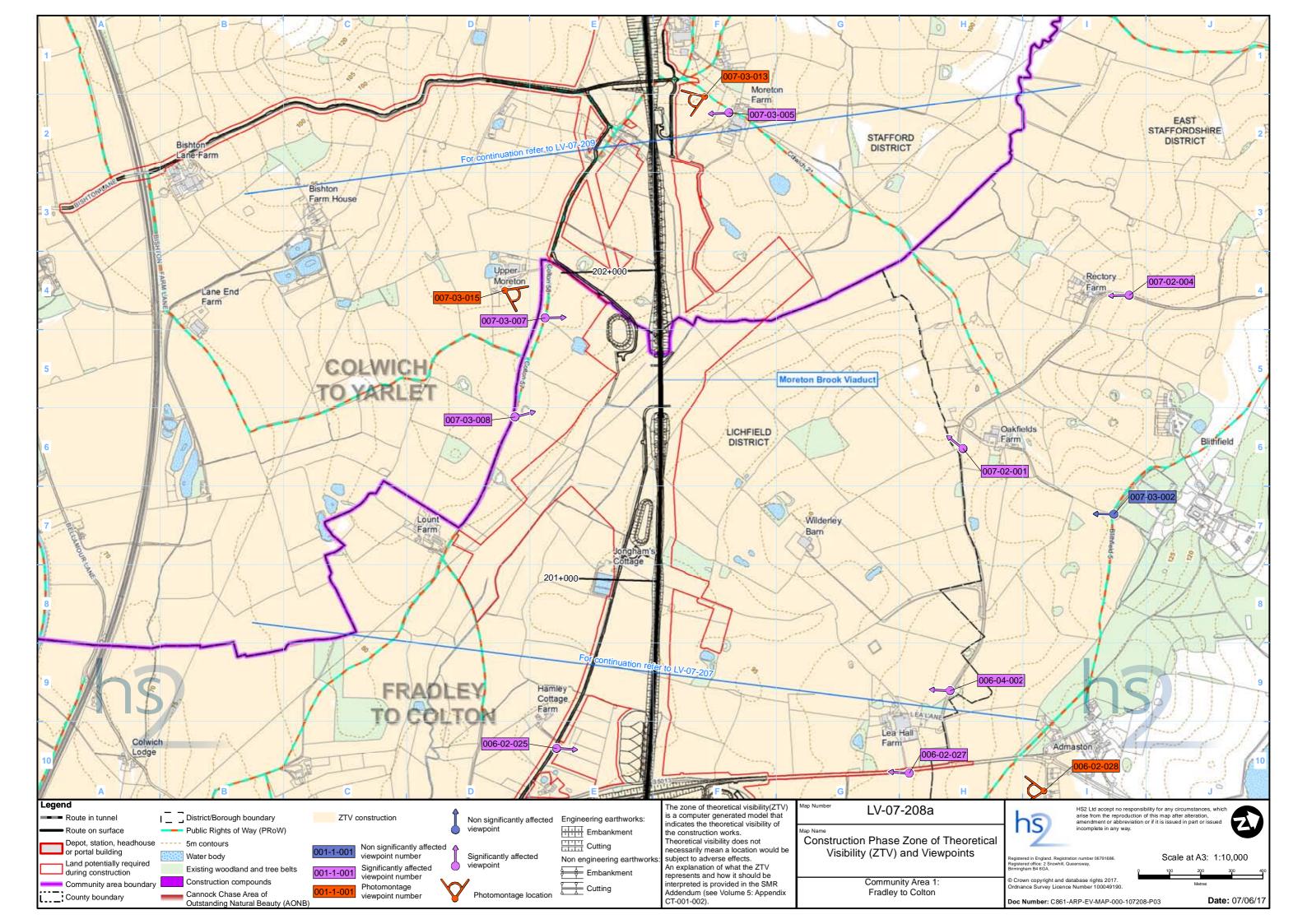


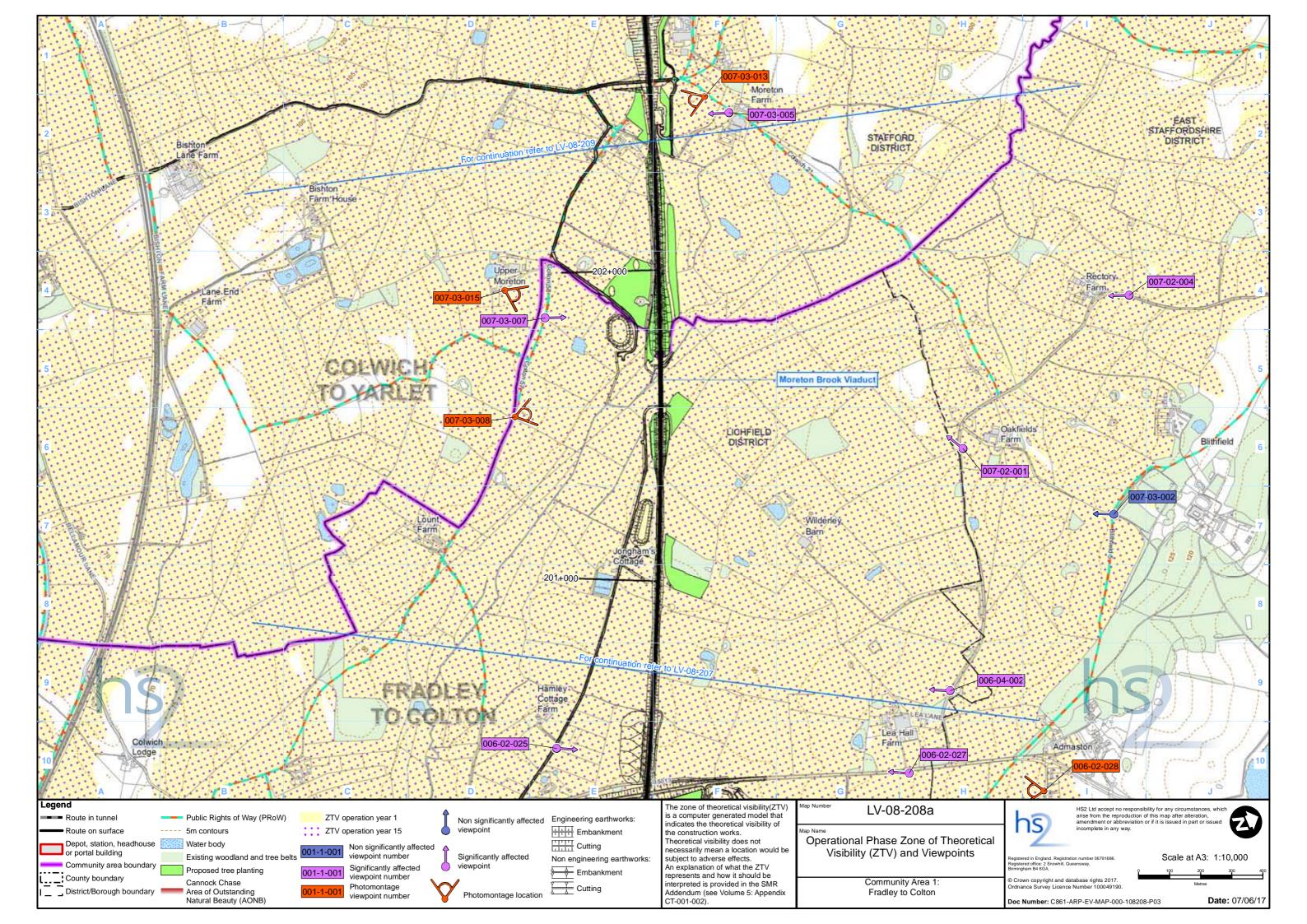








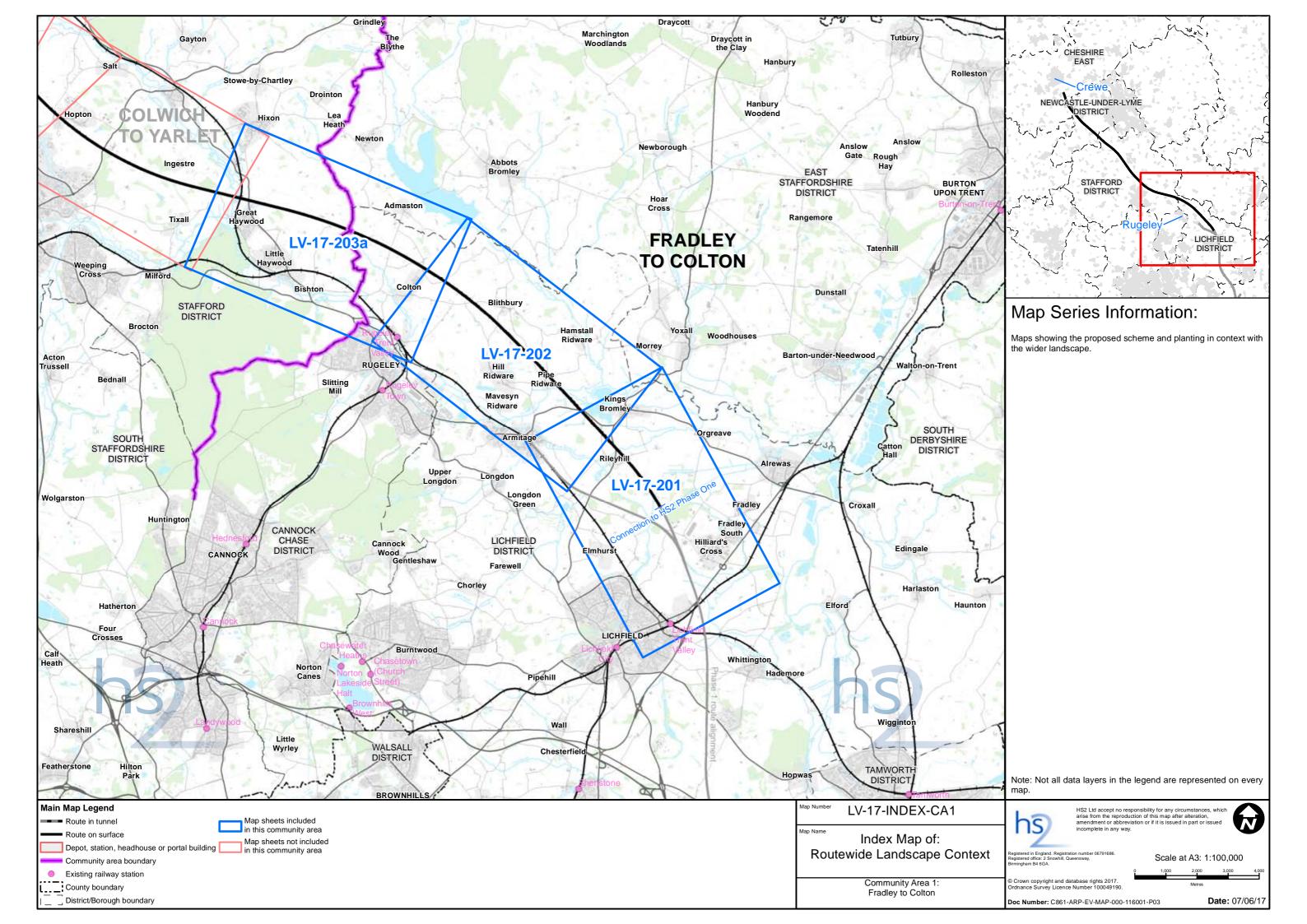


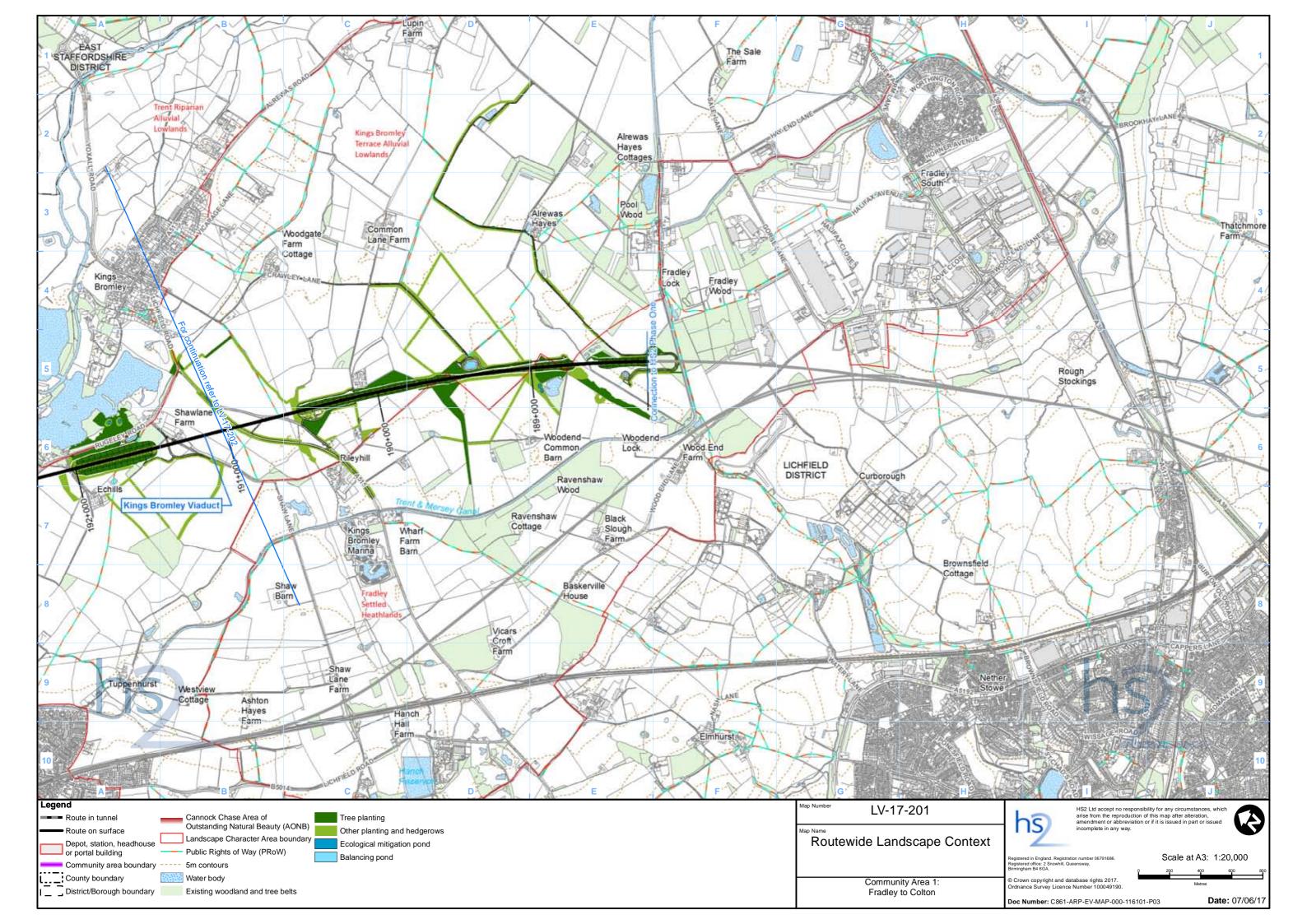


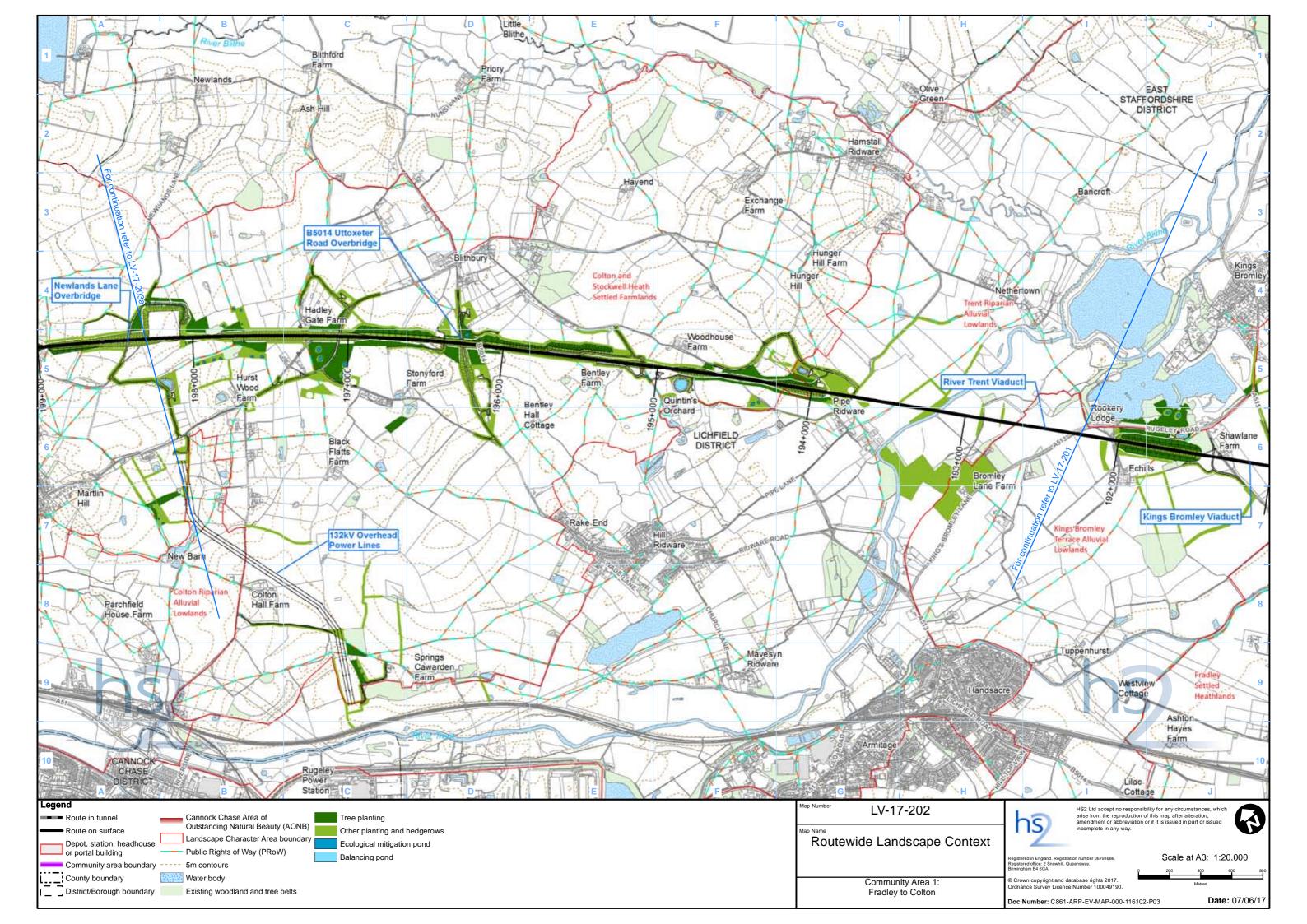
This page is left intentionally blank

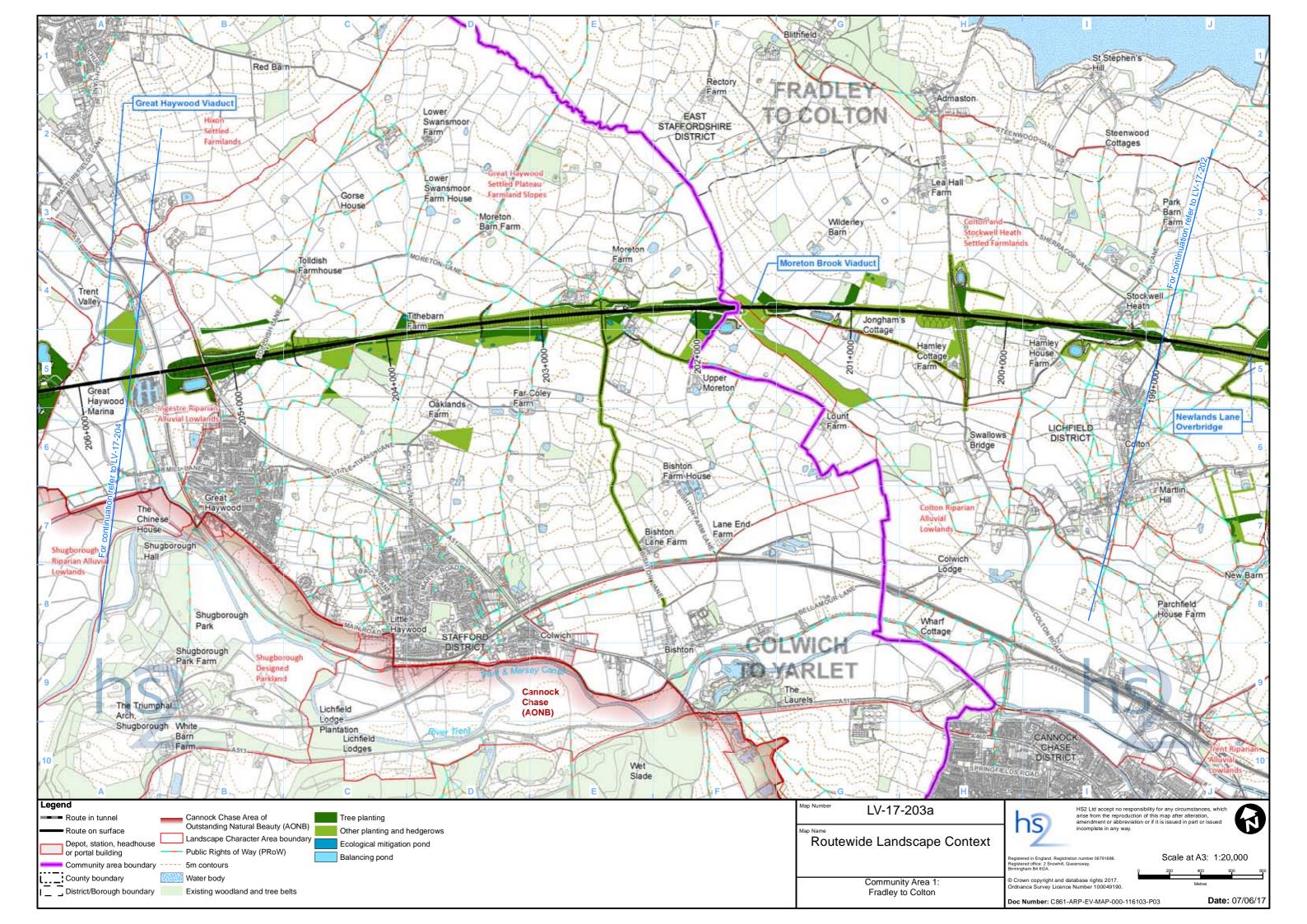
High Speed Rail (West Midlands-Crewe) Environmental Statement

LV-17 - Routewide Landscape Context









This page is left intentionally blank