
EAST YORKSHIRE SOLAR FARM

**East Yorkshire Solar Farm
EN010143**

Environmental Statement

**Volume 2, Appendix 13-4: Transport Assessment
Document Reference: EN010143/APP/6.2**

Regulation 5(2)(a)
Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

June 2024
Revision Number: 01

2009

BOOM-POWER.CO.UK

BOOM
POWER

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

East Yorkshire Solar Farm

Environmental Statement – Appendix 13-4: Transport Assessment

Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Reference	EN010143
Application Document Reference	EN010143/APP/6.2
Author	East Yorkshire Solar Farm Team

Version	Date	Status of Version
Rev 00	November 2023	DCO submission
Rev 01	18 June 2024	Deadline 1

Prepared for:

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Executive Summary

- ES1 AECOM has been commissioned by East Yorkshire Solar Farm Limited to prepare a Transport Assessment in support of the proposed East Yorkshire Solar Farm Development Consent Order Application. This Appendix should be read in conjunction with **Chapter 13: Transport and Access, ES Volume 1 [EN010106/APP/6.1]**.
- ES2 The purpose of this report is to demonstrate that the Scheme will be acceptable in transport and highway terms and it follows pre-application discussions held with East Riding of Yorkshire Council and North Yorkshire Council (as the local highway authorities for the Local Road Network) and National Highways (as the highway authority for the Strategic Road Network), including agreement of the extent of the Study Area for assessment in terms of highway impact.
- ES3 A summary of the key transport policies and guidance relating to the Site and the Scheme is set out in this report, of which the Scheme is considered to be in accordance with relevant national and local policy in terms of transport and access.
- ES4 The report provides a summary of the accessibility of the Study Area via the surrounding highway network, as well as by public transport, cycling and on foot. It also considers road accident data for the most recently available relevant 5-year period.
- ES5 Automatic Traffic Counts were carried out during September 2022 at 19 locations expected to be affected by traffic associated with the Scheme.
- ES6 Details of the anticipated characteristics of journeys generated by construction and operation of the Scheme including movements of staff, HGVs and tractor-trailers are provided in this report.
- ES7 It is anticipated that there would be up to 400 members of staff working at the Scheme daily during months 1-18 of the construction programme. From months 19-24, this would drop to 225 daily workers. During the construction period, it is anticipated that there will be up to 25 Heavy Goods Vehicles delivering across the Site daily between peak construction months 1-18. These deliveries will be directed to the five construction compounds and distributed among them. It is anticipated that there will also be up to 50 daily tractor-trailer movements within the Site during the peak construction period between month 1-18.
- ES8 It is anticipated that maximum trip generation will consistently occur within months 1-18, with 178 construction worker vehicles, 25 Heavy Goods Vehicles, and an additional 50 tractor-trailers daily (mainly within the Site, but also travelling on some roads). This equates to 356 two-way construction worker movements, 50 Heavy Goods Vehicles two-way movements, and 100 two-way tractor-trailer movements, or a total of 506 one-way movements per day.
- ES9 A process has been undertaken to identify committed developments that lie close enough to the Scheme to result in a cumulative impact on traffic. As described in **Chapter 13: Transport and Access, ES Volume 1 [EN010106/APP/6.1]**, only the developments that were predicted to have an

effect on links with minor, moderate or major adverse impacts with the Environmental Statement (e.g., Automatic Traffic Count locations 5 and 15) were to be considered further. These schemes were deemed to be:

- a. Scheme ID 2 – SEGL 2 – English Offshore Scheme; and
- b. Scheme ID 7 - J.G Hatcliffe Property and Planning and Howdens Joinery Properties Ltd development of mixed-use allocation at 'HOW-G

ES10 The following assessment scenarios have been examined in detail as part of the highway assessment:

- a. Existing Baseline (2022);
- b. Future Baseline (2025);
- c. Peak Construction Phase (2025); and
- d. Future Baseline with Peak Construction Phase (2025).

ES11 The following scenarios have also been reviewed:

- a. Operational Phase (2027-2067); and
- b. Decommissioning Phase (not earlier than 2067).

ES12 A number of measures have been included as embedded mitigation within the Environmental Statement and will be implemented to minimise the traffic impacts of the Scheme on the highway network during the construction and decommissioning phases. The measures will be secured through the Development Consent Order Application consent, primarily by the **Framework Construction Traffic Management Plan (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**, as well as the **Framework Construction Environmental Management Plan [EN010143/APP/7.7]**, and the **Framework Decommissioning Environmental Management Plan [EN010143/APP/7.9]**.

1. Introduction

1.1 Context

- 1.1.1 AECOM has been commissioned by East Yorkshire Solar Farm Limited (the 'Applicant') to prepare a Transport Assessment (TA) in support of the proposed East Yorkshire Solar Farm (the 'Scheme') Development Consent Order (DCO) Application.
- 1.1.2 The Scheme will comprise: the construction, operation (maintenance), and decommissioning of solar photovoltaic (PV) generating panels (the 'Solar PV Site'), associated grid connection (comprising the 'Interconnecting Cable Corridor' and 'Grid Connection Corridor'), access points ('Site Accesses') and 'Ecology Mitigation Area' – collectively referred to as the 'Site'. The boundary of the Site is referred to as the 'Order limits'.
- 1.1.3 Further information on the Scheme and Site is provided in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.
- 1.1.4 The Site is approximately 1,276.5 hectares (ha) in size and straddles the boundary between the counties of North Yorkshire and the East Riding of Yorkshire. The Solar PV Site, Ecology Mitigation Area and Interconnecting Cable Corridor are solely located within the administrative area of East Riding of Yorkshire Council. The Grid Connection Corridor and some of the Site Accesses are located within the administrative areas of East Riding of Yorkshire Council and the Unitary Authority of North Yorkshire Council. The landscape features within the Solar PV Site consist predominately of agricultural fields mainly under arable production, with some areas of pasture, interspersed with individual trees, hedgerows, tree belts (linear) small woodland blocks and farm access tracks.

1.2 Purpose of Report

- 1.2.1 The purpose of this TA is to demonstrate that the Scheme will be acceptable in transport and highway terms and it follows pre-application discussions held with East Riding of Yorkshire Council and North Yorkshire Council (as the local highway authorities for the Local Road Network (LRN)) and National Highways (as the highway authority for the Strategic Road Network [SRN]). It should be noted that North Yorkshire County Council was reorganised into a new single unitary council for North Yorkshire in April 2023.
- 1.2.2 This appendix should be read in conjunction with **Chapter 13: Transport and Access, ES Volume 1 [EN010143/APP/6.1]** and **Framework Construction Traffic Management Plan (CTMP) (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**.

1.3 Statutory Consultation

- 1.3.1 The Applicant conducted a statutory consultation on the Scheme between 9 May to 20 June 2023. A summary of the comments relating to transport and access, as well as AECOM's responses to demonstrate how these comments have been addressed are provided in **Appendix 13-3: Communications with the Local Highway Authorities, ES Volume 2 [EN010143/APP/6.2]**. Further details of the responses received during

consultation are included in a **Consultation Report [EN010143/APP/5.1]** which is submitted with the DCO Application.

- 1.3.2 A summary of the key themes in relation to transport and access, including how these have been considered and addressed, is set out within **Table 1**.

Table 1. Key Matters from Consultation

Topic	Considerations
Construction vehicles	Vehicle routing has been carefully considered, including reference to HGVs where there is an agreed routing strategy in place. The number of Heavy Goods Vehicles (HGV) trips during the peak construction phase has been identified. A Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]) has been prepared to provide further details of management and mitigation.
Construction workforce	The majority of construction workers will travel to/from the Site by car or shuttle service, with limited potential to travel by sustainable modes. Measures have been considered to reduce the impact of the construction workforce in terms of additional vehicle movements on the surrounding network. Details of the strategy in terms of local and non-local staff and how they would travel to/ from the Scheme have been provided in this TA and within the Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]) .
Vehicle access	Construction vehicles will be required to access the temporary construction Compounds, Solar PV Areas, and Interconnecting Cable Corridor. These areas will be served by numerous access points on the road network.
Vehicle routing	An appropriate routing and access strategy has been identified to prevent HGVs from using certain sections of the local road network. Any identified improvements will be implemented as part of the DCO Application where required.
Vehicle distribution	HGVs will follow the agreed routing strategy. A gravity model has been used to distribute the worker vehicle movements. Shuttle buses will travel to/from key settlements to transport workers.
Road safety	The collision record has been reviewed for the surrounding highway network.
Construction assessment	The construction assessment identifies any potential impacts and mitigation required in support of the Scheme, based on the forecast increase in trips on local roads and junctions.
Operational assessment	The Scheme is expected to generate considerably fewer vehicle trips during the operational phase (compared to construction) and is not expected to have a significant impact on the surrounding highway network.
Decommissioning	The decommissioning effects of the Scheme are expected to be of a similar magnitude to the construction effects. On this basis, the construction period is considered to have the

Topic	Considerations
	greatest change on the surrounding transport network and the construction phase has therefore been used to identify the likely impacts of the decommissioning phase including whether any mitigation will be required.
Consultation and EIA scoping	Ongoing consultation has been held with various stakeholders throughout the preparation of this TA, as well as the ES. Further details of the responses received during consultation are included in the Consultation Report [EN010143/APP/5.1] which is submitted with the DCO Application.

1.4 Report Structure

1.4.1 The remainder of this TA is structured as follows:

- a. **Section 2** sets out details relating to the Scheme location, existing use and surrounding area;
- b. **Section 3** provides an overview of relevant national and local transport policies;
- c. **Section 4** provides details of the Scheme accessibility by various travel modes including by vehicle, public transport, on foot and by bicycle;
- d. **Section 5** provides details of the Scheme including the anticipated programme, vehicular access and pedestrian access arrangements;
- e. **Section 6** sets out the forecast vehicular trip generation and distribution for the Scheme during construction, operation, and decommissioning;
- f. **Section 7** reviews other committed developments in the area including in terms of highway improvements and other schemes;
- g. **Section 8** sets out the assessment methodology in terms of study area, scenarios and types of assessment;
- h. **Section 9** provides the highway impact assessment for the Scheme; and
- i. **Section 10** provides a conclusion of the TA.

2. Site Location and Existing Use

2.1 Site Location

2.1.1 This section outlines the extent of the Study Area (further detail in Section 2.3) that has been considered for the Transport Assessment. Due to the nature of the Scheme, the Study Area has been identified to cover a broad area within the surrounding highway network when considering the extent of the Solar PV Site itself, as well as the Interconnecting Cable Corridor and Grid Connection Corridor.

2.1.2 The Scheme lies within the administrative area of the East Riding of Yorkshire and North Yorkshire. The Solar PV Site Interconnecting Cable Corridor and part of the Grid Connection Corridor fall in the boundary of East

Riding of Yorkshire, with part of the remainder of the Grid Connection Corridor falling in North Yorkshire's administrative area.

- 2.1.3 The Scheme is located within areas of existing agricultural fields mostly under arable production, with some interspersed areas of pasture, trees hedgerows, woodland and farm access tracks.
- 2.1.4 The Study Area includes areas of the highway network which, based on professional judgement and experience of other DCO solar farm schemes of similar rural nature and size, are considered to be potentially at risk from possible direct and indirect impacts arising from the Scheme.
- 2.1.5 During the construction phase the Scheme will be served by five proposed Compounds across the Site. The Access to each compound is described below:
- a. Compound A – Access via Willitof Road;
 - b. Compound B – Access via the B1228;
 - c. Compound C – Access via Rowlandhall Lane;
 - d. Compound D – Access via the A63; and
 - e. Compound E – Access via Pear Tree Lane.
- 2.1.6 An overall Site plan is provided in **ES Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.

2.2 Surrounding Area

- 2.2.1 The landscape features immediately within the Study Area around the Scheme comprise several villages, including Foggathorpe, Gribthorpe, Spaldington, and Brind within the Site. To the north-east of the Site is Holme-On-Spalding-Moor, Bubwith to the north-west of the Site, and Howden to the south of the Solar PV Site. Drax village is to the south of National Grid Drax Substation where the Grid Connection Cable route connects.
- 2.2.2 To the north of the Site runs the A163, the A614 runs to the east and the M62 runs to the south of the Site. The B1228 is the connecting north to south transport route that cuts through the Site. The railway line also cuts through the Solar PV Site (between Solar PV Areas 3b and 3c) travelling west-east.
- 2.2.3 There is an extensive network of Public Rights of Way (PRoW) both within the Site and the surrounding area. Further details of these are set out within Section 4 of this report.

2.3 Study Area

- 2.3.1 There is an extensive network of roads within the Site, listed below:
- a. A63 (Barnhill Lane, Hull Road);
 - b. A614 (Thorpe Road);
 - c. A163 (Main Street, Selby Road);
 - d. A645;
 - e. M62;
 - f. B1228 (Street Lane, Wood Lane);

- g. Wood Lane;
- h. Tottering Lane;
- i. Ings Lane;
- j. Willitoft Road;
- k. Spaldington Lane;
- l. Brind Lane;
- m. Rowlandhall Lane;
- n. Bell Lane;
- o. New Road;
- p. Carr Lane;
- q. Pear Tree Avenue;
- r. Newsholme Road;
- s. School Road;
- t. Chapel Balk Road; and
- u. Barmby Ferry Road.

- 2.3.2 The extent of the Study Area for assessment in terms of highway impact has been agreed in consultation with National Highways as the highway authority, for the SRN and East Riding of Yorkshire Council and North Yorkshire Council as highway authorities for the LRN.
- 2.3.3 Currently, no upcoming road network improvements are planned by the Councils within the Study Area apart from discussion for Network Improvements at Goole, and at the M62 Junction 36.
- 2.3.4 The roads within the Study Area will not all be utilised for HGV and staff vehicle movements, which is elaborated on within Section 6.

3. Policy Context

- 3.1.1 A summary of the key transport policies and guidance relating to the Site and the Scheme is set out below. Further details are provided in the **Legislation, Policy and Guidance document (Appendix 13-1, ES Volume 2 [EN010143/APP/6.2])**.

3.2 National Planning Policy

- 3.2.1 The following overarching and draft National Policy Statements (NPS) for Energy have been considered in the context of transport and access, with further details provided in the **Legislation, Policy and Guidance document (Appendix 13-1, ES Volume 2 [EN010143/APP/6.2])**.
- a. Overarching National Policy Statement for Energy (NPS EN-1) (Ref. 1);
 - b. National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref. 2);
 - c. National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref. 3);

- d. Draft Overarching National Policy Statement for Energy (EN-1) (Draft NPS EN-1) (Ref. 4);
- e. Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (Draft NPS EN3) (Ref. 5); and
- f. Draft National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref. 6).

National Planning Policy Framework (September 2023)

3.2.2 The National Planning Policy Framework (NPPF) (Ref. 7) was originally published in March 2012 and later revised (latest of which was in September 2023), outlining the Government's planning policies and how they will be applied. This TA sets out the key guidance points of relevance to this application. The most relevant paragraphs in the context of transport are set out below:

3.2.3 Paragraph 104 outlines that "*...transport issues should be considered from the earliest of stages of plan-making and development proposals*". This is to ensure that:

- a. The potential impacts of development on transport networks can be addressed;
- b. Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – e.g., in relation to the scale, location or density of development that can be accommodated;
- c. Opportunities to promote walking, cycling and public transport use are identified and pursued;
- d. The environmental impacts of traffic and transport infrastructure can be identified, assessed and considered – including appropriate opportunities for mitigation and for net gains in environmental quality; and
- e. Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

3.2.4 Paragraph 105 states that significant development should focus on locations that can limit the need to travel and offer genuine choice of transport modes, though this will vary between urban and rural areas which should be accounted for in both planning and decision-making.

3.2.5 Paragraph 110 outlines the key considerations when assessing sites to be allocated for development in plans or specific development applications. These are:

- a. Appropriate opportunities to promote sustainable transport modes can be (or have been) taken up, given the type of development and its location;
- b. Safe and suitable access can be achieved for all users;
- c. The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance; and

- d. Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost-effectively mitigated to an acceptable degree.
- 3.2.6 Paragraph 111 states that development should only be prevented or refused on highways grounds where there would be an unacceptable impact on highway safety, or the residual cumulative impacts of development on the road network would be severe.
- 3.2.7 Within this context, Paragraph 112 states that applications for development should:
- a. Give priority first to pedestrian and cycle movements and then, as far as possible, facilitate access to high quality public transport;
 - b. Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
 - c. Create places that are safe, secure and attractive, which minimise the scope for conflicts between pedestrians, cyclists and vehicles;
 - d. Allow for the efficient delivery of goods, and access by service and emergency vehicles; and
 - e. Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
- 3.2.8 As outlined in Paragraph 113, all developments that generate significant amounts of movement should be required to provide a Travel Plan, and the application should be supported by a Transport Statement or TA so that the likely impacts of the proposal can be assessed.

National Planning Practice Guidance

- 3.2.9 The Government's Planning Practice Guidance; Travel Plans, TAs and Transport Statements in Decision Taking (2014) (Ref. 8) provides advice on when TAs and Transport Statements are required for planning applications, and what they should contain. The most relevant paragraphs are set out below:
- a. Paragraph 002 states that Travel Plans, TAs and Transport Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements.
 - b. Paragraphs 004 and 005 state that TAs primarily focus on evaluating the potential transport impacts of a development proposal and may propose mitigation measures to promote sustainable development and in order to avoid unacceptable or 'severe' impacts where necessary.
 - c. Paragraph 006 states that TAs support national planning policy and can positively contribute to encouraging sustainable travel, reducing traffic generation and detrimental impacts, reducing carbon emissions and climate impacts, creating accessible, connected and inclusive communities, improving health outcomes and quality of life, improving road safety and reducing the need for new development to increase existing road capacity or provide new roads.

- d. Paragraph 007 states that TAs should be established at an early stage and tailored to local circumstances, as well as proportionate to the size and scope of the proposed development. In addition, they should be brought forward through collaborative ongoing working between the local planning authority/ transport authority, transport operators, rail network operators, as well as National Highways where there may be implications for the strategic road network and other relevant bodies.
- e. Paragraphs 013 to 015 provide further details of when TAs are required, how the need and scope of a TA should be established and what information should be included.

3.3 Local Policy

East Riding of Yorkshire Council's Local Transport Plan

- 3.3.1 The Transport Plan (2021-2039) (Ref. 9) sets out the aims for the District of East Riding of Yorkshire, setting out five strategic Local Plan Objectives as follows (alongside strategies to meet the objectives):
 - a. Improve the maintenance and management of the existing transport network;
 - b. Support sustainable economic growth and regeneration;
 - c. Reduce carbon emissions and encourage healthy lifestyles;
 - d. Improve road safety; and
 - e. Improve access to key services.
- 3.3.2 One way this aims to be achieved is by ensuring that new development will not impact the local transport network negatively. Section 3.8.3 and 3.8.4 sets out that HGVs must use the most appropriate routes as set out in a preferred HGV route network included on a freight map of East Riding of Yorkshire.
- 3.3.3 Section 3.8.5 and 3.8.6 discuss the moving of abnormal loads. Hauliers must contact the council at least six weeks in advance to arrange appropriate routing.

East Riding Local Plan Strategy (2016 Adopted)

- 3.3.4 The Local Plan Strategy 2012-2029 (Ref. 10) is a framework for managing development in East Riding, setting out a collective vision as well as individual place statements.
- 3.3.5 *Policy S8: Connecting People and Places* states that new development is required to ensure people and places are well connected in the future, in terms of sustainable and accessible transport.
- 3.3.6 *Policy EC4: Enhancing Sustainable Transport* aims to increase overall accessibility, minimise congestion, and improve safety. Developments should produce a transport assessment and travel plan when a significant impact on transport is likely.
- 3.3.7 *Policy EC5: Supporting the Energy Sector* states that East Riding will support developments of energy sector projects, where any significant adverse impacts are addressed satisfactorily and the residual harm is

outweighed by the wider benefits of the proposal, when considering cumulative impacts, as well as the impact on transportation.

- 3.3.8 *Policy A4: Goole and Humberhead Levels Sub Area – Community and Infrastructure* aims to enhance connectivity within the sub area and with the rest of the East Riding by supporting and developing existing transport infrastructure, such as supporting walking and cycling networks, and improving M62 Junction 36.
- 3.3.9 Reference has also been made to the emerging East Riding Local Plan (2022) (Ref. 11).

Selby District Core Strategy Local Plan 2013

- 3.3.10 Selby District Council, now part of North Yorkshire Council, sets out objectives for the local area in their Core Strategy Local Plan 2013 (Ref. 12).
- 3.3.11 Policy SP15: Sustainable Development and Climate Change, requires development to be designed to minimise traffic growth by providing a range of sustainable travel options and make provision for safe pedestrian and cycle routes.
- 3.3.12 SP19: Design Quality relates to the creation and improvement of rights of way and facilitating sustainable modes of travel locally.
- 3.3.13 Due reference has also been made to Selby District Council's pre-submission publication Local Plan (2022) (Ref. 13).

3.4 Summary

- 3.4.1 With respect to transport and access, the Scheme is considered to be in accordance with relevant national and local policy as demonstrated within this TA, by providing mitigation to avoid adverse impacts on highway safety or any severe residual cumulative mitigation on the road network. A **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])** has also been prepared.

4. Accessibility Appraisal and Existing Conditions

- 4.1.1 This section provides a summary of the accessibility of the Study Area via the surrounding highway network, as well as by public transport, cycling and on foot.

4.2 Highway Network

Strategic Highway Network

- 4.2.1 The M62 forms part of the SRN and is a 172km (kilometres) motorway that connects Liverpool to Hull via Bradford, Leeds and Wakefield. The road has three lanes travelling in each direction with hard shoulder separation. The road is managed by National Highways and provides a link for onward strategic journeys in directions east, south and west. The junction on the M62 closest to the Site is Junction 37, which could potentially be used by vehicles to access the Site.

Local Highway Network

- 4.2.2 The A63 travels between Hull in the east to Leeds in the west via Selby, although the route becomes the M62 for approximately 15km between Junctions 38 and 37. From Junction 37 to the A19 the A63 is a single carriageway, with speed limits indicated at 30mph through villages such as Asselby, 40mph through Barmby-on-the-Marsh and Hemingborough, with the National Speed Limit in place elsewhere indicating 60mph.
- 4.2.3 The A614 is a single carriageway road running to the east of the Site. The road can be accessed from the west via the A163 in Holme-on-Spalding-Moor, Spaldington Lane, the A63, and the M62 at Junction 37.
- 4.2.4 The A163 is a single carriageway road running east to west from the north of Barlby to Selby bypass for an extent of approximately 19km. to the north of the Scheme, the road intersects with B1228 to the east and the A614 to the east. This section of road is National Speed Limit (60mph) in places, but drops to 40 or 30 mph through villages such as Holme-on-Spalding-Moor, Foggathorpe, Highfield and Bubwith. The road is generally 6 metres (m) wide.
- 4.2.5 The A645 runs from Crofton in the east to Airmyn Grange where it intersects with the A614, after passing National Grid Drax Substation.
- 4.2.6 The B1228 runs from the north near York southwards to Howden and can be accessed via the A163, Willitof Road, Wood Lane, Brind Lane and the A63 to the south. The road is a single carriageway and is predominantly National Speed Limit (60 mph), with the exception of sections north of Howden station and approaching Highfield which are signed as 40 mph. The road offers no pedestrian facilities. The road is included within the Site.
- 4.2.7 Wood Lane runs within the Site, connecting Station Road in the west to Tottering Lane in the east for a length of 5.6km. The road is a singular lane (around 3m wide) with verges either side. The road connects to Willitof Road, the B1228 and Brind Lane along the road at various junctions.
- 4.2.8 Tottering Lane provides access to the Scheme boundary heading east from the junction with Willitof Road and Wood Lane to the north with Bell Lane, travelling for 3km. The road is a single lane (around 4m wide) with grass verges on both sides. It is noted that the roadside verges of Tottering Lane are part of Tottering Lane, Gribthorpe Local Wildlife Site (LWS).
- 4.2.9 Ings Lane is a no through road that travels through the village of Spaldington. Through the settlement the road is a single carriageway approximately 6m wide, where there were parked cars observed. There are footways present alongside the residential properties. Following the last residential house to the east of the settlement, the road becomes single carriageway (3m wide) with grass verges on either side.
- 4.2.10 Willitof Road forms a junction with the B1228 in the north traveling south-east to the Tottering Lane/Wood Lane junction for 2.8km. The road is a single lane (3.5m wide) with some grass verges either side. The road passes some farm buildings and has several 90-degree bends.
- 4.2.11 Spaldington Lane runs through the Site, travelling from the B1228 in the west to the A614 in the east for a distance of approximately 4km. The road is a single carriageway without road markings, which provides access to an unmarked road heading north to Ings Lane, Wood Lane and Willitof Lane.

- 4.2.12 Brind Lane travels for 3km from Wood Lane to the B1228 (also named Wood Lane) in the west, providing access to the Site. The road is the width of a single lane (3m wide) with verges on either side.
- 4.2.13 Rowlandhall Lane runs north to south from Wood Lane in the north for a distance of approximately 2km to Newsholme Road in the south. The road runs within the Site. The road is the width of a single lane (approximately 3m wide) with grass verges either side.
- 4.2.14 Bell Lane is accessed from a junction off the A163 heading south to become Tottering Lane, continuing on for approximately 700m. The road runs through a small residential area (Foggathorpe) where there are footways present on a two-way road (approximately 6m wide). Outside of the residential area the road becomes a single lane road (approximately 4.5m wide) with grass verges on either side.
- 4.2.15 Newsholme Road will provide potential access during operation to the Site from the south via the A63. The road is residential and is approximately 5.0m wide, with on street parking observed.
- 4.2.16 New Road provides access to National Grid Drax Substation from the A645 to the south. The road is a single carriageway route approximately 6.7m wide with some footways present close to the National Grid Drax Substation.
- 4.2.17 Carr Lane is accessed from a junction eastbound from New Road travelling east for 800m before becoming Redhouse Lane. The road is a single carriageway, approximately 5m wide with grass verges on either side.
- 4.2.18 Pear Tree Avenue runs northeast of National Grid Drax Substation, connecting in the west to New Road and continuing east to an unmarked road for approximately 750m. The road is approximately 3m wide with grass verges either side.
- 4.2.19 School Road runs from Garthends Lane in the west travelling east to the A63 for approximately 650m in the village of Hemingbrough. The single carriageway is approximately 5.5m in width and has pedestrian walkways on both sides of the road.
- 4.2.20 Chapel Balk Road is accessed via School Road and is a farm road that travels south along an unofficial lane for 470m before a junction with Grange Road. At this junction the road continues further south for a further 230m until meeting Barmby Ferry Road as an unofficial track. The road is a single lane and is approximately 3.3m wide.
- 4.2.21 Barmby Ferry Road runs south-east from Hemingbrough village towards the River Ouse for a distance of 1.4km. The road is an unofficial track road cutting through fields, and is a single lane with a width of approximately 3m.

4.3 Traffic Flows

Peak Hours

- 4.3.1 The following time periods have been reviewed to inform the assessment based on traffic count data collected in 2022 which is summarised below:
- 06:00-07:00 – proposed development peak hour during the construction phase;
 - 08:00-09:00 – network peak hour for the local highway network;

- c. 17:00-18:00 – network peak hour for the local highway network; and
- d. 17:00-20:00 – proposed development peak hour during the construction phase.

Baseline Data (2022)

4.3.2 Automatic Traffic Counts (ATC) were carried out by Nationwide Data Collection Ltd during September 2022 at the following locations:

- a. New Road – north of A645 roundabout;
- b. Green Lane – north of A63 junction;
- c. Wood Lane – between Brind Lane and B1228;
- d. Wood Lane – between Wood Lane and Willitof Lane;
- e. Street Lane – between Wood Lane and Willitof Lane;
- f. Willitof Road – east of B1228 junction;
- g. A163 – between North Duffield and Bubwith;
- h. Bell Lane – south of Foggathorpe;
- i. A163 – east of Foggathorpe;
- j. A614 – south of Burse Lane Ends;
- k. Ings Lane – east of Spaldington;
- l. Willitof Road – north of Ings Lane junction;
- m. Unnamed Road – Spaldington Golf Range;
- n. A614 – north of B1230 roundabout;
- o. B1228 – between B1230 and Brind Lane junctions;
- p. A63 – between A614 and B1228 junctions;
- q. A645 – east of New Road roundabout;
- r. A645 – between New Road and A1041 roundabouts; and
- s. A63 – between School Road and Woodhall Lane.

4.3.3 These traffic counts were considered to provide representative traffic flows within the Study Area given these were carried out during a neutral month, in September 2022. The locations of these traffic counts are shown in **Figure 13-4-1**.

4.3.4 A summary of the baseline traffic data which has been utilised in support of this TA is set out in **Table 2**. This has been presented for the traditional weekday peak hours as well as the anticipated development peak hours and across the day.

Table 2. Baseline Traffic Data 2022

ATC Ref.	Location	06:00-07:00	08:00-09:00	17:00-18:00	19:00-20:00	24 Hour AADT*
1	New Road – north of A645 roundabout	105	196	118	51	1,787

ATC Ref.	Location	06:00-07:00	08:00-09:00	17:00-18:00	19:00-20:00	24 Hour AADT*
2	Green Lane – north of A63 junction	10	17	19	5	200
3	Wood Lane – between Brind Lane and B1228	12	18	26	8	279
4	Wood Lane – between Wood Lane and Willitof Lane	3	11	15	8	153
5	Street Lane – between Wood Lane and Willitof Lane	113	169	225	86	2,297
6	Willitof Road – east of B1228 junction	3	10	13	9	143
7	A163 – between North Duffield and Bubwith	166	343	417	177	4,574
8	Bell Lane – south of Foggathorpe	3	18	19	9	197
9	A163 – east of Foggathorpe	89	240	268	104	2,949
10	A614 – south of Burse Lane Ends	279	437	600	274	7,978
11	Ings Lane – east of Spaldington	1	3	2	1	40
12	Willitof Road – north of Ings Lane junction	28	12	17	8	173
13	Unnamed Road – Spaldington Golf Range	14	40	44	20	528
14	A614 – north of B1230 roundabout	324	459	605	284	8,052
15	B1228 – between B1230 and Brind Lane junctions	130	217	285	113	2,977
16	A63 – between A614 and B1228 junctions	268	536	602	263	6,797
17	A645 – east of New Road roundabout	376	573	566	269	6,875
18	A645 – between New Road and A1041 roundabouts	366	666	653	300	7,545
19	A63 – between School Road and Woodhall Lane	269	503	607	235	6,441

* AADT = Average Annual Daily Traffic

4.3.5 The 2022 traffic flows are also shown by the traffic flow diagrams within **Appendix 13-2: Traffic Flow Diagrams (ES Volume 2 [EN010143/APP/6.2])**.

4.4 Collision Review

4.4.1 Personal Injury Collision (PIC) data on the surrounding network has been obtained from the website called 'Crashmap' <http://www.crashmap.co.uk/> for the most recent five full-year period where COVID-19 restrictions were less restrictive or have not been in place (2016-2019 and 2021 inclusive).

4.4.2 2022 official data has not yet been made available by the Department for Transport meaning it has not been included in this study.

4.4.3 The accident Study Area includes key routes that are anticipated to be used by HGV and construction worker traffic travelling to the Solar PV Site, the Construction Grid Corridor and the Interconnecting Cable Corridor. The area is shown in **Figure 13-4-2**.

4.4.4 A total of 137 collisions occurred over the five-year period within the PIC Study Area, categorised as slight, severe or fatal accidents. A slight accident is one in which at least one person has been slightly injured. A serious accident is one in which at least one person has been seriously injured and a fatal accident is one in which at least one person has been killed.

4.4.5 Seven of the accidents were recorded as fatal collisions (e.g., at least one person was killed in each of the seven accidents). **Table 3** provides a summary of accidents by the severity and year. It shows that the greatest number of accidents within the PIC Study Area occurred in 2018 with a total of 33 collisions recorded.

Table 3. Summary of PIC Data (2021, 2019-2016)

Year	Severity		
	Slight	Severe	Fatal
2021	15	8	1
2019	17	2	2
2018	24	8	1
2017	21	4	2
2016	26	5	1
Total:	103	27	7

4.4.6 The data has been split to show accidents on road links, as shown in **Table 4** and accidents that occurred at or near to junctions (**Table 5**). The highest number of collisions (37), including the highest number of fatal accidents (4), were recorded on the A614 between Holme-on-Spalding-Moor and Howden.

Table 4. Summary of PIC Data by Road

Road Name	Slight	Severe	Fatal
A63	19	5	1

Road Name	Slight	Severe	Fatal
A614	26	7	4
A163	15	3	0
A645	10	1	0
B1228	13	2	0
Wood Lane	0	0	0
Tottering Lane	0	0	0
Ings Lane	0	0	0
Willitoft Road	0	0	0
Spaldington Lane	0	1	0
Brind Lane	0	0	0
Rowlandhall Lane	0	0	0
Bell Lane	1	0	0
Newsholme Road	0	0	0
New Road	0	0	0
Carr Lane	0	0	0
Pear Tree Avenue	0	0	0
School Road	0	0	0
Chapel Balk Road	0	0	0
Barmby Ferry Road	0	0	0
Total	84	19	5

4.4.7 As described previously, **Table 5** shows the accidents that occurred at or close to junctions.

Table 5. Summary of PIC Data by Junction

Junction Name	Slight	Severe	Fatal
M62, J37	11	5	2
B1228/ A163 Junction	1	1	0
Bell Lane/ A163 Junction	1	1	0
A63/ A614 Junction	4	0	0
A63/ B1228 Junction	2	1	0
Total	19	8	2

4.4.8 Based on the information available the PIC data provided did not show incidents occurring frequently at any particular location.

- 4.4.9 It is noted that there were four fatal accidents on the A614 between Holme-on-Spalding-Moor and Howden during the 5-year period. However, the accidents were not at a single location and accident sites were separated by some distance.
- 4.4.10 This accident data has been considered further in relation to the points of access for each of the five compounds where the maximum amount of traffic flows related to construction will travel, and therefore may exacerbate any existing issues along these points of the road network. The findings are as follows in the subsections below.

Compound A

- 4.4.11 Compound A (located in Solar PV Area 1a) is accessed via Willitof Road which has no accident data recorded over the last 5-year period. At points where tractor/trailers will travel across other roads from this Compound, such as Tottering Lane or Ings Lane, there are also no incidents recorded. At the point where HGVs will access both Compound A and B from the SRN (via the A163) this junction has been analysed. At the B1228/A163 Junction, the following incidents have occurred:
- a. A severe incident occurred on the 14 May 2021, where two cars were impacted at the uncontrolled junction approaching from the B1228. One driver drove to the offside of the road, and a secondary car with two riders then impacted the front of their car. The conditions were dry without high winds during the day and the approach had a 60mph speed limit.
 - b. A slight incident occurred on the 28 October 2018 where two cars were impacted at the uncontrolled junction approaching from the A163. One driver was impacted at the front, and a secondary driver was impacted on the near side with this driver being injured by the incident. The conditions were wet (damp) without high winds during the night, and the approach had a 60mph speed limit.
 - c. A slight incident occurred on the 21 February 2018 where a light goods vehicle rear ended a car as both vehicles turned left from the B1228 south onto the A163, resulting in the car driver being injured in the incident. The conditions were wet (damp) without high winds during the day and the approach had a 30mph speed limit.

Compound B

- 4.4.12 Compound B (located in Solar PV Area 2d) is accessed from the B1228, of which a full review of accident data along the road has been conducted. There were 11 slight and 3 serious incidents recorded over the 5-year period. These are explained further below in north to south order:
- a. A slight incident occurred on the 5 November 2018 approximately 120m south of the Willitof Road junction, where a single car was involved. The conditions were dry, without high winds during the night (no streetlighting present), and the road had a 60mph speed limit.
 - b. A slight incident occurred on the 25 August 2018 approximately 2km south of the Willitof Road junction, where two cars were impacted along the road, with one vehicle hitting the nearside of the vehicle on the kerb on the carriageway, and the second vehicle impacting on the offside,

- leading to injuries to both drivers. The conditions were dry without high winds during the day and the road had a 60mph speed limit.
- c. A slight incident occurred on the 21 August 2016 approximately 600m north of the Wood Lane crossroads, at a bend in the road, where one motorcycle impacted the front of another vehicle, leading to injuries for the driver and passenger of the vehicle. The conditions were dry without high winds during the day and the road had a 60mph speed limit.
 - d. A slight incident occurred on the 24 May 2019 approximately 600m north of the Wood Lane crossroads, at a bend in the road, where two cars impacted hitting the front of each vehicle, leading to injuries for both drivers of the cars. The conditions were dry without high winds during the day and the road had a 60mph speed limit.
 - e. A serious incident occurred on the 1 November 2018, approximately 600m north of the unmarked Spaldington Lane, where a car and an HGV impacted on the nearside of both vehicles, leading to the injury of the car driver. The conditions of the road were wet with no high winds during the day and the road had a 60mph speed limit.
 - f. A serious incident occurred on the 26 May 2016, approximately 300m north of the unmarked Spaldington Lane, where a car and a light goods vehicle impacted at the front of both vehicles, leading to injury of the car driver. The conditions of the road were wet (damp) without winds during the day, and the road had a 60mph speed limit.
 - g. A slight incident occurred on the 1 February 2018 at the point of the junction with the unmarked Spaldington Lane, where two cars impacted, as one driver turned left onto the B1228 and was impacted from behind by the second vehicle leading to the injury of one driver. The conditions of the road were wet (damp) without winds during the day, and both roads had 60mph speed limit.
 - h. A serious incident occurred on the 30 April 2019, approximately 700m south of the point of junction with the unmarked Spaldington Lane, where three cars impacted resulting in two cars impacting at the front of the cars, resulting in impact with a tree and resulting injury for driver, and with the third driver not impacting. The conditions of the road were wet (damp) with foggy conditions, during the day and the road had a 60mph speed limit.
 - i. A slight incident occurred on the 5 December 2019, adjacent to Howden Station, where two HGVs impacted along the road, with one vehicle impacting on the near side, and the second vehicle impacting at the front, leading to injury of one driver. The conditions of the road were wet (damp) without high winds, at night with a speed limit of 40mph.
 - j. A slight incident occurred on the 10 June 2017 adjacent to Howden rail station, where a car rear ended a second car leading to injury of the driver and passenger of the car in front. The conditions of the road were dry without high winds during the day and the road had a 40mph speed limit.
 - k. A slight incident occurred on the 10 November 2016, adjacent to Howden rail station, where a car intersected with the near side of a parked car, leading to injury of the driver of the moving car. The

conditions of the road were dry without high winds during the night (no street lighting) and the road had a 40mph speed limit.

- i. A slight incident occurred on the 29 July 2016, approximately 250m north of the Langhorn Drive junction, where a car turned the lefthand bend, hitting the kerb and entered a ditch on the side of the road, injuring the driver. The conditions of the road were raining without high winds during the day, and the road had a 40mph speed limit.
 - m. A slight incident occurred on the 4 November 2016 approximately 30m south of the Langhorn Drive junction, where a car impacted on the near side whilst proceeding along the carriageway, leading to injury of the driver. The conditions of the road were wet (damp) without winds during the day, and the speed limit of the road was 30mph.
 - n. A slight incident occurred on the 27 December 2019, at the junction with Shelford Avenue, where a light goods vehicle was turning right and was impacted on the offside of the vehicle as a car hit the vehicle, impacting at the front of the vehicle, injuring the driver and passenger in the car. The conditions of the road were wet (damp) without winds at night (no street lighting) and the speed limit of the road was 60mph.
- 4.4.13 There were 14 incidents recorded along the B1228 over the 5-year period in question. There are incidents recorded that involve LGVs and HGVs along the road, however this is not anticipated to be worsened by construction, as HGVs and tractor/trailers will not be using the full extent of the road, with HGVs travelling from the A163 to the entrance to Compound B only, and tractor/ trailers only utilising the road between the Fine Country Stays accommodation to the unmarked Spaldington Lane road junction further south.

Compound C

- 4.4.14 Compound C (located in Solar PV Area 3c) is accessed via Rowlandhall Lane which has no accident data recorded over the last 5-year period. At points where tractor-trailers will travel across other roads from this Compound (Wood Lane and the B1228 to Compound B) there are also no incidents recorded. No HGVs are planned to access this Compound.

Compound D

- 4.4.15 Near to the Compound D (located within the Grid Connection Corridor, north of A63) point of access, three slight and one serious incident has occurred along the A63. These are explained further below:
- a. A slight incident occurred on the 3 November 2019, approximately 600m west of the Woodhall Lane junction, where a car was slowing down and a secondary car impacted the front of their vehicle, leading to injuries for the driver and passenger of the first vehicle and the driver of the second vehicle. The conditions of the road were dry without winds during the day and the speed limit of the road was 60mph.
 - b. A serious incident occurred on the 2 April 2017 at the junction with Woodhall Lane, where a pedal cycle was in the act of turning right and was impacted in the offside by a motorcycle along the carriageway that impacted on the front. The driver of the pedal cycle suffered a slight injury and the motorcycle driver suffered serious injury. The conditions

- of the road were dry without winds during the day, and the speed limit of the road was 60mph.
- c. A slight incident occurred on the 3 April 2018 approximately 270m east of the Woodhall Lane junction, where 2 cars impacted where the first car was rearended, leading to the injury of the driver of the car that was impacted at the back of the vehicle. The conditions of the road were raining without winds during the day, and the road had a speed limit of 60mph.
 - d. A slight incident occurred on the 23 January 2017 at the junction with the Unmarked Road running adjacent to the River Derwent to the east, where two vehicles impacted as one vehicle turned right and a secondary car impacted this vehicle. The first vehicle was impacted from the nearside and the car was impacted at the front of the vehicle, injuring the driver of the car. The conditions of the road were foggy with frost on the road surface during the day, and the road had a speed limit of 60mph.

Compound E

4.4.16 Compound E (located within the Grid Connection Corridor) is accessed via Pear Tree Lane which can be accessed via New Road. There are no incidents recorded in the last 5-year period in this location.

4.5 Public Transport

Bus

4.5.1 The closest bus stops to the Site are located along the A163, A63 and in the village of Hemingbrough. The bus stop locations, services and the distances to the closest element of the Scheme are shown in **Table 6**.

Table 6. Local Bus Stops and Services

Bus Stop	Location	Bus Services	Distance from Site
A163 Foggathorpe Main Road heading east and west	At A163/Bell Lane Junction (Foggathorpe)	1, 18, 358	2.5km to the north
Highfield Corner House heading west	At A163/B1228 Junction (east of Highfield)	1, 18, 358	Beside Order Limits
St. Mary's Church heading north	Along Main Street in Hemingbrough	1, 3, 4a	2km to the south-west
Brackenholme Cottages heading east and west	2.2km west from Newsholme Road along A63	3	3km to the south-west
Howden War Memorial	On B1228 Bridgergate in Howden	55, 358	2.8km to the south

4.5.2 **Table 7** sets out the routes and frequency of these services.

Table 7. Local Bus Routes and Frequencies

Bus Service	Route	Weekday Frequency	Provider
1	Holme on Spalding Moor to Selby	Two Services per day at 10 am and 1pm	Thornes Independent Ltd.
3	Thorne to Selby	One Service per day at 5pm	Arriva Yorkshire
4a	4a Hemingbrough to Selby	One AM Service and one PM Service at 07:00 and 17:00 respectively	Thornes Independent Ltd.
18	Home on Spalding Moor to York	Every two to three hours	East Yorkshire Buses
55	Goole to Hull Interchange	Every two to three hours	East Yorkshire Buses
358	Holme on Spalding Moor to Goole	One service each way on Tuesdays at 09:00 and 14:00 respectively	Goole Go Far

4.5.3 In the surrounding area of the Site, there is a general lack of services and poor frequency meaning the Site is not considered to be accessible by bus. In addition, workers are expected to be travelling to the Site before 07:00 and leaving after 19:00 during the working week, when there are very few services.

Rail

4.5.4 The nearest railway station to the Site is Howden Station, which is accessed from the B1228. At the closest point to the Site, the station is located approximately 2.2km south of the entrance to Compound B, and 5.4km to the east of the entrance to Compound D.

4.5.5 Howden Station provides journeys to onward destinations such as York, London Kings Cross, Bridlington, Hull and Selby as well as other stops. The routes and frequency of services are set out in **Table 8**.

Table 8. Howden Train Station Services

Train Route	Frequency	Service Provider
York to Bridlington via Hull	Every Hour	Northern Rail
Bridlington to York via Hull	Every Hour	Northern Rail
London Kings Cross to Hull via Selby	Every 2 Hours	Hull Trains
Hull to London Kings Cross via Selby	Every 2 Hours	Hull Trains

4.5.6 Howden Station provides journeys to onward destinations such as York, London Kings Cross, Bridlington, Hull and Selby as well as other stops. The routes and frequency of services are set out in **Table 8**.

4.5.7 Although the station is close to the Order limits to the south of the Solar PV Site, usage would be fairly limited due to a lack of footways and other

pedestrian facilities. Therefore, it has been assumed for assessment purposes that all staff working on at the Site will predominantly travel by private vehicles (sole occupancy or car sharing) or by the provided minibuses.

4.6 Walking and Cycling

Pedestrians

- 4.6.1 The Scheme generally falls within a rural setting with local country lanes making up the predominant road type. As a result, there are limited footways and other pedestrian/cycle facilities in the area apart from in towns and villages such as Howden, Foggathorpe, Hemingbrough, Spaldington, Holme-on-Spalding-Moor and Drax village, where there are footways present to facilitate pedestrian movements.
- 4.6.2 Based on the rural nature of the area, there are a significant number of PRowS in the area crossing fields and running alongside roads and rivers. A number of these PRowS intersect with the Site, as shown in the **Framework PRow Management Plan [EN10143/APP/7.13]**.
- 4.6.3 Where PRowS intersect or cross the Site, they will remain open throughout the construction period with some minor diversions, as well as routes associated with the Rivers Ouse and Derwent in the Grid Connection Corridor. Other PRowS intersecting with the Interconnecting Cable Corridor or Grid Connection Corridor would only be impacted during the short-term trenching and restoration operations. These PRowS would remain open (likely to be managed through traffic management measures) although routes may be temporarily altered, for example moving from, one side to the other. If under a worst-case scenario, any PRowS require diversion these will be short-term in duration.
- 4.6.4 Near to National Grid Drax Substation, New Road provides pedestrian amenities adjacent to the Substation, running for the extent of the site. The A645 travelling westbound from New Road also provides pedestrian walkways on both sides of the road for the extent of National Grid Drax Substation, and to the north of the road continuing west.

Cycling

- 4.6.5 Cycle access has been considered to explore the possibility of construction and operational staff cycling to the Site. For the purpose of cycle accessibility, cycle times of 10 and 20 minutes at an average speed of 15kph (kilometres per hour) (equating to 2.5km and 5km respectively) have been assumed for the Site.
- 4.6.6 Within a 2.5km distance of the Compounds, there are the villages of Bubwith, Spaldington, and Drax Village and Camblesforth. Within 5km of the Compounds, are the towns of Howden, Hemingbrough and Foggathorpe.
- 4.6.7 National Cycle Route 65 passes through Howden to the south of the Solar PV Site and cuts through the Grid Connection Corridor. The route continues west towards Selby, and heading east following the River Ouse towards Barmby on the Marsh, Brough and Hull beyond.

- 4.6.8 Though unlikely, due to the quiet nature of the local roads in the Study Area, it is possible that roads could be used by workers wishing to cycle to and from the Site.

5. The Scheme

- 5.1.1 This section of the TA provides further details of the Scheme including a summary of the Scheme and access arrangements, proposed construction programme, the construction, operational and decommissioning phases, vehicle types, routing and parking arrangements, as well as pedestrian and cycle access.
- 5.1.2 The Design Principles for the Scheme have been assessed (presented in Table 2-1 of **Chapter 2: The Scheme, ES Volume 1 [EN/010143/APP/6.1]**). These are the maximum parameters for the Scheme, and there are not expected to be any new, different or worse effects than what has been assessed for any scheme built within the Design Principles. The transport impact assessment is therefore based on the worst-case parameters in terms of daily construction staff and HGVs during the peak phase of construction (based on the Design Principles).

5.2 Scheme Summary

- 5.2.1 The Scheme will comprise the construction, operation (including maintenance), and decommissioning of a solar PV electricity generating facility with a total capacity exceeding 50 megawatts (MW) and export connection to the national grid, at National Grid Drax Substation.
- 5.2.2 The Scheme comprises the following components:
- a. Solar PV Site;
 - b. Associated grid connection (comprising the Interconnecting Cable Corridor and Grid Connection Corridor);
 - c. Site Accesses; and
 - d. Ecology Mitigation Area.
- 5.2.3 Further information on the Scheme and Site is provided in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.
- 5.2.4 Below is further information on the Solar PV Site, Interconnecting Cable Corridor, and Grid Connection Corridor with regards to locality and transport.

Solar PV Site

- 5.2.5 At the closest point, the boundary of the Solar PV Site is located 1.1km north-west of new residential developments in Howden and approximately 1.3km west of the villages of Brighton and Wressle. The closest properties in Gribthorpe, Spaldington and Brind are approximately 20m from the Solar PV Site boundary, whilst the closest properties in Willitofth are approximately 120m from the Solar PV Site boundary.
- 5.2.6 Within the Solar PV Site, two transformers as part of the Grid Connection Substations are to be located in Solar PV Site Area 1c. These are anticipated

to be the largest items to be delivered to Site and are considered to be Abnormal Indivisible Loads (AIL) due to the weight of the deliveries.

- 5.2.7 Any affected PRow will be temporarily diverted around each works area during the solar PV panel installation. Temporary Traffic Management will also be implemented where roads are affected.

Interconnecting Cable Corridor

- 5.2.8 The Interconnecting Cable Corridor describes the area outside of the Solar PV Site and Grid Connection Corridor within which the 33 kV cables will be installed linking the Solar PV Areas within the Solar PV Site to the 33 kV/132 kV Grid Connection Substations in Solar PV Area 1c, or linking to other Solar PV Sites such as 2g to 2f and 2f to 2e.
- 5.2.9 Any affected PRow will be temporarily diverted around each works area during the cable installation. Temporary traffic management will also be implemented where roads are affected.

Grid Connection Corridor

- 5.2.10 The Grid Connection Corridor describes the area within which the 132 kV Grid Connection Cables will be laid. The cables will be buried below ground along with jointing pits installed at regular intervals to facilitate the installation and joining of cables. The Grid Connection Corridor also overlaps with the Interconnecting Cable Corridor such as 3b to 3a, 3a to 2c. At these locations there will be 33kV cables also in the ground.
- 5.2.11 Any affected PRow will be temporarily diverted around each works area during the cable installation. Temporary traffic management will also be implemented where roads are affected.

5.3 Programme

- 5.3.1 The anticipated construction, operational, and decommissioning periods are as follows:
- Construction (not earlier than 2025-2027);
 - Operational (not earlier than 2027-2067); and
 - Decommissioning (not earlier than 2067).
- 5.3.2 The design life of the Scheme is 40 years with decommissioning to commence 40 years after final commissioning, although the operational life could be longer than this depending on the condition of equipment.

Construction

- 5.3.3 The nature of the Scheme is such that the greatest impact is likely to occur during the construction and decommissioning phases. Subject to the DCO for the Scheme being granted, the earliest construction could start is in 2025, being built over a 24-month period. The peak construction period is anticipated to occur in months 1-18. The construction programme is contained within the **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**.
- 5.3.4 It is not considered that a short delay in construction would result in a change to the conclusions of this TA. In addition, the following is considered

to be applicable should there be a delay of up to 5-years to the start of construction:

- a. Cumulative schemes may have been completed by the time the construction phase begins, which would elevate the trips on the local road network in the future baseline. A higher baseline flow would reduce the proportional impact that the Scheme has on the road network and this would reduce or maintain the levels of effect presented in this TA.

Operation

- 5.3.5 Subject to the DCO Application being granted, the earliest the Scheme is expected to be operational is by Q1 of 2027. A minimal level of activity is expected across the Site during the operational phase up until decommissioning.
- 5.3.6 During the operational period, it is expected there would be one to three staff on-site per day arriving in their own vehicles. Other visitors (e.g., maintenance workers and deliveries) will be needed on-site on an *ad hoc* basis. The number is not expected to be more than four visitors per day.
- 5.3.7 Solar PV panel replacements from on-site storage would be transported via transit van and the removed (waste) solar PV panels would be stored at Johnson's Farm (Solar PV Area 1e), until they can be taken from the Site for recycling. This would be infrequent, totalling around one Light Goods Vehicle (LGV) per year.
- 5.3.8 In addition, if a transformer failure occurred during the operational phase this could result in one AIL trip for delivery and removal.
- 5.3.9 These low levels of operational traffic would remain constant for the operational lifetime of the Scheme and therefore the predicted impacts would not be influenced by the operational period being extended beyond 2067.

Decommissioning

- 5.3.10 Decommissioning is anticipated to take place following the operational period.
- 5.3.11 The decommissioning period is expected to be similar in duration and nature to construction and could be phased. It is expected that fewer road trips will be required, particularly if the most environmentally acceptable mode of cable decommissioning remains leaving the cables *in situ*, to avoid disturbance to overlying land and habitats and to neighbouring communities.
- 5.3.12 It is therefore considered reasonable to assume that the impacts will be the same as, or not greater than, the construction phase. This may overestimate the actual impacts slightly, but it is considered broadly accurate.
- 5.3.13 As the decommissioning phase will occur a number of decades in the future, and expected to result in similar traffic than the construction phase (and over a shorter period), decommissioning is expected to lead to effects that are no worse than during construction.

5.4 Vehicle Types, Plant Requirements and Abnormal Loads

- 5.4.1 It is expected that construction vehicles accessing the Site will consist of the following:
- a. Cars;
 - b. Small vans;
 - c. 10m rigid vehicles;
 - d. Max articulated lorries (HGVs);
 - e. Tractors with trailers (up to 12m in length);
 - f. Mobile cranes; and
 - g. AILs.
- 5.4.2 AILs will be associated with the implementation of the two Grid Connection Substations in Solar PV Area 1c, with a maximum of 10 AILs anticipated during the period of construction.
- 5.4.3 Swept Path Analysis has been carried out at potential pinch points identified along key roads on the local road network, to ascertain whether HGVs and other vehicles are able to safely access the Site. This analysis has subsequently informed routing of vehicles.
- 5.4.4 All large vehicles and other abnormal loads will be required to follow the agreed HGV routing strategy when travelling to/from the Site.
- 5.4.5 Based on the Swept Path Analysis results, some locations were identified to require carriageway widening/vegetation removal and associated traffic management to facilitate safe implementation. The locations and details of improvements are outlined in Section 9.5.4.
- 5.4.6 As previously mentioned, a **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])** has been prepared in support of the DCO Application which provides further details of the construction phase of the Scheme in terms of how construction vehicles will be managed. This also includes the swept path drawings along with further details of traffic routing.

5.5 Operation

- 5.5.1 During the operational period, it is expected there would be one to three staff on-site per day arriving in their own vehicles. Other visitors (e.g., maintenance workers and deliveries) will be needed on-site on an *ad hoc* basis. The number is not expected to be more than four visitors per day.
- 5.5.2 A small number of small van and HGV trips associated with solar PV panel removal/delivery and inverter removal/delivery would be expected across the operational phase.
- 5.5.3 In addition, if a transformer failure occurred during the operational phase this could result in one AIL trip for delivery and removal.
- 5.5.4 During operation, it is not anticipated that there will be any type of vehicle accessing the Site that has not done so previously during construction.

5.6 Decommissioning

- 5.6.1 The same vehicle types are expected during the decommissioning phase as per the construction phase. It is likely that there would be fewer trips and over a shorter duration than construction, but it would be broadly similar scale, and therefore to provide a worst-case assessment for the purpose of this assessment decommissioning flows are assumed to match the construction phase.

5.7 Vehicle Access Arrangements and Routing

Introduction

- 5.7.1 During the construction phase the Scheme will be served by five proposed Compounds across the Site. The Access to each compound is described below:
- a. Compound A – Access via Willitof Road;
 - b. Compound B – Access via the B1228;
 - c. Compound C – Access via Rowlandhall Lane;
 - d. Compound D – Access via the A63; and
 - e. Compound E – Access via Pear Tree Lane.
- 5.7.2 The following drawings contained within **Annex A: Proposed Access Layouts, Visibility Splays and Swept Paths (Annex A, Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])** indicate the Compounds and their corresponding access points / vehicle routing from the wider road network.
- a. Compound A: Access 1 Drawing 60683115-HGN-DR-CH-0101;
 - b. Compound B: Access 12 Drawing 60683115-HGN-DR-CH-0112;
 - c. Compound C: Access 18 Drawing 60683115-HGN-DR-CH-0118;
 - d. Compound D: Access 24 Drawing 60683115-HGN-DR-CH-0124; and
 - e. Compound E: Access 27 Drawing 60683115-HGN-DR-CH-0127.
- 5.7.3 All other proposed highway access locations, including those directly required into Solar PV Areas are also provided within **Annex A: Proposed Access Layouts, Visibility Splays and Swept Paths (Annex A, Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**.
- 5.7.4 During the operational phase, maintenance of the Site will be accessed via the Solar PV Areas, which will differ slightly from the proposed Compound access. Where possible, the Solar PV Areas and Interconnecting Cable Corridor will utilise the same access points as during construction and utilise internal roads within the Site.

Compound A

- 5.7.5 Compound A (situated in Solar PV Area 1a) is located to the east of Willitof Road within the wider area of the Solar PV Site. The compound is accessed via an entrance to the land off Willitof Road.
- 5.7.6 The Compound will be used for construction activities associated with the Solar PV Areas in the northern portion of the Solar PV Site.

- 5.7.7 Daily traffic travelling to this Compound is expected to consist of the following:
- a. Construction workers driving and parking at the Compound;
 - b. HGVs deliveries to the Compound; and
 - c. Onward tractor-trailer deliveries from the Compound to the Solar PV Areas.

5.7.8 The HGVs delivering to the Compound will be instructed to take the routes presented in **Table 9** to access the Compound from strategic roads:

Table 9. Compound A HGV Routing

Travelling from the Strategic Network to the Compound	Travelling from the Compound to the Strategic Network
Travel along the A614 from the north or south	Turn right out of the Compound onto Willitoft Road, then turn onto B1228
Turn west along the A163 at the High Street/ New Road roundabout	Turn east onto the A163 at the B1228/ A163 junction
Continue along A163, then turn south down the B1228 at the B1228/ A163 junction	At the High Street/ New Road roundabout turn onto the A614
Travel along B1228, then turn onto Willitoft Road	
Turn left into the Compound	

- 5.7.9 Tractor-trailer deliveries from the Compound to the Solar PV Areas will generally take place on internal roads/tracks within the Solar PV Areas where equipment is required; however, these vehicles will also be required to use the following roads (either as a crossing or actual travel upon):
- a. Tottering Lane;
 - b. Sewer Drain (west of Gribthorpe); and
 - c. Ings Lane (eastern end).

5.7.10 The HGV and tractor-trailer routes are indicated in **Figure 13-4-3**.

Compound B

- 5.7.11 Compound B is located to the east of the B1228 within Solar PV Area 2d. The Compound is accessed via an entrance directly from the B1228.
- 5.7.12 The Compound will be used for construction activities associated with the Solar PV Areas in the central portion of the overall Solar PV Site.
- 5.7.13 Daily traffic travelling to this Compound is expected to consist of the following:
- a. Construction workers driving and parking at the Compound;
 - b. HGVs deliveries to the Compound; and
 - c. Onward tractor-trailer deliveries from the Compound to the Solar PV Areas.

5.7.14 The HGVs delivering to the Compound will be instructed to take the routes presented in **Table 10** to access the Compound from strategic roads:

Table 10. Compound B HGV Routing

Travelling from the Strategic Network to the Compound	Travelling from the Compound to the Strategic Network
Travel along the A614 from the north or south	Exit directly onto the B1228
Turn west along the A163 at the High Street/ New Road roundabout	Turn west along the private road
Turn south down the B1228 at the B1228/ A163 Junction	Turn north onto the B1228 at the junction
Enter directly from the B1228	Turn east onto the A163 at the B1228/ A163 junction
Turn south into the Compound	Turn north or south onto the A614 at the High Street/ New Road roundabout

5.7.15 Along with using internal roads/tracks within the Solar PV Areas, tractor-trailer deliveries from the Compound will also utilise the following roads on the local road network:

- a. B1228;
- b. Wood Lane;
- c. Rowlandhall Lane;
- d. Green Lane;
- e. Newsholme Road;
- f. Spaldington Lane;
- g. Unmarked Road to between Spaldington Lane and Ings Lane; and
- h. A614.

5.7.16 The HGV and tractor-trailer routes are indicated in **Figure 13-4-4**.

Compound C

5.7.17 Compound C (situated in Solar PV Area 3c) is located to the north of the A63 and to the east of Rowlandhall Lane, and would be accessed via Rowlandhall Lane, turning eastbound via a private farm lane into the Compound.

5.7.18 The Compound will be used for construction activities associated with the Solar PV Areas in the southern portion of the Solar PV Site.

5.7.19 Daily traffic travelling to this Compound is expected to consist of the following:

- a. Construction workers driving and parking at the Compound; and
- b. Tractor-trailer deliveries between Compound B and C.

- 5.7.20 HGVs are not proposed to access the Compound during construction, with tractor-trailers (up to 12m in length) conducting onward delivery from Compound B.
- 5.7.21 The roads associated with tractor-trailer deliveries for the Compound will also utilise the following roads on the local road network:
 - a. Rowlandhall Lane;
 - b. Wood Lane; and
 - c. B1228.
- 5.7.22 The tractor-trailer routes are indicated in **Figure 13-4-5**.

Compound D

- 5.7.23 Compound D is located within the Grid Connection Corridor to the south-west of the Solar PV Site, north of the A63 and would be accessed directly from the A63 travelling via a private farm lane.
- 5.7.24 The Compound will be used for construction activities associated with the Grid Connection Corridor from north of the River Ouse to Wood Lane.
- 5.7.25 Daily traffic travelling to this Compound is expected to consist of the following:
 - a. Construction workers driving and parking at the compound;
 - b. HGVs deliveries to the Compound; and
 - c. Onward tractor-trailer deliveries from the Compound to the Grid Connection Route.
- 5.7.26 The HGVs delivering to the Compound will be instructed to take the routes presented in **Table 11** to access the Compound from strategic roads:

Table 11. Compound D HGV Routing

Travelling from the Strategic Network to the Compound	Travelling from the Compound to the Strategic Network
Travel along the A19 north or southbound	Turn west onto the A63
Travel east along the A63 at the Hull Road/ A19 roundabout	Travel north or south onto the A19 at the Hull Road/ A19 roundabout
At Brackenholme, turn north from the A63 into Compound	

- 5.7.27 It should be noted that all large vehicles entering the Compound would be required to approach and depart from the west due to the nature of the junction off A63.
- 5.7.28 Along with using internal roads/ tracks within the Grid Connection Corridor, tractor-trailer deliveries from the Compound to the Grid Connection Corridor will also utilise the following roads on the local road network:
 - a. A63;

- b. Wood Lane;
- c. Rowlandhall Lane;
- d. School Road;
- e. Chapel Balk Road; and
- f. Barmby Ferry Road.

5.7.29 The HGV and tractor-trailer routes are indicated in **Figure 13-4-6**.

Compound E

5.7.30 Compound E is located to the south-west of the River Ouse, within the Grid Connection Corridor. The Compound is accessed via Pear Tree Avenue.

5.7.31 The Compound will be used for construction activities associated with the Grid Connection Corridor from south of the River Ouse to Nation Gird's Drax Substation.

5.7.32 Daily traffic travelling to this Compound is expected to consist of the following:

- a. Construction workers driving and parking at the compound;
- b. HGVs deliveries to the Compound; and
- c. Onward tractor-trailer deliveries from the Compound to the Grid Connection Corridor.

5.7.33 The HGVs delivering to the Compound will be instructed to take the routes presented in **Table 12** to access the Compound from strategic roads:

Table 12. Compound E HGV Routing

Travelling from the Strategic Network to the Compound	Travelling from the Compound to the Strategic Network
Exit the M62 at Junction 36	Travel south out of the Compound onto Pear Tree Avenue heading west
Travel north-west along the A614 from Goole Interchange, then along the A645	Continue south along New Road
At the New Road/ A645 Junction, turn north along New Road, then along Pear Tree Avenue	At the New Road/ A645 Junction, turn south-east along the A645, then A614
Turn north into the Compound	Join the M62 at Junction 36

5.7.34 Along with using internal roads/tracks within the Grid Connection Corridor, tractor-trailer deliveries from the Compound will also utilise the following roads on the local road network:

- a. Pear Tree Avenue; and
- b. New Road.

5.7.35 The HGV and tractor-trailer routes are indicated in **Figure 13-4-7**.

5.8 Car and Cycle Parking

5.8.1 During the construction and decommissioning phases, informal parking will be provided at each Compound.

6. Vehicle Distribution

6.1.1 The following sections provide details of the anticipated characteristics of journeys generated by construction of the Scheme. The below summarises the forecast of how vehicle trips will be distributed across the road network during the construction period.

6.2 Construction and Operational Staff

6.2.1 Construction and operational staff will be encouraged to take the most direct route to the Site using 'higher' order roads, such as A and B classified roads.

6.2.2 Workers will park within the Compounds during construction and decommissioning, and on the Solar PV Areas during operation.

6.2.3 For the purpose of this assessment, construction worker trips have been informed using a gravity model approach to assume origins of their trips from surrounding settlements. This has been used to inform both private car journeys and the minibus pick up locations. This is considered to be an acceptable methodology as the exact location of the construction workforce is not known at this stage.

6.2.4 The locations, weightings of each settlement, and ultimate distribution are provided in **Table 13**.

Table 13. Construction Worker Weighted Distribution by Residence

Settlement	Population	Average Distance from Order limits (km)	Weighting	Weighted Population	Percentage Distribution
Holme-On-Spalding-Moor	3,172	9	1	3,172	0%
Bubwith	1,225	9	1	1,225	0%
Goole	19,518	11	1	19,518	1%
Market Weighton	6,429	18	1	6,429	0%
Selby	92,000	20	1	92,000	6%
Pocklington	8,337	22	0.7	5,836	0%
Thorne	17,295	25	0.7	12,107	1%
Wheldrake	1,984	27	0.7	1,389	0%

Settlement	Population	Average Distance from Order limits (km)	Weighting	Weighted Population	Percentage Distribution
York	198,100	32	0.7	138,670	9%
Beverley	18,624	34	0.7	13,037	1%
Pontefract	30,881	41	0.7	21,617	1%
Doncaster	302,400	42	0.7	211,680	14%
Hull	256,400	44	0.7	179,480	12%
Driffield	13,080	45	0.7	9,156	1%
Leeds	751,500	67	0.5	375,750	25%
Sheffield	552,700	75	0.5	276,350	19%
Barnsley	231,200	75	0.5	115,600	8%
Total				1,483,015	100%

6.2.5 The potential route choices from these origins to the Site have then been assumed using an iterative process within an online interactive mapping tool. No restrictions have been applied to possible routes workers could take to the Site.

6.3 Construction HGVs

6.3.1 Construction HGVs will travel to and from the Compounds via the SRN to avoid passing through any local villages such as Bubwith.

6.3.2 Local off-site highway improvements (e.g., verge clearance, hedge cutting and/or carriageway widening) will be carried out where necessary to provide the desired 6.0m carriageway width for HGVs along routes where possible.

6.3.3 HGVs have been distributed across the road network in this exercise based on the routing set out in Section 5.7 of this TA. It is assumed 100% of the HGVs will follow the stated routing plan to and from the SRN as proposed.

6.3.4 The vehicle routing plan showing the agreed routing strategy for HGVs are held in **Figures 13-4-3 to 13-4-7**.

6.4 Construction Tractor-Trailer Movements

6.4.1 At Compounds A, B, D and E, HGVs will complete deliveries for the Solar PV Site and Grid Connection Corridor. From each Compound these deliveries will be moved across the Solar PV Areas, to Compound C and along the Grid Connection Corridor using tractor-trailers. The movements will generally take place on internal roads/tracks within the Solar PV Areas and Grid Connection Corridor where equipment is required; however, these vehicles will also be required to use or cross sections of the LRN.

- 6.4.2 It is anticipated that tractor-trailers will utilise a number of routes from each Compound. Not every route intersects with the local road network and therefore will not intersect with any ATC locations.
- 6.4.3 Tractor-trailer traffic from the Compounds for the Solar PV Site sees deliveries distributed equally among the corresponding Solar PV Areas.
- 6.4.4 Tractor-trailer traffic from the Grid Connection Route will see deliveries distributed equally along the length of the route.
- 6.4.5 The distribution of tractor-trailer movements is assigned to each Solar PV Area and Compound as shown in **Table 14** to **Table 18**.

Table 14. Compound A: Tractor-trailer Distribution

Route	Percentage of Two-way traffic	Roads Utilised
To Solar PV Area 1a (Compound A)	14%	Internal roads/tracks
To Solar PV Area 1b	14%	Internal roads/tracks
To Solar PV Area 1c	14%	Internal roads/tracks
To Solar PV Area 1d	14%	Internal roads/tracks
To Solar PV Area 1e	14%	Gribthorpe Road, Tottering Lane, Ings Lane
To Solar PV Area 1f	14%	Ings Lane
To Ecology Mitigation Area 1g	14%	Internal roads/tracks

Table 15. Compound B: Tractor-trailer Distribution

Route	Percentage of Two-way traffic	Roads Utilised
To Solar PV Area 2a	10%	B1228
To Solar PV Area 2b	10%	B1228, Spaldington Lane
To Solar PV Area 2c	10%	B1228
To Solar PV Area 2d (Compound B)	10%	Internal roads/tracks
To Solar PV Area 2e	10%	B1228, Spaldington Lane
To Solar PV Area 2f	10%	B1228, Spaldington Lane
To Solar PV Area 2g	10%	B1228, Spaldington Lane, A614
To Solar PV Area 3a	10%	B1228, Wood Lane
To Solar PV Area 3b	10%	B1228, Wood Lane, Rowlandhall Lane

Route	Percentage of Two-way traffic	Roads Utilised
To Solar PV Area 3c	10%	B1228, Wood Lane, Rowlandhall Lane, Green Lane, Newsholme Road

Table 16. Compound C: Tractor-trailer Distribution

Route	Percentage of Two-way traffic	Roads Utilised
To and from Compound B	100%	Rowlandhall Lane, Wood Lane, B1228

Table 17. Compound D: Tractor-trailer Distribution

Route	Percentage of Two-way traffic	Roads Utilised
North-east towards Solar PV Area 3b	33%	A63, Unmarked Road, Wood Lane
West to Hemingbrough then southbound	33%	A63, School Road, Chapel Balk Road, Barmby Ferry Road
South along river	33%	A63

Table 18. Compound E: Tractor-trailer Distribution

Route	Percentage of Two-way traffic	Roads Utilised
North-east to river	14%	Internal roads / tracks
Southwest to National Grid Drax Substation	86%	Pear Lane Avenue, New Road, Carr Lane

7. Trip Generation

7.1.1 The following section provides details of the anticipated travel characteristics of the Scheme during the construction, operational and decommissioning phases. It should be noted that there is very limited information within the TRICS trip generation database for standalone solar farms and a first principles approach has therefore been adopted to derive the anticipated vehicle trip attraction based on professional judgement and information received from the project team.

7.1.2 The below provides a summary of the forecast vehicle trips associated with each phase based on the peak level of activity expected throughout the 24-month construction period, during the peak hours and across the day. The

peak of construction in terms of generated trips is anticipated to be between months 1-18 of the construction programme.

7.2 Construction Staff Movements

- 7.2.1 During the summer months it is anticipated that there would be up to 400 members of staff working at the Scheme daily during months 1-18 of the construction programme. From months 19-24, this would drop to 225 daily workers. During the winter months, lower numbers of workers would be expected.
- 7.2.2 Minibuses for workers would be provided to facilitate journeys to/from key towns and cities where significant numbers of people could originate. Based on the population weighting exercise carried out to inform traffic distribution (see **Table 13**) proportions of workers that could be expected to use the minibuses have been assumed. This indicated a proportion of 50% (e.g., 201 out of 400 workers) that could be expected to use the minibus services.
- 7.2.3 Minibuses (e.g., a 16-seater for the purposes of assessment) would be allocated to each identified settlement based on the assumed proportion of workers in each location. This equates to a requirement of 16 minibuses per day to transport the 201 workers from the varying locations.
- 7.2.4 Of the remaining 199 workers not expected to use the minibus services, approximately 55% could be targeted for car sharing measures, which equates to 109 workers. Of this total, a realistic car share ratio of 1.5 workers per car has been assumed, equating to a total of 72 vehicle movements. This number can then be added to the remaining 90 workers using their own car to travel to the Site and the 16 movements associated with the minibuses.
- 7.2.5 Therefore, for the purposes of the assessment, during the summer months there would be 178 vehicle trips during the morning development peak hour (06:00-07:00) and 178 vehicle trips during the evening peak, during the peak months of development (months 1-18).
- 7.2.6 From months 19-24 of construction, there would be 100 vehicle trips during the morning development peak hour (06:00-07:00) and 100 vehicle trips during the evening peak.
- 7.2.7 As noted, during the winter months, lower numbers of workers would be expected, possibly arriving at the Site later and departing the Site earlier and working shorter hours. These traffic movements would still occur outside the network peak hours, therefore these key periods would not be impacted. In addition, the percentage increase in traffic would likely be lower in this situation due to higher traffic baseline in later hours in the AM period and earlier hours in the PM period. The assessment of worker traffic during the summer months therefore represents a robust worst-case scenario.
- 7.2.8 These staff and corresponding journeys would be distributed across the Site as presented in **Table 19**.

Table 19. Construction Programme for Daily Construction Worker Vehicles (One-way)

Month	Compound A	Compound B	Compound C	Compound D	Compound E	Total
1	67	58	9	22	22	178
2	67	57	9	22	22	178
3	67	57	9	22	22	178
4	67	57	9	22	22	178
5	78	68	10	22	0	178
6	89	78	11	0	0	178
7	89	78	11	0	0	178
8	89	78	11	0	0	178
9	89	78	11	0	0	178
10	89	89	0	0	0	178
11	89	89	0	0	0	178
12	89	89	0	0	0	178
13	89	89	0	0	0	178
14	89	89	0	0	0	178
15	89	89	0	0	0	178
16	89	89	0	0	0	178
17	89	89	0	0	0	178
18	89	89	0	0	0	178
19	0	100	0	0	0	100
20	0	100	0	0	0	100
21	0	100	0	0	0	100
22	0	100	0	0	0	100
23	0	100	0	0	0	100
24	0	100	0	0	0	100

7.3 Construction HGVs

7.3.1 During the construction period, it is anticipated that there will be up to 25 artic HGVs delivering across the Site daily between construction months 1-18. These deliveries will be directed to the Compounds and distributed among them as follows during the construction period.

7.3.2 In month 19, daily deliveries will drop to 15 HGVs, travelling to Compound B only.

7.3.3 The distribution of HGVs across the construction programme is presented in **Table 20**.

Table 20. Construction Programme for Daily HGVs (One-way)

Month	Compound A	Compound B	Compound C	Compound D	Compound E	Total
1	9	8	0	4	4	25
2	9	8	0	4	4	25
3	9	8	0	4	4	25
4	9	8	0	4	4	25
5	11	10	0	4	0	25
6	13	12	0	0	0	25
7	13	12	0	0	0	25
8	13	12	0	0	0	25
9	13	12	0	0	0	25
10	13	12	0	0	0	25
11	13	12	0	0	0	25
12	13	12	0	0	0	25
13	13	12	0	0	0	25
14	13	12	0	0	0	25
15	13	12	0	0	0	25
16	13	12	0	0	0	25
17	13	12	0	0	0	25
18	13	12	0	0	0	25
19	0	15	0	0	0	15
20	0	15	0	0	0	15
21	0	15	0	0	0	15
22	0	15	0	0	0	15
23	0	15	0	0	0	15
24	0	15	0	0	0	15

7.4 Construction Tractor-Trailer Movements

7.4.1 Following deliveries from HGVs to the Compounds during the construction period, tractors with trailers will deliver the loads to other locations around the Solar PV Site and Grid Connection Corridor. It is anticipated that for one HGV delivery, two tractor-trailer deliveries will be needed to move the loads across the Site.

7.4.2 It is anticipated that there will be up to 50 daily tractor-trailer movements during the peak construction period between month 1-18.

7.4.3 In month 19, daily deliveries will drop to 30 tractor-trailer movements from Compound B only.

7.4.4 The distribution of tractor-trailers across the construction programme is presented in **Table 21**.

Table 21. Construction Programme for Daily Tractor-trailers (One-way)

Month	Compound A	Compound B	Compound C	Compound D	Compound E	Total
1	18	14	2	8	8	50
2	18	14	2	8	8	50
3	18	14	2	8	8	50
4	18	14	2	8	8	50
5	22	18	2	8	0	50
6	26	22	2	0	0	50
7	26	22	2	0	0	50
8	26	22	2	0	0	50
9	26	22	2	0	0	50
10	26	24	0	0	0	50
11	26	24	0	0	0	50
12	26	24	0	0	0	50
13	26	24	0	0	0	50
14	26	24	0	0	0	50
15	26	24	0	0	0	50
16	26	24	0	0	0	50
17	26	24	0	0	0	50
18	26	24	0	0	0	50
19	0	30	0	0	0	30
20	0	30	0	0	0	30
21	0	30	0	0	0	30
22	0	30	0	0	0	30
23	0	30	0	0	0	30
24	0	30	0	0	0	30

7.5 Peak Construction

7.5.1 As shown in **Table 19**, it is anticipated that maximum trip generation will consistently occur within months 1-18, with 178 construction worker vehicles,

25 HGVs and 50 tractor-trailers daily. This equates to 356 two-way construction worker movements, 50 HGV two-way movements, and 100 two-way tractor/ trailer movements, or a total of 506 one-way movements per day.

7.5.2 Months 6-9 are proposed to see the greatest movement across the most roads recorded by ATC locations, and therefore month 6 has been assessed to understand trip generation and distribution on the local road network during the peak period.

7.5.3 The daily profile of construction trips travelling in and out of the compounds during month 6 is presented in **Table 22**.

Table 22. Month 6 Daily Profile of Generated Trips (Two-way)

Time	Cars/ Minibuses		HGVs		Tractor-trailers		Total
	In	Out	In	Out	In	Out	
00:00-01:00	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0
06:00-07:00	178	0	0	0	0	0	178
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00 (network peak hour)	0	0	0	0	0	0	0
09:00-10:00	0	0	4	4	7	6	21
10:00-11:00	0	0	4	3	6	6	19
11:00-12:00	0	0	3	4	6	7	20
12:00-13:00	0	0	4	3	6	6	19
13:00-14:00	0	0	3	4	7	6	20
14:00-15:00	0	0	4	3	6	6	19
15:00-16:00	0	0	3	4	6	7	20
16:00-17:00	0	0	0	0	6	6	12
17:00-18:00 (network peak hour)	0	0	0	0	0	0	0
18:00-19:00	0	0	0	0	0	0	0
19:00-20:00	0	178	0	0	0	0	178
20:00-21:00	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0

Time	Cars/ Minibuses		HGVs		Tractor-trailers		Total
	In	Out	In	Out	In	Out	
22:00-23:00	0	0	0	0	0	0	0
23:00-00:00	0	0	0	0	0	0	0
Total	178	178	25	25	50	50	506

7.5.4 As can be seen above, no traffic is generated during the network peak hours of the day (08:00-09:00 and 17:00-18:00).

7.5.5 The peak hours of generated traffic from the development are anticipated to be between 06:00-07:00 and 19:00-20:00 in the summer months, when construction workers are travelling to and from the Site.

7.5.6 The daily profile of two-way movements distributed across the ATC locations within the Study Area for the first month (e.g., the worst-case assessment month), are presented in **Table 23**. These are also shown in traffic flow diagrams provided in **Appendix 13-2: Traffic Flow Diagrams (ES Volume 2 [EN010143/APP/6.2])**.

Table 23. Daily Profile of Two-way Trips Across the Road Network (Two-way)

ATC Location	Cars/Minibuses			HGVs			Tractor-trailers			Total Traffic
	In	Out	Total	In	Out	Total	In	Out	Total	
1	0	0	0	0	0	0	0	0	0	0
2	17	16	33	0	0	0	0	0	0	33
3	29	30	59	0	0	0	7	7	14	73
4	0	0	0	0	0	0	0	0	0	0
5	81	80	161	12	12	24	0	0	0	185
6	88	89	177	13	13	26	0	0	0	203
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
9	7	6	13	25	25	50	0	0	0	63
10	6	6	12	13	12	25	0	0	0	37
11	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
13	6	6	12	0	0	0	10	10	20	32
14	0	0	0	13	12	25	0	0	0	25
15	108	108	216	0	0	0	0	0	0	216
16	10	10	20	0	0	0	0	0	0	20
17	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0

ATC Location	Cars/Minibuses			HGVs			Tractor-trailers			Total Traffic
	In	Out	Total	In	Out	Total	In	Out	Total	
19	18	19	37	0	0	0	0	0	0	37

7.5.7 Junction 36 and 37 along the M62 have been evaluated in terms of traffic impact during the construction phase. The anticipated daily profile of total traffic during month 6 of construction is presented in **Table 24**.

Table 24. M62 Junctions Generated Construction Traffic

Time	Junction 36 (two-way flows)	Junction 37 (two-way flows)
06:00-07:00	21	95
07:00-08:00	0	0
08:00-09:00	0	0
09:00-10:00	2	3
10:00-11:00	1	2
11:00-12:00	1	3
12:00-13:00	1	2
13:00-14:00	1	3
14:00-15:00	1	2
15:00-16:00	1	2
16:00-17:00	0	0
17:00-18:00	0	0
18:00-19:00	0	0
19:00-20:00	21	95

7.5.8 **Table 24** demonstrates that across the day, a low volume of traffic is anticipated to use each junction, with the maximum being at Junction 37 during the hours of 06:00-07:00 and 19:00-20:00, when 95 worker vehicles are predicted to move through the junction.

7.5.9 However, it is considered that junctions assessments are not required at these locations as the volume of traffic expected during the network peak hours (e.g. 08:00-09:00 and 17:00-18:00) are zero.

8. Committed Developments

8.1.1 A process has been undertaken to identify committed developments that lie close enough to the Site to result in a cumulative impact on traffic.

8.1.2 The committed developments to be considered in combination with the Scheme have been agreed in consultation with relevant Local Planning Authorities and are listed in **Appendix 17-1: Shortlist of Cumulative**

Schemes, ES Volume 2 [EN010106/APP/6.2]. The cumulative assessment methodology is presented within **Chapter 5: EIA Methodology, ES Volume 1 [EN010106/APP/6.1]**.

- 8.1.3 A shortlist of the committed developments was identified, then reduced down based on whether the development was proposed to generate traffic that would intersect with any of the ATC locations noted. Any development that did not comply was discounted from further analysis.
- 8.1.4 The committed developments considered further were as follows:
- a. Scheme ID 2 – Scotland England Green Link 2 (SEGL 2) – English Offshore Scheme;
 - b. Scheme ID 4 – Drax Bioenergy with Carbon Capture and Storage Project;
 - c. Scheme ID 6 – Drax Power Station Re-Power Project
 - d. Scheme ID 7 – J.G Hatcliffe Property and Planning and Howdens Joinery Properties Ltd development of mixed-use allocation at 'HOW-G
 - e. Scheme ID 66 – Perfectly Fresh Ltd development of horticultural facility;
 - f. Scheme ID 70 – Flue Gas Desulphurisation Demolition; and
 - g. Scheme ID 75 – Aura Power Storage Solutions Limited development of Battery Storage Facility.
- 8.1.5 As described in **Chapter 13: Transport and Access, ES Volume 1 [EN010106/APP/6.1]**, only the developments that were predicted to have an effect on links with minor, moderate or major adverse impacts (e.g., ATC locations 5 and 15) were to be considered further. These developments were deemed to be:
- a. Scheme ID 2 – SEGL 2 – English Offshore Scheme; and
 - b. Scheme ID 7 - J.G Hatcliffe Property and Planning and Howdens Joinery Properties Ltd development of mixed-use allocation at 'HOW-G.
- 8.1.6 These were assessed based on a 24-hour AADT profile representing two-way flows. This has been based on the best available information and exact calculations may deviate slightly from these results. It is noted that neither stated their peak hour generated traffic flows to be between the hours of 06:00-07:00 or 19:00-20:00, meaning cumulative impact at the peak hours of the Scheme would be negligible.
- 8.1.7 **Table 25** indicates Scheme ID 2's impact along the road links at ATC 5 and 15.

Table 25. SEGL 2 – English Offshore Scheme Daily Generated Trips in 2025

Link	Link Description	Peak Construction Traffic		
		Workers	HGVs	Total
5	Street Lane – between Wood	11	21	32

	Lane and Willitof Lane			
15	B1228 – between B1230 and Brind Lane junctions	11	21	32

8.1.8 **Table 26** indicates Scheme ID 7’s impact along the road links at ATC 5 and 15.

Table 26. J.G Hatcliffe Property and Planning and Howdens Joinery Properties Ltd development of mixed-use allocation at ‘HOW-G’ Daily Generated Trips in 2025

Link	Link Description	Peak Construction Traffic		
		Workers	HGVs	Total
15	B1228 – between B1230 and Brind Lane junctions	11	0	11

8.1.9 As described in **Chapter 13: Transport and Access, ES Volume 1 [EN010106/APP/6.1]**, the impact of the identified cumulative developments on the effects caused by the Scheme is considered negligible, i.e., they would not change the effects attributed to the Scheme.

8.2 Future Baseline

8.2.1 Future year baseline traffic flows for the assessment year of 2025 for the peak of construction have been derived by applying the national standard TEMPro to derive traffic growth factors, as indicated in **Table 27**. These growth factors have been taken into account when comparing the baseline and future traffic scenarios.

Table 27. TEMPro Growth Factors

Period	Growth Factor
2022-2025	1.03685

8.2.2 When considering the baseline of the traffic in the year 2025, cumulative developments have also been included to represent changes to traffic flows that may be seen in the area. The 24-hour AADT for 2025 is therefore modelled as presented in **Table 28**.

Table 28. 2025 Baseline Traffic (AADT)

ATC Location	2025 Baseline 24 Hour AADT
1	1,853
2	207

ATC Location	2025 Baseline 24 Hour AADT
3	289
4	158
5	2,382
6	148
7	4,742
8	204
9	3,057
10	8,272
11	41
12	179
13	548
14	8,349
15	3,086
16	7,048
17	7,129
18	7,823
19	6,678

9. Highways Assessment

9.1 Assessment Scenarios

9.1.1 The following assessment scenarios have been examined in detail as part of the highway assessment:

- a. Existing Baseline (2022);
- b. Future Baseline (2025);
- c. Peak Construction Phase (2025); and
- d. Future Baseline with Peak Construction Phase (2025).

9.1.2 The following scenarios have also been reviewed:

- a. Operational Phase (2027-2067); and
- b. Decommissioning Period (not earlier than 2067).

9.1.3 It should be noted that whilst the TA assesses the potential impact of construction vehicle movements on the strategic and local highway networks, a quantitative assessment has not been carried out for operational traffic movements given the small increases expected.

9.1.4 The decommissioning effects of the Scheme are expected to be of a similar (or lesser) magnitude to the construction effects. On this basis, the

construction period is considered to have the greatest change on the surrounding transport network and the construction phase has therefore been used to identify the likely impacts of the decommissioning phase, including whether any mitigation will be required. This may overestimate the actual traffic flows slightly but is considered to be broadly accurate. In addition, the decommissioning phase is expected to take place no earlier than 2067 and is therefore considered to be too far into the future to be able to accurately predict future baseline traffic flows or road/junction layouts at that time.

9.2 Existing Baseline (2022)

9.2.1 Details relating to the existing baseline including existing traffic flows on the surrounding highway network and a review of the collision record are presented in Section 4.

9.3 Future Baseline (2025)

9.3.1 As identified in Section 8, consideration of and growth of the 2022 ATCs has provided a robust estimation of what traffic will be on the highway network during the peak of the construction phase in 2025.

9.4 Peak Construction Phase (2025)

9.4.1 As set out in Section 7, generated trips from the Scheme have been distributed across the network during month 6 of construction to represent the peak construction phase.

9.4.2 Traffic will be distributed across the network travelling to the five Compounds across the Site. No traffic generated by the scheme will move in the AM or PM network peak hours (08:00-09:00 and 17:00-18:00).

9.5 Future Baseline with Peak Construction Traffic (2025)

9.5.1 To assess the traffic impact of construction traffic on the network, the network peak hours were considered to be assessed in order to understand the impact traffic may have on other road users during peak hours of the day. However, the construction period sees limitations on when construction related traffic may use the road network, and hence no traffic is anticipated to use the network between the hours of 08:00-09:00 and 17:00-18:00.

9.5.2 Therefore, the AADT profile has been considered to understand the overall impact on the road network during construction during 2025, with month 6 being analysed. The profile of traffic at the ATC locations is presented in **Table 29**.

Table 29. 2025 Daily Traffic with Construction Traffic

ATC Location	2025 Baseline 24 Hour AADT	24-hour AADT Construction Traffic	2025 All Traffic	Percentage Change All Traffic	Percentage Change HGVs
1	1,853	0	1,853	0%	0%
2	207	33	240	16%	0%
3	289	73	362	25%	28%

ATC Location	2025 Baseline 24 Hour AADT	24-hour AADT Construction Traffic	2025 All Traffic	Percentage Change All Traffic	Percentage Change HGVs
4	158	0	158	0%	0%
5	2,382	185	2,567	8%	6%
6	148	203	351	137%	133%
7	4,742	0	4,742	0%	0%
8	204	0	204	0%	0%
9	3,057	63	3,121	2%	10%
10	8,272	37	8,310	0%	1%
11	41	0	41	0%	0%
12	179	0	179	0%	0%
13	548	32	579	6%	16%
14	8,349	25	8,374	0%	1%
15	3,086	216	3,302	7%	0%
16	7,048	20	7,067	0%	0%
17	7,129	0	7129	0%	0%
18	7,823	0	7,823	0%	0%
19	6,678	37	6716	1%	0%

9.5.3 The results of this exercise indicate the following:

- a. No movements associated with the Scheme are anticipated during the network peak hours of the day (08:00-09:00 and 17:00-18:00).
- b. The peak hours for trips generated by the Scheme are between 06:00-7:00 and 19:00-20:00. This is when all construction workers are expected to arrive to and leave the compounds. 178 two-way movements will occur at each hour respectively.
- c. The Scheme is anticipated to have the largest proportional increase in traffic flows along Willitoft Road at ATC 6 (137% increase in traffic, and 133% increase in HGVs) where construction workers, HGVs and tractor-trailers will be entering and exiting Compound A. Traffic will travel to the compound along the B1228 to Willitoft Road. No traffic movements will continue further south along the road than the Compound access point.
- d. The B1228 (Station Road) will see the most traffic associated with the Scheme travelling this route, with an additional 216 construction worker vehicles passing through ATC 15 when arriving to or leaving the Site. This equates to up to 108 movements between 06:00-07:00, and up to 108 movements between 19:00-20:00, or between 1-2 vehicles per minute in these hours. No other generated trips are anticipated to pass through this point during the day.

- 9.5.4 The above represents the peak construction phase, which will be temporary as construction workers and deliveries see more or less demand at each compound.

Mitigation and Management Measures

- 9.5.5 The following measures have been included as embedded mitigation within the ES and will be implemented to minimise the traffic impacts of the Scheme on the highway network during the construction and decommissioning phases. The measures will be secured through the DCO Application consent, primarily by the **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**, as well as the **Framework Construction Environmental Management Plan (CEMP) [EN010143/APP/7.7]**, and the **Framework Decommissioning Environmental Management Plan (DEMP) [EN010143/APP/7.9]** for the decommissioning phase. The measures include:

- a. Suitable access points have been identified to enable movement of vehicles into sites where appropriate;
- b. All access points that require the creation of a junction bellmouth would be designed based on the relevant standard from DMRB CD 123 Geometric Design of at Grade Priority and Signal-Controlled Junctions (Ref. 14) and in consultation with the local highway authority, thereby negating any potential safety impact associated with construction activity;
- c. Minimum car parking levels will be met at each of the Compounds;
- d. Swept path analysis for AILs, HGVs, and tractor-trailers has been conducted to ensure there is knowledge of where routing is appropriate;
- e. Pre and post construction road condition surveys will be undertaken at identified locations in coordination with the relevant Local Highway Authority;
- f. AILs will be routed in accordance with the findings of the routing review for large vehicles as set out in the **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**. There are expected to be up to 10 movements associated with the delivery of transformers to the two Grid Connection Substations;
- g. Implementing local off-site highway improvements (e.g., verge clearance, hedge cutting and/or carriageway widening) where required to support HGV movements;
- h. Utilising internal routes between Solar PV Areas to avoid using the existing road network where possible;
- i. Managing the areas where traffic may have to use the road network, by providing adequate visibility splays between construction vehicles and other road users, implementing traffic management (e.g., advanced signage to advise other users of the works, as well as manned controls at each crossing point (marshals/ banksmen)), with a default priority that construction traffic will give-way to other users. This will also apply where construction traffic and PRoW may intersect;

- j. Positioning of suitably qualified banksmen at construction compound access points to allow all vehicle arrivals and departures to be safely controlled during the construction period;
- k. Ensure temporary traffic signals are implemented where necessary across the road network to reflect demand;
- l. Restricting HGV movements to certain routes as follows:
 - i. Compound A – Along the A163 to the A614;
 - ii. Compound B – Along the A163 to the A614;
 - iii. Compound D – Along the A63 to the A19;
 - iv. Compound E – along the A645 to the M62;
- m. The Scheme is not intending to have HGVs travelling to Compound C;
- n. Restrictions on HGV and tractor-trailer movements on roads through Howden and north from Howden along the B1228 Station Road;
- o. To minimise the number of HGV movements between 07:00-09:00, as well as 16:00-20:00, to avoid increasing traffic levels on the surrounding highway network during the traditional weekday peak hours;
- p. Implementing a Delivery Management System to control the bookings of HGV deliveries from the start of the construction period. This will be used to regulate the arrival times of HGVs via timed delivery slots, as well as to monitor compliance of HGV routing. In addition, adequate space will be made available within the construction compounds to ensure no queuing back onto the surrounding road network occurs;
- q. Implementing a monitoring system to record the route of all HGVs travelling to and from the Site, to record any non-compliance with the agreed routing strategy/delivery hours and to communicate any issues to the relevant suppliers to ensure the correct routes and times are followed;
- r. Construction staff will be directed to take the most direct route to the Site using 'higher' order roads, such as A and B classified roads or the SRN;
- s. Encouraging local construction staff to car share to reduce single occupancy car trips. This will promote the benefits of car sharing, such as reduced fuel costs. A car share system will be implemented to match potential sharers and to help staff identify any colleagues who could potentially be collected along their route to/from the Site;
- t. Implementing a shuttlebus service to transfer non-local staff to/from local worker accommodation (assumed average occupancy of 16 workers per service), to reduce vehicle trips on the surrounding highway network. Minibuses will also be used to transport staff around the Site, by making use of the internal routes wherever possible to travel between the Solar PV Site, the Grid Connection Corridor and the Compounds;
- u. Providing limited (but sufficient) on-site car parking to accommodate the expected parking demand of construction staff for the Scheme. Staff movements will be managed through the implementation of limited

- car parking, car sharing, staff routing, specified staff arrival and departure times, parking strategy and the minibus services;
- v. A specialised haulage service will be employed to allow AILs to transport components with the necessary escort, permits and traffic management, with the contractor consulting the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003 (Ref. 15);
 - w. PRowS within the Solar PV Site will have maintained access within the Solar PV Site throughout construction with minor diversions, separating PRow from working areas by installing perimeter fencing as the first phase of construction (see **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**). The Interconnecting Cables and Grid Connection Cables would only be impacted during the short-term trenching and restoration operations, and will be managed with traffic management measures where necessary. Routes may be temporarily slightly altered, e.g., moving from one side of a road to the other. Under a worst-case scenario, if any PRowS require diversion, these will be short-term in duration. Further information on PRow is presented in **Chapter 2: the Scheme** and **Chapter 12: Socio-economics and Land Use, ES Volume 1 [EN010143/APP/6.1]** as well as the **Framework PRow Management Plan [EN010143/APP/7.13]**; and
 - x. To mitigate impacts for cyclists and pedestrians a communications strategy including regular meetings with contractors to review and address any issues will be implemented.

10. Summary and Conclusions

- 10.1.1 The purpose of this TA is to demonstrate that the Scheme will be acceptable in transport and highway terms and it follows pre-application discussions held with East Riding of Yorkshire Council and North Yorkshire Council (as the local highway authorities for the LRN) and National Highways (as the highway authority for the SRN), where the extent of the Study Area for assessment in terms of highway impact was agreed.
- 10.1.2 With respect to transport and access, the Scheme is considered to be in accordance with relevant national and local policy, as demonstrated within this TA.
- 10.1.3 The report provides a summary of the accessibility of the Study Area via the surrounding highway network, as well as by public transport, cycling and on foot. It also considers road accident data for the most recently available relevant 5-year period.
- 10.1.4 ATCs were carried out during September 2022 at 19 locations expected to be affected by traffic associated with the Scheme.
- 10.1.5 The TA provides details of the anticipated characteristics of journeys generated by construction and operation of the Scheme including movements of staff, HGVs and tractor-trailers.
- 10.1.6 It is anticipated that there would be up to 400 members of staff working at the Scheme daily during months 1-18 of the construction programme. From

months 19-24, this would drop to 225 daily workers. During the construction period, it is anticipated that there will be up to 25 artic HGVs delivering across the Site daily between the peak construction months 1-18. These deliveries will be directed to the Compounds and distributed among them. It is anticipated that there will be up to 50 daily tractor-trailer movements during the peak construction period between month 1-18.

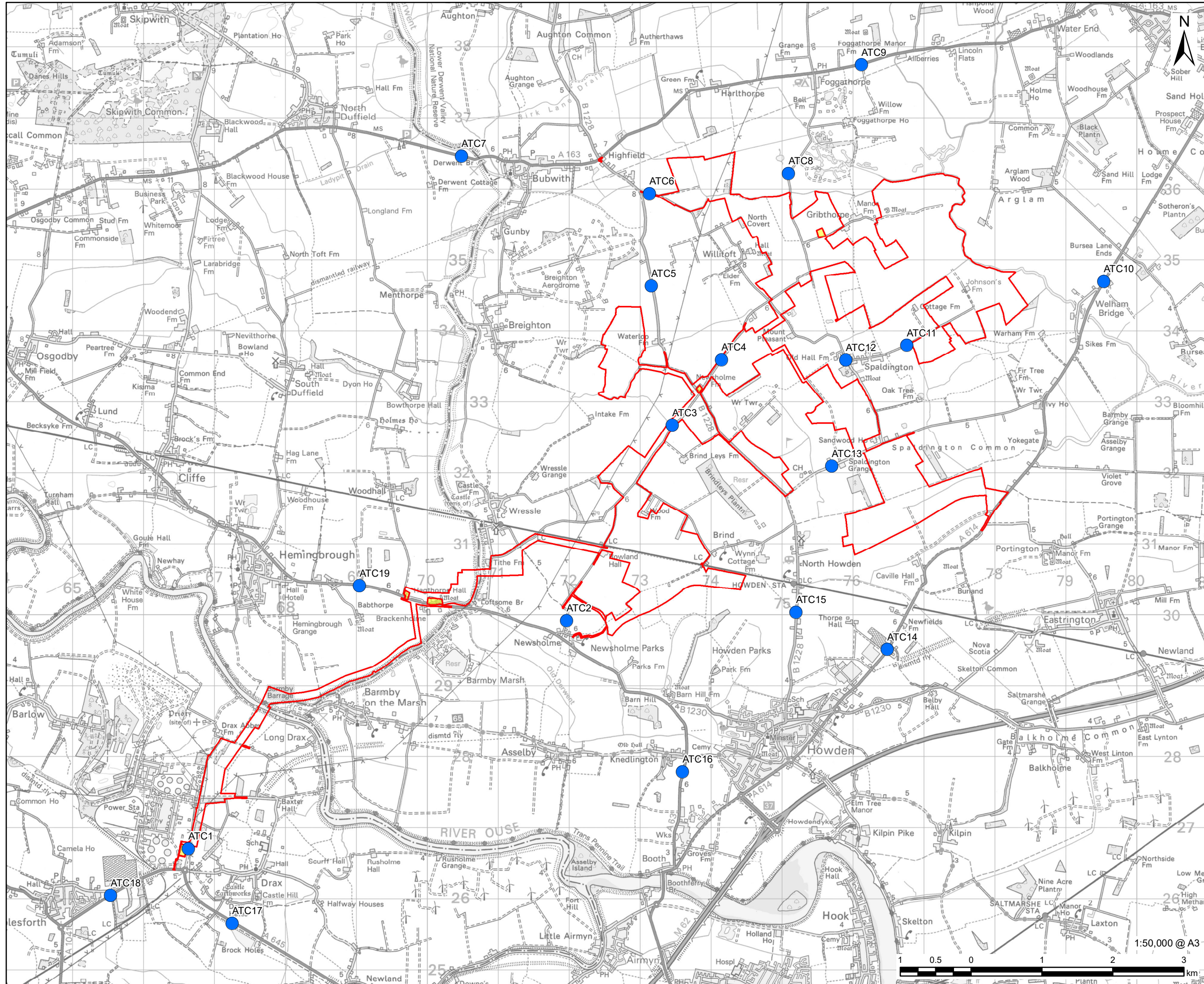
- 10.1.7 It is anticipated that maximum trip generation will consistently occur within months 1-18, with 178 construction worker vehicles, 25 HGVs and 50 tractor-trailers daily. This equates to 356 two-way construction worker movements, 50 HGV two-way movements, and 100 two-way tractor-trailer movements, or a total of 506 one-way movements per day.
- 10.1.8 Committed developments that lie close enough to the Site to result in a cumulative impact with the Scheme on traffic have been identified. As described in **Chapter 13: Transport and Access, ES Volume 1 [EN010106/APP/6.1]**, only the developments that were predicted to have an effect on links with minor, moderate or major adverse impacts with the ES (e.g., ATC locations 5 and 15) were to be considered further. These schemes were concluded to be:
- a. Scheme ID 2 – SEGL 2 – English Offshore Scheme; and
 - b. Scheme ID 7 - J.G Hatcliffe Property and Planning and Howdens Joinery Properties Ltd development of mixed-use allocation at 'HOW-G.
- 10.1.9 The following assessment scenarios have been examined in detail as part of the highway assessment:
- a. Existing Baseline (2022);
 - b. Future Baseline (2025);
 - c. Peak Construction Phase (2025); and
 - d. Future Baseline with Peak Construction Phase (2025).
- 10.1.10 The following scenarios have also been reviewed:
- a. Operational Phase (2027-2067); and
 - b. Decommissioning Period (not earlier than 2067).
- 10.1.11 Several measures have been included as embedded mitigation within the ES and will be implemented to minimise the traffic impacts of the Scheme on the highway network during the construction and decommissioning phases. The measures will be secured through the DCO Application consent, primarily by the **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])**, as well as the **Framework CEMP [EN010143/APP/7.7]** for the construction phase, and the **Framework DEMP [EN010143/APP/7.9]** for the decommissioning phase.

11. References

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Figures



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- LEGEND**
- Order limits
 - Land not included in the Order limits
 - Automatic Traffic Count (ATC) Location

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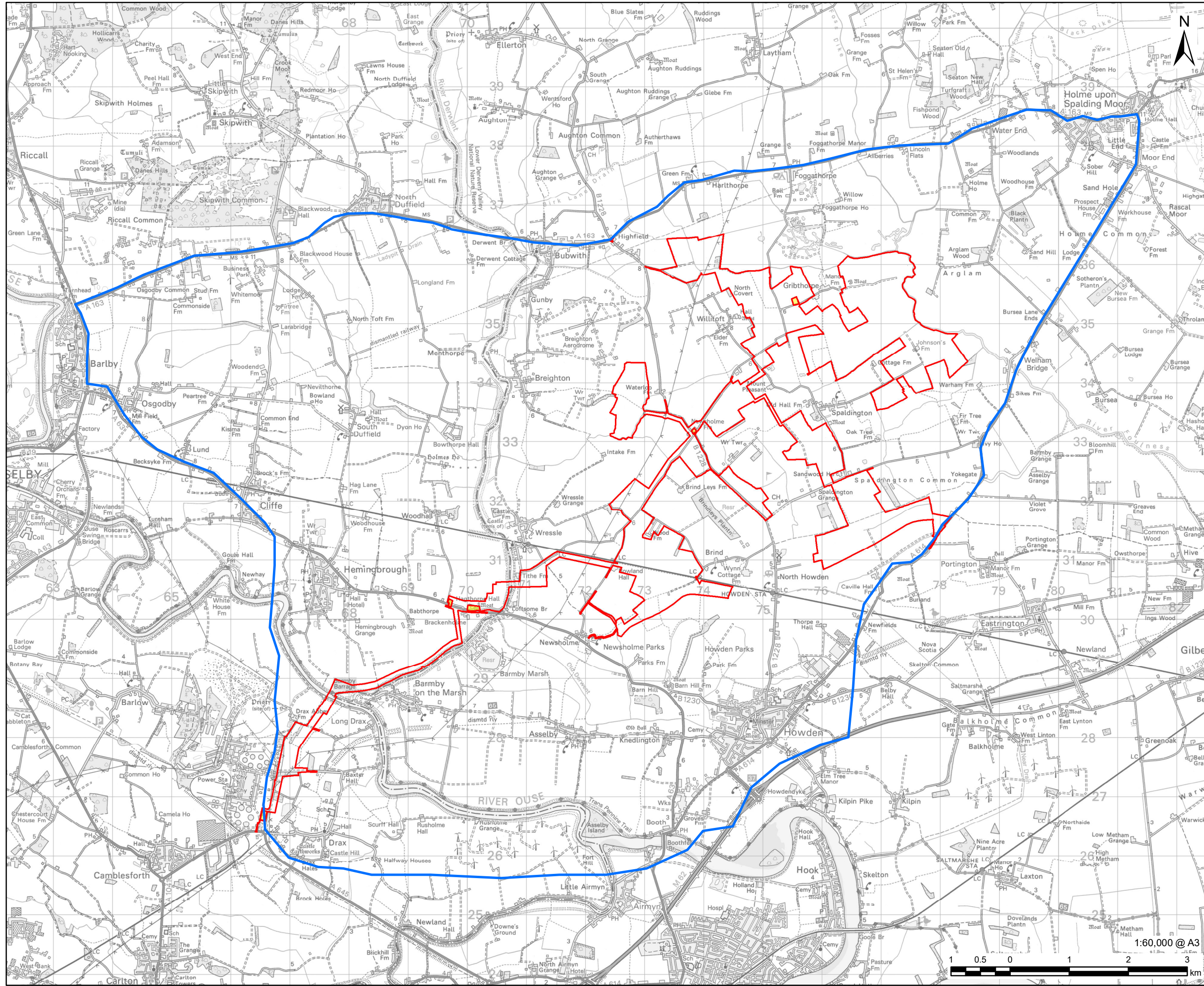
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Examination

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FIGURE TITLE
ATC Locations

FIGURE NUMBER
Appendix 13-4-1

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LEGEND

- Order limits
- Land not included in the Order limits
- Area of Consideration for Personal Injury Collision Data

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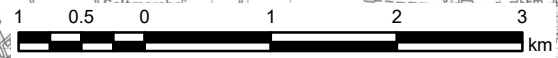
PROJECT NUMBER
60683115

FIGURE TITLE
Area of Consideration for Personal Injury Collision Data

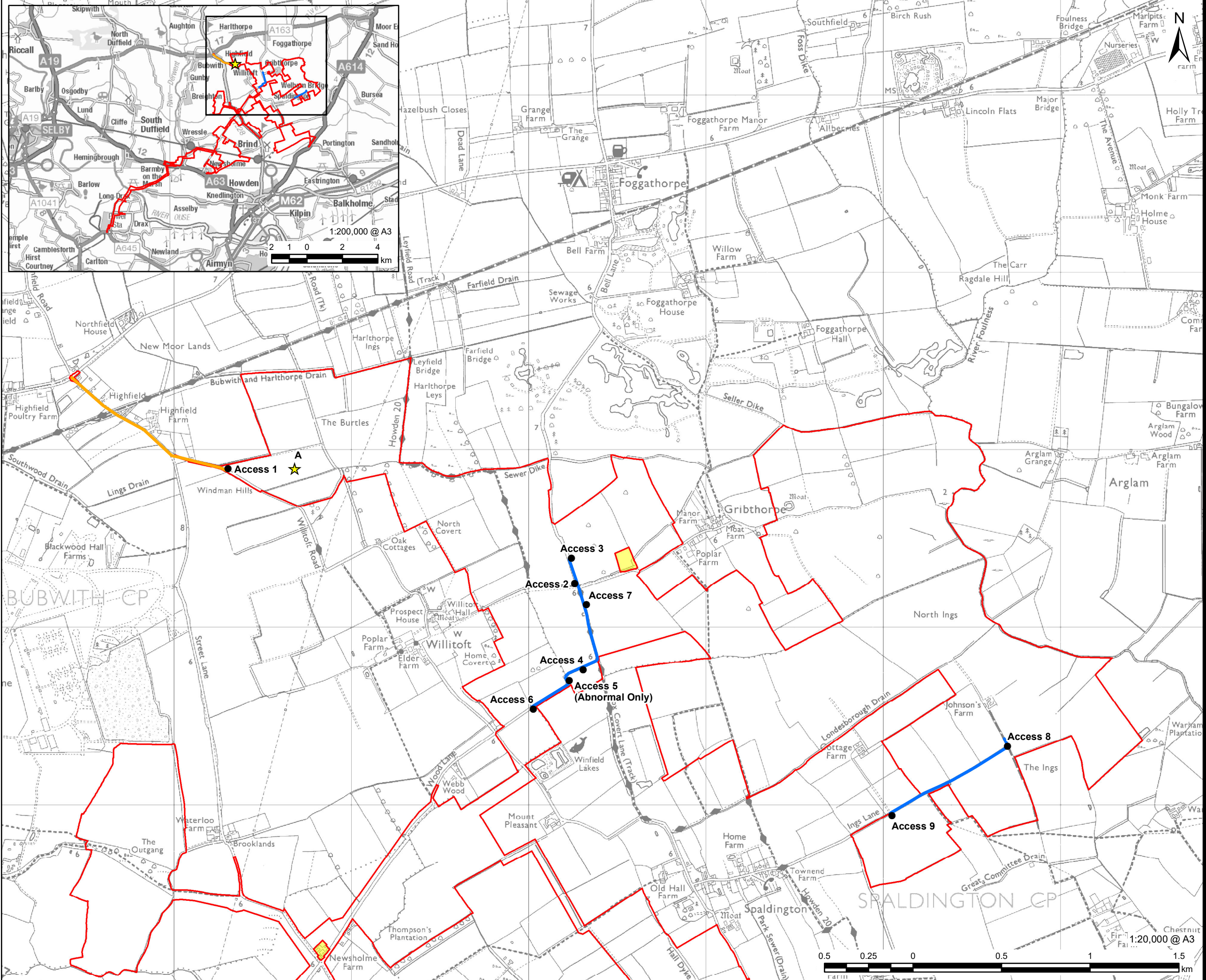
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Appendix 13-4-2



1:60,000 @ A3



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- LEGEND**
- Order limits
 - Land not included in the Order limits
 - ★ Indicative Compound Location
 - Proposed Access
- Compound Access Routes (See Inset for Full Extent)**
- Tractor Trailer Route Only
 - HGV Route Only

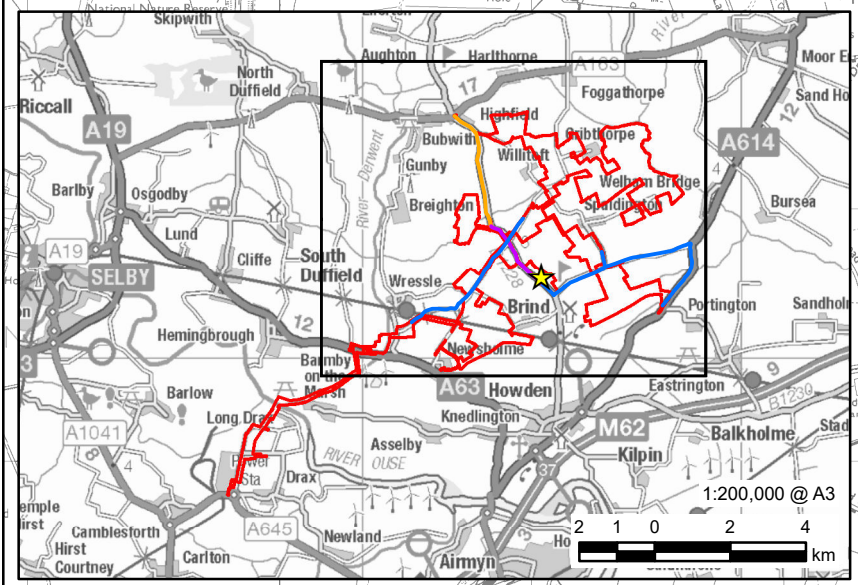
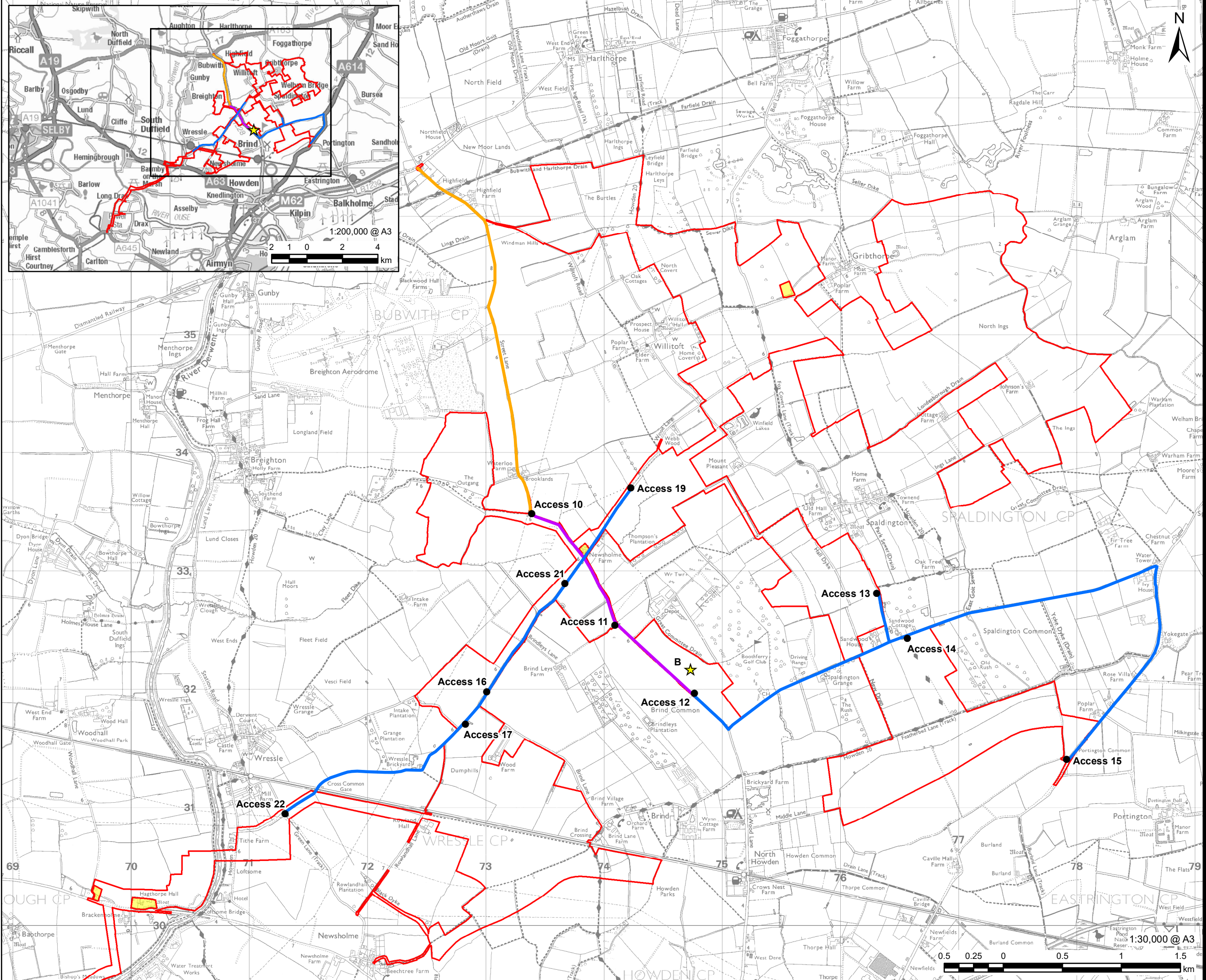
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ISSUE PURPOSE
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PROJECT NUMBER
 60683115

FIGURE TITLE
 Compound A Access HGV and Tractor Trailer Routing

FIGURE NUMBER
 Appendix 13-4-3



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LEGEND

- Order limits
- Land not included in the Order limits
- ★ Indicative Compound Location
- Proposed Access

Compound Access Routes (See Inset for Full Extent)

- HGV and Tractor Trailers
- HGV Route Only
- Tractor Trailer Route Only

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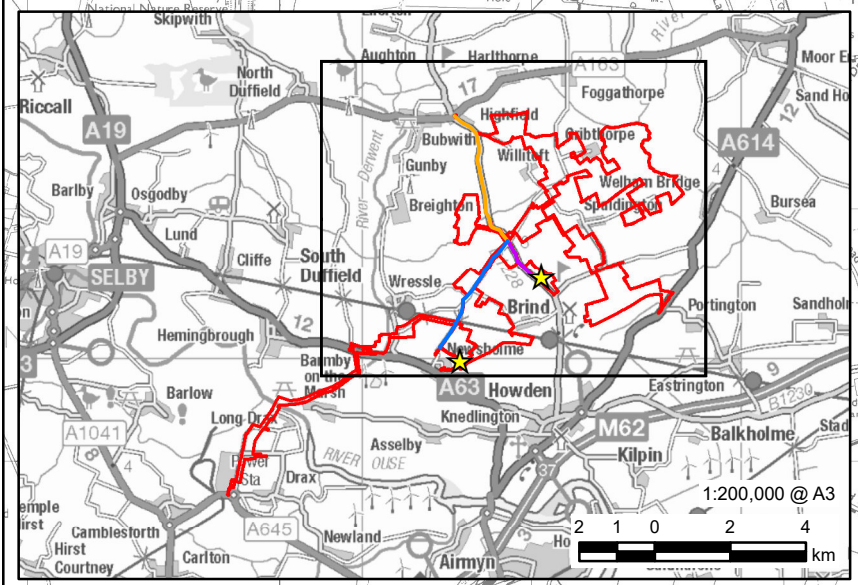
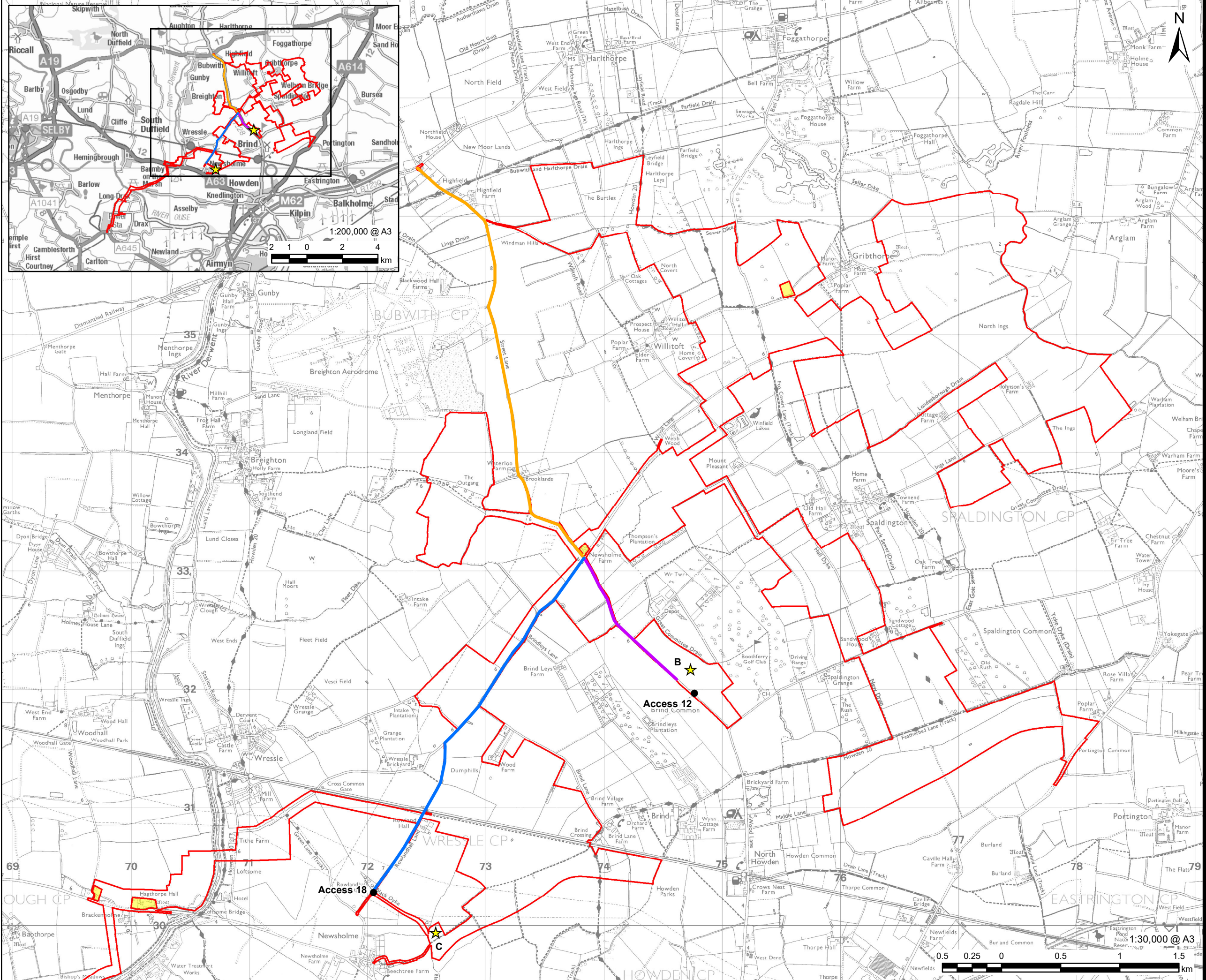
ISSUE PURPOSE
Examination

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FIGURE TITLE
Compound B Access HGV and Tractor Trailer Routing

FIGURE NUMBER
Appendix 13-4-4

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LEGEND

- Order limits
- Land not included in the Order limits
- ★ Indicative Compound Location
- Proposed Access

Compound Access Routes (See Inset for Full Extent)

- HGV and Tractor Trailers
- HGV Route Only
- Tractor Trailer Route Only

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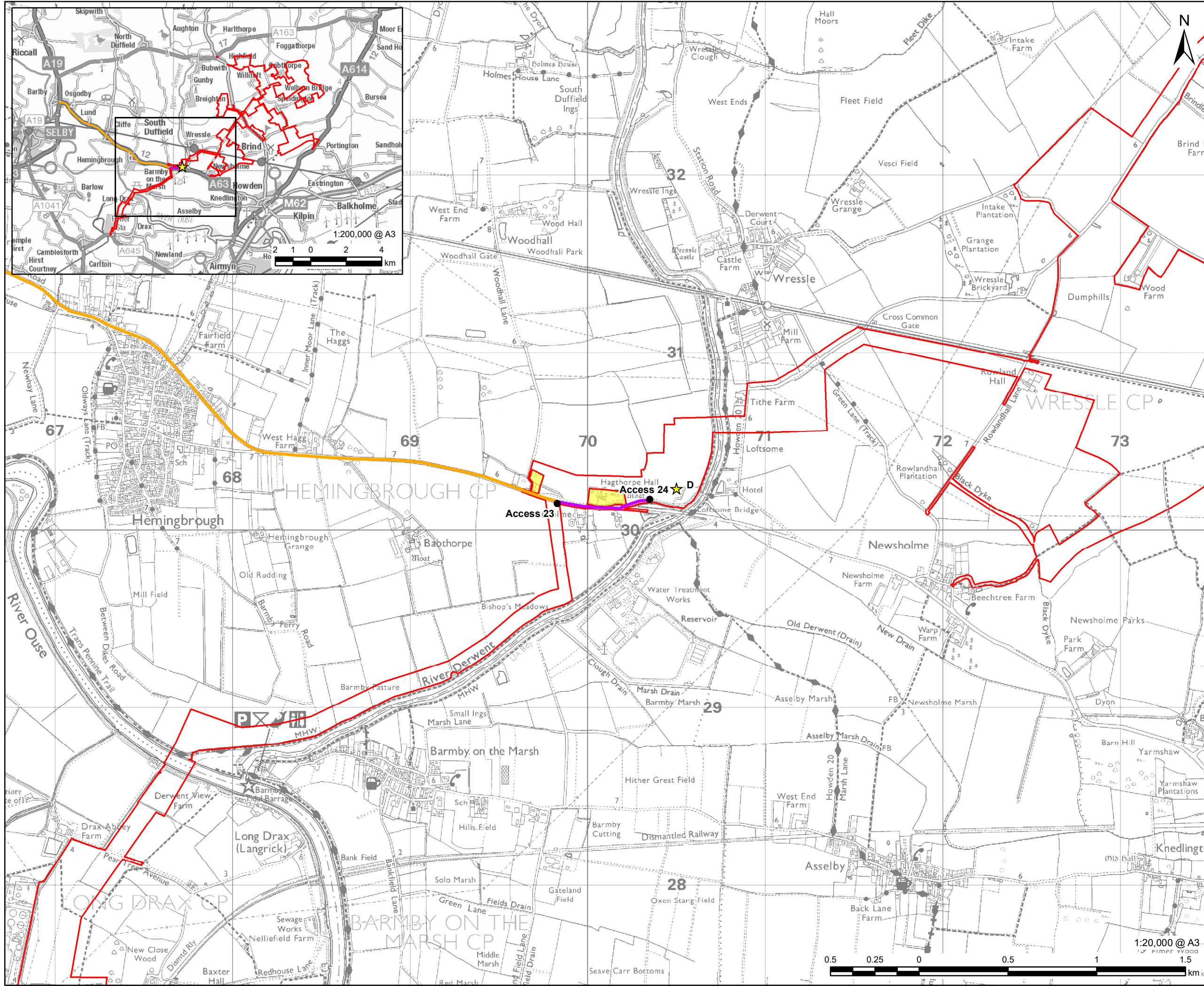
ISSUE PURPOSE
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PROJECT NUMBER
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FIGURE TITLE
 Compound C Access HGV and Tractor Trailer Routing

FIGURE NUMBER
 Appendix 13-4-5

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- LEGEND**
- Order limits
 - Land not included in the Order limits
 - ★ Indicative Compound Location
 - Proposed Access
- Compound Access Routes (See Inset for Full Extent)**
- HGV and Tractor Trailers
 - HGV Route Only

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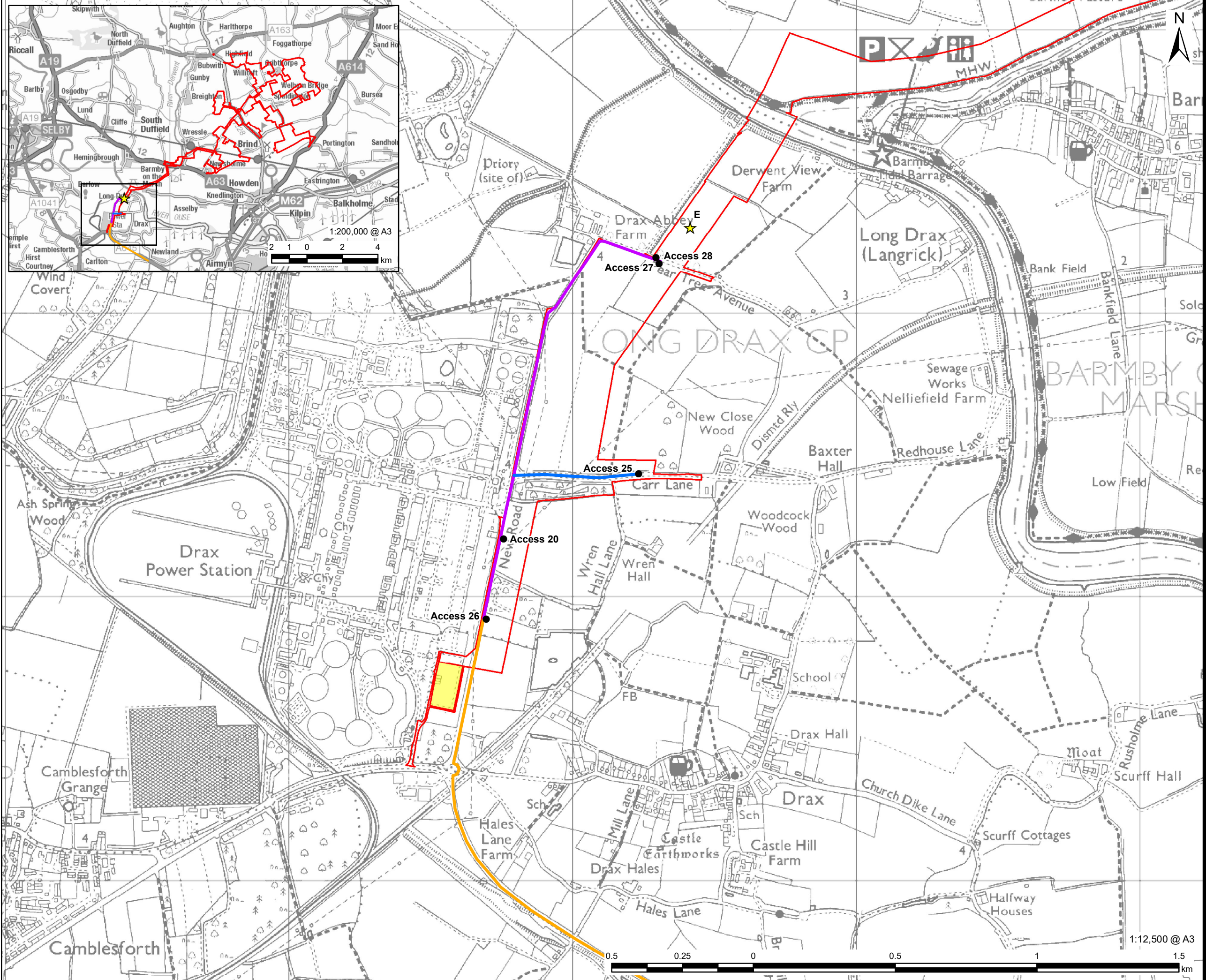
ISSUE PURPOSE
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FIGURE TITLE
Compound D Access HGV and Tractor Trailer Routing

FIGURE NUMBER
Appendix 13-4-6

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LEGEND

- Order limits
- Land not included in the Order limits
- ★ Indicative Compound Location
- Proposed Access

Compound Access Routes (See Inset for Full Extent)

- HGV and Tractor Trailers
- HGV Route Only
- Tractor Trailer Route Only

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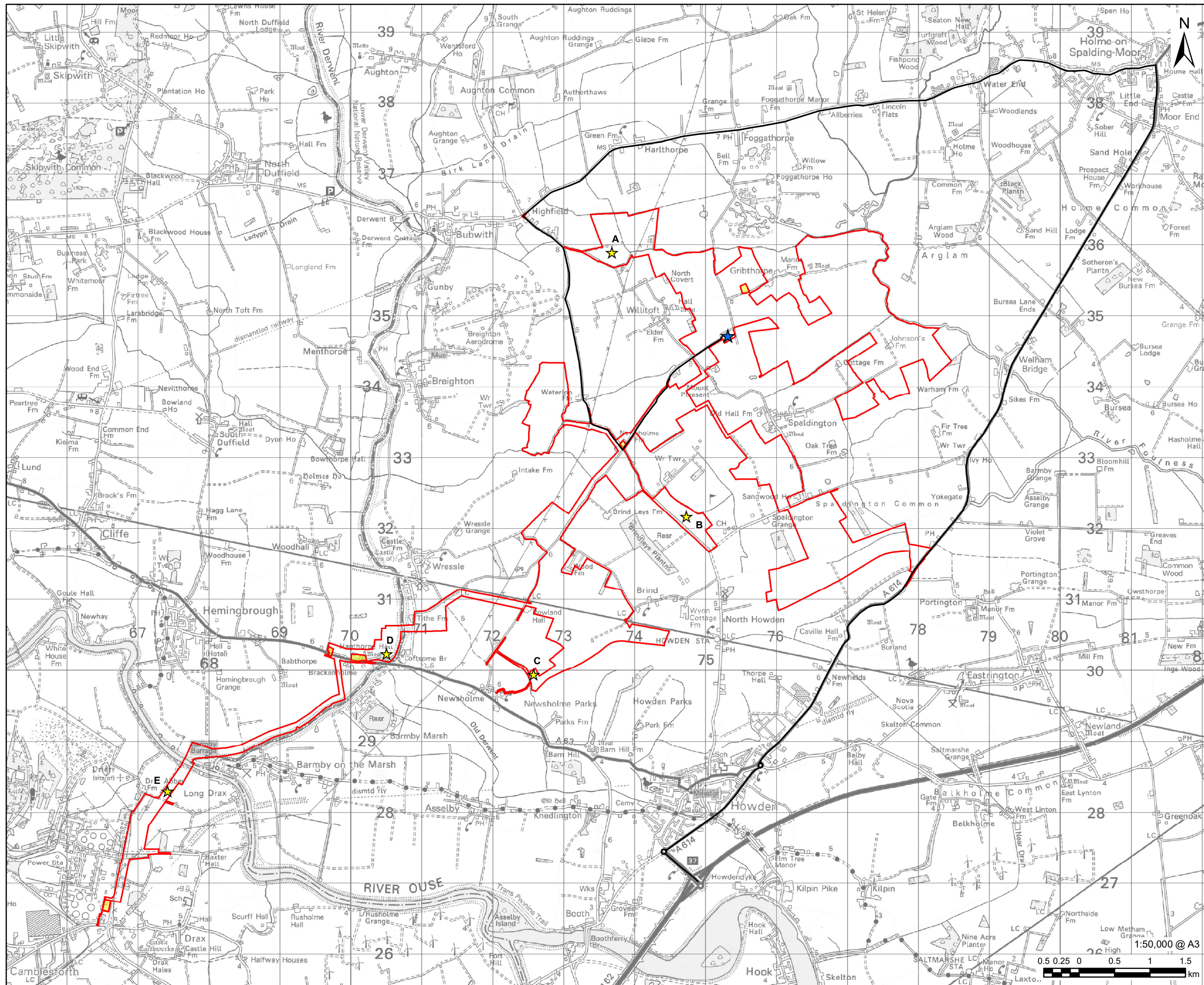
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FIGURE TITLE
Compound E Access HGV and Tractor Trailer Routing

FIGURE NUMBER
Appendix 13-4-7

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LEGEND

- Order limits
- Land not included in the Order limits
- ★ Indicative Compound Location
- ★ 33kV/132kV Grid Connection Substations
- Abnormal Indivisible Load Route

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FIGURE TITLE
 Abnormal Indivisible Load Routing

FIGURE NUMBER
 Appendix 13-4-8

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Abbreviations

Abbreviation/Term	Definition
AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DEMP	Decommissioning Environmental Management Plan
HGV	Heavy Goods Vehicle
LGV	Light Goods Vehicle
LRN	Local Road Network
LWS	Local Wildlife Site
PIC	Personal Injury Accident
PRoW	Public Rights of Way
SRN	Strategic Road Network

Glossary of Frequently Used Terms

Term	Definition
Swept path analysis	The calculation and analysis of the movement and path of different parts of a vehicle when that vehicle is undertaking a turning manoeuvre.
Visibility splays	A drawing that visualises the angle and distance from which drivers emerging from an access can see and be seen by drivers proceeding along the priority road.