BEACON FEN

Planning Inspectorate Reference: EN010151

Outline Construction Traffic Management Plan
Document Reference: 6.3.78 ES Appendix 9.3
~~April~~ November 2025

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a)
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) – Regulation 14

Quality information

Prepared by	Checked by	Verified by	Approved by
JF/KI	IC	SR	IC

Revision History

Revision No	Date	Comment
2.0	November 2025	Inclusion of detail regarding delivery of road modifications, at the request of LCC.

Table of Contents

Appendices

Appendix A Wynns Abnormal Indivisible Load (AIL) Access Report - Beacon Fen Energy Park (January 2024)

Appendix B Wynns Storage Site Abnormal Indivisible Load (AIL) Report - Beacon Fen Cable Drums (June 2024)

1. INTRODUCTION

1.1 Overview

1.1.1 Wardell Armstrong (WA) are appointed by Beacon Fen Energy Park Ltd (BFEP) to prepare an outline Construction Traffic Management Plan (oCTMP) to support a Development Consent Order (DCO) for Beacon Fen Energy Park near Sleaford, Lincolnshire.

1.1.2 The proposals comprise of above ground Solar Photovoltaic (Solar PV) and Battery Energy Storage System (BESS) infrastructure connected by a cable route of around 13 km length to Bicker Fen substation.

1.1.3 The Site comprises three key areas including the Solar Array Area (comprising solar PV and BESS infrastructure), the Cable Route Corridor (connecting the Solar Array Area to Bicker Fen National Grid (NG) 400kV Substation) and the Bespoke Access Corridor (for a bespoke site access referred to herein as the Bespoke Access Road). Most of the Site is within the administrative boundary of North Kesteven District Council (NKDC), with the southern extent of the cable route corridor within Boston Borough Council (BBC). Lincolnshire County Council (LCC) is the relevant highway authority.

1.1.4 This outline CTMP is an appendix to the **Chapter 9: Access & Traffic Chapter (Document Ref: 6.2 ES Volume 1, 6.2.9)** submitted as part of the DCO application for the Proposed Development.

1.1.5 The outline CTMP is required to manage traffic associated with construction of the development. It aims to:

- Protect the amenity of neighbouring properties;
- Ensure that construction traffic impacts on the local highway network are minimised, and;
- Maintain safety for all road users.

1.1.6 A detailed CTMP will be prepared in accordance with this outline CTMP pursuant to a requirement in Schedule 2 of the DCO.

1.2 Outline CTMP Structure

1.2.1 The structure of the outline CTMP is as follows.

- Section 1 Introduction: Provides background information, the aims of the outline CTMP and outlines the structure of the outline CTMP.
- Section 2 provides information about the development, the proposed route and proposed access to the development and estimated traffic generated

during construction to be managed or mitigated as part of the outline CTMP.

- Section 3 Management: Describes how the outline CTMP will be managed, and the role of the persons and organisations responsible for implementing the plan.
- Section 4 Measures: Sets out the measures that could be implemented as part of the outline CTMP, as well as proposed timescales for implementation.
- Section 5 details an outline Delivery Management Plan (DMP) and an outline Abnormal Loads Delivery Management Plan (AIL DMP), setting out all traffic management and mitigation measures required to ensure safe and efficient transport of construction loads (via conventional HGV and AIL vehicles).
- Section 6 details an outline Construction Staff Travel Plan (TP), including targets and outcomes, management strategy, measures, information and marketing and monitoring. This section also concludes with a short summary of the outline Plan.
- Section 7 sets out Monitoring proposals, outlining how compliance with the measures set out in the outline CTMP could be monitored, and the mechanisms for dealing with complaints and non-compliance.

2. EXISTING CONDITIONS

2.1 Development Description

2.1.1 As set out in section 1 of this report, the proposal is for the construction and operation of above ground Solar PV and BESS infrastructure at Beacon Fen Energy Park near Sleaford, Lincolnshire.

2.1.2 The Solar Array Area has frontage along Car Dyke along the eastern boundary, Howell Fen Drove along the southern boundary, Heckington Road along the western boundary and Halfpenny Toll Lane and Ferry Lane along the northern boundary.

2.1.3 There are several roads included with the Order Limits which intersect the Bespoke Access Road or will facilitate construction access to cable route compounds, including Heckington Road, Howell Fen Drove, Asgarby Road, Littleworth Drove, Carterplot Road, Great Hale Drove, Triton Knoll Substation Access Road, Doubletwelves Drove, Bicker Drove, Vicarage Drove and the A17.

2.2 Proposed Construction Traffic Routing

2.2.1 The source of imported construction materials is not confirmed, but it is anticipated that construction components for the Bespoke Access Road, Solar Array Area, Cable Route Corridor and Bicker Fen NG Substation extension will arrive from either Immingham Port to the north of the Site or Port of Sutton Bridge to the south-east of the Site.

2.2.2 The A17 is the principal road near the Proposed Development which will accommodate construction vehicle movements from the wider road network. The A17 comprises a single carriageway with a derestricted (60mph) speed limit between Sleaford and East Heckington to the junction with B1395 Sidebar Lane. Between B1395 Sidebar Lane and Swineshead Bridge, the speed limit on the A17 varies between 40mph and 50mph. The speed limit then transitions back to derestricted (60mph) south of Swineshead Bridge and continues south-east to the roundabout junction of A17/A52.

2.2.3 Department for Transport (DfT) traffic data indicates that approximately 18,000 vehicle trips (Annual Average Daily Traffic (AADT)) use the A17, with 16% of baseline traffic classified as HGV. There are no height or weight restrictions on A17 near to the Proposed Development.

2.2.4 Access for Heavy Goods Vehicles (HGVs) from A17 will be restricted to left-in/left-out, which has been requested by LCC to mitigate safety concerns regarding an increase in right turning vehicles. This is consistent with the

construction access strategy for the nearby Heckington Fen Solar Park proposals (planning reference EN010123). The roundabout junction of A17/A52 to the north-east of Bicker Bar forms the turning point travelling to/from the west. A17/Kirkby-la-Thorpe interchange to the south of Kirkby-la-Thorpe forms the turning point for vehicles travelling to/from the east.

2.2.5 Construction access to the Solar Array Area via the Bespoke Access Road will intersect Asgarby Road and Heckington Road. In addition, access to compound 1 of the Cable Route Corridor will intersect Howell Fen Drove. Access to the remaining Cable Route Corridor compounds and Bicker Fen NG Substation will be from A17 and utilising existing local roads comprising Carterplot Road, Great Hale Drove, Triton Knoll Substation Access Road, Doubletwelves Drove, Bicker Drove and Vicarage Drove, refer **2.4 Works Plan** These roads are not subject to any weight or height restrictions and are suitable to accommodate all types of vehicles including 16.5m (44 tonne) articulated delivery vehicles.

2.2.6 No construction traffic will use Bicker Drove south of Vicarage Drove, and therefore Cowbridge Road, Ing Drove and NGET's A52 access road, other than in case of emergency or as a result of matters outside of its control (including, but not limited to, the Triton Knoll access track becoming blocked or impassable).

2.2.7 The proposed construction traffic route is included in **Appendix 9.1 Transport Assessment (Document Ref: 6.3 ES Vol.2, 6.3.76)**.

2.3 Proposed Site Access Arrangements

2.3.1 Access arrangements to the Solar Array Area, compounds within the Cable Route Corridor and Bicker Fen NG Substation have been considered and are described in detail within the TA **Appendix 9.1 Transport Assessment (Document Ref: 6.3 ES Vol.2, 6.3.76)**. Table 2.1 of the TA summarises the existing and proposed arrangements and relevant drawing numbers. The drawings include visibility splays and Swept Path Analysis (SPA) for HGV traffic and Abnormal Indivisible Loads (AILs). These drawings demonstrate safe use of the junctions.

Table 2.1: Summary of proposed access arrangements

Access Arrangements	Drawing Number
Bespoke Access Road	
Proposed priority T-junction with existing A17 layby to south-west of Asgarby	ST19595-389

Table 2.1: Summary of proposed access arrangements	
Access Arrangements	**Drawing Number**
Proposed priority crossroads Bespoke Access Road/Asgarby Road	ST19595-392
Solar Array Area	
Proposed priority crossroads Primary Site Access/Heckington Road/Bespoke Access Road	ST19595-394
Cable Route Corridor Compounds	
Cable Route Corridor Compound 1 Proposed priority crossroads Solar Array Area/Howell Fen Drove	ST19595-353 & 354
Cable Route Corridor Compound 2 Proposed priority T-junction with A17	ST19595-351 & 352
Cable Route Corridor Compound 3 Proposed priority T-junction with Carterplot Road	ST19595-355 & 356
Cable Route Corridor Compound 4 Existing arrangements on Great Hale Drove	ST19595-357 & 358
Cable Route Corridor Compounds 5 & 6 Existing priority T-junction arrangements Triton Knoll Substation Access/A17	ST19595-359 & 360

2.4 Construction Traffic Estimates

2.4.1 The TA, **Appendix 9.1, Transport Assessment (Document Ref: 6.3 ES Vol.2, 6.3.76)** estimates traffic related to peak construction of the development, including HGV and construction staff travel to the Proposed Development. Construction is anticipated to commence in 2027 and last for 2.5 to 5 years in total as set out in **Chapter 2: Proposed Development (Document Ref 6.1 ES Vol. 1, 6.2.2).** The Bespoke Access Road and Cable Route Corridor can commence construction at the same time and are anticipated to last between:

- Bespoke Access Road: 6-12 months;
- Cable Route Corridor: 12 to 24 months.

2.4.2 All material construction of the Solar Array Area will follow the completion of the Bespoke Access Road and last between 24 to 36 months. Some limited preparatory works may be carried out on the Solar Array Area simultaneously to the construction of the Bespoke Access Road.

2.4.3 The construction of extension works at Bicker Fen NG Substation will be undertaken separately by National Grid Energy Transmission (NGET) over a period of 60 weeks.

2.4.4 The Applicant has provided estimates of traffic for the peak year of construction. The peak data is discussed in the **Appendix 9.1, Transport Assessment (Document Ref: 6.3 ES Vol.2, 6.3.76)** and shown at Table 4.3. This provides an estimated maximum of 424 daily two-way movements comprising 342 cars/LGVs and 82 HGVs. The average impact over the total construction period (between 2.5 and 5 years) will be less.

2.4.5 Some 133,335 staff days is the estimated construction requirement, with a daily peak of 433 staff likely in 2027.

3. MANAGEMENT STRATEGY

3.1 Commencement

3.1.1 Construction traffic management measures and the management strategy will be in place from the start of the construction, and maintained, rather than retrofitting measures to react to issues as they arise.

3.2 Outline CTMP Coordination

3.2.1 The Site comprises the Solar Array Area, Bespoke Access Corridor and Cable Route Corridor, for which there may be separate contractors. The Site Manager/s of the Solar Array Area and Cable Route Corridor compounds will be the dedicated point of contact and be responsible for outline CTMP implementation for the duration of the construction period including mobilisation. There is flexibility to delegate this role to a suitably qualified individual if appropriate. The Site Manager/s can delegate tasks to other members of the Contractor's Environmental Team and/or suitably qualified sub-contractor.

3.2.2 It is a good practice requirement that CTMP coordination is in place before works at the Site. This is necessary so that there is someone responsible for undertaking tasks prior to commencement, to ensure that joining instructions are prepared and distributed to all personnel. The Site Manager/s or their delegates will act as the promoter of the outline CTMP to the construction staff and visitors and provides a key point of contact.

3.2.3 Before start of construction, the Site Manager/s will work in partnership with the project team and others to undertake the following:

- manage the implementation of measures set out in the outline CTMP;
- prepare and deliver training for people driving to and on site, including on-site speed limits, safe manoeuvring in forward gear, use of level crossings and consideration for non-motorised users where construction access routes cross or come close to Public Rights of Way (PRoW).
- prepare and produce induction material for staff, sub-contractors and visitors;
- set up appropriate management arrangements, contact arrangements, and agreement of any pre-construction road condition surveys with the highway authority (LCC) and local councils (NKDC and BBC); and
- Liaison with other developers and contractors in relation to interaction between construction traffic routes, streetworks, diversions, etc

4. OUTLINE CTMP MEASURES

4.1 Hours of Operation

4.1.1 Normal hours of on-site operation are Monday to Friday 0700 to 1900 and on Saturdays 0800 to 1300. There may be, by exception, occasions when construction requirements lead to extended hours of operation. There may also be a need for (overnight) closures of the A17 at the cable route crossing. The need for any closures will be minimised by seeking a coordinated approach with LCC Highways regarding other planned maintenance or other activities.

4.2 Construction Traffic Routing

4.2.1 The proposed construction traffic routes are set out in section 2 of this report. All contractor and delivery traffic will be required to follow these routes. Haulage contractors undertaking deliveries to the site will be informed of the relevant routes by the Site Manager/s or delegated representative/s as part of their delivery instructions (and signage along the route will reinforce this information). Contractor staff will be given the construction routes and minibus travel to work arrangements as part of their joining instructions. It is the responsibility of the Site Manager/s to ensure that all visitors to the site are aware of the construction traffic routes prior to travelling to the site.

4.2.2 Driver training and outline DMP delivery instructions to drivers (at Section 5 below) will reinforce the following:

- Avoidance of parking on the public highway except at laybys
- Not to use residential driveways, farm accesses, or other private accesses for turning
- Vehicle classes that are required to give notification prior to use of Swineshead Bridge level crossing and Great Hale Drove level crossing, and the arrangements for doing so
- Consideration for pedestrians, cyclists and equestrians on local roads and near Public Rights of Way (PRoW).

4.3 Road Condition Surveys

4.3.1 The Site Manager/s will arrange road condition surveys before and after construction with LCC Highways, NKDC and BBC, with extent of surveys to be agreed. The surveys will include photographic records to ensure the conditions of carriageway surfaces, verges and other highway infrastructure are appropriately restored as necessary following the construction phase.

4.4 Local communication

4.4.1 Before construction commences the Site Manager/s will engage with local town and parish councils and will write to neighbouring properties with information about the construction programme and activities, also providing the CTMP Coordinator contact details.

4.5 Delivery of Road Modifications

4.5.1 Prior to any construction works being undertaken within the limits of adopted highway, the detailed design of these works must be submitted to the Lincolnshire County Council for approval. These submissions will include:

- A programme for the works, details of the construction method and traffic management requirements;
- A detailed design pack of drawings and specifications detailing the works and any service/utility works that may need to be accommodated;
- The necessary health and safety information required under the Construction, (Design & Maintenance) Regulations, or their equivalent at the point of submission;
- Details of the proposed contractor, including their insurance provisions;
- If required by the local road authorities, a Road Safety Audit (RSA) to a combined Stage 1 and Stage 2 standards;
- Details of any necessary road signage and road markings; and
- Details of any proposed remediation proposals should the works not be permanent.

4.5.2 The Applicant will reimburse the highway authorities for the technical approval process at the time the applications are made, in line with costs for similar Section 278 or Section 184 applications made under the Highways Act.

4.5.3 The finalised CTMP will detail the exact process for these technical approvals.

~~4.5~~4.6 Signage and Streetworks compliance

~~4.5.1~~4.6.1 There will be appropriate signing, lighting and guarding of temporary works in accordance with the Code of Practice "Safety at Street Works and Road Works" and Chapter 8 of the Traffic Signs Manual 1991, as required by Section 65 of the New Roads and Street Works Act, 1991. Signs will be placed on relevant highways prior to commencement on site, to direct construction traffic from the A17 and away from local communities, and to warn other road users of HGV turning manoeuvres in the vicinity of the Site. The extent and scope of Streetworks is specified in Schedule 7 and Article 18 of the DCO.

4.5.24.6.2 Detailed traffic management layouts, site specific risk assessments and method statements will be agreed with Lincolnshire County Council Highways for all traffic management and highways related construction activities. The nature and locations of signage will also be agreed with Lincolnshire County Council and remain in place for the duration of the construction period.

4.64.7 Traffic Marshals

4.6.14.7.1 Traffic Marshals will be required to manage access to the Bespoke Access Road, Solar Array Area, and Cable Route compounds during construction. The traffic marshals will ensure gates are open at times when the construction sites are able to accept deliveries, direct vehicles to the appropriate unloading and loading points, prevent unauthorised vehicle or pedestrian access, and ensure that vehicles exit the site onto public highway in a forward gear.

4.6.24.7.2 Traffic marshals will also be responsible, where necessary, for managing interactions between site traffic and vulnerable road users passing the site. Where necessary marshals will stop site traffic to allow slow moving vulnerable users, such as equestrians, to pass before releasing traffic.

4.74.8 Unloading and Loading

4.7.14.8.1 During the construction phase, all unloading and loading of materials and plant will be undertaken within the site compounds during hours of operation. The compounds will be designed so that heavy vehicles have sufficient space to enter, turn and exit in forward gear. The Site Manager/s will ensure that a clear turning area is maintained at all times within the compounds.

4.84.9 Contractor Parking and Access Arrangements

4.8.14.9.1 Encouraging local construction staff to car share to reduce single occupancy car trips, by promoting the benefits of car sharing such as reduced fuel costs and by providing dedicated parking spaces for those car sharing within the compounds. A formal Car Share Scheme will be implemented to match potential sharers and to help staff identify any colleagues who could potentially be collected along their route to/ from site.

4.8.24.9.2 Construction workers will be preferably transported to site in minibuses, to reduce the impact on the local road network. The home/accommodation locations of the construction workforce are currently unknown. It is proposed to explore the potential to arrange on demand local minibus pick-up/drop-off points including at Heckington rail station and other transport/population hubs

such as Sleaford and Boston. The details of pick/up and drop/off locations will be determined once more is known about the composition and home/accommodation location of the construction workforce. However, routes have to be suitably attractive and convenient to ensure suitable staff recruitment and retention during construction.

~~4.8.3~~4.9.3 Implementing minibuses to transfer staff internally within the Solar Array Area, as well as to/ from the Cable Route Corridor will be explored as required e.g. to compounds 5 & 6 via Triton Knoll to minimise external trips on the surrounding highway network.

~~4.8.4~~4.9.4 Each construction compound and the operations building will have sufficient parking spaces to accommodate workers for the construction period. The Site Manager/s will ensure that sufficient space is provided within the compounds for vehicles to park, whilst maintaining sufficient space for material and plant storage, loading and unloading and turning of HGVs. Staff parking on neighbouring roads or on internal access roads will not be permitted.

~~4.9~~4.10 Delivery Times

~~4.9.1~~4.10.1 Deliveries will be scheduled to minimise interaction with other vehicles on the surrounding road network. The strategy is to avoid times when general contractor staff traffic is arriving/departing the site.

~~4.9.2~~4.10.2 Given the rural nature of the road network, and the dedicated Bespoke Access Road being in place to reduce the volumes of many types of construction vehicle on local roads in the vicinity of the Solar Array Area, it is not considered that restricting vehicle arrival/departure times over and above the typical construction site operation hours will be necessary. Delivery management is also addressed at section 5 below.

~~4.10~~4.11 Exclusion Zone

~~4.10.1~~4.11.1 Waiting areas will be left clear on all junctions with public highway so that construction traffic is not held on public highway.

~~4.11~~4.12 Wheel Washing

~~4.11.1~~4.12.1 Suitable wheel washing facilities will be provided at the exits of all construction compounds. Vehicles exiting the compounds from all areas of the site will be required to utilise the wheel washing facilities to prevent any transfer of material from the access tracks to the local highway network, to minimise disruption to other local traffic.

~~4.11.2~~4.12.2 If any transfer of material from the site to the local highway network does occur a road sweeper will be used to clear any debris to minimise any skid risk on the highway.

5. OUTLINE DELIVERY MANAGEMENT PLAN

5.1 Outline Delivery Management Plan (DMP)

5.1.1 Deliveries will not be undertaken outside site operational hours, except by prior agreement with the highway authority. Exceptions where prior agreement will need to be sought are likely to be AIL deliveries which are typically transported overnight to avoid disruption on the local highway network. Signage will inform delivery drivers and local traffic of construction access points.

5.1.2 Training and delivery route maps and instructions will be provided to drivers. This will include:

- what to do in the event of a road accident or road closure;
- consideration for non-motorised users on local roads and where construction access routes cross or come close to PRoW;
- notification requirements at level crossings;
- no parking on the public highway;
- no turning in private accesses;
- load covering requirements;
- wheel washing arrangements;
- on-site speed limits;
- on-site manouevring in forward gear;
- use of traffic marshalls and banksmen;
- on-site parking and unloading facilities; and
- points of contact.

5.1.3 Site access and egress points and on-site parking will be managed by the Site Manager/s to keep routes through the site and at compounds clear.

5.1.4 A 24-hour contact number for the Site Manager/s will be provided for delivery management and in case of emergency, alongside a contact number for LCC Highways. Communication with the public and in the event of complaint is addressed as part of the wider outline CTMP at Section 6 below.

5.1.5 The detailed DMP will be agreed as part of the detailed CTMP.

5.2 Outline Abnormal Loads Delivery Management Plan (AIL DMP)

5.2.1 The routing of AILs has been subject to two route assessments prepared by specialist consultant Wynns for Beacon Fen Energy Park Ltd and are available at Appendices A and B. The first assessment dated January 2024 concerned maritime and land routes via ports of Immingham, Boston and Sutton Bridge. Liaison with LCC Highways and National Highways Abnormal Loads Team was undertaken as part of the assessment. The conclusions (in section 9) are:

- In line with the Department for Transport's Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order AIL's, National Highways has advised that the ports of Boston or Sutton Bridge are preferred;
- Maritime access to all three ports is achievable, subject to consideration of offloading methodologies;
- LCC has advised that the road route from the port of Boston is not acceptable due to the loads being in excess of the capacity of Haven Bridge;
- LCC has also advised that the road route from the port of Sutton Bridge will require more detailed structural assessment on various structures on the A17; and
- The routes from Immingham and Sutton Bridge are considered negotiable to the preferred site access on the A17 without major difficulty subject to the agreement of traffic management and minor street furniture removal with the police and LCC.

5.2.2 The second route assessment (dated June 2024) concerns feasibility of access for cable drums to the six primary compounds within the Cable Route Corridor between the proposed Solar Array Area and existing National Grid Bicker Fen Substation. This assessment found that access through Bicker village is unsuitable and that additional surveys and temporary works would be required. Necessary AIL access to the cable route compounds is achievable.

5.2.3 All temporary works, such as removal of street furniture, will be subject to discussion with relevant authorities and form part of a delivery plan for each abnormal load. Each delivery will be planned in advance, escorted and managed such that any impacts are minimised. Such arrangements will be procured through standard processes (ESDAL[1]) with the relevant planning authority at the appropriate time. It is likely that no AILs will be required for the Bicker Fen NG Substation extension works.

[1] https://www.gov.uk/esdal-abnormal-load-notification

5.2.4 In the event that the phase of works has the potential for construction traffic to overlap with construction traffic for the Heckington Fen Energy Park project, the Applicant will notify Heckington Fen Energy Park Limited prior to submission of the detailed CTMP for approval.

6. OUTLINE CONSTRUCTION STAFF TRAVEL PLAN

6.1 Introduction

6.1.1 This outline TP is prepared in accordance with Planning Practice Guidance (PPG), Guidance on Travel Plans, Transport Assessments and Statements (March 2014), and Department for Transport (DfT) Circular 01/2022, Guidance on Strategic Road Network and the Delivery of Sustainable Development.

6.1.2 The purpose of the outline TP is to summarise the objectives, management framework, specific measures and routine reporting which are to be adopted by the Site Contractors. The outline TP scope includes construction staff, sub-contractors, and visitors for the duration of the construction period.

6.1.3 This outline TP will form the basis for discussion with the local authorities (LCC, NKDC and BBC) and agreement of the detailed TP prior to start of construction activities.

6.2 Travel Plan Objectives

6.2.1 The objectives of the outline TP are to minimise the impact of construction staff travel to/from the site and maximise use of shared and low/zero carbon transport during the construction phase. All construction staff will be made aware of the TP.

6.3 Scope of outline Travel Plan

6.3.1 The outline Travel Plan is characterised as a workplace (destination) Travel Plan). It applies to the construction phase of development. The programme of works will be refined as the project progresses but in summary is anticipated to commence in 2027 and last for 2.5 to 5 years in total. The Bespoke Access Road and Cable Route Corridor can commence construction at the same time and are anticipated to last between:,.

- Bespoke Access Road: 6-12 months;
- Cable Route Corridor: 12 to 24 months.

6.3.2 All material construction of the Solar Array Area will follow the completion of the Bespoke Access Road and last between 24 to 36 months. Some limited preparatory works may be carried out on the Solar Array Area simultaneously to the construction of the Bespoke Access Road.

6.3.3 The outcomes approach is adopted for this outline TP. This is an established TP approach where the focus is on securing the performance of the TP by ensuring targets are met. This approach will require the end user (appointed contractors) to commit to achieving specific outcomes, and to agree to a review and monitoring process. The advantage of this approach is its objective-led emphasis. The sought outcomes relate to the specific local situation and requirements. There is scope within the outline TP to adjust the means of achieving the outcomes over time in relation to experience at the site.

6.3.4 The outline TP comprises a comprehensive strategy for meeting key objectives. The strategy comprises:

- Existing conditions;
- Objectives and outcomes;
- Targets and outcomes;
- Management strategy;
- Measures;
- Information and marketing strategy;
- Monitoring and review.

6.4 Existing Conditions

Walk & Cycle

Pedestrian Provision

6.4.1 There is a general absence of footway on roads near to the Site, which is typical of the rural character of the local area. However, there is a network of Public Rights of Way (PRoW) within and near to the Site, illustrated in the TA **Appendix 9.1 Transport Assessment (Document Ref: 6.3 ES Vol.2, 6.3.76)**.

6.4.2 With regard to the Bespoke Access Road, footpath KkLT/6/1 is aligned south-west to north-east from the existing A17 layby where access for the Bespoke Access Corridor is proposed north to Asgarby. Footpath KkLT/4/2 and KkLT/5/1 cross the proposed Bespoke Access Corridor (the latter is not connected to any other public highway).

6.4.3 Footpath Ewer/12/1 is aligned north-east to south-west within the Solar Array Area to the north-east corner near Car Dyke, and footpath Ewer/9/1 is aligned north to south along the eastern boundary of the site, alongside the River Slea.

6.4.4 Finally, the following PRoWs interact with the proposed Cable Route Corridor;

- Footpath Heck/12/1;

- Footpath Heck/14/1;
- Footpath Heck/2/4;
- Footpath GtHa/3/1;
- Footpath Swhd/14/1;
- Bridleway Swhd/13/1; and
- Bridleway Bick/1/1.

6.4.5 There are two footpaths which are aligned near to the Order Limits. Footpath LL/GtHa/2/1 is aligned east to west along the cable route boundary to the east of Great Hale. And footpath Bick/2/1 is aligned north to south close to the cable route boundary to the east of Bicker Fen NG Substation.

Cycle Provision

6.4.6 There is no cycle infrastructure or signed cycle routes near to the Site. However, there is a local cycle route advertised by LCC, which provides between 16 and 26km circular route close to the Site, via Sleaford, Kirkby la Thorpe, Ewerby/Ewerby Thorpe, Howell, Heckington, Helpringham, Burton Pedwardine, Silk Willoughby and Sleaford. The route is described as “Circular, mostly on quiet roads and cycle paths. Some town roads. The route is mostly level” (source: https://www.lincolnshire.gov.uk/).

Public Transport

6.4.7 There are no dedicated public transport facilities in the immediate vicinity of the Solar Array Area. The nearest bus stops are located on Thorpe Road (to the north of the Solar Array Area), and the nearest rail station is in Heckington (south of the Site) (circa 1km and 4km respectively from the Solar Array Area). Due to lack of footway provision, it is not considered that public transport is a viable option for staff travelling to/from the Site without organised onward transport between the site and bus stops/rail stations.

6.5 Objectives and Outcomes

Objectives

6.5.1 The key objectives of the outline TP are to:

- Contribute to traffic reduction and other sustainable transport objectives set out in national and local planning policies.
- Improve accessibility of the site by sustainable modes of transport and address traffic and parking issues.
- Widen choice of travel mode for all those travelling to/from the Site.

Outcomes

6.5.2 The outcomes sought from the outline TP are to:

- Address the access needs of construction workers, subcontractors, and visitors, by supporting collective and low/zero emission transport options; and
- Avoid local nuisance by avoiding off-site parking.

6.5.3 It is important that, as far as possible, measures are in place that provide good active encouragement for sustainable transport choices, from before start of construction. Thus, emphasis is placed on achieving, from the outset, a site culture oriented to offering sustainable transport choices that are attractive, convenient and well used.

6.5.4 The outline TP seeks to influence the choices made by people travelling to/from the Site, to favour selection of sustainable travel modes for journeys. Emphasis is to be placed on promoting sustainable modes of travel that present a viable option as alternatives to single occupancy car travel. Based on existing conditions, it is considered that shared transport (car share or minibus) present the most viable option for journeys to/from the Site.

6.6 Targets and Indicators

Target Criteria

6.6.1 It is good practice to set TP targets that meet SMART criteria. The SMART criteria are:

Specific	there must be no ambiguity in the output,
Measurable	the TP can be set against directly observable output(s),
Achievable	meeting the target must be feasible,
Realistic	target should be within reasonable bounds and not too optimistic,
Time bound	the output of the TP should be observable over a pre-determined time frame.

Benchmarking Data

6.6.2 At present, prior to the construction phase, there is no recorded information about modal choices for workers in the vicinity of the site.

Outline TP Target

6.6.3 The outline TP target is for *"all construction workers, except staff who need to travel at non-standard shift times, will be offered travel to/from the site by minibus."* The target applies throughout the construction phase.

6.6.4 The Travel Plan Coordinator (TPC) will monitor staff travel to/from the site and provide regular update reports to the local authority on progress (refer section 6.11).

Indicators

6.6.5 The following indicators will be recorded to ensure the target does not lead to adverse effects for staff, or to issues on the local highway network:

- Levels of use of minibuses, electric cars and car sharing;
- The occurrence of any observed overspill parking on the local highway network and any complaints concerning overspill parking; and
- Staff punctuality and retention.

6.7 Management Strategy

Commencement

6.7.1 PPG highlights that: *"Travel Plans should where possible, be considered in parallel to* development *proposals and readily integrated into the design and occupation of the new site rather than retrofitted after occupation."*

6.7.2 Whilst this guidance is primarily for the operational phases of new developments, similar principles can be applied to construction. It is essential that TP measures are in place throughout construction, creating a site culture of sustainable travel, rather than retrofitting measures to react to issues as they arise.

6.8 Travel Plan Coordinator (TPC)

6.8.1 The outline TP will have an appointed TPC, whose details will be provided to the local authorities (LCC, NKDC and BBC) in writing prior to construction starting and will include name, contact details and date of taking up post. The TPC will report to the Site Manager/s and will work with all on-site contractors and their staff.

6.8.2 It is the responsibility of the Applicant to ensure that any contracts entered into with contractors working on site include the requirements of the outline TP. This will include a requirement that each appointed contractor nominates a point of contact, reporting to the TPC as required. Each contractor will nominate the point of contact in advance of construction and ensure one

remains in-post for the duration of the construction period. This is necessary to ensure responsibilities for undertaking tasks are met prior to construction, to ensure that sustainable travel choices and information are available, and people are made aware of this. The TPC will act as a promoter of the outline TP to staff and visitors and be the overall point of contact.

6.8.3 The TPC will be appointed at least three months before construction to oversee the production of induction information relating to the outline TP, and to ensure all preparatory tasks have been undertaken. Before start of works the TPC will work in partnership with the project team and others to:

- Manage the implementation of measures, particularly minibus planning, as set out in the outline TP;
- Collect data and other information relevant to the implementation and future monitoring of the outline TP;
- Prepare and produce induction material for staff, sub-contractors and visitors;
- Set up appropriate management arrangements, eg contact arrangements with local stakeholder groups.

6.8.4 More specifically, the TPC responsibilities include:

- Day to day operation of the outline TP;
- Promotion of shared transport (car sharing and minibuses);
- Liaison with the local authority;
- Undertaking and analysing monitoring surveys;
- Monitoring transport usage;
- Monitoring car parking;
- Preparing and maintaining induction information for the TP;
- Undertaking monitoring & review of the TP and preparing monitoring and review reports, including review of the TP targets.

6.8.5 As part of the ongoing management of the outline TP, the TPC will maintain dialogue with local stakeholders, and monitor emerging best practice information, to provide the most efficient platform for maximising the effectiveness of the TP.

6.9 Outline TP Measures

Walking, Cycling & Public Transport

6.9.1 Existing conditions offer limited opportunity for walk, cycle and public transport trips to be undertaken to/from the site, due to its proximity to residential areas and the lack of footway and cycling infrastructure on the local highway network near to the site. It is not considered a proportionate measure to introduce

footway or cycle infrastructure or propose improvements to existing public transport for the temporary construction period. Therefore, the TP should focus resources on promoting feasible sustainable transport modes.

Minibus Transport

6.9.2 Shared transport is an effective means of reducing the number of car trips generated by a site, especially for commuting trips, and is thus an established sustainable travel choice. Minibus transport will be promoted to construction workers travelling to/from Proposed Development.

6.9.3 The home/accommodation locations of the construction workforce are currently unknown. It is proposed to explore the potential to arrange on demand local minibus pick-up/drop-off points including at Heckington rail station and other transport/population hubs such as Sleaford and Boston. The details of pick/up and drop/off locations will be determined once more is known about the composition and home/accommodation location of the construction workforce. However, routes have to be suitably attractive and convenient to ensure suitable staff recruitment and retention during construction. The TPC will make staff aware of this through induction information.

6.9.4 For workers who live locally, local minibus pick-up/drop-off points will be offered to minimise single-occupancy vehicle trips. Pick up points are likely to include local rail and bus stations, town/village centres, or where reasonably practicable, home pickups.

Car Sharing

6.9.5 Car trips will be minimised to staff who have to arrive and depart site at non-standard shift change times, and it is proposed to promote car sharing for these journeys utilising platforms such as Liftshare Lincolnshire (https://hub.liftshare.com/regional/lincolnshire). The car share scheme matches up car drivers and passengers who travel on similar routes at similar times.

Parking Provision

6.9.6 Sufficient parking will be provided within the operations building and construction compounds to accommodate cars and minibuses. These spaces will be reserved for designated staff and visitors only to ensure that vehicle numbers are controlled, and to minimise the impact on the local highway network. It will be the responsibility of the TPC, supported by the Site Manager/s, to monitor car parking on-site. At the Cable Route Corridor compounds, the expectation is that teams of workers will travel by minibus from the Solar Array Site.

Electric Vehicle (EV) charging facilities

6.9.7 Ultra-low and zero emission vehicles are defined as a sustainable travel mode in the NPPF and can help to reduce a development's impact on air quality in its vicinity.

6.9.8 The Solar Array Area will include an operations/spares building which will comprise facilities for a team of 12 full-time employees (FTE) during the operation phase. The Applicant will consider installing EV charging provisions, which will enable staff journeys to be undertaken by EV and thereby encourage the transition to low and zero-emission vehicles.

On-Site Storage

6.9.9 Facilities to store tools and PPE will be provided within construction compounds and the operations/spares building. This will enable construction workers to reduce the equipment they need to transport to/from the site each day, and assist those who would usually drive to site, to consider alternative sustainable transport options such as minibus or car sharing.

6.10 Information and Marketing

6.10.1 Communication aspects of the outline TP are crucial to its success. It is of little use having outline TP initiatives if staff are not adequately informed of them and persuaded to try them. The marketing strategy for the outline TP aims to:

- Raise awareness of sustainable travel options;
- Promote individual measures and initiatives; and
- Disseminate travel information from the outset employment at the Site, and indeed in advance of employment through the recruitment process, and on an ongoing basis.

6.10.2 The first step is to ensure that good quality information is readily available and well disseminated, and this will be administered by the TPC. Information will be provided by a variety of means including:

- Information provided at recruitment stage;
- Site induction information and briefings;
- Site noticeboards; and
- Intranet, if applicable.

6.10.3 It is the responsibility of the TPC, working with nominated contacts from each contractor, to set up and oversee arrangements for every new employee to receive a suitable verbal and written induction highlighting the sustainable transport options available to them.

6.10.4 Induction information will be prepared and kept up-to-date by the TPC, who will maintain a stock. This can be available in hard copy and/or electronic format. The induction information should also be prepared in a format that can be distributed as joining instructions for visitors.

6.10.5 The objective of the induction information is twofold: to inform and to promote. The latter aspects of the induction information are aimed at promoting and achieving sustainable travel choices for trips to/from the site. It is anticipated that the outline TP induction information will include items such as, but not exclusively:

- TP objectives;
- TPC description of role and contact details;
- Existing walk & cycle conditions;
- Shared transport (minibus) information;
- Car share scheme: Details of registering, information about the financial benefits/incentives, and the environmental benefits; and
- Information sources: eg websites, etc.

6.10.6 In addition to induction information, an ongoing dialogue will be maintained between the TPC and staff, through usual site feedback processes, daily briefings etc.

6.11 Monitoring and Review

6.11.1 Implementation of the outline TP must be monitored and reviewed if the intended and optimum benefits are to be secured.

6.11.2 Key points about the outline TP monitoring and review regime are that this:

- Is essential to ensure that the outline TP objectives are being met;
- Assesses the effectiveness of the outline TP measures, target and indicators and provides opportunity for review; and
- Must be done over time and hence requires action and resources.

6.11.3 The monitoring and review process needs to be systematic and planned. The role of the TPC in leading this, supported by the Site Manager/s and contractor points of contact, is crucial. Monitoring of the outline TP aims to measure effectiveness and to ensure that it remains relevant over time. It is also important that flexibility is retained to amend the outline TP to respond to changing/emerging circumstances, and that the monitoring and review process provides the mechanism for this.

6.11.4 Monitoring of the outline TP will include observing for non-compliance. The TPC, Site Manager/s and contractors will monitor staff trips to/from the Site to ensure those who should be travelling in minibuses e.g. to the Cable Route

Corridor compounds are complying. The TPC, Site Manager/s and contractors will observe parking on existing highways near to the site, to avoid nuisance to the local community. They will also ensure that parking provided on Site are used by authorised staff and visitors only.

6.11.5 Progress related to the target and indicators will determine whether measures and management processes need to be reviewed or whether the outline TP is achieving sufficient outcomes.

6.11.6 The monitoring process is a routine task. This is so that the effectiveness of the TP measures and financial resources can be optimised. The ongoing monitoring process throughout the year includes elements such as the induction/promotional activities and mechanisms - if a particular form of promotion is not yielding benefits, then alternatives should be considered and employed. The key to all this is that the TP measures, be it promotion and/or services/facilities, are not an end in themselves, they are only the means to progress the TP target and indicators, and if a measure/activity is not yielding positive results, then the reasons for this should be examined and changes to the strategy and measures implemented to address this.

6.11.7 Monitoring & Review reports will be prepared by the TPC and submitted to the local authorities (LCC, NKDC and BBC) at intervals to be agreed as part of the detailed CSTP. This will set out the way in which the outline TP has been operated, providing, inter alia:

- A record of key information collected throughout the quarter, including observations of staff travel to/from the site (if applicable);
- A schedule of meetings and inductions held throughout the quarter, ensuring that all staff receive the required information, and other key contact information;
- A record of TP initiatives introduced/operated during the quarter with any staff feedback (if applicable);
- Reporting of relevant indicators, namely shared transport and electric car usage, car share database registrations and overspill parking;
- Review of outline TP measures pursued throughout the quarter and, on the basis of this, reach conclusions about measures to be taken forward for the coming quarter.

6.11.8 As set out in Section 6.3 above, the outcomes approach is adopted for the outline TP. The outcomes approach requires the contractor/s to commit to achieve the outline TP target and to make beneficial progress towards indicators. If the outline TP target is not met or indicators are not progressed in any quarter, the TPC will identify additional measures, processes, or promotions to achieve them.

6.12 Summary

6.12.1 A Travel Plan (TP) promotes sustainable travel awareness and encourages sustainable travel choices. This outline TP is prepared taking account of currently available best practice guidance and evolving experience.

6.12.2 This outline Construction TP forms the basis for discussions with the local authorities, LCC, NKDC and BBC, towards agreement of a detailed Construction Staff TP prior to commencement of any phase of construction. It is the responsibility of the Applicant, to implement the detailed TP for the duration of construction phase.

6.12.3 The outline Construction Staff TP will be overseen and implemented by the Travel Plan Coordinator (TPC). The TPC role could be undertaken by the Site Manager/s, with tasks delegated to suitably qualified parties, as required.

6.12.4 The outline Construction Staff TP target is proposed as *"all workers, except staff who need to travel at non-standard shift times, will be offered travel to/from the site by minibus."* This target is to be maintained throughout the construction phase.

6.12.5 Outline measures aim to encouraging from the outset a positive sustainable transport awareness and culture for the development. The outline TP measures will be monitored, reviewed and amended as appropriate.

7. Summary

7.1.1 This outline CTMP sets out the general measures and management arrangements that are required to:

- Protect the amenity of neighbouring properties;
- Maintain safety for all road users;
- Ensure that construction traffic and parking impacts on the local highway network are minimised; and
- Maximise use of shared and low/zero emission travel during the construction phase.

7.1.2 The detailed CTMP, which will include detailed DMP, AIL DMP and Construction Staff TP will be agreed with the relevant planning authority of Boston Borough Council or NKDC, in consultation with Lincolnshire County Council. The outline versions of these Plans specify measures including planning and preparation, a dedicated point of contact, communication with the public as well as management, coordination with any other nearby AILs, management and reinstatement of any temporary modifications and routine reporting of construction staff travel.

8. MONITORING AND NON-COMPLIANCE

8.1.1 It is the responsibility of the Site Manager, and in relation to staff travel, the Travel Plan Coordinator (TPC), to ensure that all measures are implemented as set out herein.

8.1.2 The Site Manager is responsible for monitoring compliance by all contractors and hauliers regarding construction traffic routing and timing. The Site Manager (or delegated representative/s) will issue a verbal warning to any individual or organisation who does not comply with the agreed routing and timing strategy, or who parks vehicles on the highway, followed by a written warning.

8.1.3 It will be a condition of all contracts for construction and deliveries at the site to comply with the detailed CTMP. Any non-compliance following verbal and written warnings will be dealt with via usual contract dispute mechanisms.

8.1.4 If members of the public raise a concern regarding construction traffic or parking, the staff will direct them to the Site Manager, TPC (or delegated representative/s). The Site Manager will listen to the concerns, offer solutions or provide an adequate explanation. Concerns raised by members of the public will be recorded and reasonable remedial action taken.

BFEP Appendices

Appendix A Wynns Abnormal Indivisible Load (AIL) Access Report - Beacon Fen Energy Park (January 2024)

Abnormal Indivisible Load Access Report – Beacon Fen Battery Energy Storage Site

Prepared for Low Carbon

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

NAME		SIGNATURE	DATE
Prepared by:	Brad Dyke	[redacted]	12.01.24
Checked by:	Andy Pearce		15.01.24
Approved by:	Andy Pearce		17.01.24

DISCLAIMER

Any conclusions, calculations or findings presented here should not be changed or altered.

COPYRIGHT AND NON-DISCLOSURE NOTICE

THIRD PARTY DISCLAIMER

DOCUMENT REVISIONS

Issue	Date	Details
0	17.01.24	Draft Report
1		
2		

Contents

Executive Summary

This report considers land transport feasibility investigations into achieving access for one transformer at 160te nett for future delivery to a proposed Low Carbon Battery Energy Storage System (BESS) site, which is to be located at Beacon Fen, Anwick, Heckington, Lincolnshire, adjacent to the A17.

A separate report will be provided detailing the feasibility into achieving access for cable drums to the proposed laydown area to various locations between the proposed substation site and the grid connection at the existing National Grid Bicker Fen Substation.

Due to the overall transport weight of the transformer load being considered (plus carrying trailer) being in excess of 150te gross weight, the move will require a Special Order from National Highways. It should be noted that Government policy is to maximise the use of water for the movement of Special Order (above 150te gross) AIL's wherever possible. National Highways require that access via the nearest available water access should be considered, as Low Carbon would be required to deliver via the nearest available marine offloading point that is practicable for AIL delivery. In line with the requirements of the Department for Transports Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order Abnormal Indivisible Loads (AIL), National Highways (NH) Abnormal Loads Team has advised that in terms of Agreement in Principle (AiP) for Special Order deliveries to the Beacon Fen site, they would prefer that the ports of Boston or Sutton Bridge are considered in preference to Immingham.

Marine access has been considered as a desktop exercise at the ports of Boston and Sutton Bridge. Both are available from a marine transport perspective although the specific offloading methodologies at each port would need further detailed discussions with the port authority. Immingham is also a possible port of access with various methods of heavy lift delivery feasible. Routes from all three of these ports have been considered.

The route to proposed and preferred site access point 1 for site construction traffic including AIL access, from the port of Immingham to the north via Lincoln and the A15 and the A17 has been confirmed as structurally acceptable to all highway authorities including Lincolnshire County Council. National Highways have confirmed however that the port of Immingham would not be approved in the future now that the port of Sutton Bridge is again available, following a period of temporary closure during which deliveries were facilitated to the nearby Viking Link Substation from Immingham. National Highways would also require the Port of Boston, and associated road routes, to be considered in preference to Immingham.

Lincolnshire County Council have advised that the road route from the port of Boston is not acceptable due to the loads being in excess of the capacity of Haven Bridge which crosses the River Witham on exit from the port. Access from Boston is therefore discounted.

Lincolnshire County Council have advised that the road route from the port of Sutton Bridge will require more detailed structural assessment on various structures on the A17. Further discussions with the council are necessary to confirm the exact assessment requirements and Wynns do hold information from the Triton Knoll Substation project which may inform and assist in confirming the suitability of the route from Sutton Bridge.

Therefore, at present, although a route is technically possible from Immingham, National Highways will not sanction its use, and further work will be necessary to seek to secure a route from Sutton Bridge to the preferred site access point with Lincolnshire County Council.

The routes from Immingham and Sutton Bridge are considered negotiable to the preferred site access point 1 on the A17 without major difficulty subject to the agreement of traffic management and minor street furniture removal with the police and highway authorities.

No specific review of site access is included within this report, but it is understood that the project intends to create a new construction traffic route that will travel east from the A17 at site access point 1 into the site. The access to this road from the A17, and the temporary road itself will be designed to be accommodating of AIL access requirements.

A separate report is to be produced that will detail the possible longer term site access requirements to cater for future transformer replacement via the existing public road network once the construction of the site has been completed and the proposed temporary construction access route removed. This will detail access via Littleworth Drove and other areas which will require separate remedial works were they to be discussed. These options are not considered appropriate for the new build construction works and this is why a separate document is to be provided detailing the alternative long term access.

This report is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis. If any further information is required, it is available on request.

1. Introduction

1.1. The contents of this report include marine and land transport feasibility investigations into achieving access to a Battery Energy Storage System (BESS) site known as Beacon Fen to be located near Heckington, Lincolnshire.

1.2. The site access is to be created east of the A17 for AILs to be delivered as Special Order movements of above 150te gross loads as part of a future substation development scheme. It is understood that the site access will involve the construction of a temporary access road from site access point 1 on the A17 to enable overall construction of the development including AIL access.

1.3. A separate report is to be produced that will detail the possible longer term site access requirements to cater for future transformer replacement via the existing public road network once the construction of the site has been completed and the proposed temporary construction access road removed. This will detail access via Littleworth Drove and other areas which will require separate remedial works were they to be discussed. These options are not considered appropriate for the new build construction.

1.4. The weight considered in these investigations is 160te nett which is advised by Low Carbon to be the weight of the transformer required at the proposed site location.

1.5. This report is a summary of the status of the current AIL access investigations to Beacon Fen and seeks to present the situation as it presently stands. The issues highlighted in this report as risks to achieving AIL access in the future, will need to be revisited and progressed as the scheme develops.

1.6. This document does not constitute a formal agreement for movement. Any future movements for will require the appointed haulage contractor to notify the relevant statutory authorities in the statutory manner.

1.7. This investigation considers the possible land transport routes from the ports of Immingham, Boston and Sutton Bridge. Formal movement applications will be necessary upon appointment of a haulage contractor by the transformer manufacturer.

1.8. As the transformers are destined for a new area yet to be constructed, no detailed review of site access within the substation layout is included, this will need to be considered along with a detailed appraisal of the technical requirements for handling transformers on-site as the scheme progresses.

1.9. The report is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis. If any further information is required, it is available on request.

2. National Highways Agreement in Principle and Legislative Requirements

2.1. *Definition of Abnormal Indivisible Load (AIL)*

2.1.1. The Department for Transport, of which National Highways (NH), formally the Highways Agency (HA), is a government-owned company with responsibility for managing the core road network in England, state that the strict definition of an AIL refers to a load which cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of carriage on roads and which, owing to its dimensions or weight, cannot be carried on a vehicle which complies in all respects with the 'standard vehicle regulations' these are:

- The Road Vehicles (Construction and Use) Regulations 1986 (as amended)
- The Road Vehicles (Authorised Weight) Regulations 1998 (as amended)
- The Road Vehicles Lighting Regulations 1989 (as amended).

2.1.2. All equipment should be stripped of their ancillaries before they are transported. NH will only accept that further dismantling is not required where it cannot be economically achieved due to the requirement for its construction within specific factory environments or where extremely high tolerances have to be maintained.

2.2. *Legislation*

2.2.1. Conventional heavy goods vehicles have an operating weight limit of 44 tonnes. The category known as abnormal indivisible loads (AIL) covers those vehicles where the gross weight exceeds 44 tonnes. An Abnormal Load is defined as that which cannot be carried under Construction and Use (C&U) Regulations. Items which, when loaded on the load carrying vehicle exceed the weights encompassed by the C&U Regulations, but do not exceed Special Order Permission Limits, are governed by Special Types General Order (STGO) categories 1 to 3 depending on size. NH have issued an aide memoir that explains notification requirements in more detail. This document has been attached as Appendix 3.

2.2.2. Where dimensions exceed 6.1m in width, 30m in rigid length or 150 tonnes gross weight, Special Order from NH is required.

2.2.3. Special Order category AIL movements are authorised by the NH Abnormal Loads team, based in Birmingham. This is further discussed in section 2.3.

2.2.4. STGO loads orders grant consent for loads that satisfy the following criteria:

Category 1 weight	44 – 50 tonnes and 11.5te axle weights
Category 2 weight	50 – 80 tonnes and 12.5te axle weights
Category 3 weight	80 – 150 tonnes and 16.5te axle weights
Width Restriction	3.0m (C&U) –5m (VR1 Required)– 6.1m (SO required)
Length Restriction	18.65m (C&U) – 30.0m (SO required)

2.2.5. As the load will be above 150te gross, a Special Order permit and Agreement in Principle (AiP) would be required from NH. This would require the loads to be moved from the nearest available port, in line with the Department for Transports (DfT) 'Water Preferred Policy'.

2.3. *Water Preferred Policy Requirements*

2.3.1. The Department for Transport has adopted a 'water-preferred' policy for the transport of AILs. This means that, where an application is sought for the movement of a Special Order or VR1 category load (more than 5.0m width) by road, the Department, via NH, will turn down the application where it is feasible for a coastal or inland waterway route to be used instead of road. NH advise that this decision is based on a number of factors including whether the load is divisible, the availability of a suitable route, the amount of traffic congestion that is likely to be caused and the justification for the load to be moved. The NH Abnormal Loads Team is the department responsible for the authorisation of Special Order AIL's and government policy is that the closest available port of access should be used for the delivery of such oversize items.

2.3.2. To date an Agreement in Principle (AiP) remains outstanding from the National Highways Abnormal Loads Team who authorise Special Order permissions in line with the Department for Transports Water Preferred Policy. They have however advised (email dated 29.09.23) that their preference would be for access from Boston or Sutton Bridge. as these are closer in terms of road access than Immingham.

2.3.3. Although NH permitted recent deliveries to the Viking Link Convertor Substation to be undertaken from Immingham during 2022/23, this was only agreed as a route from Boston was not technically feasible, and the port of Sutton Bridge was temporarily closed at the time of movements. Now that the port of Sutton Bridge has reopened, (See section 6.2 under new ownership, NH would expect that the port of Sutton Bridge and road access to Beacon Fen is considered. They would also require further information on the current suitability of the route from Boston as the proposed Beacon Fen loads are smaller than those recently transported to the Viking Link substation. These options and the road routes from them are detailed within the report and further discussions with NH will be necessary to confirm AIP for the Beacon Fen substation.

2.3.4. Low Carbon are considering various transformer manufacturers for the supply of the substation transformers and the majority of these from outside the UK, and also GE at Stafford, would need to ship transformers to the closest port as detailed. It is understood that Wilson Transformers of Leeds could potentially be considered as a supplier and with this in mind NH were asked whether they would permit a direct road route from the Leeds manufacturing facility to Beacon Fen, subject to it being structurally suitable. NH have advised that they would not permit this and they would expect any transformers from Leeds to be transported to Goole by road and then shipped to Boston or Sutton Bridge for final road transport to Beacon Fen to minimise the road miles travelled in line with the water preferred policy for Special Order loads.

2.3.5. In the event that direct access were to be considered from Leeds this would be expected to utilise the M62, M18, and A1 to Newark, from where the A17 to site would be proposed but this would require further investigation in terms of structural clearance but is not progressed here due to the above rejection from NH.

3. Abnormal Indivisible Load Movements - Highways Act 1980

3.1. *Recovery of Excessive Maintenance Costs - Section 59 Agreements*

3.1.1. Section 59 of the Highways Act 1980 allows the highways authority to raise a charge against a user of the highway to cover repair works necessitated by excessively heavy or unusual loads being carried on the road by that user. This provision is typically used where the passage of heavy lorries to and from industrial premises or building sites causes excessive damage to the road, requiring expensive remedial works by the Council. Under Section 59, the Council may charge on such costs to the organisation responsible for the damage, the amount payable being calculated as the excess cost of repair compared to normal maintenance costs for the road. Rather than wait to be charged such excessive repair costs, the Council and the third party may enter into an agreement under Section 59 whereby the third party accepts liability and makes payment of an agreed sum to the Council to cover the excessive repair costs.

3.2. *The Removal and Replacement of Street Furniture*

3.2.1. Where the removal and replacement of street furniture is required for the mobilisation of out of gauge vehicles into existing sites then these are generally managed under Temporary Traffic Regulation Order (TTRO) and Street Works Legislation. These are normally, but not necessarily, organised by the haulage contractor. These requirements are generally to ensure that the supervisors and operatives are competent and that the works will be carried out to a prescribe standard with the appropriate traffic management in place. In some circumstance the Highway Authority or LA will insist that their preferred contractors will carry out such work.

4. Historical Information

4.1. Wynns hold historical route information for various substation projects in the area. This indicates that the Special Order deliveries relevant to the site were for the Viking Link Converter Station that took place during 2022 and 2023 where transformers were delivered via the Lincoln Eastern Bypass from the port of Immingham to the A17 As such these passed by the proposed BESS temporary construction access road access point 1. It is understood that these were transported on a 22-axle girder frame trailer with a gross weight in the region of 368te.

4.2. Wynns are also aware that 151te transformers have been delivered from the Port of Boston in 2007 to the National Grid Bicker Fen Substation on a 14 axle girder frame trailer. As is detailed later in the report, the route from Boston is no longer expected to be structurally suitable at this weight.

4.3. Sutton Bridge was used for the transport of circa 240te transformers along the A17 to the Triton Knoll Offshore wind farm Substation in 2019 on a 22-axle girder frame trailer.

4.4. It is understood that 116te nett weight reactors have been delivered from the port of Boston to Triton Knoll both during construction in 2019 and also in 2023 for reactor replacement. These were transport on 10 axle flattop trailers.

4.5. The port of Boston has also been used for cable drum AILs for projects in the region during recent years but the access from cable drums is not specifically discussed in this report.

5. Transport Configurations - Transformer

5.1. Based on the information available to date the transformer considered within this report is assumed to be 160te nett weight as detailed in Table 1 below

Table 1 Transformer Dimensions

The largest piece of equipment	**Transformer**
Weight	160tonnes
Dimensions (l x w x h)	L x W x H: 8350 x 3885 x 4625 (mm)

5.2. Drawing no. 23-1174.TC01 (attached in appendix 2 of this report) details an indicative 16-axle girder frame trailer that would be expected to be that utilised to transport the 160te transformer.

5.3. At theses dimensions it is not possible to transport the transformer within the Special Types General Order (STGO) regulations as a Category 3 load (80-150te gross) as the

gross load will be in excess of 150te. It will therefore be necessary to comply with legislation regarding Special Order movements and to be delivered via the nearest port of delivery.

5.4. Based on information available at this moment in time it is assumed that the road transport configuration would of a ballast tractor pulling a 16-axle girder frame trailer for which the trailer element would weigh in the region of 246.8te gross with axle loads around 15.43te.

5.5. There are only three haulage contractors currently operating girder frame trailers of sufficient capacity for the proposed 160te unit in the UK electricity supply industry with equipment able to carry a transformer of this weight and with the knowledge to position the unit correctly on the plinth. These are Allelys Heavy Haulage Ltd, Mammoet, and Collett & Sons Heavy Haulage.

5.6. GCS Johnson, based in Yorkshire, also own a frame trailer. This trailer was used for transformer transportation in 2010 and 2012 by way of subcontracting to JB Rawcliffe and Sons. It is understood that this trailer is available for future transformer delivery requirements although it has not been specifically considered in these investigations and there would need to be clarifications as to its current capacity and availability.

5.7. No specific girder frame trailer arrangements have been provided by Colletts, Allelys and Mammoet for this report and the specific trailer details are not included in this report due to the information being commercially sensitive to each haulage contractor However, specific trailer information can be made available under separate cover if required.

5.8. It is expected that competitive heavy haulage procurement will be feasible for the transport of the transformers on girder frame trailers.

6. Marine Access

6.1. *Boston*

6.1.1. The port of Boston can accommodate vessels of up to 120m in length and was previously used in 2007 for delivery of the Bicker Fen transformers of 151te nett weight which were offloaded by mobile crane from a coaster vessel.

6.1.2. In recent years, the port has been used for delivery of components for biomass generation plants and for the delivery of reactors and cable drums for the Triton Knoll and Viking Link Interconnector substation projects.

6.1.3. The port stipulate a maximum 10.8 tonnes per sqm, and set back 2 m from the quay edge, in utilising the old piled crane tracks that still exist.

6.1.4. The Environment Agency Flood defence program is in progress and will require the port to vacate the dock basin for the riverside berths in mid 2024. They will however have mechanisms in place to allow for bigger cranage and radius, if the work has to be done on the riverside NAABSA quays during the wet dock closure (New gates and widening).

6.1.5. Once the wet dock closure is completed (2025) the port will be able to accept vessels in the region of 16m beam.

6.1.6. As detailed in Section 7.3, unfortunately the road route out of the port is limited in terms of structural capacity by Haven Bridge and as such Boston is not expected to be suitable for Beacon Fen transformer loads.

6.2. *Sutton Bridge*

6.2.1. As of January 2023 Port Sutton Bridge is again operational, having been closed for 6months and sold to new owners. It now operates as Port Sutton Bridge Limited.

6.2.2. It is able to accommodate vessels up to 120m in length with a 349m continuous quay and is accessible for coaster vessels and has been used during 2023 for loading a generator of circa 160te nett weight for export following manufacturer near Peterborough.

6.2.3. Wynns have discussed the new requirements at the port and they have provided an updated guide for operational requirements. This is provided in Appendix 4. The main points to note are as discussed below.

6.2.4. The port is on the River Nene and operates on a NAABSA 'Not always afloat but safely aground' basis.

6.2.5. Port Sutton Bridge can handle vessels of up to 120m length and 6m draft subject to tidal ranges. Vessels over 100m require a tug to attend/tow from Bill Buoy to Sutton Bridge on a daylight tide only.

6.2.6. A maximum beam of 17m can be accommodate at the port.

6.2.7. Port Sutton Bridge has been used for the delivery of substation transformers to sites such as Walpole Substation several times in recent years, and has also been used for the delivery of generation equipment to Sutton Bridge and Spalding Power Stations as well as the Triton Knoll substation.

6.2.8. Although loads have in the past taken place via Geared Vessels, the port have stated that there more recently utilised and preferred method for offloading is via coastal vessels and mobile cranes.

6.2.9. Prior to any heavy lift works being undertaken, Port Sutton Bridge reserve the right to instigate 'pre' and 'post' ground surveys. All costs are to be borne by the contractor.

6.2.10. The maximum permissible ground pressure loading to prevent damage / sinkage is set at 40kN/m2. Ground mats must be sized and used to prevent any loadings exceeding this figure.

6.2.11. In order to minimise any effect on the sheet pile wall, the loads from any outriggers must not extend beyond the first crane rail. To enable this to take place, suitably sized mats must be positioned to span equally on 4No crane running beam piles.

6.2.12. The port is also able to provide short term storage prior to onward transport by road.

6.2.13. It is not considered the port is accessible for ro-ro vessels at present as the port has high changes in water levels between low and high tides and that this could be restrictive to ro-ro operations. It may be possible to consider ro-ro operations at the north-east end of the quay on entry to the port or the turning circle for vessels at the south-west end of the port, but these will need detailed discussion with the port to confirm whether they are feasible. As ro-ro operations have not (as far as we are aware) been considered at Sutton Bridge in the past, any such offloading would require detailed offloading methodologies and risk assessments to be agreed with port engineers. It is not considered necessary to progress these discussions further as other proven access methodologies exist.

Library Photograph 1
Generator being loaded to coaster vessel at Sutton Bridge by mobile crane during 2023.
Courtesy of Port Sutton Bridge Ltd.

6.3. *Immingham*

6.3.1. Immingham is well established for project cargo and has facilities suitable for the loads to be delivered via various marine delivery options. The exact operational and commercial requirements of which will depend on their availability at the time of requirement but in principle no difficulties are expected with delivery.

6.3.2. The route from Immingham Docks to the A15 and the Lincoln bypass is well established for AILs to and from manufacturing facilities in South Yorkshire and the East Midlands and no major issues are expected.

6.3.3. The port is also able to provide short term storage prior to onward transport by road.

7. Structural Route Information

7.1. *General Information*

7.1.1. A selection of various potential routes and site access options were considered at the commencement of the investigative works and these investigated various access locations to the potential exits from the public highway to the substation site. Further information is available on the alternative options that have been rejected as AIL routes if required, and a separate report is to be issued in respect to longer term contingency access options that may apply when or if the temporary construction access road from the A17 to the site is removed as these will require remedial works to facilitate.

7.1.2. This report focuses on the preferred site access location 1 which is directly off the A17 east of Sleaford at approximate OS Reference TF 10804 45279 and from where Low Carbon proposes to construct a temporary haul road to enable all construction traffic including AILs. It is understood this temporary road will be removed following completion of the works.

7.1.3. A more permanent/semie permanent access road to enable longer term access post construction could be constructed across the arable land with the use of hardcore stone roads or grasscrete and Wynns have provided a high level guide for temporary roads as provided in Appendix 5 that details some of the issues to be mindful of when creating such roads which would need further detailed engineering and agreement from landowners.

7.2. *Routes from Immingham*

7.2.1. The route to site access location point 1 from Immingham is detailed below.

Proposed Route 1
Assume access to A15 from Immingham via M180 junction 4
Continue A15 south via Lincoln eastern bypass
Continue A15 Sleaford Road
Turn left A17
Continue A17 Sleaford Road to proposed site access approx. TF 10804 45279

7.2.2. The above route was submitted to all highway and structural authorities including Lincolnshire County Council (LCC) and has been approved in terms of structural clearance to the proposed site access point.

7.2.3. The other authorities who have cleared the route include the following authorities.

- National Highways Historic Railways Estate
- Canal & Rivers Trust
- Network Rail.

7.2.4. Lincolnshire Police have advised (emails dated 15.12.23 and 20.12.23) that with a police escort they consider this route will be accessible and no major issues are envisaged.

7.3. *Routes from Boston*

7.3.1. The two route to site access location point 1 from Boston are detailed below.

Proposed Route 7
Exit Port of Boston via St Johns Road
Turn left A16 John Adams Way crossing River Witham Haven Bridge
Turn right A52 Sleaford Road
Turn right A1121 Boardsides
Turn right A17
Continue A17 Sleaford Road to proposed site access approx. TF 10804 45279

Proposed Route 8
Exit Port of Boston via St Johns Road
Turn left A16 John Adams Way crossing River Witham Haven Bridge
Continue A16 south to Sutterton roundabout (crossing Spalding Road level crossing)
Turn right A17 north
Continue A17 Sleaford Road to proposed site access approx. TF 10804 45279

7.3.2. The above route was submitted to all highway and structural authorities including LCC who have advised (email 09.01.24) that both routes are not acceptable due to Haven Bridge not being able to accommodate the proposed loads. This is the bridge that crosses over the River Witham immediately after exiting the port Boston.

7.3.3. This is consistent with information obtained by Wynns prior to the construction of the Triton Knoll Substation when the bridge was assessed by consulting engineers appointed by Wynns on behalf of the client supplying the transformers of circa 240te nett weights, the transport loads for which failed the detailed Structural assessments.

7.3.4. The routes were proposed in an attempt to clarify whether the reduced weight of 160te for Beacon Fen would be accountable to LCC but this is not the case. Therefore, routes from Boston are not considered suitable for the Special Order transformer loads destined for Beacon Fen.

7.3.5. Smaller AILs such as cable drums may be able to cross the bridge, subject to further discussions with LCC and this has been proved by other projects including for reactors in the region of 116te nett weight.

7.4. *Routes from Sutton Bridge*

7.4.1. The route to site access location point 1 from Sutton Bridge is detailed below.

Proposed Route 6
Exit Sutton Bridge A17
Continue A17 Washway Road
Continue A17 Sleaford Road to proposed site access approx. TF 10804 45279

7.4.2. LCC has advised (email 09.01.24) that route 6 from Sutton Bridge is considered likely to be suitable. However further assessment of Swineshead Bridge (which is believed to be 45HB rated), and also other LCC structures may be necessary and this needs to be confirmed with LCC. However, Swineshead Bridge has been approved in the opposite direction for the recent Viking Link transformer loads and is not expected to be a major limitation at this time.

7.4.3. Table 2 on the following page details the LCC structures on the route from Sutton Bridge and discussions remain ongoing with LCC to confirm the exact status of these bridges and whether any updated assessment or checks will be required but no major issues are expected. Many of these structures between Sutton Bridge and Swinehead were assessed by Wynns for Triton Knoll transformers at a weight of 245te nett in 2018 and as such no major issues are expected.

7.4.4. The other authorities who have cleared the route include the following authorities.

- National Highways Historic Railways Estate
- Canal & Rivers Trust
- Network Rail.

7.4.5. Lincolnshire Police have advised (emails dated 15.12.23 and 20.12.23) that the route from Sutton Bridge would be an issue with width and further discussion with the police will be needed to clarify requirements. It should be noted that the route from Sutton Bridge has been used for larger loads to both Triton Knoll Substation and Spalding Power Station in recent years and it is expected that with appropriate traffic management the route can be negotiated. The police will however require further reassurance that the route is feasible.

7.4.6. Escort and movement times will be confirmed with the police by the appointed haulage contractor closer to the time of movement.

Table 2 Lincolnshire County Council Structures on route 6 from Sutton Bridge

Structure name and Reference	Structure information	Notes
Swineshead Bridge 24/12/78	15.4m precast box beam.	LCC pretty sure this is 45HB, but need to confirm and will need to track down the assessment file to confirm suitability.
Hammond Beck Bridge 24/21/46	11.63 Precast box beam	LCC pretty sure this is 45HB, but need to confirm and will need to track down the assessment file to confirm suitability.
Bypass Culvert (3) 23/56/81	2.0m concrete pipe, 3.0m cover	Assumed no concerns but LCC to confirm.
Bypass Culvert 9(0 23/65/94	1.2m corrugated pipe, 3.9m cover	Assumed no concerns but LCC to confirm.
Bypass Culvert (12A) 23/84/13A	1.5m corrugated pipe, 3.5m cover	Assumed no concerns but LCC to confirm.
BridgeHouse Bridge 33/03/93	4.57m RC deck, 45HB	Assumed no concerns but LCC to confirm.
Fosdyke Bridge 33/12/82A	3 span composite deck – 19.2m, 33.6m, 19.2m, 45HB	Assumed no concerns but LCC to confirm. This bridge was assessed by consulting engineers appointed by Wynns for Triton Knoll transformers of 245te weight in 2018.
Three Bridges 33/20/57	2.45m corrugated arch, 0.53m cover, 45HB	Assumed no concerns but LCC to confirm this.
Saracens Head Bridge 32/37/92	2.1m Box culvert, cover not recorded, 45HB	Assumed no concerns but LCC to confirm this.
Penny Hill Subway 32/65/05	3.8m box culvert, 0.1m cover, 45HB	Assumed no concerns but LCC to confirm this.
Fleet River drain Culvert 42/13/64 –	1.5m concrete pipe, 1.5m cover	Assumed no concerns but LCC to confirm this.
Railway Lane Subway 42/71/20A	5.0m box culvert, 45HB	Assumed no concerns but LCC to confirm this.

8. Route Negotiability Information

8.1. *Routes from Immingham*

8.1.1. It is assumed that the road route via the Motorway and Trunk Road network from Immingham to the A15 is accessible as it is a well used AIL route. This report therefore focuses on the final section of the route from the A15 including the new Lincoln Eastern Bypass used as recently as 2022 for deliveries to the Viking Link Converter Station.

8.1.2. The potential access routes are shown on Map 2 (sheets 1 – 3 of 3) & Map 3 appended to this report.

8.1.3. A summary of the main negotiability issues is provided in the following notes and photographs.

Photograph 1

Vehicle travelling towards the camera along A15 around Lincoln following left turn from established heavy load route from Immingham along the M180 and south down the A15 through Riseholme. Negotiable.

Photograph 2

Vehicle travelling towards the camera following left turn from A15 Lincoln Eastern Bypass. Negotiable.

Photograph 3

Vehicle travelling towards the camera on A15. Road bends through Leasington with possible tree pruning requirements, depending on growth at time of movement, negotiable.

Photograph 4
Vehicle travelling towards the camera immediately north of the left turn from A15 on to A17 at Sleaford. Centre island street furniture may require removal depending on final width of trailer selected for movement.

Photograph 5
View showing left turn from A15 Lincoln Road to A17 (google image). Load moves away from camera and turns left. Negotiable.

Photograph 6
Vehicle travelling away from camera, showing first exit of roundabout from A15 and joining A17. Negotiable.

Photograph 8
Layby along A17

Photograph 9
Proposed first site access approx. TF 10804 45279 where a temporary haul road is to be constructed.

8.2. The haul road access point will be designed to accommodate the proposed AIL delivery vehicle.

8.3. *Routes from Boston*

8.4. As detailed in Section 7, the routes from Boston have been rejected by LCC in terms of structural capacity and as such are not further discussed in this document.

8.5. *Routes from Sutton Bridge*

8.6. Route 6 is considered negotiable for the proposed loads, with the first part being used recently for the Triton Knoll Offshore Windfarm Onshore Substation and is detailed in the following notes and photographs in terms of physical route negotiability requirements.

Photograph 10
Egress from Port Sutton Bridge. Load moves away from camera. Negotiable.

Photograph 11
Egress from Port Sutton Bridge. Load moves away from camera. Negotiable.

Photograph 12
Egress from Port Sutton Bridge. Load moves away from camera. Negotiable.

Photograph 13
Egress from Port Sutton Bridge. Load moves away from camera. Negotiable.

Photograph 14
South on West Bank. Vehicle moves away from camera.
Parking restrictions required to ensure parked cars are on one side of road only.

Photograph 15
South on West Bank. Vehicle moves away from camera. Negotiable.

Photograph 16
Bridge Road, looking back onto West Bank. Vehicle moves towards camera. Negotiable.

Photograph 17
Load moves away from camera on approach to Bridge Road and in conventional fashion bears left. Parking restrictions and associated enforcement would be advisable to maintain access.

Photograph 18
Vehicle enters photo centre left, moves away from camera, turning left continuing Bridge Road.

8.6.1. Although it is expected that access for 20 axle trailers could be carried out conventionally by making the left turn it is understood that in the past provision has been made to avoid

the left turn by utilising the one way cut through to Bridge Road in reverse before driving forward to the A17. Both options are feasible and would be subject to confirmation of the by the appointed haulage contractor once the final transport configuration has been determined.

Photograph 19
Bridge Road. Vehicle approaches camera from right. Negotiable.

Photograph 20
Alternative egress to Bridge Road by contraflowing the one way cut through to in reverse before driving forward to the A17. Negotiable.

Photograph 21

Load moves away from camera on Bridge Road to A17 roundabout. Negotiable with street furniture removal on approach to the roundabout of the Sutton Bridge lifting bridge warning signs in far distance on photograph. Alternatively the first section of the dual carriageway A17 could be contraflowed to the second roundabout before joining the single carriageway A17 northbound. Haulage contractor to advise of preferred access depending on trailer arrangement selected for movement.

Photograph 22

Exit to join A17 northbound at Sutton Bridge from Bridge Road. Negotiable.

Photograph 23

A17 roundabout. Vehicle exits roundabout where lorry can be seen, moves towards camera, continuing A17. Negotiable. Depending on how the load has joined the A17 at the preceding roundabout form Bridge Road the load may be approaching in contraflow.

Photograph 24
A17/A1101 Roundabout exit. Vehicle moves away from camera. Negotiable.

Photograph 25
A17/B1359 Roundabout.
Vehicle exits roundabout centre right of photograph and moves towards camera. Negotiable.

Photograph 26
A17/B1359 Gedney Roundabout exit. Vehicle moves away from camera. Negotiable.

Photograph 27

New A17/A151 roundabout at Holbeach. Load continues away from camera. Negotiable. The route was used in October 2018 for Spalding Power Station loads of up to 28 axle trailers to this point.

8.6.2. There are several centre island bollards at various locations on the A17. None are significant restrictions to access and potential removal will be subject to final width of trailer.

Photograph 28

Fosdyke Bridge as discussed in 7.4. Cleared for Triton Knoll loads after detailed structural assessment. Current status to be confirmed by LCC. Vehicle to run with its near edge between 1.4m and 2.5m from the kerb to minimise the load distribution to the beams and load not to exceed 10mph. Previous assessments have indicated that the road surface should be marked in advance of any movements with suitable lines marking the lane within which the vehicle must run.

Photograph 29

Fosdyke Bridge as discussed in 7.4. Cleared for Triton Knoll loads after detailed structural assessment. Current status to be confirmed by LCC.

8.6.3. There are several locations on the A17 where laybys could be used to relief traffic subject to agreement with the council and police.

Photograph 30

A17 exit from Sutterton Roundabout. Vehicle moves away from camera continuing third exit A17. Expected to be negotiable for 16 axle girder frame trailer. Swept Path Assessment (SPA) may be required by LCC to confirm access due to services box on A17 northbound exit.

Photograph 31

A17/A16 Sutterton Roundabout reverse angle. Vehicle exits roundabout moving towards camera, exiting bottom right of photograph. SPA may be required to confirm access as there is the potential for conflict with the electrical services box seen on inside bend. It may also be possible to avoid this by contraflowing the roundabout.

Photograph 32

Electrical services box seen on inside bend. SPA may be required to confirm access and satisfy LCC the roundabout is negotiable.

Photograph 33

North A17 at Hoffleet Stow. Approximate OS Grid Ref. TF 2457 3737. Vehicle moves away from camera. Large layby could be used as lay over area if necessary.

Photograph 34

A17/A52 Bicker Bar Roundabout. Vehicle moves away from camera continuing A17. Possible conflict with centre island chevrons which may require removal depending on final trailer arrangement selected for movement.

Photograph 35

Exit from Bicker Bar Roundabout. Vehicle moves away from camera continuing A17. Negotiable.

Photograph 36

A17 Swineshead Bridge. Load approaches camera. LCC to confirm structural status but has been crossed recently with Viking link transformers so no major issues expected.

Photograph 37

A17 Level crossing. Load approaches camera. No major issues expected although standard AIL procedures for crossing level crossing to be adhered to.

8.6.4. The Network Rail Standard Caution for crossing a level crossing with and AIL is detailed below.

> *"Before the trailer crosses any automatic half-barrier railway level crossing or any other railway level crossing, equipped with a telephone, the driver of the towing vehicle shall telephone the railway signaller of the intention to cross the railway with the trailer. The trailer and the vehicles used with it shall not cross except with the permission of and in accordance with the instructions of the railway signaller. After crossing the driver shall again telephone the signaller to inform him that the crossing is clear."*

8.6.5. The remainder of the route north on the A17 to is negotiable without difficulty.

8.6.6. The preceding notes are applicable to girder frame trailers. There are no major overhead limitations other than phone and power lines and as such the route could also be considered on flattop trailers. However, this would also require such loads to obtain structural clearance over Fosdyke Bridge and all other LCC structures.

9. Summary and Conclusions

9.1. In line with the requirements of the Department for Transports Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order AIL's, NH Abnormal Loads Team has advised that in terms of AiP for Special Order deliveries to the Beacon Fen site, they would prefer that the ports of Boston or Sutton Bridge are considered in preference to Immingham due to the reduced road miles travelled by the AILs. No formal AiP has been provided to date and further discussions with NH will be necessary to confirm future requirements in line with policy.

9.2. Marine access is feasible at the ports of Boston and Sutton Bridge although the specific offloading methodologies at each port would need further detailed discussions with the port authority. Immingham is also a possible port of access with various methods of heavy lift delivery feasible. Routes from all three of these ports have been considered.

9.3. The route to proposed and preferred site access point 1 for site construction traffic and AIL access, from the port of Immingham has been confirmed as structurally acceptable to all highway authorities. However, as above, NH have advised that the port of Immingham

would not be approved now that the port of Sutton Bridge is available, following a period of temporary closure during which deliveries were facilitated to the nearby Viking Link Substation from Immingham.

9.4. LCC have advised that the road route from the port of Boston is not acceptable due to the loads being in excess of the capacity of Haven Bridge which crosses the River Witham on exit from the port. Access from Boston is therefore discounted.

9.5. LCC have advised that the road route from the port of Sutton Bridge will require more detailed structural assessment on various structures on the A17. Further discussions with LCC are necessary to confirm the exact assessment requirements and Wynns do hold information from the Triton Knoll Substation project which may inform and assist in confirming the suitability of the route from Sutton Bridge.

9.6. Therefore, at present, although a route is technically possible from Immingham, NH will not sanction its use, and further work will be necessary to seek to secure a route from Sutton Bridge to the preferred site access point with LCC.

9.7. The routes from Immingham and Sutton Bridge are considered negotiable to the preferred site access point 1 on the A17 without major difficulty subject to the agreement of traffic management and minor street furniture removal with the police and LCC.

9.8. No specific review of site access is included within this report, but it is understood that the project intends to create a new construction traffic route that will travel east from the A17 at site access point 1 into the site. The access to this road from the A17, and the temporary road itself will be designed to be accommodating of AIL access requirements.

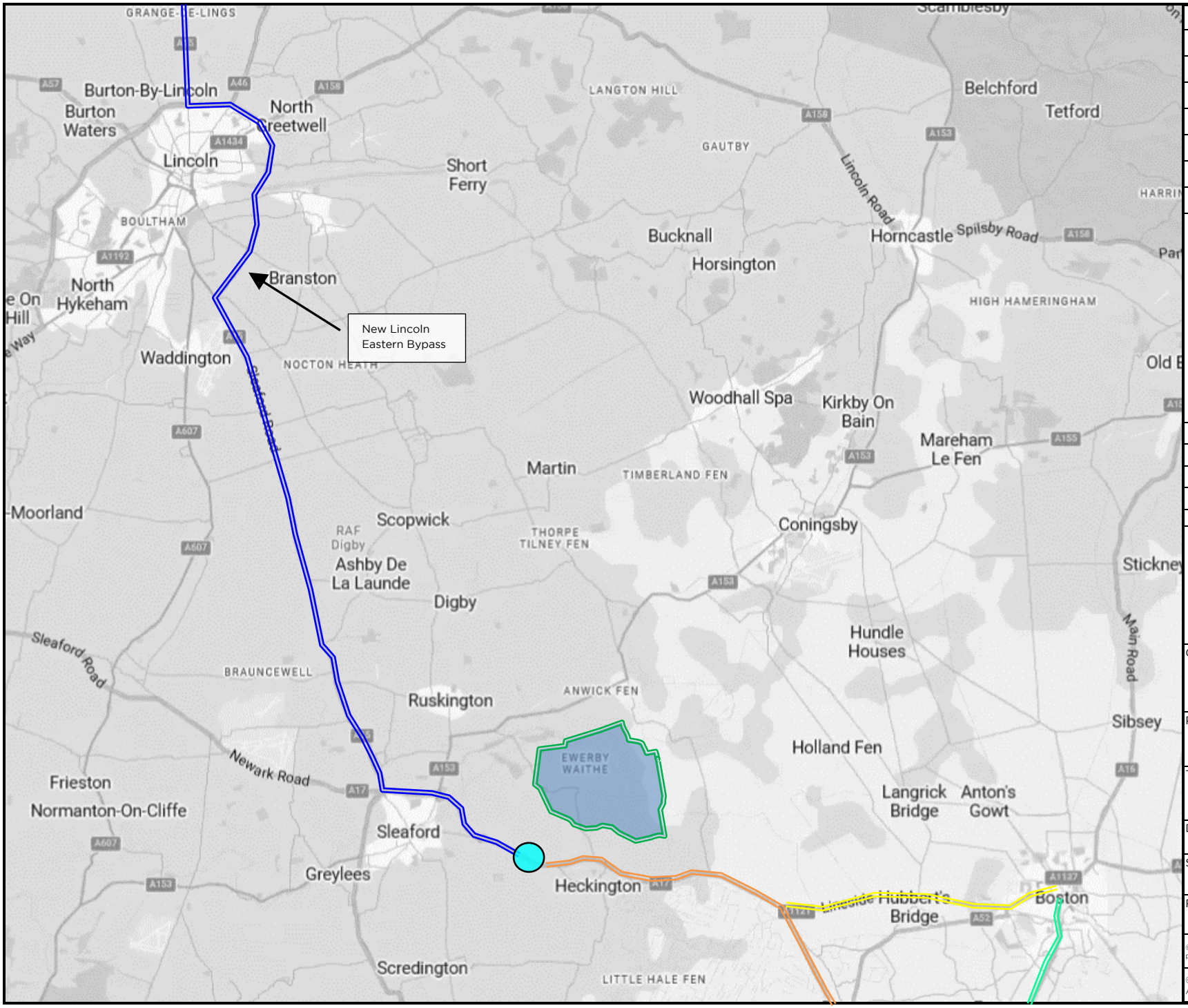
9.9. A separate report is to be produced that will detail the possible longer term site access requirements to cater for future transformer replacement via the existing public road network once the construction of the site has been completed and the proposed temporary construction access route removed. This will detail access via Littleworth Drove and other areas which will require separate remedial works were they to be discussed. These options are not considered appropriate for the new build construction works and this is why a separate document is to be provided detailing the alternative long-term access.

9.10. It will be necessary to confirm that the site roads, including services and compound area are able to accommodate the proposed load of delivery vehicle along the hydraulic jacking and skidding operations.

9.11. A separate report will be provided detailing the feasibility into achieving access for cable drums to the proposed laydown area to various locations between the proposed substation site and the grid connection at the existing National Grid Bicker Fen Substation.

Appendix 1

Maps



Key

	Route from A15 (Immingham)
	Route from Sutton Bridge
	Route from Boston (Discounted)
	Route from Boston (Discounted)
	Route around Site
	Proposed site access 1
	Point of Interest

Rev	Date	Amendments:
B		
A		
0	12.09.23	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client: low carbon

Stirling Square
5-7 Carlton Gardens
London
SW1Y 5AD

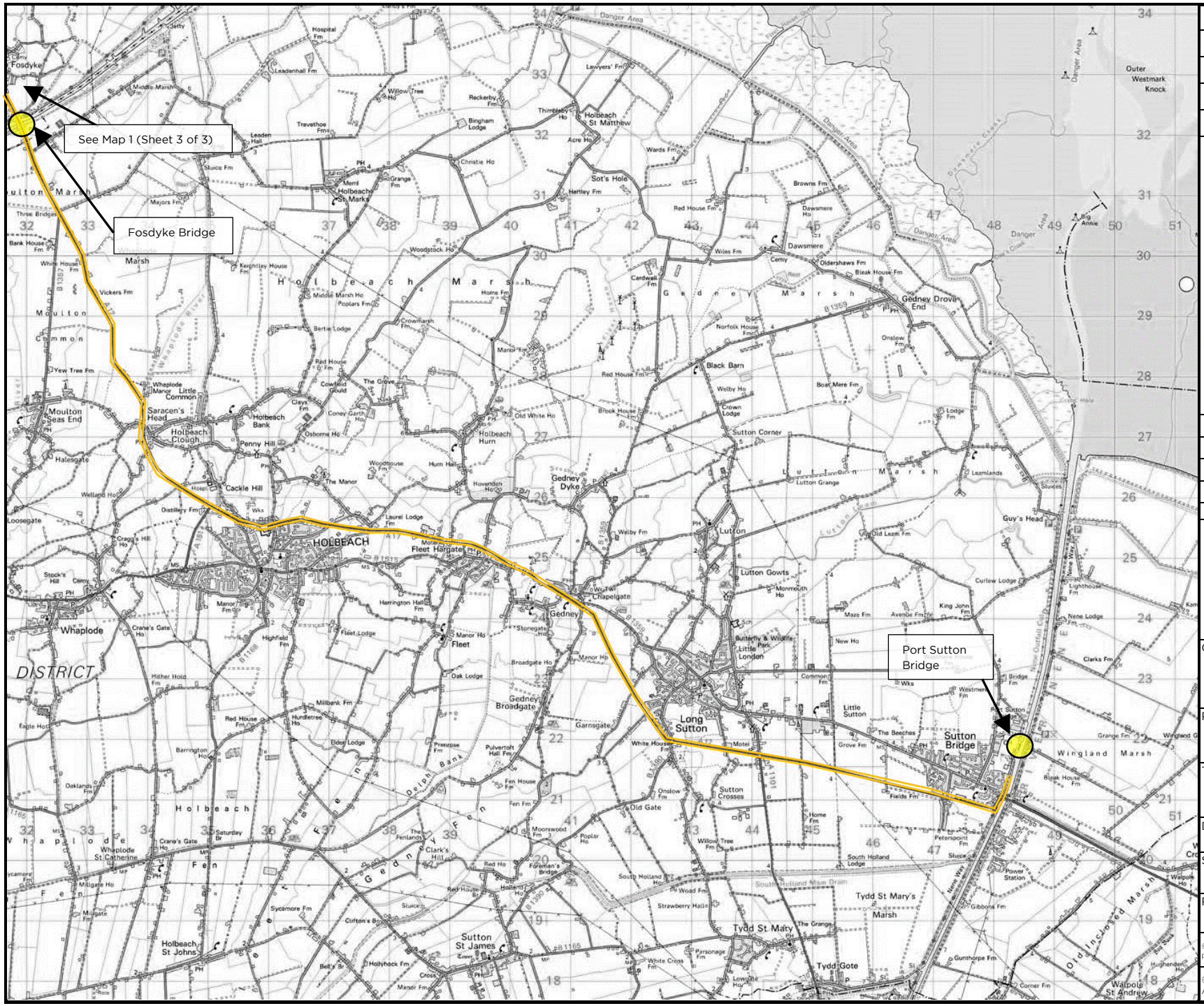
Project:
AIL Access to Beacon Fen BESS Substation

Title:
Map 1 – AIL Access to Proposed New Sites around Anwick Fen

Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	

Ref No.:	Sheet:	Rev.:
23-1174-Map1	1 of 1	0



Key	
	Route 7 (Discounted)
	Route 8 (Discounted)
	Route 6 from Sutton Bridge
	Point of Interest

Rev	Date	Amendments:
B		
A		
0	09.01.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client:
low carbon powering tomorrow
Stirling Square
5-7 Carlton Gardens
London
SW1Y 5AD

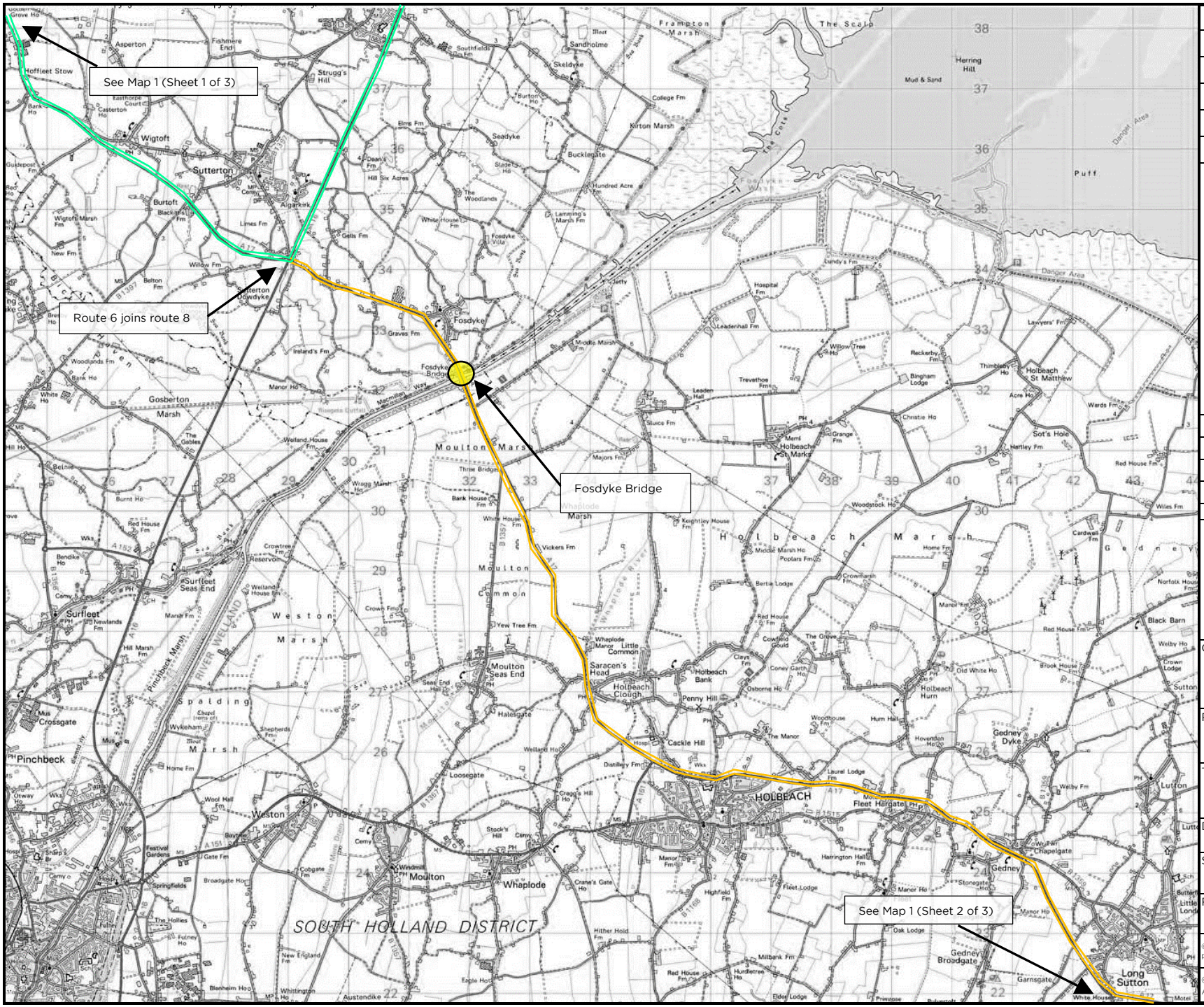
Project:
Beacon Fen BESS Site

Title:
Map 2 – Routes from Boston & Sutton Bridge to Beacon Fen Proposed BESS Site

Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

Ref No.:	Sheet:	Rev.:
23-1174-Map 2	2 of 3	0



Key	
	Route 7 (Discounted)
	Route 8 (Discounted)
	Route 6 from Sutton Bridge
	Point of Interest

Rev	Date	Amendments:
B		
A		
0	09.01.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client: low carbon

Stirling Square
5-7 Carlton Gardens
London
SW1Y 5AD

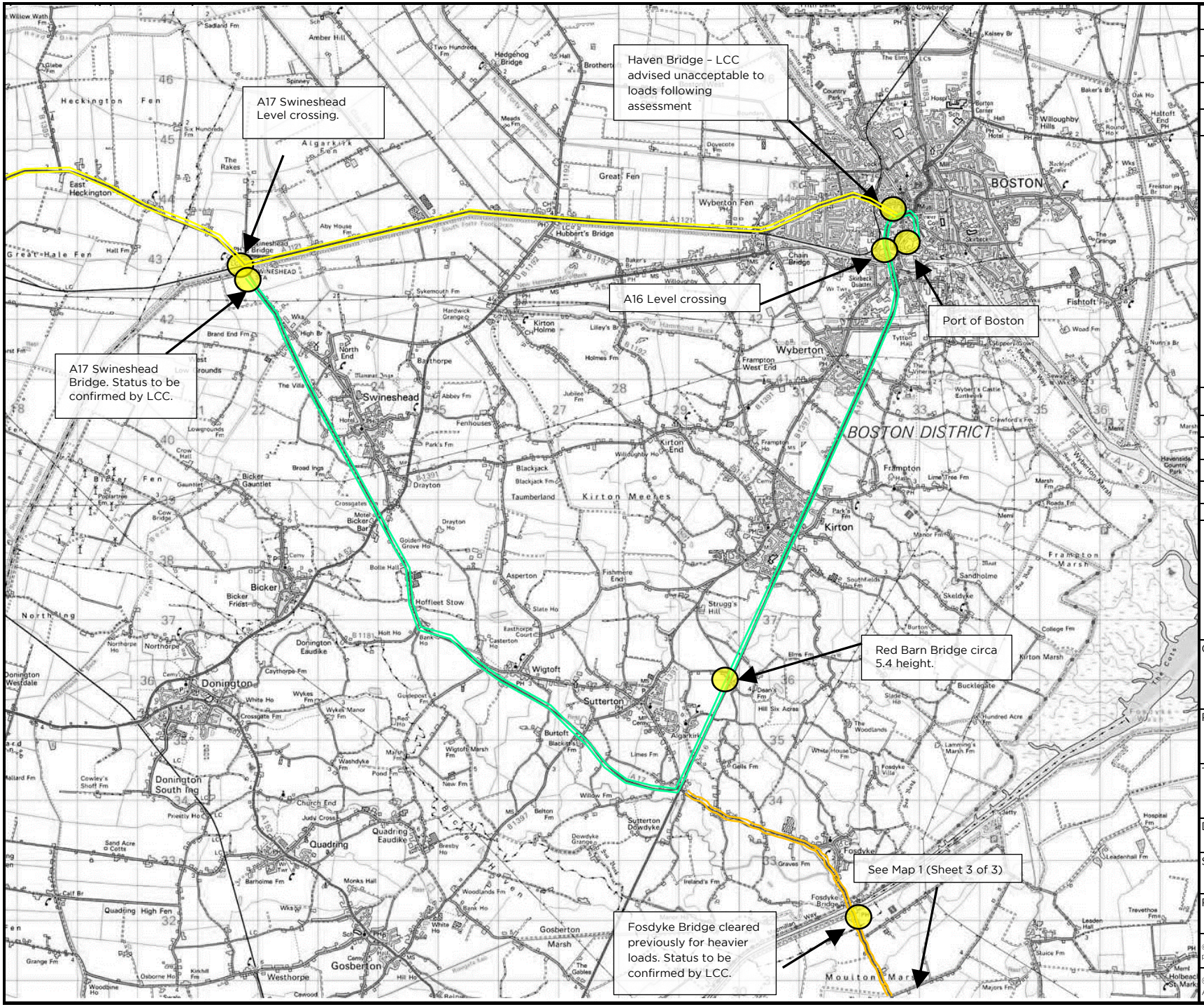
Project: Beacon Fen BESS Site

Title: Map 2 – Routes from Boston & Sutton Bridge to Beacon Fen Proposed BESS Site

Drawing Status: Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

Ref No.:	Sheet:	Rev.:
23-1174-Map 2	3 of 3	0



Key

	Route 7 (Discounted)
	Route 8 (Discounted)
	Route 6 from Sutton Bridge
	Point of Interest

Rev	Date	Amendments:
C		
B		
A		
0	09.01.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client: low carbon — powering tomorrow

Stirling Square
5-7 Carlton Gardens
London
SW1Y 5AD

Project: Beacon Fen BESS Site

Title: Map 2 – Routes from Boston & Sutton Bridge to Beacon Fen Proposed BESS Site

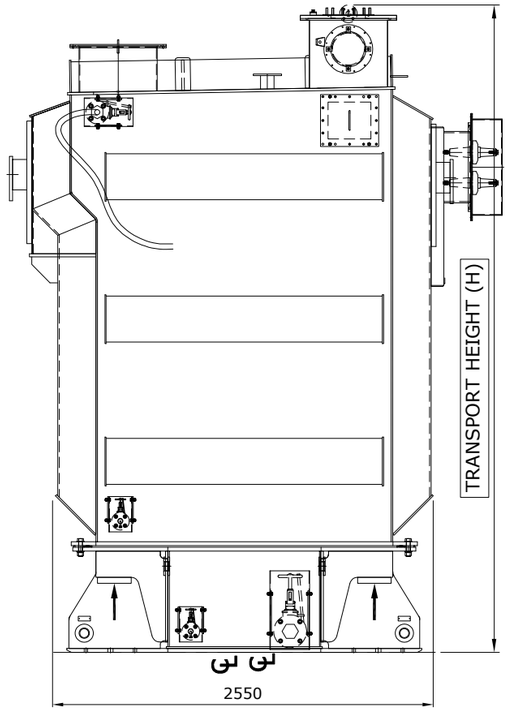
Drawing Status: Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

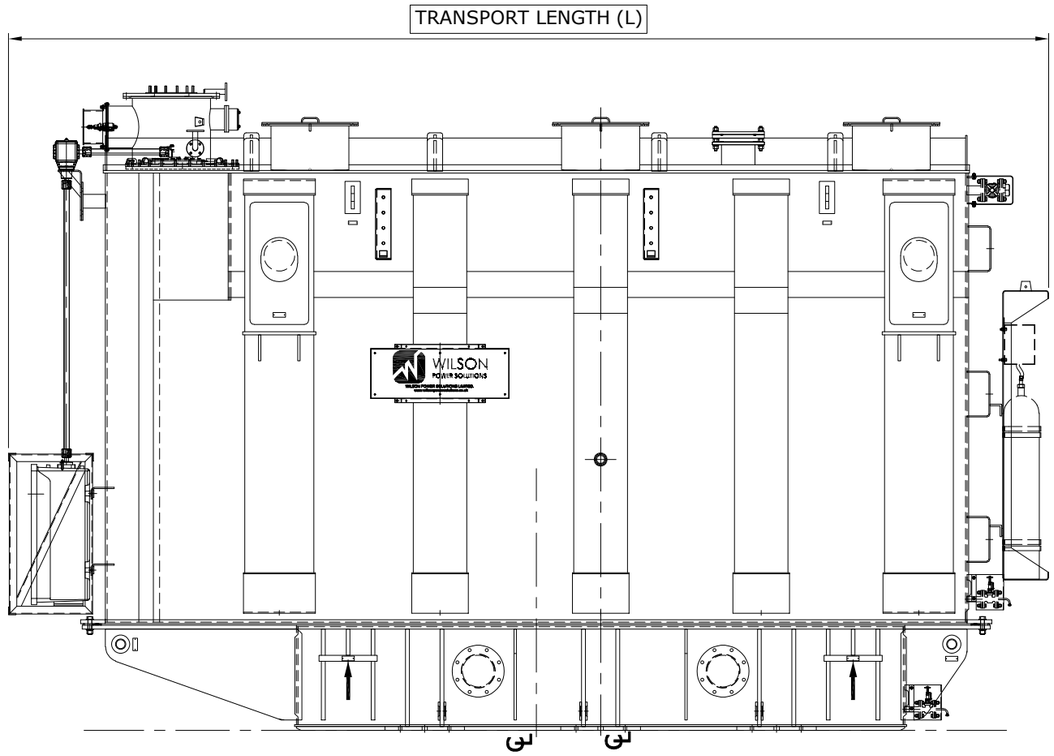
Ref No.:	Sheet:	Rev.:
23-1174-Map 2	1 of 3	0

Appendix 2

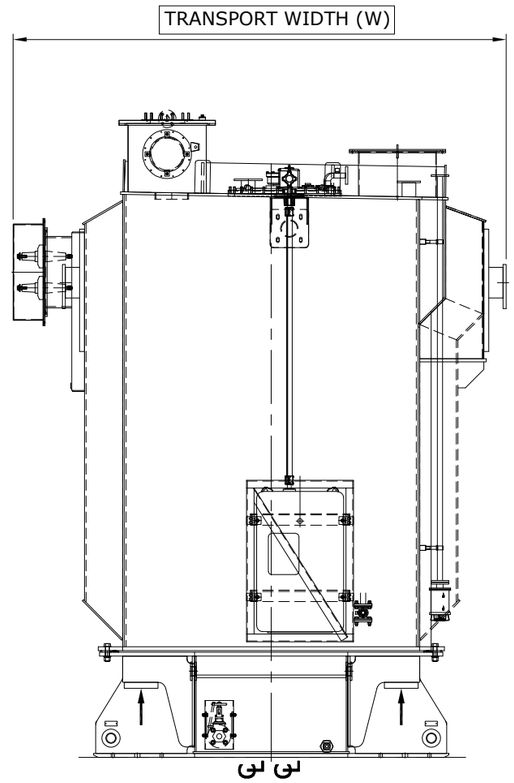
Drawings



RHS SIDE VIEW



FRONT VIEW



SIDE VIEW

S.No.	MVA	Transport Dimension L x W x H (In mm)	Transport Weight (in kg)	Ancillaries
01	120	7100 x 3450 x 4250	85,500	4 Flat Beds
02	140	7250 x 3450 x 4300	95,550	4 Flat Beds
03	180	7900 x 3700 x 4500	135,000	4 Flat Beds
04	200	8350 x 3885 x 4625	160,000	4 Flat Beds

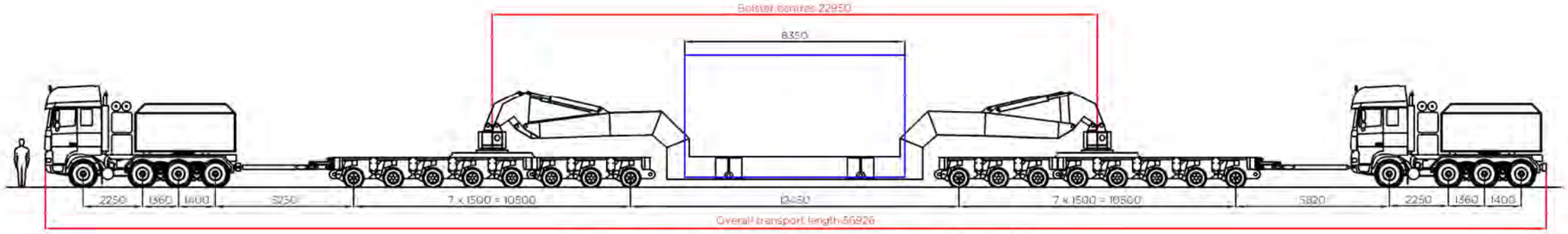
IF IN DOUBT - **ASK**. REMOVE ALL SHARP EDGES. **DO NOT** SCALE. DRAWING **NOT TO SCALE**

BASED ON:

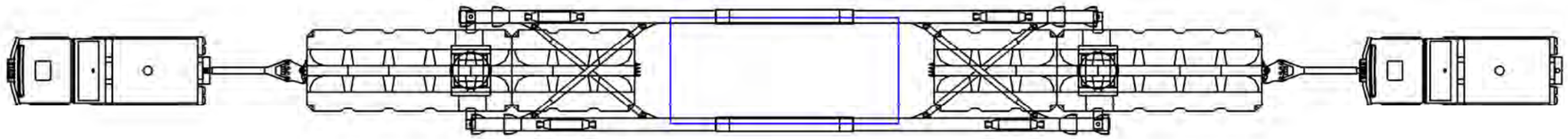
LAST REVISION	REVISION DESCRIPTION	REV	DRAWING TITLE
REV. BY:		DATE	TYPICAL TRANSPORT DIMENSIONS / LAYOUT DRAWING FOR POWER TRANSFORMERS
VERIFIED:			
APPROVED:			

WILSON POWER SOLUTIONS
Wilson Power Solutions Ltd.
Westland Square, Leeds,
West Yorkshire LS11 5SS, United Kingdom
Tel:+44 (0) 113 271 7588
Fax:+44 (0) 113 277 5124
web: www.wilsonpowersolutions.co.uk email: info@wilsonpowersolutions.co.uk

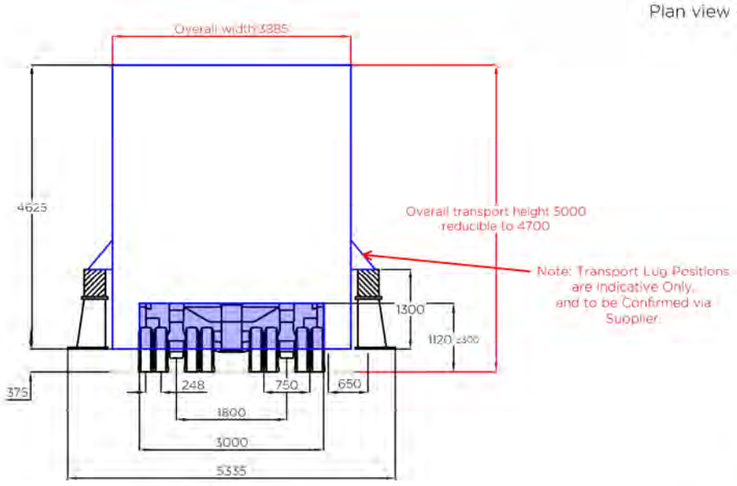
DRAWN BY: | DATE: | **DRG NO:**



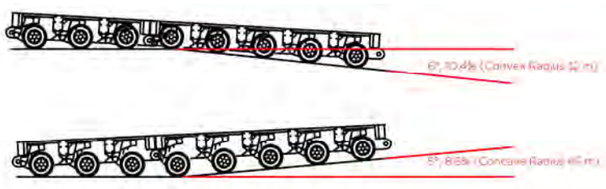
Elevation view - 16 axle girder frame trailer - concept model only
Indicative 160 te transformer
Scale 1:200



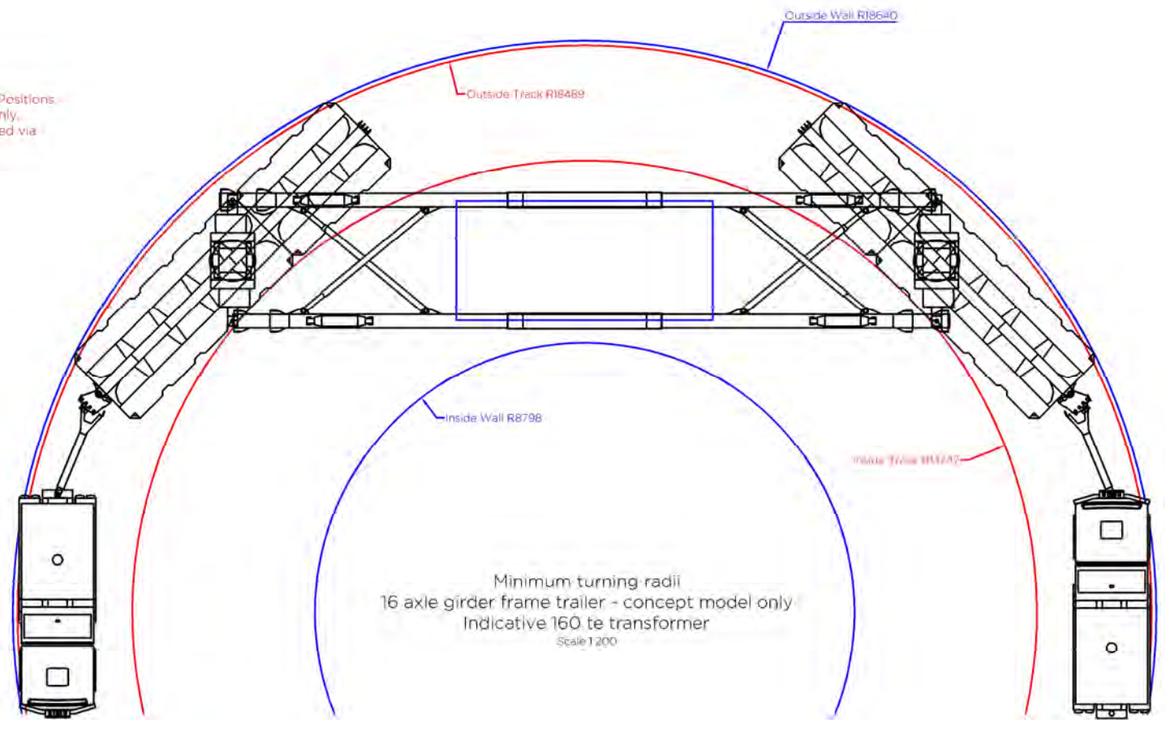
Plan view - 16 axle girder frame trailer - concept model only
Indicative 160 te transformer
Scale 1:200



Profile view
Indicative 160 te transformer
Scale 1:100
Final Carrying Arrangements, Including Final Overall Transport
Sizes to be Confirmed via Appointed Haulier.
Transformer Dimensions are:
8.35m (L), 3.885m (W), 4.625m (H)



Vertical curve negotiabilty information
based on manufacturers literature



Minimum turning radii
16 axle girder frame trailer - concept model only
Indicative 160 te transformer
Scale 1:200

Load table	
16 axle girder frame trailer	
Self weight of transformer	160.0 te
Self weight of trailer	86.8 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	246.8 te
Load per trailer	123.4 te
Load per axle line	15.43 te
Load per axle	7.71 te
Load per wheel (4 per axle)	1.93 te
Overall ground bearing pressure	3.92 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	18.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:

[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

[4] Indicative transformer shown only.

Rev.	Date	Amendments
1		
0	13.09.23	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon

Project: Beacon Fen

Title: Indicative transport configuration
Conceptual 160 te transformer carried within
16 axle girder frame trailer
showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn By:	Checked By:
As shown	MTO	PW

Dwg. no:	Sheet:	Rev:
23-1174.TC01	1 of 1	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC01 Beacon Fen 160 te transformer 16 axle girder small frame transport configuration. R0.dwg

Appendix 3

National Highways Aide Memoir

Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles by road when not complying with The Road Vehicles (Construction and Use) Regulations 1986 (commonly known as C & U)

Weight

Gross weight of vehicle carrying the load exceeding C & U limits up to 80,000kgs (78.74 tons)	2 clear days notice with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 80,000kgs up to 150,000kgs (147.63 tons)	2 clear days notice to Police and 5 clear days with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 150,000kgs (147.63 tons)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities

Width

C & U loads:- width exceeding 2.9m (9ft 6ins) up to 4.3m (14ft 1 ins) STGO loads:- width exceeding 3.0m (9ft 10ins) up to 5.0m (16ft 5ins)	2 clear days notice to Police
Width exceeding 5.0m (16ft 5ins) up to 6.1m (20ft)	Highways England form VR1** plus 2 clear days notice to Police
Width exceeding 6.1m (20ft)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities

Length

C&U loads:- length exceeding 18.65m (61ft 2in) up to 27.4m (90ft) - See C&U Regulations 1986 for definition of length STGO loads:- length exceeding 18.75m (61ft 6 ins) - See part 2, article 12 of the Road Vehicles (Authorisation of Special Types) (General) Order 2003 (Commonly known as STGO) for definition of length	2 clear days notice to Police
Overall length of a part 2 vehicle-combination exceeding 25.9m (85ft)	2 clear days notice to Police
Maximum length exceeding 30.0m (98ft 5ins) – see STGO Schedule 1, part 4, paragraph 25 for definition of maximum length NB For some very light loads, such as yacht masts, that are moved on conventional motor vehicles not exceeding 12 tonnes gross weight or trailers not exceeding 10 tonnes gross weight, a Highways England Special Order* will be required if the rigid length exceeds 27.4m (89ft 11ins)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities.

NOTE 1 "Clear days Notice" excludes Saturdays, Sundays or a public holiday in any part of Great Britain in relation to movements authorised by the Special Types General Order only, there being no such exclusion in Special Orders unless specifically stated.

NOTE 2 There is no statutory limit governing the overall height of a load, however, when applying for a Special Order or VR1 it should, wherever possible, not exceed 4.95m (16ft 3ins) in order that the maximum use can be made of the motorway and trunk road network.

NOTE 3 The notification requirements for mobile cranes can be found in the Road Vehicles (Authorisation of Special Types) (General) Order 2003, statutory instrument number 1998 (Part 2 Articles 10 to 18), which is available on the OPSI website: http://www.legislation.gov.uk/uksi/2003/1998/contents/made

NOTE 4 Application to move Special Types or Special Purpose vehicles, such as very large agricultural vehicles, that may not be fully permitted by the Construction & Use (C&U) Regulations or fall outside the scope of the Special Types General Order should be made to the Vehicle Certification Agency (VCA). Their website is at http://www.dft.gov.uk/vca/

*A Special Order application can be completed and submitted online at www.highways.gov.uk/esdal. The Special Order application form BE16 can also be downloaded and e-mailed to the address below. Approval is not automatic and is at the discretion of the Highways England abnormal loads team acting on behalf of the Secretary of State for Transport. To ensure that the necessary clearances can be obtained in good time from the Police, Highway and Bridge Authorities, you should request permission for the move by returning the completed form 10 weeks prior to the scheduled date of the move. In fact you cannot apply too early and we invite manufacturers or hauliers to contact us at pre tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

** A VR1 application can be completed and submitted online at www.highways.gov.uk/esdal. The form can also be downloaded but must not be e-mailed or faxed because the VR1 form is a legal document and so we must receive the original signed form. Approval is not automatic and is at the discretion of the Highways England abnormal loads team acting on behalf of The Secretary of State for Transport. To ensure that the necessary formalities can be completed in good time, you should request permission for the move by posting the completed form 2 weeks prior to the date of the scheduled move. Again, you cannot apply too early and we invite manufacturers or hauliers to contact us at pre tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

Forms and enquiries to:
Highways England
Abnormal loads team
9th Floor, The Cube
199 Wharfside Street
Birmingham B1 1RN

E-mail: abnormal.loads@highwaysengland.co.uk
Tel: 0300 470 3004

Appendix 4

Port Sutton Bridge information

Heavy Lift Procedure
Port Sutton Bridge

Controlled document to contractors

5/11/2023

General instructions and loading given in the document do not in any way negate the contractor from performing a site survey and all liabilities for the lift are with the contractor at all times, Port Sutton Bridge at no time accept liability for personnel of plant, all loadings must be verified with the port engineer, all plant must have current up to date certification.

Heavy Lift Procedure Port Sutton Bridge

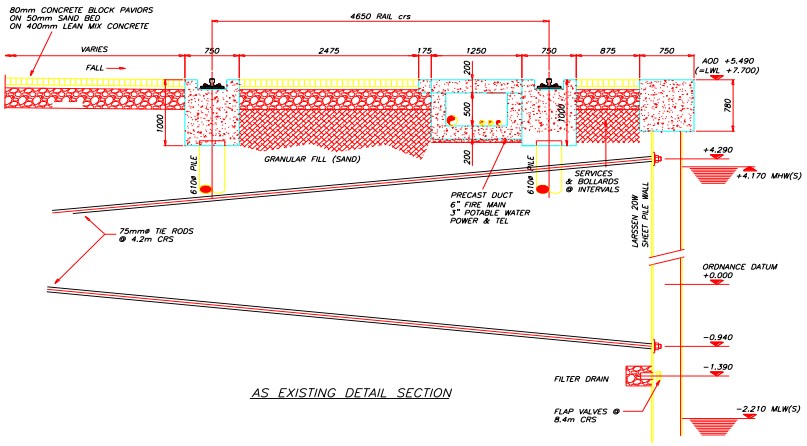
General Quay side description

Port Sutton Bridge quayside is constructed using a sheet steel piled wall. The quayside being backfilled with granular material (sandy/silt).
The sheet piled wall is itself supported by sheet steel anchor piles c15m to the rear and connected by solid steel tie rods at 4.2m centres.

Located behind the front of the quay (c2m) is a concrete running beam, running parallel with the front of the quayside (pile capping beam) and with a crane rail inset into it.
The beam is supported on 610mm diameter driven piles, set at 6.3m centres along the full length of the beam.
A 2nd crane running beam of similar construction runs parallel with the 1st. Crane rails being set at 4650mm centres.

The quayside is constructed generally of granular materials, topped by 400mm of 'lean mix concrete' 50mm of sand then 80mm blocks.

Heavy Lift Procedure Port Sutton Bridge



Prior to any heavy lift works being undertaken, Port Sutton Bridge reserve the right to instigate 'pre' and 'post' ground surveys. Surveys to be undertaken by approved surveyors of Port Sutton Bridge's choice. The cost of both surveys to be borne by the contractor. Any sinkage / damage identified must then be rectified. All costs again borne by the contractor, included a levy for loss of business, should this occur

The maximum permissible ground pressure loading to prevent damage / sinkage is set at $40kN/m^2$.
Ground mats must be sized and used to prevent any loadings exceeding this figure.

Any static loads of cargo must not exceed the figure of $40kN/m^2$.

Crane movements and lifts on the 'block paved' areas are again governed by 40kN/m^2

Crane lifts close to the quayside (ie loading/unloading of vessels) must, in addition, adhere to the following:

In order to minimise any effect on the sheet pile wall, the loads from any outriggers (in board) do not extend beyond the first crane rail without written permission from the engineering manager, loads must be transferred into the 2No crane beams that run parallel with the front of the Quay. To enable this to take place, suitably sized mats (c6.9m x c5.4m) must be positioned to span equally on 4No crane running beam piles. The mats must be positioned accurately with regard to the piles.

Under no circumstances should any outriggers extend beyond the landside crane rail.

The loads from the rear outriggers will be transferred into the quayside, and must therefore be sufficiently far enough back not to significantly increase the loading on the sheet pile wall. As there are no piled foundations, the loads will be transferred through the block paving. Pads for these outriggers must be designed to accommodate the maximum permissible ground pressure previously advised (40kN/m^2)

Great care must be taken not to cause damage to the precast concrete service duct running between the crane running beams.

Heavy Lift Procedure Port Sutton Bridge

Prior to any heavy lifts taking place:

- All lifts must be agreed with Port Sutton Bridge management.
- A formalised 'lifting plan' must be completed and available on site along with risk assessments and method statement, clearly indicating the procedure of lifting and the appointed person for the lifting process.
- Current insurance documents will be included in the information pack for Port Sutton Bridge.
- Contact details of the representatives' management will be included in the information pack.
- A drawing indication the crane position [lifting plan] and the access and egress plan for the load and personnel to the lift area.
- Named first aid personnel.

Compliance

Initiator	Revision	Approved

Heavy Lift Procedure Port Sutton Bridge

Issued to	Date	Signature
Health and Safety Officer		
Port Operations		
Contractors		

Appendix 5

Wynns short paper on Temporary Access Roads

General Guide to Temporary Roads

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

Introduction

This guide is designed to provide a general understanding or the parameters for temporary road access, and the steps involved. Whilst it is preferable to install permanent access for AIL deliveries, the use of temporary roads may be implemented.

The contents of this guide are to be used only as a reference; project details should always be confirmed by contract manager.

Temporary Road Options:

Key considerations must be given to the process of implementing temporary haul/access roads. As projects can vary, so will the requirements and parameters of the operation. Refer to Appendix A for images illustrating the process. Generally, there are two main methods of implementing temporary access road, these are outlined below.

1) Temporary roads can be installed by way of hardcore stone roads that can be removed after use, or by the installation of Grasscrete which can be visually less intrusive. Such roads would have to be designed considerate of required AIL ground loadings and more detailed design discussions to be undertaken.
2) An alternate temporary solution is the use of trackways that can be removed after use. Again, such roads would have to be designed considerate of required AIL ground loadings and more detailed design discussions to be undertaken.

Mitigating Risk:

When planning to implement temporary access roads, the recommendation is that there is a thorough geotechnical investigation of the ground proposed to be used and the detection of soft areas is critical. Geotechnical reports should also advise on the ability of the ground to support loading in varying meteorological conditions.

Mitigation should also be considered through the use of wide equipment, for example, the use of a 3-file trailer would distribute the load over a greater area than a 2-file trailer, therefore decreasing ground bearing pressure. Additionally, secondary overlaying of track way and the additional costs of such measures should be seen in the context of minimising the possibility of a catastrophic event. It is also recommended that the use of frame trailers rather than flat top trailers be implemented to cross suspect ground, reason being if a set of wheels sink, the load is protected from falling off through the girders of the frame trailer settling into the ground first. Subsequent recovery operations are then made far simpler.

Tractions Issues:

We are aware that a number of projects that have encountered difficulties with the delivery vehicles gaining adequate traction on the temporary haul roads, examples of areas that have caused such issues are outlined below:

1) Lack of weight on the 5th. Wheel of articulated units will most likely result in lack of grip on the tractor unit resulting, this can result in excess damage to road preparation from spinning drive wheels.
2) Grounding out on underside of low loader trailer beds due hogging in the road preparation.
3) Trailers, with heavy equipment, sliding off the side of the road due to adverse camber or slopes, especially during excessively wet conditions.
4) Self-drive modular trailers unable to get enough traction due to the lack of weight of the item being transported.
5) On certain sites it has been necessary to revert to the use of ballasted tractor units as a means of hauling equipment up or down the haul roads.

Regular maintenance of road surfaces is vital throughout the duration of the heavy hauling operations.

Additionally, where plating and packing is implemented to accommodate vehicle overrun, or to aid in spreading anticipated loads, it should be ensured that the plates/ramps used are securely fixed into place, as depending on the fixture of the plating, and the configuration being used, it is possible for the configuration to have greater traction on the plating than its fixture, causing plating to slide out from underneath the configuration which could injure persons in the immediate vicinity, damage to the surrounding environment, damage to the vehicle, or risk toppling the configuration.

Additional Reference Documents:

Where applicable, plating and packing may be required, refer to **Temporary Plating Summary Document** for details on how this should be carried out.

Where applicable the use of transhipment may be required, refer to **Transhipment Summary Document** for details on how this should be carried out.

Where the use of temporary bridging is required, refer to **Temporary Bridging Summary Document** for details on how this should be carried out.

Appendix A:

Reference Image 1
Example of a substation access road constructed of Grasscrete.

Reference Image 2
Example of a substation access road constructed of Grasscrete.

Reference Image 3
Example of an access road constructed using trackway across fields.

Reference Image 4
Example of an access road constructed using trackway across beach to enable beach landing of AIL.

Reference Image 5
Example of a failure due to collapse in surrounding groundworks using trackway across a field.

Reference Image 6
Example of a failure due to collapse in surrounding groundworks using trackway across a field.

From what is understood of this failure, after a very dry summer there had been very heavy rainfall for some weeks before and if this was indeed the case, it would have been a major contributing factor. Such an instance could have been mitigated with the appropriate geotechnical surveys and assessments.

Appendix 6

Selected Correspondence

[redacted]

From: [redacted]lincolnshire.gov.uk>
Sent: 09 January 2024 11:09
To: [redacted]
Cc: Ab_Loads; [redacted]
Subject: RE: AIL Access Study - Cable Roue for the Battery Energy Storage System Proposed New Site Beacon Fen
Attachments: FW: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Good Morning B[redacted]

Sincere apologies for not getting back to you sooner on this but emergency works following the storms we've experienced have had to take priority on this occasion.
With regards the proposed routes, I can comment as follows:
I believe route 1 would be ok
Routes 2,3,4,5 may need further assessment to ensure the load effects are no more onerous than the HB rating of the route
Route 6 may be suitable but some bridges may need assessing, I will have to look to see the routes used for both Spalding and Sutton bridge power stations. I understand that Lincs Police have advised against this route as attached?
Routes 7&8 may be unsuitable from Boston due to Haven Bridge, this was assessed in 2018 for Triton knoll, Wallace stone assessed this
Route 9 would appear ok I believe

Routes from A15 heavy load route to Anwick BESS

Proposed Route 1 (Route usually rated as 45HB)
Assume access to A15 from Immingham via M180 junction 4
Continue A15 south via Lincoln eastern bypass
Continue A15 Sleaford Road
Turn left A17
Continue A17 Sleaford Road to proposed site access approx. TF 10804 45279
Route Appears to be acceptable, Is this a new access from the A17?

Proposed Route 2 (route usually rated as 37.5HB) – May not be suitable.
As route 1 to A17
Turn left A153 East Road
Continue A153 to Anwick to first proposed site access approx. TF 13453 51088
Moor Farm Bridge 04/88/23 – 2.6m span brick arch, 37.5HB
Speedway Corner Bridge 04/89/41, 3.0m span precast box culvert, built after 1975 assumed to be good for 37.5HB
Anwick Road Railway Bridge 04/89/76, 8.63m span brick arch, Network Rail owned, no HB rating but good for 40t HA loading
Haverholme Bridge 14/09/18, 2.5m span, Brick arch extended with Box Culverts, 37.5HB
Flatter Culvert 15/00/31 – 1.05m brick arch, 1.0m cover
Anwick Bridge 15/20/67 – 2.4m span Precast box beam deck, strengthened in 1992, 37.5HB only
Black Drove Culvert 15/30/77 - 1.2m dia concrete pipe – not a lot of cover may need protection

Proposed Route 3 (as Route 2 route rated as 37.5HB) – May not be Suitable.
As route 1 to A153
Continue A153 to Anwick
Turn right B1395
Continue B1395 Wood Lane to second proposed site access approx. TF 15690 50322
Farroway Bridge 15/41/14 – 2.44m Brick arch, 200mm cover, 37.5HB
Praie Bridge 15/41/76 – 1.16m span corrugated pipe, cover not recorded
Car Dyke Culvert 15/51/09 – 0.75m span concrete pipe, 1.6m cover
Willow farm culvert 15/51/44 – 0.6m span plastic pipe, 0.9m cover

Proposed Route 4 (As Route 3 mostly rated as 37.5HB) May not be suitable
As route 1 to A153
Continue A153 to Anwick
Turn right B1395
Continue B1395 Wood Lane/High Street to third proposed site access approx. TF 18556 47228
Bottom Bridge 14/79/77 RC deck 3 span bridge – 3 spans at 5.65m, Strengthened 2000, No HB rating on record
Sycamore culvert 14/89/01 – 0.6m corrugated pipe, 1.37m cover
Pattingden House Culvert 14/88/26 – 1.2m corrugated pipe, 2.7m cover
Clay Culvert 14/87/49 – 1.2m corrugated pipe, 1.7m cover
Clay lane culvert 14/87/51 – 1.2m corrugated pipe, 2.6m cover

Proposed Route 5 (as route 4 mostly rated as 37.5 HB) May not be suitable
As route 1 A153 Anwick
Turn right B1395
Continue B1395 Wood Lane/High Street
Turn left Littleworth Drive
Turn right Heckington Road to proposed site access approx. TF 13401 47042
Harriets Bridge 14/86/57 – 4.96m span Brick arch/ RC saddle No HB rating on record.
Glebe Farm Bridge 14/86/31 – 1.83m brick arch 0.76m cover, 45HB
White House Farm culvert 14/75/78 – 1.85m span corrugated pipe, 1.3m cover
Fenside culvert 14/65/75 – 0.6m concrete pipe, 0.92m cover
Winward Culvert 14/65/64 – 0.75m concrete pipe, 0.6m cover
Beck Culvert 14/45/11B - 0.525m concrete pipe, 0.95m cover
Washdike Bridge 14/45/11A - 4.3m Brick Arch, no HB rating on record
Fen Culvert 14/36/49 – 1.0m concrete pipe, cover not recorded
Ewerby fen Culvert 14/37/40 – 0.92m brick arch, 0.23 cover
Ewerby Fen Culvert 14/37/33 – 0.61m brick arch, 0.72m cover

Route from Sutton Bridge (Route rated as 45units HB) May be suitable, some bridges may need assessment
Proposed Route 6
Exit Sutton Bridge A17
Continue A17 Washway Road
Continue A17 Sleaford Road to proposed site access approx. TF 18708 44465
Swineshead Bridge 24/12/78 - 15.4m precast box beam, pretty sure this is 45HB, will need to track down the assessment file
Hammond Beck Bridge 24/21/46 – 11.63 Precast box beam, As above, fairly sure this is 45HB
Bypass Culvert (3) 23/56/81 – 2.0m concrete pipe, 3.0m cover
Bypass Culvert 9(0 23/65/94 – 1.2m corrugated pipe, 3.9m cover
Bypass Culvert (12A) 23/84/13A – 1.5m corrugated pipe, 3.5m cover
BridgeHouse Bridge 33/03/93 – 4.57m RC deck, 45HB
Fosdyke Bridge 33/12/82A – 3 span composite deck – 19.2m, 33.6m, 19.2m, 45HB
Three Bridges 33/20/57 – 2.45m corrugated arch, 0.53m cover, 45HB
Saracens Head Bridge 32/37/92 – 2.1m Box culvert, cover not recorded, 45HB
Penny Hill Subway 32/65/05 – 3.8m box culvert, 0.1m cover, 45HB
Fleet River drain Culvert 42/13/64 – 1.5m concrete pipe, 1.5m cover
Railway Lane Subway 42/71/20A - 5.0m box culvert, 45HB

Routes from Port of Boston – I believe unsuitable due to Haven Bridge
Proposed Route 7
Exit Port of Boston via St Johns Road
Turn left A16 John Adams Way crossing River Witham Haven Bridge
Turn right A52 Sleaford Road
Turn right A1121 Boardsides
Turn right A17
Continue A17 Sleaford Road to proposed site access approx. TF 16867 44022
Haven Bridge 34/23/77 – 27.75m span RC deck, RC portals, 45HB. Has been assessed in 2018 by Wallace Stone for Triton knoll – deemed unsuitable.

Proposed Route 8– I believe unsuitable due to Haven Bridge
Exit Port of Boston via St Johns Road
Turn left A16 John Adams Way crossing River Witham Haven Bridge
Continue A16 south to Sutterton roundabout (crossing Spalding Road level crossing)

Turn right A17 north
Join route above from Sutton Bridge
Haven Bridge 34/23/77 – 27.75m span RC deck, RC portals, 45HB. Has been assessed in 2018 by Wallace Stone for Triton knoll – deemed unsuitable.

Routes from A1/A46/A17 at Newark Route may be suitable
Proposed Route 9 (Route rated as 45HB)
Assume from A1 southbound at Newark from Leeds (or Goole)
Turn right A17 towards Sleaford and join route 1

Ian Booth CEng MICE
Principal Engineer Structures
Technical Services Partnership, Highways
Lincolnshire County Council
County Offices
Newland
Lincoln LN1 1YL

Impending Annual Leave dates:

Phone: 01522 [redacted]
Mobile: [redacted]
Email: [redacted] lincolnshire.gov.uk
Teams: Chat with me
Website: www.lincolnshire.gov.uk

From: [redacted]
Sent: Thursday, January 4, 2024 4:20 PM
To: [redacted]@lincolnshire.gov.uk>
Cc: Ab_Loads <Ab_Loads@lincolnshire.gov.uk>
Subject: RE: AIL Access Study - Cable Roue for the Battery Energy Storage System Proposed New Site Beacon Fen

Good afternoon [redacted]

I've not managed to get a hold of you over the phone, just wondering if there was an update with a structures list for the routes for the transformer and cable drum deliveries.

[redacted]

From: rsgbrb <rsgbrb@jacobs.com>
Sent: 29 September 2023 13:05
To: [redacted]
Subject: RE: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Hi [redacted]

Thanks for your enquiry.

I've looked at all the routes, and, as you thought, none of them affect any HRE structures.

So no problems for me.

Regards
[redacted]

[redacted]
Abnormal Loads Officer (on behalf of **National Highways Historical Railways Estate**)
Jacobs
DDI: [redacted]

If your mail concerns abnormal load movements, please reply to RSGBRB@jacobs.com

---

From: [redacted]
Sent: 28 September 2023 14:47
To: rsgbrb <rsgbrb@jacobs.com>; [redacted]
Cc: [redacted]
Subject: [EXTERNAL] FW: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Good afternoon all,

I wanted to run this by you, I don't think it affects any of your structures, however please see attached,

Regards,

[redacted]
Transport Planner

Tel: + 44 [redacted]
Mobile: + 44 [redacted]
[redacted]

[redacted]

From: [redacted]networkrail.co.uk> on behalf of Abnormal Loads Enquiries <AbnormalLoadsEnquiries@networkrail.co.uk>
Sent: 22 December 2023 11:01
To: [redacted]
Subject: RE: AB-47744/SM FW: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Importance: High

OFFICIAL

Hi[redacted]

We have no objections to this particular movement. Please note this only applies to this route enquiry.

We check the load carrying capacity of Network Rail owned road over rail bridges affected. We do not check anything else, including:

* Load carrying capacity of level crossings
* Clearance to bridge parapets
* Clearance under a rail bridge
* Clearance to overhead wires at level crossings

We regularly inspect and assess our bridges and occasionally we have to revise the permitted load carrying capacity, as such I suggest that you contact us again closer to the movement to ensure that our bridges are still adequate. Once the movement dates are set, you will still need to submit an abnormal load notification for the move

Many Thanks

[redacted]
Abnormal Loads Clerk
Abnormal Loads Help Desk: [redacted]
Abnormal Loads Team – Part of the National Records Group

From: [redacted]
Sent: 05 December 2023 15:22

[redacted]

From: [redacted]
[redacted] 29 September 2023 08:12
To: [redacted]
Cc: [redacted]
Subject: RE: Request for Agreement in Principle - Low Carbon Beacon Fen

Good Morning [redacted]

With regards to the below, Boston would be our preferred port of entry, depending on what comes back following your investigations as to the current suitability. Sutton Bridge would be permitted if Boston was ruled out but we would need to see confirmation of this.
Immingham was only permitted previously when Sutton Bridge was out of action. As it has now been re-opened we would not allow Immingham for future loads to this area.

With regards to the piece being manufactured in Leeds we would expect the load to be shipped from Goole and round to Boston/Sutton Bridge.

As there are a few unknowns at the stage, it would be useful to get some further information following your investigations before a formal AIP is issued, but hope that this confirms our initial position.

Kind Regards

[redacted] Strategy and Customer Manager
Operations Customer Services Division - Abnormal Indivisible Loads Team
National Highways | The Cube | 199 Wharfside Street | Birmingham | B1 1RN
Tel: [redacted] **Mobile**: +44 ([redacted]
Abnormal Loads Team: 0300 470 3004
Web: [redacted]

I work on Wednesdays, Thursdays & Fridays. On other weekdays, please contact abnormal.loads@highwaysengland.co.uk

From: [redacted]
Sent: 28 September 2023 13:32
To: [redacted]
Cc: [redacted]
Subject: Request for Agreement in Principle - Low Carbon Beacon Fen

Hi [redacted],

I am writing with reference to an early development stage project we are working on for Low Carbon, which may involve the delivery of transformers for a new Battery Energy Storage System (BESS) site called Beacon Fen, north east of Sleaford, Lincolnshire. To inform this we are investigating Abnormal Indivisible Load delivery routes to several proposed site access locations. It is advised that the project will require a

new substation Transformers of up to 160te nett transport weight. We are considering access requirements from the Ports of Immingham as used for the recent deliveries to the Viking Link Converter Station when the port of Sutton Bridge was temporarily closed, Sutton Bridge and Boston. Based on previous work for Triton Knoll Substation we expect that there will be problems with routing over Haven Bridge from Boston for heavy transformers although we know that STGO loads have used Boston and are investigating the current status for the proposed loads.

Also, there is a possibility that the new transformer could be manufactured in Leeds, although this is only 1 of several transformer manufacturers being considered, If this was the case would National Highways be willing to permit a direct road route to be used, subject to availability. We would expect this would be out of Leeds via the M62 to the M18 and then south on A1 to Newark and down A17 to Sleaford, again subject to confirmation.

Destination: Beacon Fen BESS
Address/Location: Approximate OS Grid References: TF 12375 49454
Number of Transformers to be delivered: To be confirmed
Nett weight of transformers to be delivered: up to 160te (approx. 246.8te 16 axle Girder frame trailer with 10% contingency).
Approximate Date of Deliveries: To be confirmed.

To date we have not managed to secure confirmation of the structural status of the possible routes detailed in the links below and are waiting for information which will inform this. Whilst Boston is the closest port, as stated, access would require routing over Haven Bridge and whilst this has been done before on flattop trailers for STGO, it has not been for weights as large as this that we are aware. Therefore, we may need to consider access from Immingham and Sutton Bridge, even if they are further.

In terms of an AIP in line with the water preferred policy I would be grateful if you could confirm National Highways preference, subject to a route being available.

I trust that this is acceptable and look forward to hearing from you shortly. If you require any more information, please do not hesitate to contact me.

Happy to discuss as always.

Kind Regards

[redacted]
Transport Planner

Tel: + 44 [redacted]
Mobile: + 44 [redacted]
Email: [redacted]

Shaftesbury House, 2 High Street, Eccleshall, Staffordshire, ST21 6BZ

Registered in England & Wales No. 3162297

[redacted]

From: [redacted]
Sent: 04 October 2023 07:56
To: [redacted]e
Cc: [redacted]
Subject: RE: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Good Morning [redacted]

The proposed routes AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen do not affect any of the Canal & River Trust's bridges.

Kind Regards

[redacted]wn
Technical Administrator
T [redacted]
E [redacted]

Help #KeepCanalsAlive **join our campaign. Find out more** **www.canalrivertrust.org.uk/keepcanalsalive**

Canal & River Trust
1st Floor, 21 The Calls, Leeds, LS2 7EH

Canal & River Trust
Making life better by water

From: [redacted]
Sent: Thursday, September 28, 2023 2:47 PM
To: rsgbrb <rsgbrb@jacobs.com>; Andy Featherby [redacted]
Cc: [redacted]
Subject: FW: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

[redacted]

From: Abnormal Loads <AbnormalLoads@lincs.police.uk>
Sent: 16 January 2024 10:14
To: [redacted]
Cc: Abnormal Loads
Subject: RE: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Hi [redacted]

Thanks for clarifying. If you are not actually coming across the bridge then I don't foresee an issue.

Kind Regards
Jules

Abnormal Loads Office

[redacted]
Out of hours (answering machine) 01522 55 (8125)
AbnormalLoads@lincs.police.uk
Lincolnshire Police Headquarters, Deepdale Lane, Nettleham LN2 2LT
www.lincs.police.uk

@LincsPpolice Lincolnshire Police @LincsPolice nextdoor.co.uk

WORKING *TOGETHER* TO MAKE LINCOLNSHIRE THE *SAFEST* PLACE TO LIVE, WORK

From: [redacted]
Sent: 15 January 2024 12:27
To: Abnormal Loads <AbnormalLoads@lincs.police.uk>
Subject: RE: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Thanks Jules,

To advise we are not actually coming over the bridge we are using the Port of Sutton Bridge as used for deliveries for Triton Knoll, Viking Link Converter Substation and to Walpole Substation etc, hope this helps.

Please let me know if you require any other information.

Regards,

[redacted]
Transport Planner

[redacted]

From: [redacted]Notts.Police.uk> on behalf of Abnormal Loads <abloads@Notts.Police.uk>
Sent: 05 October 2023 07:27
To: [redacted]
Subject: RE: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

[redacted]

I would expect this to be Police escort but would speak to my colleagues in South Yorks and Lincs so one can do a continuous run without Notts getting physically involved.

[redacted]
Abnormal Loads Officer
Nottinghamshire Police
Force Headquarters, Sherwood Lodge,
Arnold, Nottingham, NG5 8PP

Tel: #[redacted]
abloads@notts.police.uk

www.nottinghamshire.police.uk

From: [redacted]
Sent: 28 September 2023 13:24
To: ab_loads@lincolnshire.gov.uk
Cc: AbnormalLoads@lincs.police.uk; abnormalloads@viaem.co.uk; Abnormal Loads <abloads@Notts.Police.uk>; area7abnormalloads@nationalhighways.co.uk
Subject: AIL Access Study - Battery Energy Storage System Proposed New Site Beacon Fen

Good morning all,

Please see attached, I look forward to hearing from you.

Regards

Appendix B Wynns Storage Site Abnormal Indivisible Load (AIL) Report - Beacon Fen Cable Drums (June 2024)

Abnormal Indivisible Load Access Report – Beacon Fen Cable Drums

Prepared for Low Carbon

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

NAME		SIGNATURE	DATE
Prepared by:	Brad Dyke	[redacted]	03.06.24
Checked by:	Andy Pearce		11.06.24
Approved by:	Andy Pearce		12.06.24

DISCLAIMER

Any conclusions, calculations or findings presented here should not be changed or altered.

COPYRIGHT AND NON-DISCLOSURE NOTICE

THIRD PARTY DISCLAIMER

DOCUMENT REVISIONS

Issue	Date	Details
0	12.06.24	Draft Report
1		
2		

Contents

Executive Summary

The contents of this report consider the land transport feasibility investigations into achieving access for cable drums to the proposed laydown areas at various locations between the proposed Low Carbon substation BESS site and the grid connection at the existing National Grid Bicker Fen Substation.

Despite the final size of the cable reels and associated transport configurations to be confirmed these are expected to be transported within STGO Category 2 being between 50te and 80te gross weight. These STGO Category 2 loads are expected to be delivered by road from the UK port of delivery or manufacturing facility and this report therefore focuses on the potential routes from the A17, which is an established heavy load route, to the potential laydown areas.

Negotiability of five of the six proposed routes is considered feasible for a 4 axle modular reeling trailer, subject to potential requirement for street furniture removal, traffic management, and confirmation from Triton Knoll regarding the structural capacity of the access roads required use.

The route to the proposed sixth cable reel laydown area is not currently considered negotiable. Swept Path Assessments (SPA) are required to confirm negotiability with the possibility of oversail and overrun into 3rd party land, road improvement and widening, and tree pruning.

Lincolnshire County Council (LCC) have formally responded to the proposed routes and due to the axle weight proposed they do not foresee any issues with the routes at the weight advised for the cable drums. It should be noted that the enquiry that was sent to LCC was for the original assumed worst case scenario proposed weight of 60te cable drums which has since been reduced to 30te, therefore remains below the 14.12te per axle weight that has been considered by LCC.

The status of routes can change depending on numerous factors including the most recent Principal Inspections, condition assessments, new bridge assessment codes and also how AIL notifications are administered. Therefore, whilst the route may be cleared at this time caution is still advised that the route will need to be reconfirmed prior to use.

Swept Path Assessments (SPA) were carried out using OS Master Map data along Carterplot Road following the turn off the A17 (laydown area point 3) to the end of Great Hale Drove (laydown area point 4). Further SPAs were also carried out along the Triton Knoll Substation access road to the more recently proposed lay down area 5 following the construction of either a temporary or more permanent haul road between the access road to Timms's Drove.

The exact requirements for any street furniture removal will depend on the trailer selected for movement and it will be necessary for the appointed haulage contractor to confirm street furniture removal requirements prior to delivery.

This report is intended to be a summary of the Abnormal Indivisible Load (AIL) route access at the current time and is not a guarantee that the route will be cleared in the future.

1. Introduction

1.1. The contents of this report include land transport feasibility investigations into achieving access for cable drum components to the proposed laydown areas between the Beacon Fen BESS site and the grid connection at the existing National Grid Bicker Fen Substation.

1.2. No specific work has been undertaken in terms of onsite access requirements as these investigations were to the laydown area only.

1.3. This document identifies preferred routes but does not constitute a formal agreement for movement. Any future movement for the cable drums within Special Types General Order (STGO) Regulations will require the appointed haulage contractor to notify the relevant statutory authorities in the statutory manner. The legislative requirements for movement of the cable drums are discussed in detail within Section 2.

1.4. No specific consideration has been given to an onsite cable carrying vehicle that is often deployed during onsite movement of cables from storage to installation point. Wynns are aware from other similar projects that on occasions the site installation vehicles will also need to be road routed to the site as it is not built up on site. This vehicle could, based on previous experience, also be an AIL due to its excessive width (>3.0m).

1.5. This investigation is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis.

2. National Highways Agreement in Principle and Legislative Requirements

2.1. *Definition of Abnormal Indivisible Load (AIL)*

2.1.1. The Department for Transport, of which National Highways (NH), formally the Highways Agency (HA), is a government-owned company with responsibility for managing the core road network in England, state that the strict definition of an AIL refers to a load which cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of carriage on roads and which, owing to its dimensions or weight, cannot be carried on a vehicle which complies in all respects with the 'standard vehicle regulations' these are:

- The Road Vehicles (Construction and Use) Regulations 1986 (as amended)
- The Road Vehicles (Authorised Weight) Regulations 1998 (as amended)
- The Road Vehicles Lighting Regulations 1989 (as amended).

2.1.2. All equipment should be stripped of their ancillaries before they are transported. NH will only accept that further dismantling is not required where it cannot be economically achieved due to the requirement for its construction within specific factory environments or where extremely high tolerances have to be maintained.

2.2. *Legislation*

2.2.1. Conventional heavy goods vehicles have an operating weight limit of 44 tonnes. The category known as abnormal indivisible loads (AIL) covers those vehicles where the gross weight exceeds 44 tonnes. An Abnormal Load is defined as that which cannot be carried under Construction and Use (C&U) Regulations. Items which, when loaded on the load carrying vehicle exceed the weights encompassed by the C&U Regulations, but do not exceed Special Order Permission Limits, are governed by Special Types General Order

(STGO) categories 1 to 3 depending on size. National Highways have issued an aide memoir that explains notification requirements in more detail. This document has been attached as Appendix I.

2.2.2. Where dimensions exceed 6.1m in width, 30m in rigid length or 150 tonnes gross weight, Special Order from National Highways (NH) is required.

2.2.3. Special Order category AIL movements are authorised by the NH Abnormal Loads team, based in Birmingham. This is further discussed in section 3.3.

2.2.4. STGO loads orders grant consent for loads that satisfy the following criteria:

Category 1 weight	44 – 50 tonnes and 11.5te axle weights
Category 2 weight	50 – 80 tonnes and 12.5te axle weights
Category 3 weight	80 – 150 tonnes and 16.5te axle weights
Width Restriction	3.0m (C&U) –5m (VR1 Required)– 6.1m (SO required)
Length Restriction	18.65m (C&U) – 30.0m (SO required)

2.2.5. The 30te cable reels considered within these investigations are expected to be transported at STGO Category 2. Such loads are required to provide two clear working weekdays notice to be given to the Police forces on the proposed route and are required to provide 5 clear working weekdays notice together with an indemnity to the highway and bridge authorities on the route.

2.2.6. As the cable reel loads are expected to be delivered via STGO Category 2 as the gross load of the loaded trailer will be below 150te gross, the move will not require a Special Order or be required to be transported via the nearest possible port.

3. Abnormal Indivisible Load Movements - Highways Act 1980

3.1. *Temporary Traffic Orders and Section 59 agreement (Highways Act 1980)*

3.1.1. Temporary Traffic Regulation Order (TTRO) are used where the local highway authority considers that works on the highway, or some large deliveries, require a road to be closed temporarily to general through traffic. Such closures require a TTRO issued by the Highway Authority. It is possible that the council will require such an order for the travel of the loads to site from the more major roads as the whole road width will be taken up by the loads for much of the final approaches to site.

3.1.2. In addition to any TTRO the County Council may wish to ensure that a Section 59 agreement (Highways Act 1980) has been entered into in order to enable AIL access to be agreed. Such agreements are not always, in our experience, asked for as the matter of damage to the carriageway is usually covered by the appointed haulage contractor's indemnity.

3.2. *Recovery of Excessive Maintenance Costs - Section 59 Agreements*

3.2.1. Section 59 of the Highways Act 1980 allows the highways authority to raise a charge against a user of the highway to cover repair works necessitated by excessively heavy or unusual loads being carried on the road by that user. This provision is typically used where the passage of heavy lorries to and from industrial premises or building sites causes excessive damage to the road, requiring expensive remedial works by the Council. Under Section 59, the Council may charge on such costs to the organisation responsible for the

damage, the amount payable being calculated as the excess cost of repair compared to normal maintenance costs for the road. Rather than wait to be charged such excessive repair costs, the Council and the third party may enter into an agreement under Section 59 whereby the third party accepts liability and makes payment of an agreed sum to the Council to cover the excessive repair costs.

3.3. *The Removal and Replacement of Street Furniture*

3.3.1. Where the removal and replacement of street furniture is required for the mobilisation of out of gauge vehicles into existing sites then these are generally managed under Temporary Traffic Regulation Order (TTRO) and Street Works Legislation. These are normally, but not necessarily, organised by the haulage contractor. These requirements are generally to ensure that the supervisors and operatives are competent and that the works will be carried out to a prescribe standard with the appropriate traffic management in place. In some circumstance the Highway Authority or LA will insist that their preferred contractors will carry out such work.

4. Transport Configurations – Cable Reels

4.1. Based on the information available to date, the cable drums considered within this report are assumed to be 30te nett:

4.2. Drawing no. 23-1174.TC04, 23-1174.TC05 and 23-1174.TC06 (attached in appendix 2 of this report) details two indicative 4-axle modular reeling tailers with slight differing overall widths and a 4-axle low loader, which would be expected to be that utilised to transport 30te cable drums.

4.3. There are a number of haulage contractors currently operating trailers (of sufficient capacity for the proposed 30te cable reels) in the UK with equipment able to carry a cable drum of this weight.

5. Structural Route Information

5.1. A selection of various routes were considered for the proposed laydown areas and are as discussed below.

5.2. A structural route enquiry was sent out to Lincolnshire County Council (LCC) for comment with the original assumed weight of 60te cable drums, which has since been reduced to 30te. A formal response from LCC was received 13.03.24 for the cable drum routes under the assumption of the original weight of 60te and LCC have no major concerns.

5.3. The routes proposed have also been cleared by the following authorities:

- Network Rail
- National Highways Historic Railways Estate
- Canal & Rivers Trust

5.4. *Proposed Route for Laydown Area 1 & 2*

- Assume access to Sleaford on A17 from the West or North
- Turn left A153 East Road
- Continue A153 to Anwick travelling South from first to third proposed site access approx. OS Grid Reference TF 13401 47042

5.4.1. The routes to the proposed lay down areas 1 and 2 would be accessed via the temporary haul road that is to be constructed for the initial transformer delivery as discussed in the first report (dated 17.01.24) as they are both situated in the vicinity of the BESS site location and are therefore not shown again within this report. No major concerns are expected with access for cable drums to these areas.

5.5. *Proposed Route for Laydown Area 3*

- Assume access to Sleaford on A17 from west
- Turn south into Carterplot Road at approx. OS Grid Reference TF 17154 44088
- Continue Carterplot Road to the proposed site access approx. OS Grid Reference TF 17125 44067

5.5.1. Access to the proposed 3rd laydown area, is negotiable although access into the field will need to be developed to accommodate AIL vehicles. LCC confirmed there are no major structural issues along this route. There is a culvert with deep cover as shown in photographs 6 and 7.

5.6. *Proposed Route for Laydown Area 4*

- Assume access to Sleaford on A17 from west
- Turn south into Carterplot Road at approx. OS Grid Reference TF 17154 44088
- Turn left Great Hale Drove to proposed site access approx. OS Grid Reference TF 18395 42209.

5.6.1. LCC have confirmed there are no major structural issues along this route. There is a culvert with deep cover as shown in photograph 14.

5.7. *Proposed Route for Laydown Area 5*

- Assume access to Sleaford on A17 from west
- Turn right into Triton Knoll Onshore Substation OS Grid Reference TF 22146 42296
- Continue Triton Knoll Access Road to approx. OS Grid Reference TF 20054 41880
- Travel south on haul road that is to be constructed to link with Timm's Drove
- Continue Timm's Drove to the proposed site access approx. OS Grid Reference TF 20038 41122

5.7.1. Structural confirmation for the proposed loads would be required from RWE as the owner of the Triton Knoll Substation access road as to the capacity of the culverts that would be required to be crossed, however no issues are expected as much heavier weights have crossed these structures previously for the delivery of transformers to the substation. The haul road linking the Triton Knoll access road to Timm's Drove will need to be constructed considerate of AIL vehicles.

5.8. *Alternative Proposed Route for Laydown Area 5*

- Assume access to Sleaford on A17 from west
- Turn left via Hammond Beck towards Timm's Drove
- Continue Timm's Drove to the proposed site access approx. OS Grid Reference TF 20038 41122

5.8.1. The alternative route to laydown area 5 via Hammond Beck avoiding the use of the Triton Knoll access road is not considered negotiable due to Bar Bridge as shown in photograph 45 and the considerable road narrowing on Timm's Drove.

5.9. *Proposed Route for Laydown Area 6*

- Assume access to Swineshead on A17 from west or north
- Turn A52 Donnington Road
- Turn right Monument Road
- Bear right Church Road
- Turn left Back Lane
- Continue on North Drove to proposed site access approx. OS Grid Reference TF 20575 39740

5.9.1. The route to laydown area 6 along North Drove is as listed above. LCC have confirmed there are no issues at the proposed weight.

5.10. *Alternative Proposed Route for Laydown Area 6*

- Assume access to Swineshead on A17 from west or north
- Turn A52 Donnington Road
- Turn right Fendike Lane
- Continue on Back Lane
- Continue on North Drove to proposed site access approx. OS Grid Reference TF 20575 39740

5.10.1. As this alternative route was surveyed on the day no formal response has been received from LCC regarding the structural suitability although no structures appear via NH ESDAL routing system, however this would need to be confirmed.

6. Route Negotiability Information

6.1.1. It has been assumed that the road route via the Motorway and Trunk Road network to the general area, will be accessible. We have therefore focused highway access upon the final section of the routes from the A17, as detailed in Section 5. Routes to the proposed laydown area 1 and 2 have previously been discussed in the reports issued 17.01.24 and 27.02.24.

6.2. *Route to Laydown Area 3*

6.2.1. The route continues from proposed transformer haul road along the A17 to Carterplot Road and is discussed in the following notes and photographs.

Photograph 1
Vehicle travels towards the camera, entrance to Carterplot Road from the A17, negotiable from either direction.

Photograph 2
View of A17 coming from Immingham. Load approaches camera and turns right into Carterplot Road. Negotiable.

Photograph 3
Carterplot Road/A17 junction. Showing negotiability of turn from either direction

Photograph 4
Carterplot Road/A17 junction. Loads from Boston or Sutton Bridge would approach camera. Loads from Immingham or other UK ports would approach from behind camera. Negotiable in both directions.

Photograph 5
Vehicle travelling away from camera Carterplot Road narrows considerably to approximately 3.65m wide. Negotiable with full occupation of the carriageway.

Photograph 6
End of Carterplot Road, crossing a small culvert before turning crossing over Great Hale Drove.

Photograph 7
View of culvert with approximately 1m of cover over small drain, cleared by LCC.

Photograph 8
Vehicle travelling away from the camera to the field for the proposed 3rd laydown area, turn into field is negotiable although access will need to be developed to accommodate AIL vehicles.

6.3. *Route to Laydown Area 4*

6.3.1. The route continues from access to Laydown Area 3 discussed in Section 6.2 and is discussed in the following notes and photographs.

Photograph 9
Vehicle travelling away from the camera, left turn from Carterplot onto Great Hale Drove. Remedial works will be required to enable overrun and oversail as shown in drawing 23-1174.SPA04 Sheet 7

Photograph 10
Reverse view of left turn onto Great Hale Drove. Vehicle travels towards the camera, drawing 23-1174.SPA04 Sheet 7. Remedial works will be required to enable overrun and oversail.

Photograph 11
Vehicle travels away from the camera, tree/hedge pruning required on the south side of the road to enable cable drum oversail. Drawing 23-1174.SPA04 Sheet 8 refers.

Photograph 12
Reverse view, vehicle travelling towards the camera, caution, grass bank to the north side of the road.

Photograph 13
Small culvert with deep cover, cleared by LCC.

Photograph 14
Vehicle travelling away from the camera, Great Hale Drove 3.4m wide. Caution telegraph poles approximately 1.3m away from the roadside.

Photograph 15
Vehicle travelling away from the camera. Right bend, caution low wires and clarification for highway boundaries as vehicle may encroach onto 3rd party land. Shown in drawing 23-1174.SPA04 Sheet 9.

Photograph 16
Reverse view of bend in the road, vehicle travels towards the camera, possible tree pruning may be required depending on the time of year. Shown in drawing 23-1174.SPA04 Sheet 9.

Photograph 17
Vehicle travelling away from the camera, Great Hale Drove No.2 level crossing ahead.

Photograph 18
Standard Network Rail crossing procedures for AILs required. Sign prior to level crossing advising permission would be required to cross and to travel at 5mph or less for the vehicle proposed to transport the cable drums.

Photograph 19
Vehicle travelling away from the camera. Great Hale Drove No.2 level crossing, approximately 6.4m wide. Possible tree pruning required. Drawing 23-1174.SPA04 Sheet 10 refers. – cleared by Network Rail and LCC.

6.3.1. The Network Rail Standard Caution for crossing a level crossing with and AIL is detailed below at for information.

"Before the trailer crosses any automatic half-barrier railway level crossing or any other railway level crossing, equipped with a telephone, the driver of the towing vehicle shall telephone the railway signaller of the intention to cross the railway with the trailer. The trailer and the vehicles used with it shall not cross except with the permission of and in accordance with the instructions of the railway signaller. After crossing the driver shall again telephone the signaller to inform him that the crossing is clear."

Photograph 20
Vehicle travelling away from the camera. Road width approximately 3.3m, road sign may need removal depending on the final width of cable drum.

Photograph 21
Vehicle travelling away from the camera, left bend. As shown in drawing 23-1174.SPA04 Sheet 13 overrun is required here, and remedial works will be necessary.

Photograph 22
Culvert below left bend in the road however no issues are expected.

Photograph 23
Reverse view of left bend, vehicle travels towards the camera. Drawing 23-1174.SPA04 refers.

Photograph 24
Vehicle travelling away from the camera. Caution due to high voltage wires close to roadside. Oversail of the final approach to the laydown area is shown in drawing 23-1174.SPA04 Sheets 14-22.

Photograph 25
Vehicle travelling away from the camera. Road elevated from grass verges either side. Oversail shown in drawing 23-1174.SPA04 Sheets 14-22.

Photograph 26
Vehicle travelling away from the camera. High voltage wires close to roadside with grass verge either side. Caution with power lines required. Oversail shown in drawing 23-1174.SPA04 Sheets 14-22.

Photograph 27
Approximate 4th Cable laydown area ahead. Caution with power lines required. Oversail shown in drawing 23-1174.SPA04 Sheets 14-22.

6.4. *Route to Laydown Area 5*

6.4.1. The route assumes that AILs have continued on the A17 south from the locations discussed previously to Swineshead.

Photograph 28
Swineshead level crossing with Swineshead Road Bridge immediately to the north. Cleared by LCC. Standard Network Rail cautions apply as noted above in Section 6.3.1

Photograph 29
Vehicle travelling towards the camera. Right turn into entrance to Triton Knoll Substation Access Road. Drawing Number 23-1174.SPA03 Sheet 1 refers. Negotiable.

Photograph 30

Vehicle travelling away from the camera along permanent constructed haul road to Triton Knoll. Note: the following access road would need to be cleared and confirmed by RWE as operators and owners of the Triton Knoll Substation. As well as technical requirements on loadings there will be commercial agreement required to use the private road.

Photograph 31

Vehicle travelling away from the camera. Road bends to the right and then left. Negotiable, Drawing Number 23-1174.SPA03 Sheet 4 refers. Negotiable.

Photograph 32

Vehicle travelling away from the camera, left bend over culvert. No issues expected with culvert due to heavier weight crossing in the past, although would need to be confirmed with Triton Knoll. Drawing Number 23-1174.SPA03 Sheet 6 refers.

Photograph 33
Vehicle travelling towards the camera. Reverse view of left bend. Negotiable although caution required with fencing depending on final width of cable drum.

Photograph 34
Vehicle travelling away from the camera, negotiable.

Photograph 35
Vehicle travelling away from the camera, road bends to the left over another culvert, negotiable.

Photograph 36

View of Culvert. Structural status to be confirmed by RWE Triton Knoll but no issues expected based on transformers having used this route previously. Negotiable although caution required with fencing depending on final width of cable drum. Drawing Number 23-1174.SPA03 Sheet 12 refers.

Photograph 37

Vehicle travelling away from the camera, left turn on to unclassified track which joins Timms's Drove. Recommended haul road to be constructed here towards point 5 at the end of Timms's Drove. Drawing Number 23-1174.SPA03 Sheet 13 refers.

6.5. *Alternative Route to Laydown Area 5*

6.5.1. The route assumes that AILs have continued on the A17 south from the locations discussed previously to Swineshead.

6.5.2. This route is not considered a suitable access route for cable drums as shown in the following notes and photographs. Alternate access is preferable from the Triton Knoll Substation access road detailed in 6.4.

Photograph 38
View of right turn from the A17 on to Bar Bridge parallel to Hammond Beck, following the crossing of Hammond Beck Bridge. Vehicle turns right towards the camera.

Photograph 39
Alternative view of above.

Photograph 40
Vehicle travelling away from the camera, road narrows along Bar Bridge towards Timms's Drove.

Photograph 41
Vehicle travelling towards the camera over Bar Bridge. This bridge is not negotiable for the proposed loads and this route is not considered suitable for AIL access.

Photograph 42
Timms's Grove, road narrows further, approximately 3m wide

Photograph 43
Vehicle travelling away from the camera, considerable road deterioration along Timms's Grove.

Photograph 44
Timms's Grove gated prior to left bend onto unclassified farm track. Note that if access can be secured via the Triton Knoll Substation access road detailed in Section 6.4, the proposed route to this laydown area would approach from the right of camera and exit left of camera.

Photograph 45
View of unclassified track (where haul road is to be constructed for point 5) from the Triton Knoll Access Road joining to Timms's Grove.

Photograph 46
Alternative view of unclassified track joining Timms's Grove.

6.6. *Route to Laydown Area 6*

6.6.1. The route assumes that AILs have continued on the A17 south from the locations discussed previously to the A52 and then west towards the village of Bicker.

6.6.2. This route is not considered a suitable access route for cable drums as shown in the following notes and photographs. Alternate access is preferable from the Triton Knoll Substation access road detailed in 6.4.

Photograph 47
Vehicle travelling away from the camera, right turn from A17 on to Monument Road, negotiable.

Photograph 48
Vehicle travels away from the camera along Monument Road.

Photograph 49
Monument road narrows slightly, remains negotiable.

Photograph 50
Vehicle travelling away from the camera, road twists along Monument Road, negotiable.

Photograph 51
Vehicle travels away from the camera, left bend on Monument Road, negotiable.

Photograph 52

Vehicle travels away from the camera towards right bend from Monument Road on to Church Road SPA required to confirm turn.

6.6.3. The route through Bicker village is limited and would require detailed surveys and Swept Path Assessments (SPA). Where an alternative exists, it is recommended that Bicker is avoided. The following points are limitations to negotiability on the route.

Photograph 53

Vehicle travels away from the camera on Church Road, negotiable, tree pruning may be required at time of movement.

Photograph 54

Vehicle travels away from the camera, left bend on Church Road to pass St. Swithun Church Bicker. SPA required.

Photograph 55

Vehicle travelling away from the camera past St. Swithun's Church Bicker, tree pruning may be required depending on time of move. SPA required.

Photograph 56

Vehicle travelling away from the camera, right bend on to Cemetery Road, SPA required due to church wall on the right hand side and trees to the left.

Photograph 57

Vehicle travels away from the camera on Cemetery Road, tree pruning may be required depending on time of movement. SPA required.

Photograph 58
Cemetery Road narrows to approximately 3.7m wide. Negotiable

Photograph 59
Vehicle travelling away from the camera, Cemetery Road bend right and left, negotiable with oversail, oversail expected to remain within the highway boundary.

Photograph 60
Caution oversail with hedge/3rd party land expected to be required. SPA to confirm.

Photograph 61
Vehicle travels away from the camera continuing Cemetery Road. Caution oversail with fence/3rd party land. SPA to confirm.

Photograph 62
Vehicle travels away from the camera. SPA required for left turn on to Back Lane.

Photograph 63
View of left turn on to Back Lane and culvert being crossed. SPA to confirm access.

Photograph 64

Vehicle travelling away from the camera on Back Lane, road width narrows to 3.1m with Old Eau (Drain) running continuously along the right hand side of Back Lane. SPA to confirm access.

Photograph 65

Vehicle travels away from the camera on Back Lane. Road bends to the right possible road widening would be required due to oversail on to the sloping grass verges either side. SPA to confirm access.

Photograph 66

Road bends left, road widening would be required due to overrun on to the grass verges either side. SPA to confirm access.

Photograph 67
Road bends right, road widening would be required due to oversail on to the sloping grass verges either side. SPA to confirm access.

Photograph 68
Vehicle travels away from the camera, right bend by telegraph pole negotiable, approx. 1.5m from road edge. SPA to confirm access.

Photograph 69
Caution telegraph pole within a metre of road edge. Left bend ahead negotiable.

Photograph 70

Vehicle travelling away from the camera along Back Lane, road bends to the right before sharp left bend. Tree pruning may be required depending on time of movement.

Photograph 71

Vehicle travelling away from the camera. SPA required for left turn with pole immediately following just off to the left of the roadside.

Photograph 72

Vehicle travelling away from the camera towards Gauntlet Drove, tree pruning may be required depending on time of move.

Photograph 73
Partial road widening required due to road width along Gauntlet Drove.

Photograph 74
Vehicle travels away from the camera on Gauntlet Drove. Caution electricity pole, wires, and box. Negotiable, approx. 2m from road edge.

Photograph 75
Gauntlet Drove Bridge over Hammond Beck.

Photograph 76
Caution pole within 1m of road edge and property wall to the right oversail/3rd party land. SPA to confirm access.

Photograph 77
Vehicle travelling away from the camera along North Drove.

Photograph 78
Vehicle travelling away from the camera along North Drove to approximate 6 laydown point.

6.7. *Alternative Route to Laydown Area 6*

6.7.1. The below route was surveyed to check the status of the road as an alternative to that detailed in 6.6 via Bicker village. The route turns right off the A52 Donnington Road prior to the turning for Monument Road listed above in 6.6.

Photograph 79
Vehicle travels towards the camera, right turn on to Fendike Lane from the A52, negotiable.

Photograph 80
Alternative view of turn on to Fendike Lane showing crossing over small culvert.

Photograph 81
Road sign showing Fendike Lane is not currently suitable for HGV. SPA to confirm access.

Photograph 82

Vehicle travelling away from the camera along Fendike Lane, road narrows. SPA to confirm access.

Photograph 83

Bends throughout Fendike Lane with road deterioration, no restrictions either side of the road, road widening would be required. SPA to confirm access. Land ownership boundaries would need to be confirmed to ascertain whether any oversail over private land is required.

Photograph 84

Vehicle travels away from the camera, road slopes on the left hand side of the road, road widening would be required for approaching right bend. SPA to confirm access.

Photograph 85
Right bend, road widening required to negotiate. SPA to confirm access.

Photograph 86
Left bend immediately following, road widening required to negotiate. SPA to confirm access. Land ownership boundaries would need to be confirmed to ascertain whether any oversail over private land is required.

Photograph 87
Vehicle travels away from the camera continuing Fendike Lane, road slopes on the left hand side, road widening possible to the right, tree pruning would be required. SPA to confirm access.

Photograph 88
Electricity pole, box and wires approximately 1.5m from the road edge, further road deterioration approaching Back Lane. Road condition surveys may be needed to confirm the structural integrity of the road.

Photograph 89
Tree pruning would be required on Fendike Lane.

Photograph 90
Vehicle travelling away from the camera as road bends to the right upon the approach to Back Lane and joining the initial route 6 proposed from photograph 67 onwards.

6.7.2. This route is not considered a suitable access route for cable drums without road improvement works and as an alternative access is potential feasible from the Triton Knoll

Substation access road detailed in 6.4, it is not recommended this option is progressed further at this time.

7. Summary and Conclusions

7.1. In summary, routes to the proposed laydown areas 1 and 2 can be accessed from either the temporary haul road route (report dated 17.01.24) that is to be constructed from the A17 for the initial transformer delivery or using the more permanent route considered in the second report (dated 27.02.24) travelling along Littleworth Drove.

7.2. The routes to the proposed lay down areas 3 and 4 have been approved structurally with the relevant authorities. SPA04 shows the negotiability approaching the 4th laydown area and the amount of oversail and overrun to be expected and remedial works required.

7.3. The route to the proposed 5th lay down area is acceptable up to the Triton Knoll Substation access road gate, following the entrance it would need to be confirmed with RWE Triton Knoll as useable, although no issues are expected here due to the much heavier transformer weights that have been transported over this road previously during the Triton Knoll Substation construction in 2018. A temporary or more permanent road would need to be constructed which is currently a farm track from the Triton Knoll access road to join Timms's Road for onward transport to area 5.

7.4. In order to confirm access to lay down area 6 it is recommended that access is developed from the previously highlighted route to area 5 and then south towards the laydown area 6 site as the routes that approach from the south and the A52 at Bicker. This is due to the other routes to area 6 from the A17 south of Swinsehead and the A52 and via Bicker village being inappropriate for AIL access where other option exist.

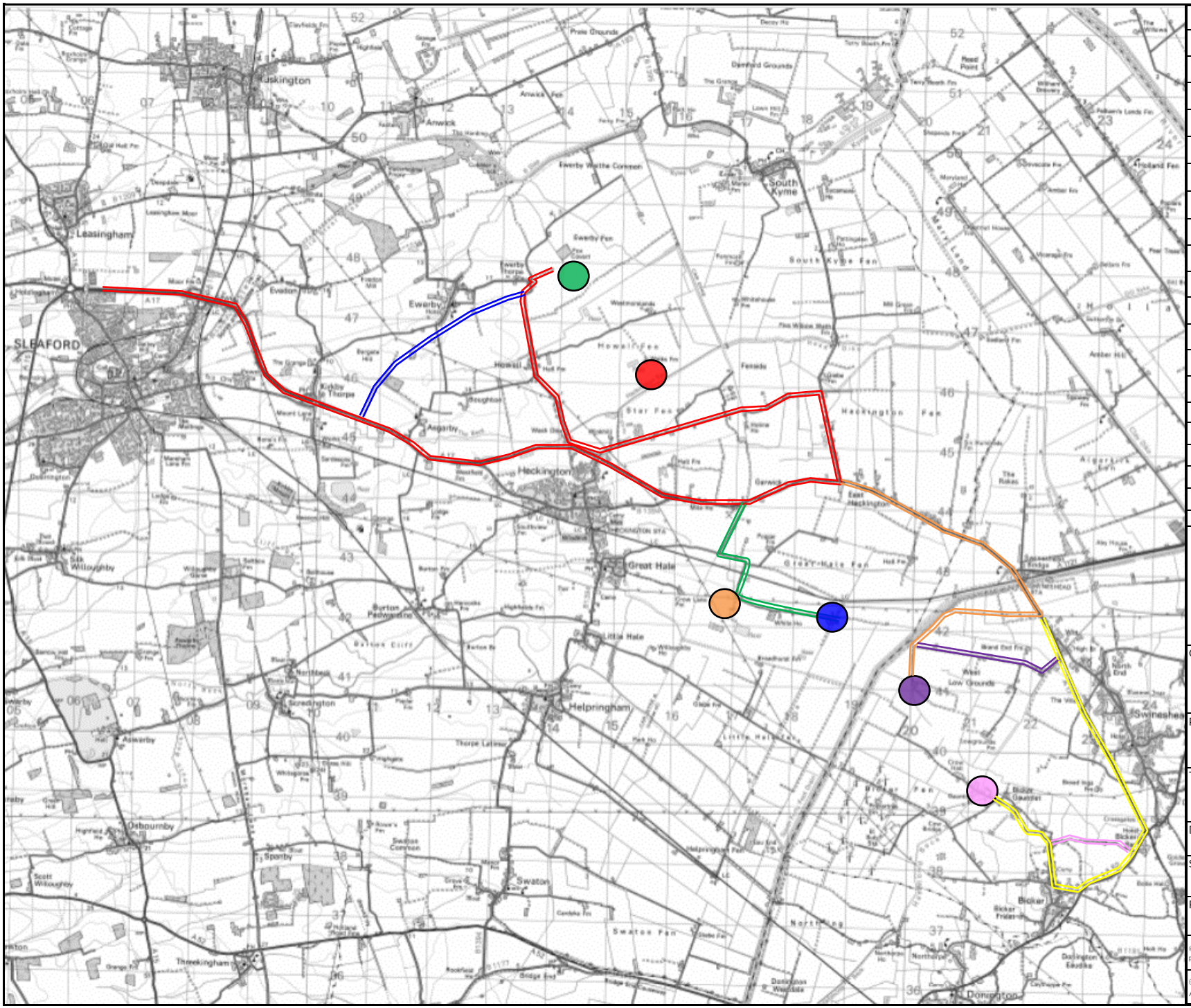
7.5. SPA's of the route from the A52 via Bicker and Church Road and Back Lane to site would be necessary and significant remedial works required.

7.6. It would also be necessary to undertake geotechnical surveys to confirm the ground conditions in any area where either temporary or permanent road widening solutions may be proposed.

7.7. Any works would need to be undertaken to the satisfaction of LCC as the highway authority. LCC would also expect there to be a pre and post movement inspection undertaken to confirm whether any further damage to the highway is made by the AIL. This is not uncommon and does offer protection against unjustified claims for damage to the highway.

Appendix 1

Maps



Key

	Route to Laydown Area 1-2
	Temporary Haul Road
	Route to Laydown Area 3-4
	Route to Laydown Down Area 5 via Triton Knoll
	Alternative Route to Laydown Area 5
	Route to Laydown Area 6
	Alternative Route to Laydown Area 6
	Point of Interest
	First Proposed Access Point
	Second Proposed Access Point
	Third Proposed Access Point
	Fourth Proposed Access Point
	Fifth Proposed Access Point
	Sixth Proposed Access Point

Rev	Date	Amendments:
B		
A		
0	18.03.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ. Tel: (01785) 850411

Client: low carbon

Stirling Square
5-7 Carlton Gardens
London
SW1Y 5AD

Project:
Cable Drum Laydown Sites
Beacon Fen

Title:
Map 1 – AIL Access to Proposed New Cable route around Beacon Fen

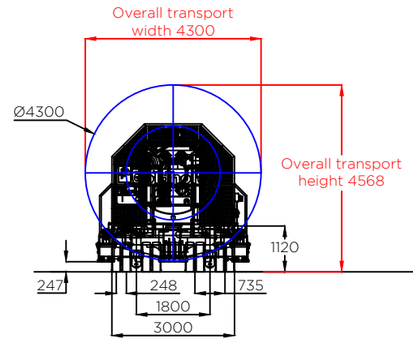
Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	

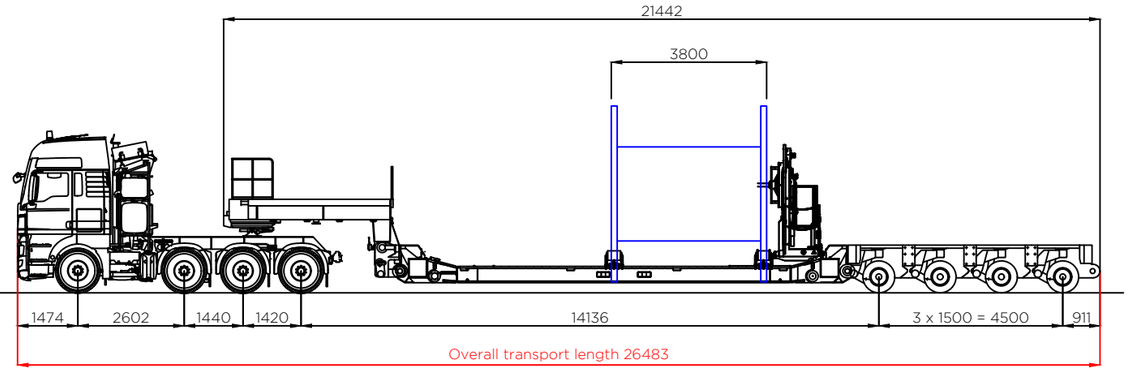
Ref No.:	Sheet:	Rev.:
23-1174-Map	1 of 1	0

Appendix 2

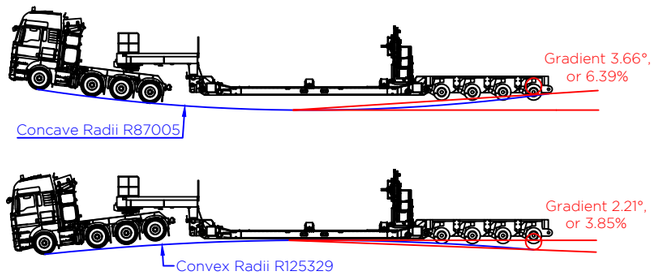
Drawings



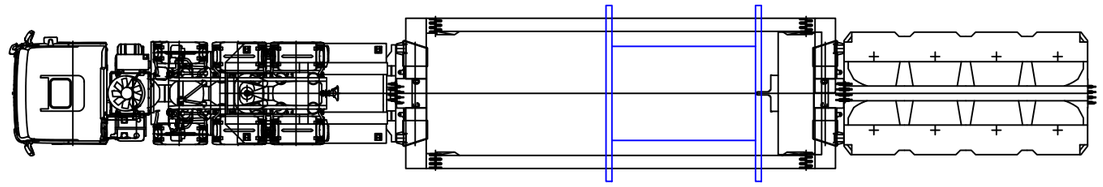
Profile view



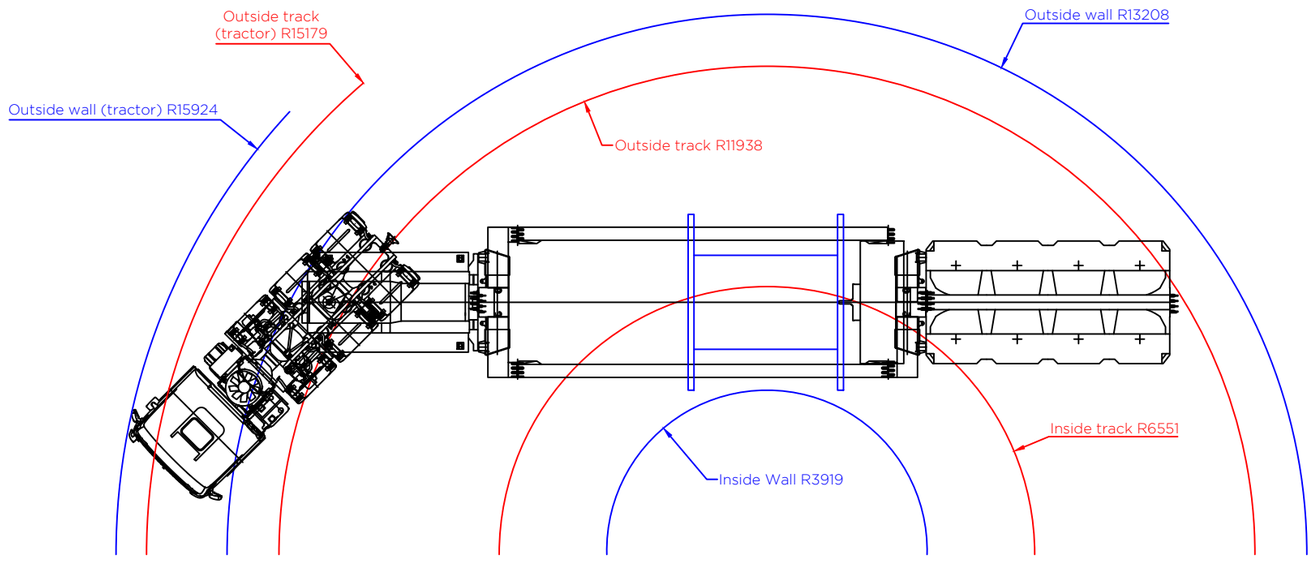
Elevation view - 4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum



Vertical Negotiability - Based on +/-300mm Stroke from Nominal Running Height for Trailer Axles, and Approximately 7° of Pitch Relative to the Tractor 5th Wheel and Trailer. Values are Indicative Only - Confirmation of Actual Values Should be Provided by Trailer Manufacturer/Haulier (Not to Scale)



Plan view - 4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum



Minimum turning radii information
4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum

Load table	
4 axle modular reeling trailer	
Self weight of cable drum	30.0 te
Self weight of trailer	33.3 te
Self weight of tractor	15.0 te
Total combined weight	78.3 te
Load per axle line (trailer)	10.55 te
Load per axle	5.28 te
Load per wheel (4 per axle)	1.32 te
Overall ground bearing pressure	3.13 te/m²
Tractor (15 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	10.55 te
Rear axle	10.55 te

Notes:
[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

Rev.	Date	Amendments
1		
0	22.01.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen

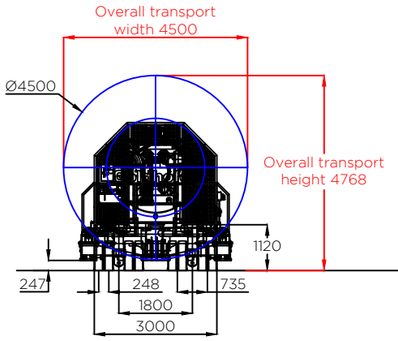
Title: Indicative transport configuration
Indicative 30.0 te cable drum carried on
4 axle modular reeling trailer
showing minimum turning radii

Drawing status: Final report

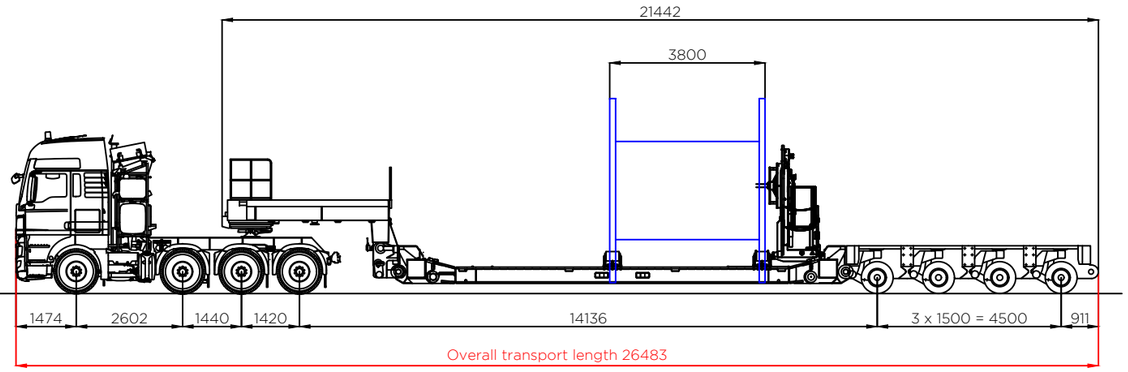
Scale (A3):	Drawn By:	Checked By:
1:150	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.TC04	1 of 1	0

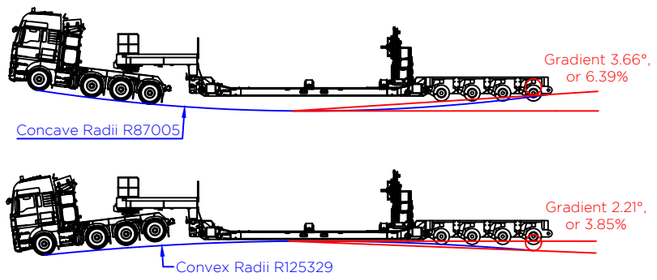
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC04 Beacon Fen 30t Cable Drum 4 Axle spooling trailer R0.dwg



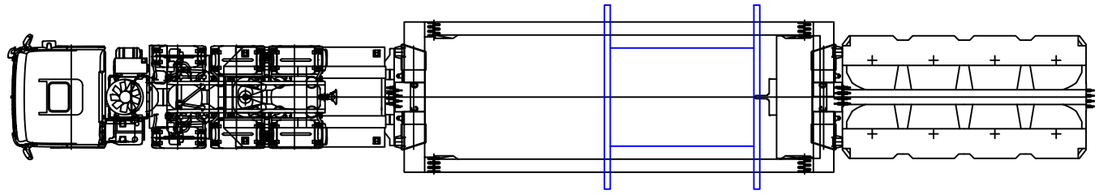
Profile view



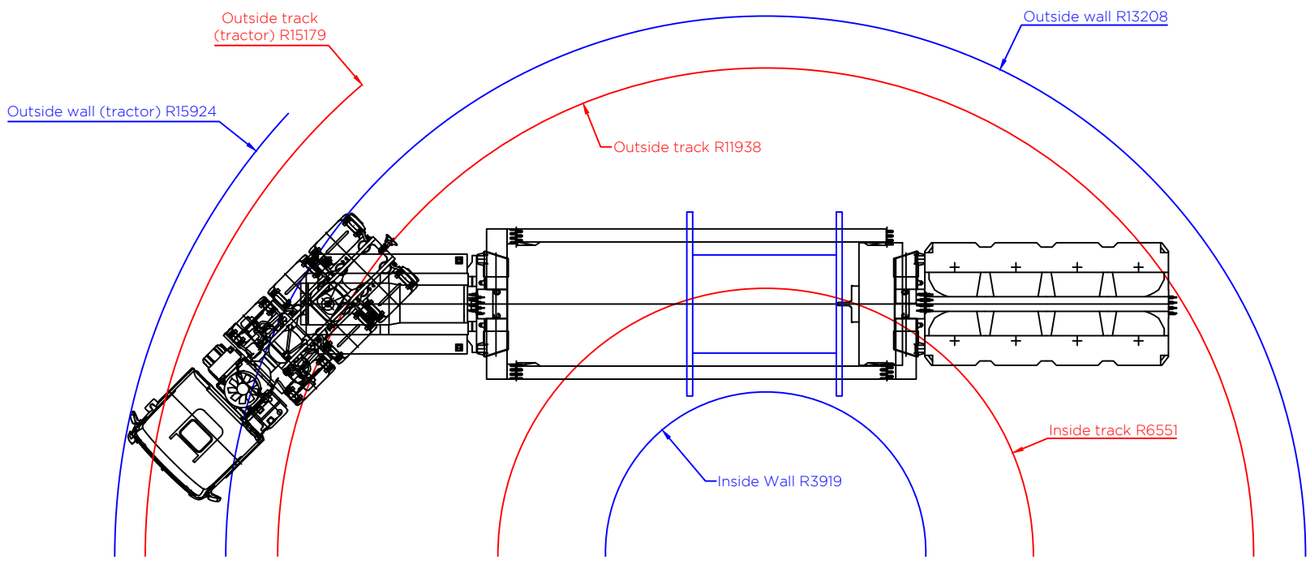
Elevation view - 4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum



Vertical Negotiability - Based on +/-300mm Stroke from Nominal Running Height for Trailer Axles, and Approximately 7° of Pitch Relative to the Tractor 5th Wheel and Trailer. Values are Indicative Only - Confirmation of Actual Values Should be Provided by Trailer Manufacturer/Haulier (Not to Scale)



Plan view - 4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum



Minimum turning radii information
4 axle modular reeling trailer - concept model only
Indicative 30 te cable drum

Load table	
4 axle modular reeling trailer	
Self weight of cable drum	30.0 te
Self weight of trailer	33.3 te
Self weight of tractor	15.0 te
Total combined weight	78.3 te
Load per axle line (trailer)	10.55 te
Load per axle	5.28 te
Load per wheel (4 per axle)	1.32 te
Overall ground bearing pressure	3.13 te/m²
Tractor (15 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	10.55 te
Rear axle	10.55 te

Notes:
[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

Rev.	Date	Amendments
1		
0	22.01.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen

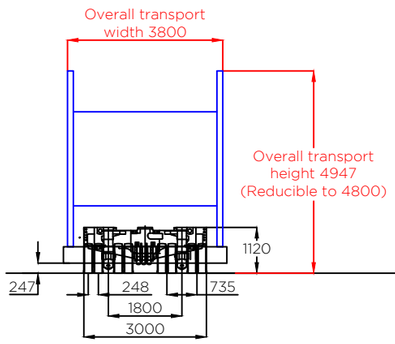
Title: Indicative transport configuration
Indicative 30.0 te cable drum carried on
4 axle modular reeling trailer
showing minimum turning radii

Drawing status: Final report

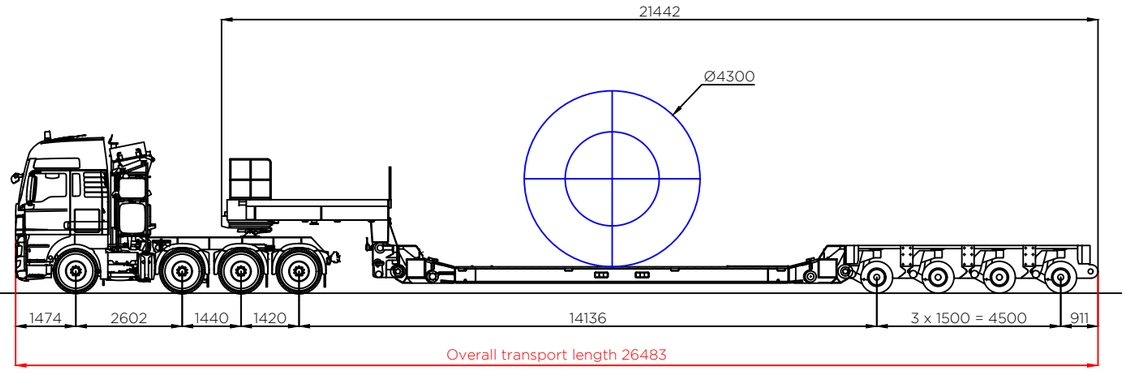
Scale (A3):	Drawn By:	Checked By:
1:150	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.TC05	1 of 1	0

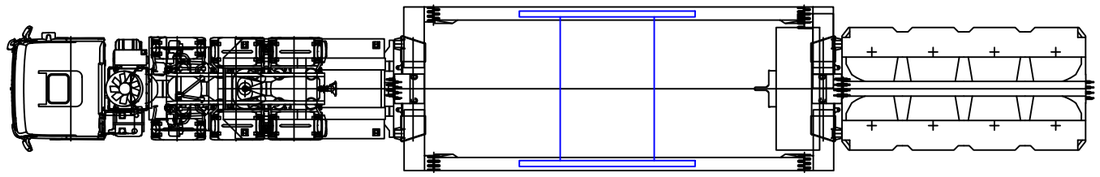
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC05 Beacon Fen 30t Cable Drum 4 Axle spooling trailer R0.dwg



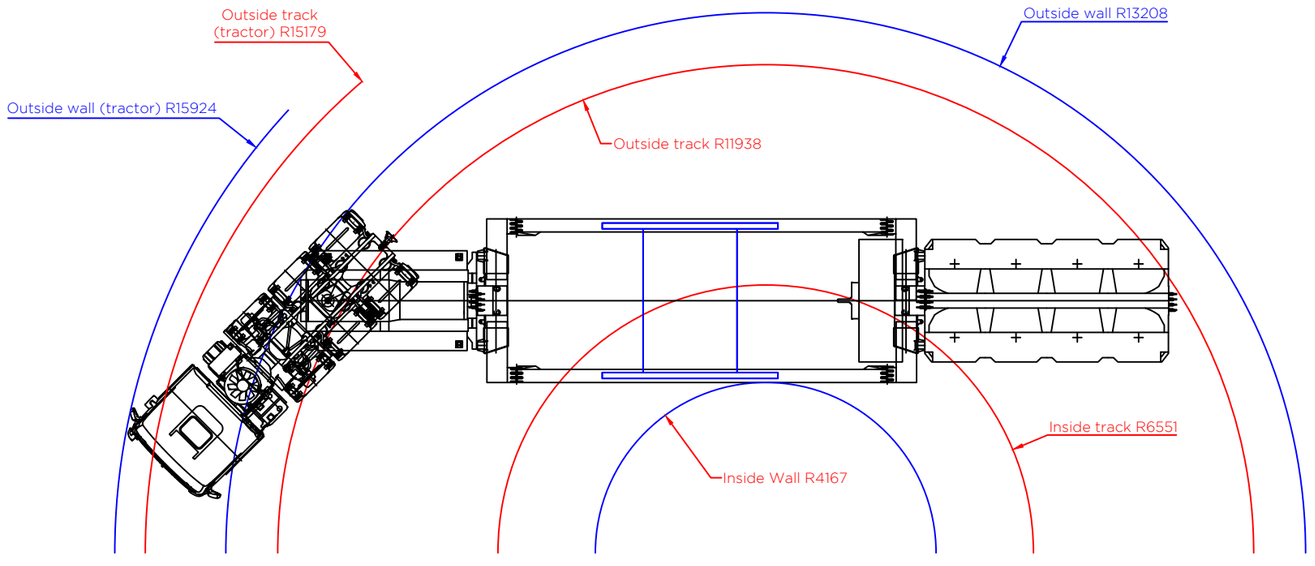
Profile view



Elevation view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Plan view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Minimum turning radii information
4 axle low loader - concept model only
Indicative 30 te cable drum

Load table	
4 axle modular reeling trailer	
Self weight of cable drum	30.0 te
Self weight of trailer	30.0 te
Self weight of tractor	15.0 te
Total combined weight	75.0 te
Load per axle line (trailer)	10.0 te
Load per axle	5.0 te
Load per wheel (4 per axle)	1.25 te
Overall ground bearing pressure	2.96 te/m²
Tractor (15 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	10.0 te
Rear axle	10.0 te

Notes:
[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

Rev.	Date	Amendments
1		
0	25.01.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen

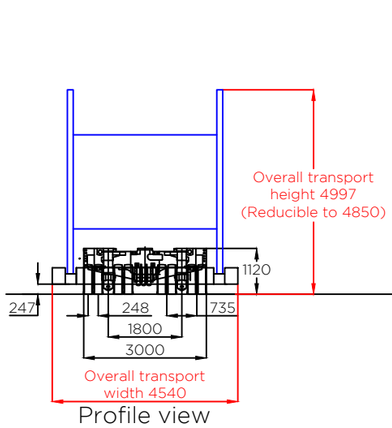
Title: Indicative transport configuration
Indicative 30.0 te cable drum carried on
4 axle low loader
showing minimum turning radii

Drawing status: Final report

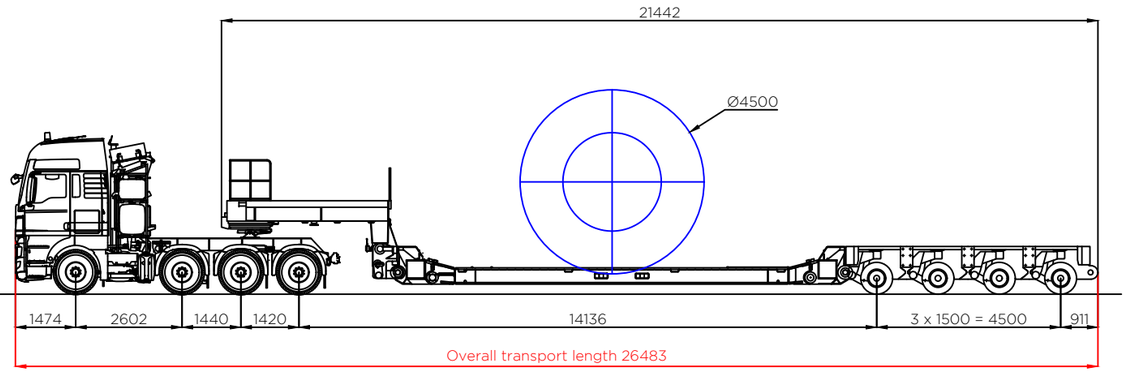
Scale (A3):	Drawn By:	Checked By:
1:150	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.TC06	1 of 1	0

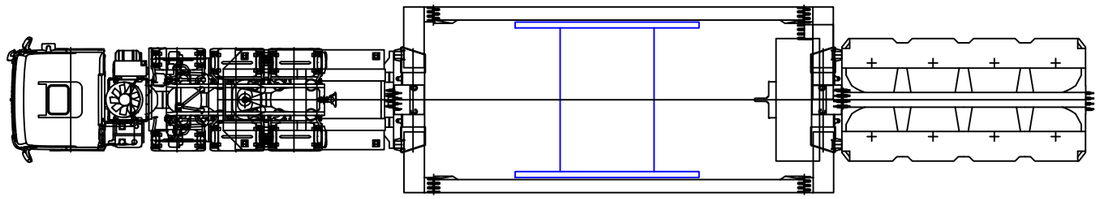
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC06 Cottam & West Burton Solar 30t Cable Drum 4 Axle Low Loader R0.dwg



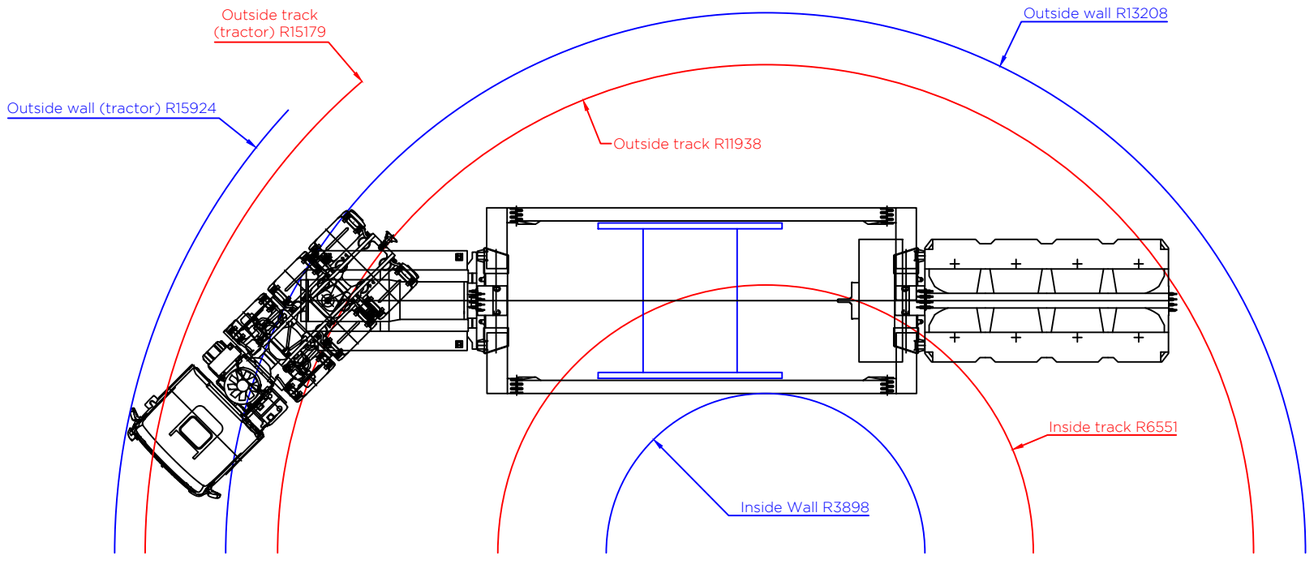
Profile view



Elevation view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Plan view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Minimum turning radii information
4 axle low loader - concept model only
Indicative 30 te cable drum

Load table	
4 axle modular reeling trailer	
Self weight of cable drum	30.0 te
Self weight of trailer	30.0 te
Self weight of tractor	15.0 te
Total combined weight	75.0 te
Load per axle line (trailer)	10.0 te
Load per axle	5.0 te
Load per wheel (4 per axle)	1.25 te
Overall ground bearing pressure	2.96 te/m²
Tractor (15 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	10.0 te
Rear axle	10.0 te

Notes:
[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

Rev.	Date	Amendments
1		
0	25.01.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen

Title: Indicative transport configuration
Indicative 30.0 te cable drum carried on
4 axle low loader
showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn By:	Checked By:
1:150	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.TC07	1 of 1	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC07 Beacon Fen 30t Cable Drum 4.5m dia 4 Axle Low Loader R0.dwg

Appendix 3

Swept Path Assessments

Beacon Fen, Access to Construction Laydown Area 5 - Abnormal Indivisible Load Swept Path Assessment Considerate of 30te Cable Drum Delivery

Prepared for Low Carbon

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

NAME		SIGNATURE	DATE
Prepared by:	Micah Orbart	[redacted]	08.02.24
Checked by:	Andy Pearce		08.02.24
Approved by:	Andy Pearce		08.02.24

DISCLAIMER

Any conclusions, calculations or findings presented here should not be changed or altered.

COPYRIGHT AND NON-DISCLOSURE NOTICE

THIRD PARTY DISCLAIMER

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Wynns Ltd at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. Wynns Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

DOCUMENT REVISIONS

Issue	Date	Details
0	08.02.24	SPA03 Drawings Issued
1		
2		

N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

3.0m

Approximate Road
Width of 6.09m

Approximate Road
Width of 5.28m

Direction of Travel

The delivery vehicle can be seen turning from A17 onto the unclassified road, at approximate OS grid reference: TF 22139 42293.
The configuration anticipates no oversail or overrun while making the turn, (it should be noted that if the vehicle were to turn left onto the unclassified road from A17, that no oversail would be expected to result from this either).

The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail. Road width measuring approximately 5.28m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.64m.
Section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

3.0m

(Leader 1) Configuration Occupies
Full Available Road Width.

Location Plan

Legend:

4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of turn from A17 onto Unclassified Road at approximate OS grid reference: TF 22139 42293, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

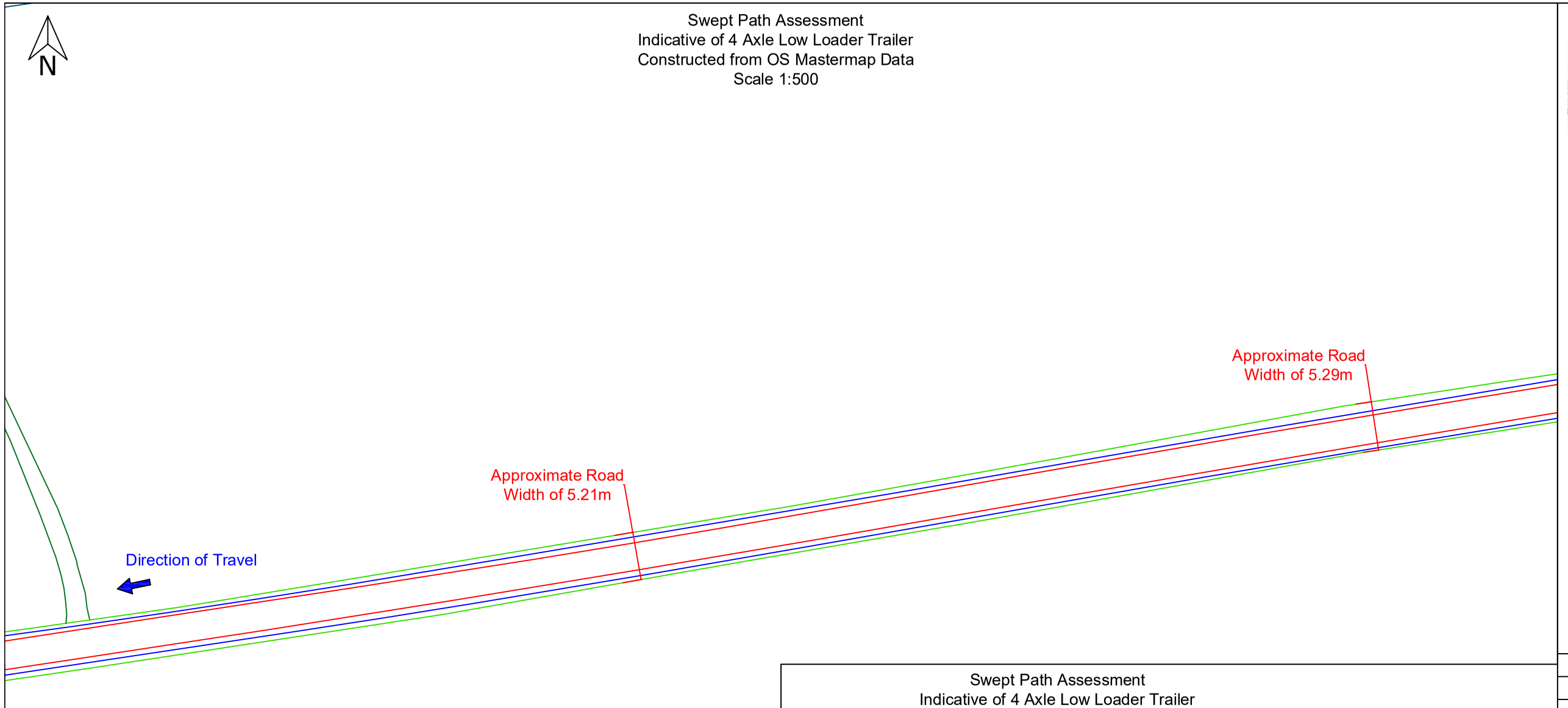
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	1 of 15	0

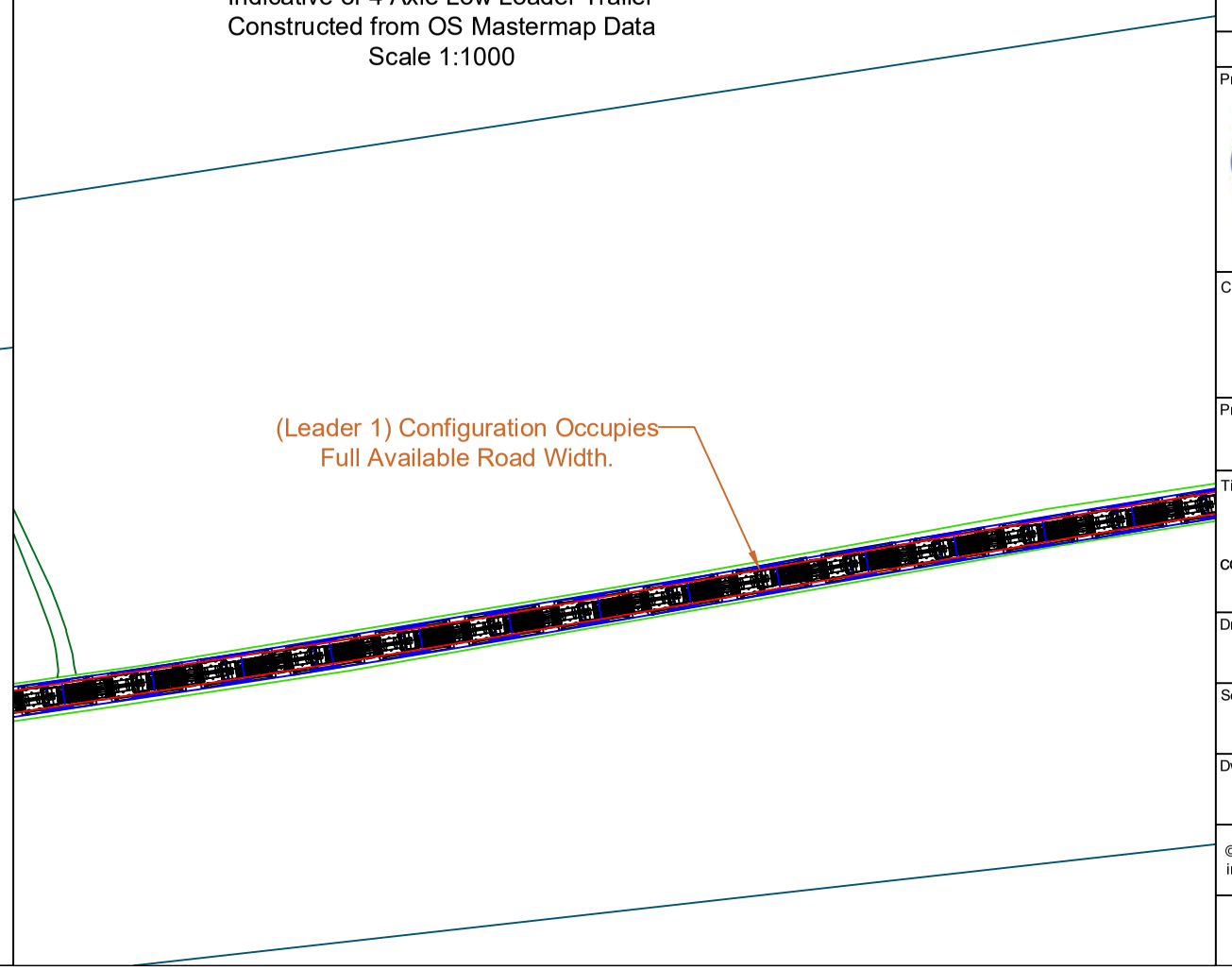
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

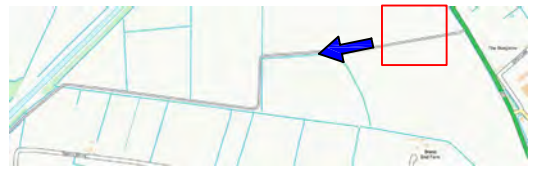


The delivery vehicle can be seen continuing along the unclassified road, at approximate OS grid reference: TF 21992 42266.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected. Road width measuring approximately 5.21m at the worst-case postion along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.60m.
Section considered to be negotiable.

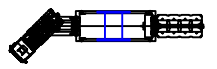
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



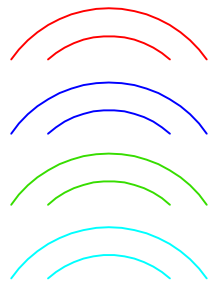
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

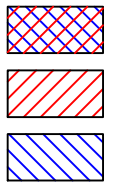


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

low carbon
powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21992 42266, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

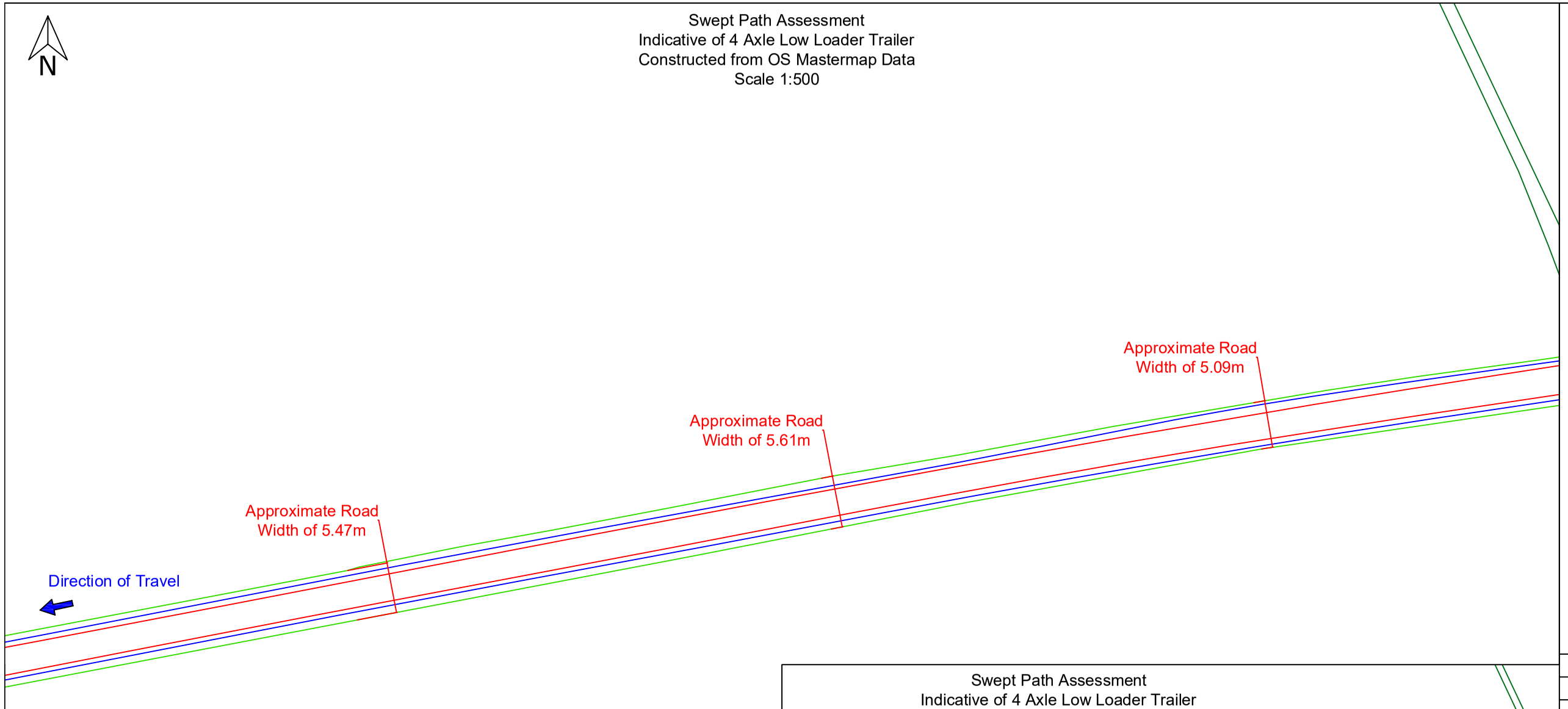
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	2 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

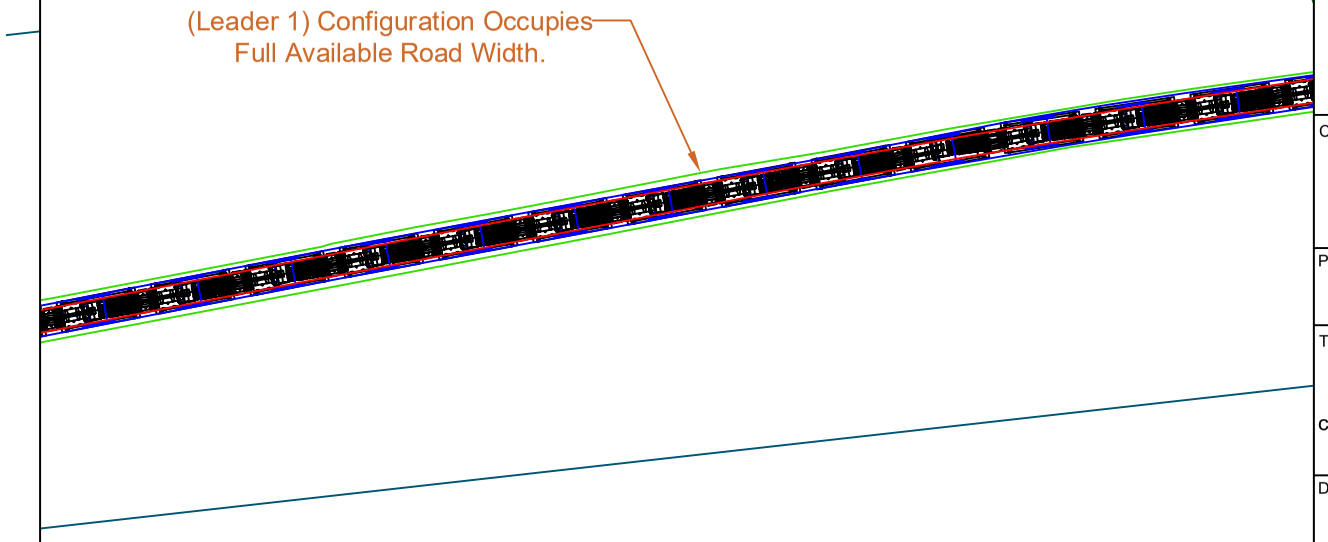
N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

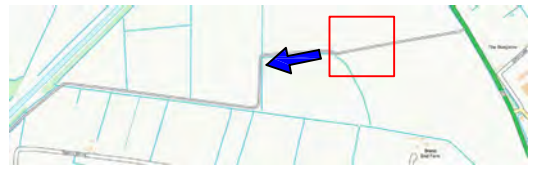


The delivery vehicle can be seen continuing along the unclassified road, at approximate OS grid reference: TF 21836 42236.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected. Road width measuring approximately 5.09m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.54m.
Section considered to be negotiable.

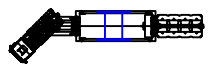
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



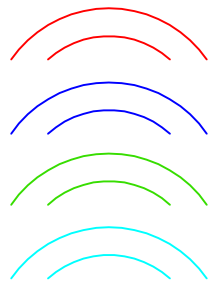
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

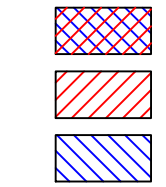


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21836 42236, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

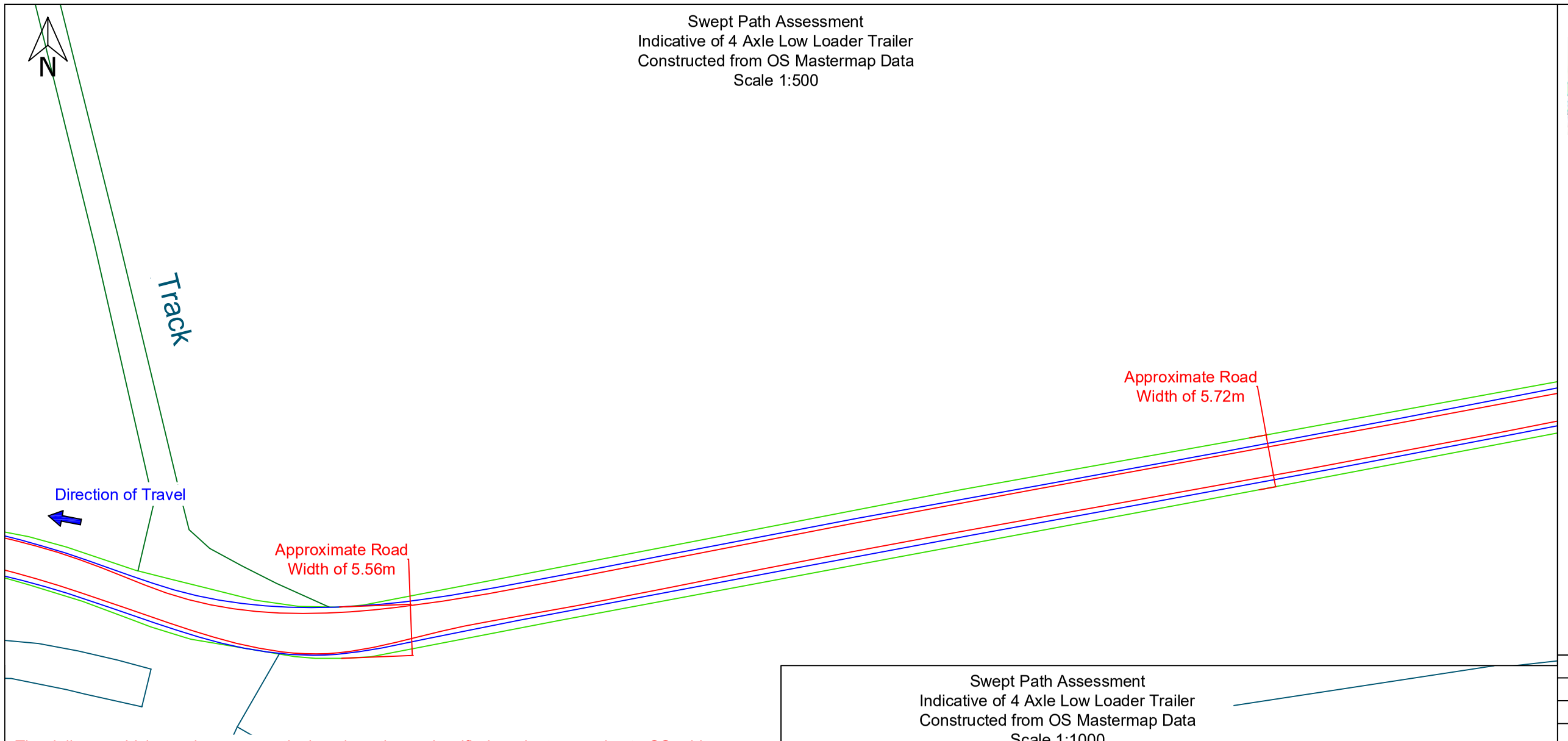
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	3 of 15	0

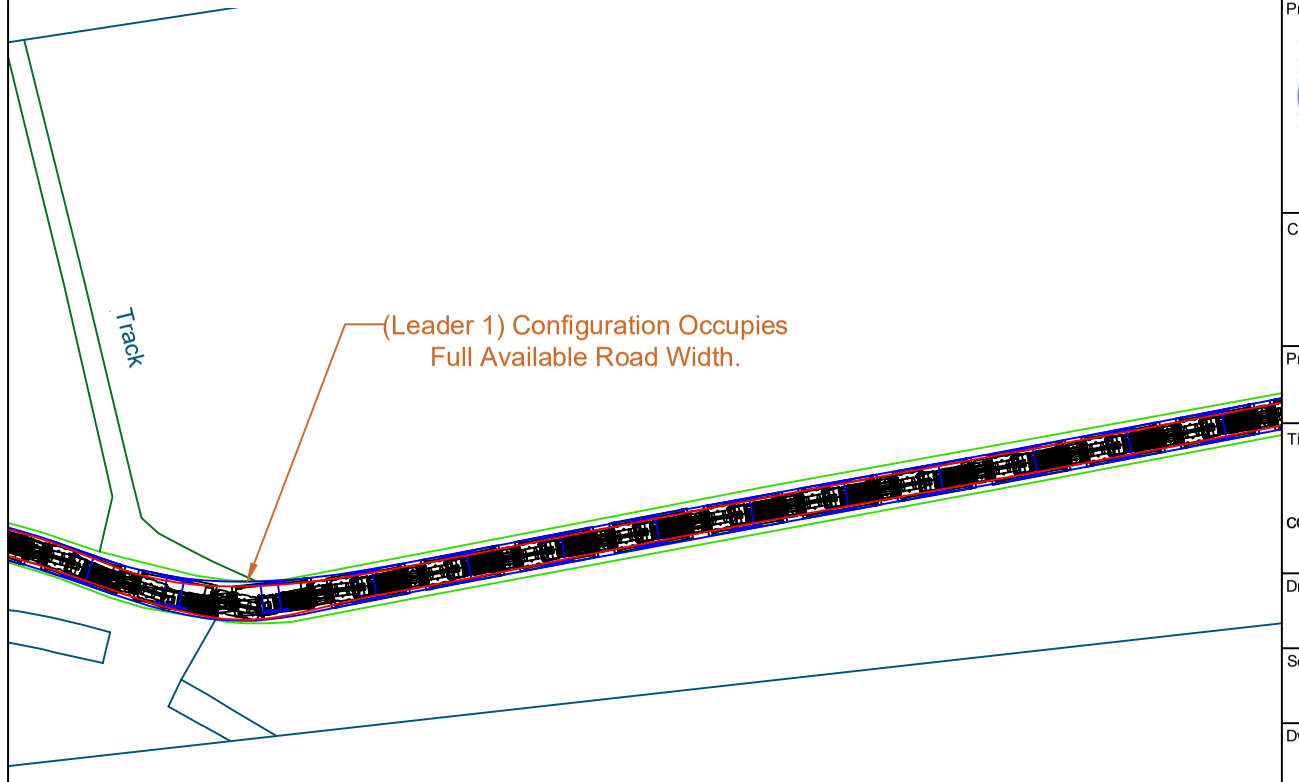
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

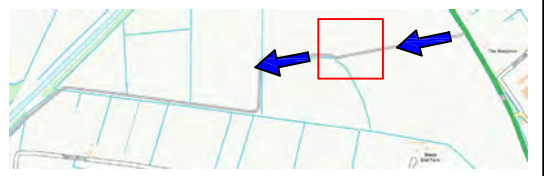


The delivery vehicle can be seen continuing along the unclassified road, at approximate OS grid reference: TF 21626 42202.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected. Road width measuring approximately 5.56m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.78m.
It should be noted that as the configuration negotiates the bend in the road, that no clearance between the configuration on the road edge may occur, this however does not anticipate any oversail.
Section considered to be negotiable.

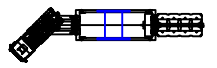
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



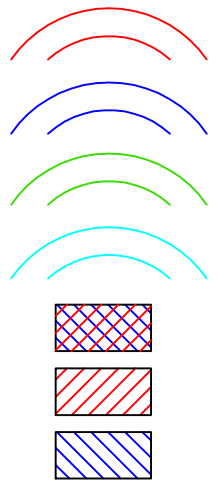
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21626 42202, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

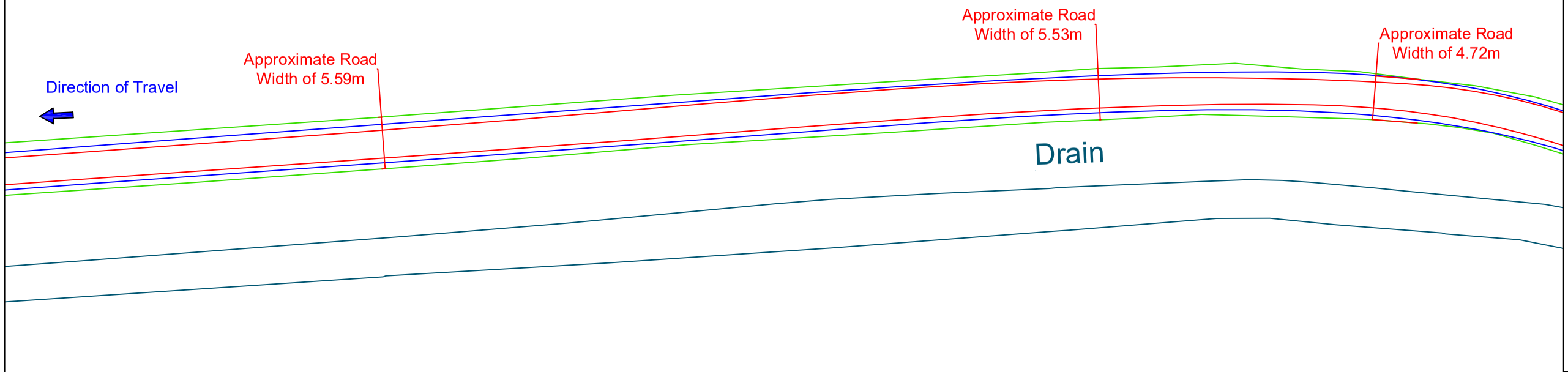
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	4 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

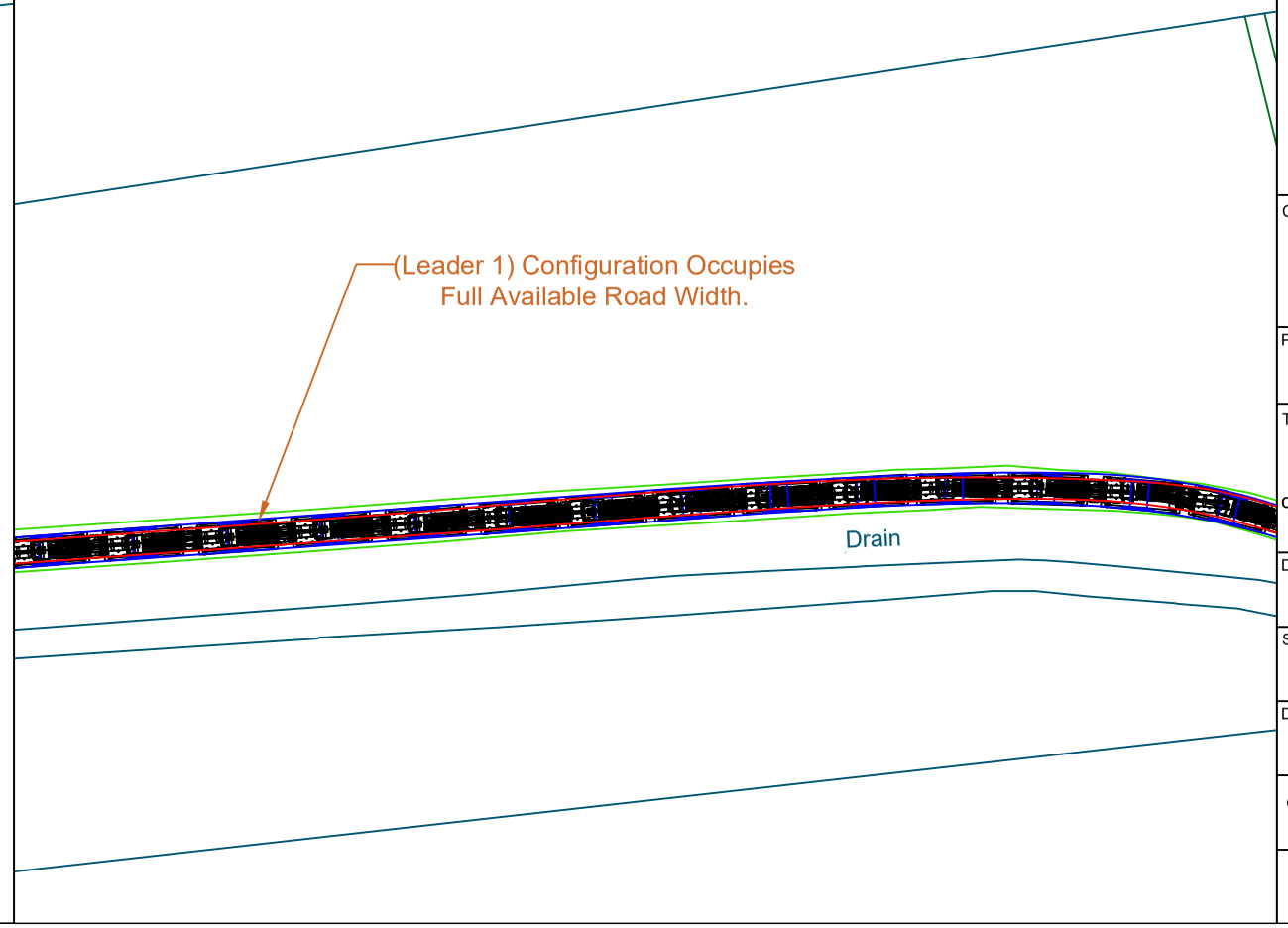
N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500



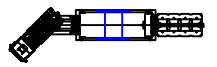
The delivery vehicle can be seen continuing along the unclassified road, at approximate OS grid reference: TF 21412 42192.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected. Road width measuring approximately 4.72m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.36m.
It should be noted that as the configuration negotiates the bend in the road, that no clearance between the configuration on the road edge may occur, this however does not anticipate any oversail.
Section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

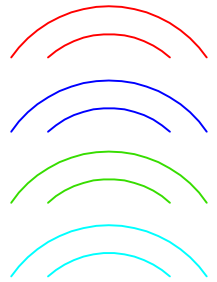


Location Plan

Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21412 42192, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

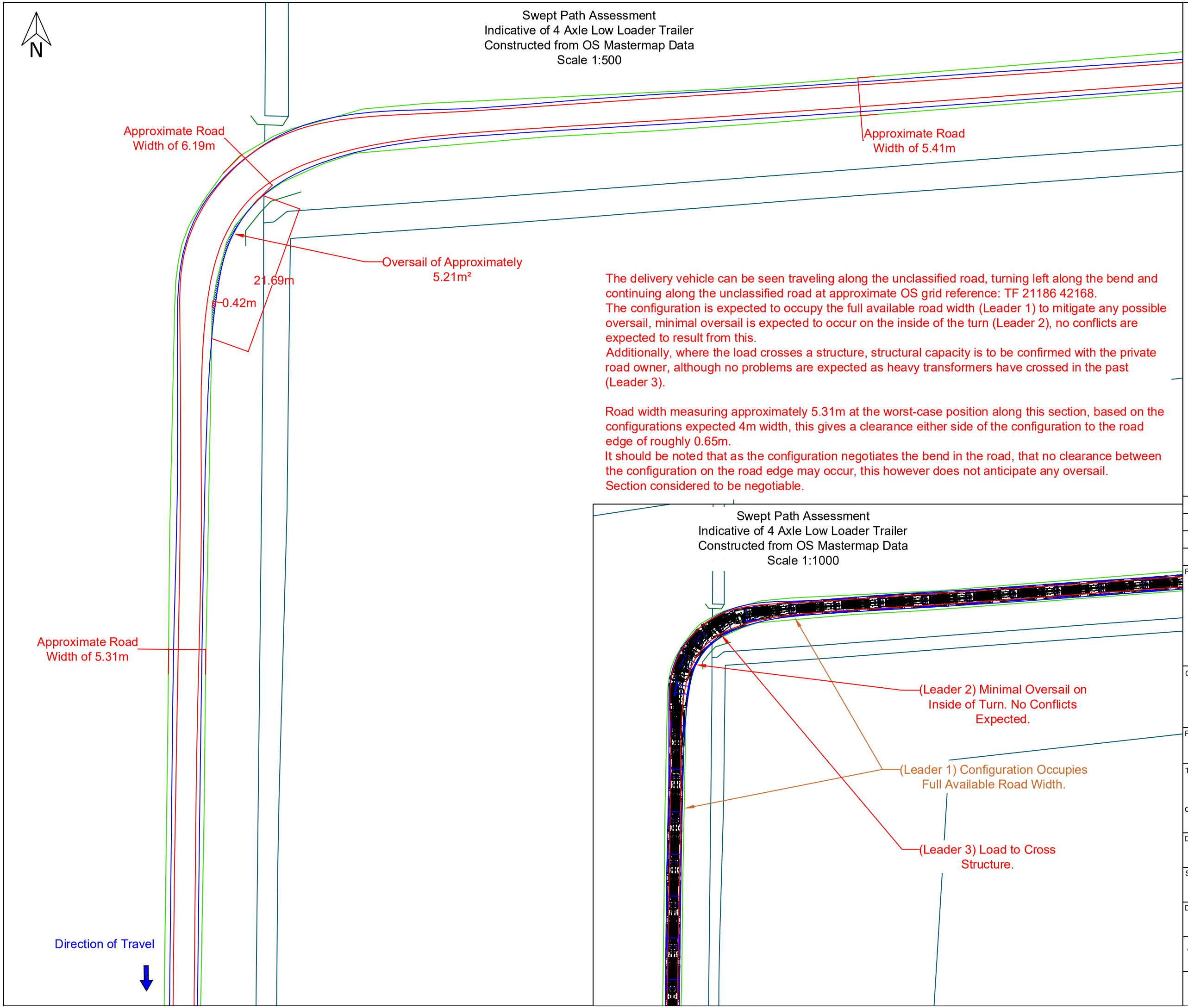
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	5 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

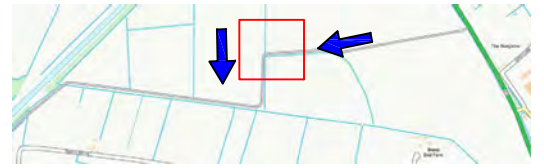


The delivery vehicle can be seen traveling along the unclassified road, turning left along the bend and continuing along the unclassified road at approximate OS grid reference: TF 21186 42168.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, minimal oversail is expected to occur on the inside of the turn (Leader 2), no conflicts are expected to result from this.
Additionally, where the load crosses a structure, structural capacity is to be confirmed with the private road owner, although no problems are expected as heavy transformers have crossed in the past (Leader 3).

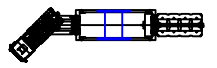
Road width measuring approximately 5.31m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.65m.
It should be noted that as the configuration negotiates the bend in the road, that no clearance between the configuration on the road edge may occur, this however does not anticipate any oversail.
Section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

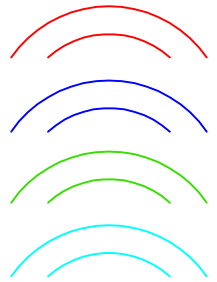
Location Plan



Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

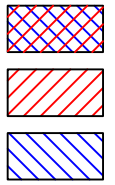


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21186 42168, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	6 of 15	0

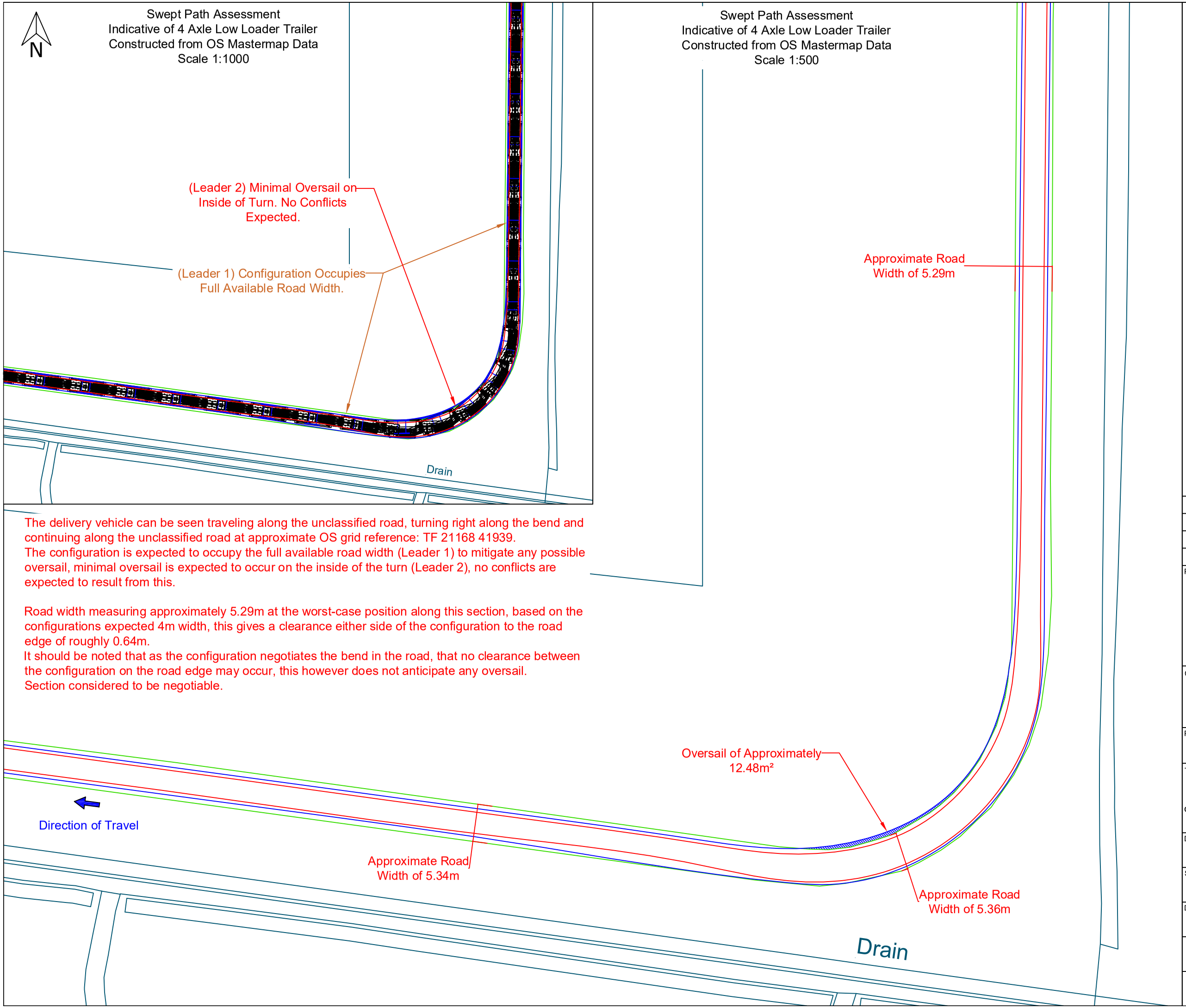
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

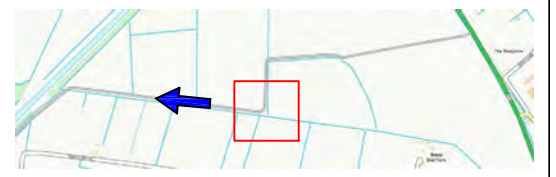
The delivery vehicle can be seen traveling along the unclassified road, turning right along the bend and continuing along the unclassified road at approximate OS grid reference: TF 21168 41939.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, minimal oversail is expected to occur on the inside of the turn (Leader 2), no conflicts are expected to result from this.

Road width measuring approximately 5.29m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.64m.
It should be noted that as the configuration negotiates the bend in the road, that no clearance between the configuration on the road edge may occur, this however does not anticipate any oversail.
Section considered to be negotiable.

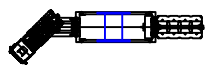
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500



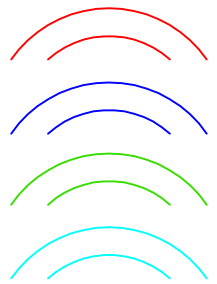
Location Plan



Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06



Extent of vehicle track
Extent of oversail
Extent of road boundary
Extent of property boundary
Overrun and oversail beyond kerb
Overrun beyond kerb
Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 21168 41939, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

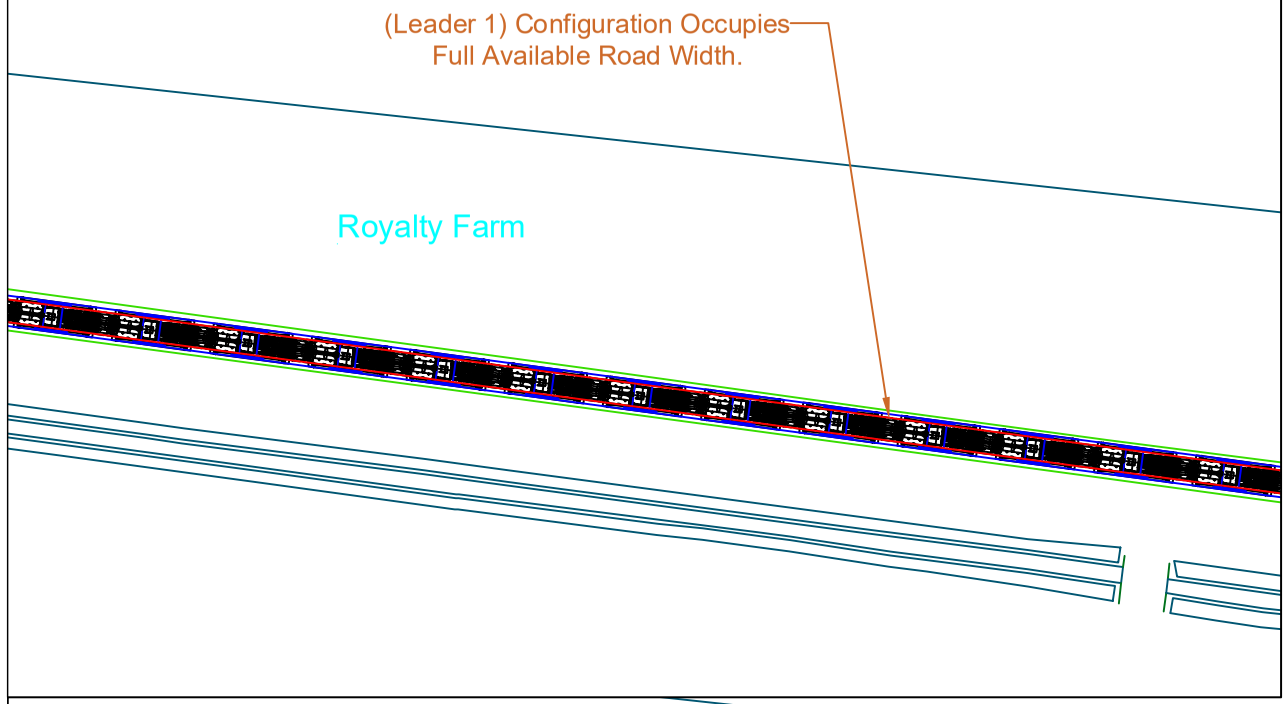
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

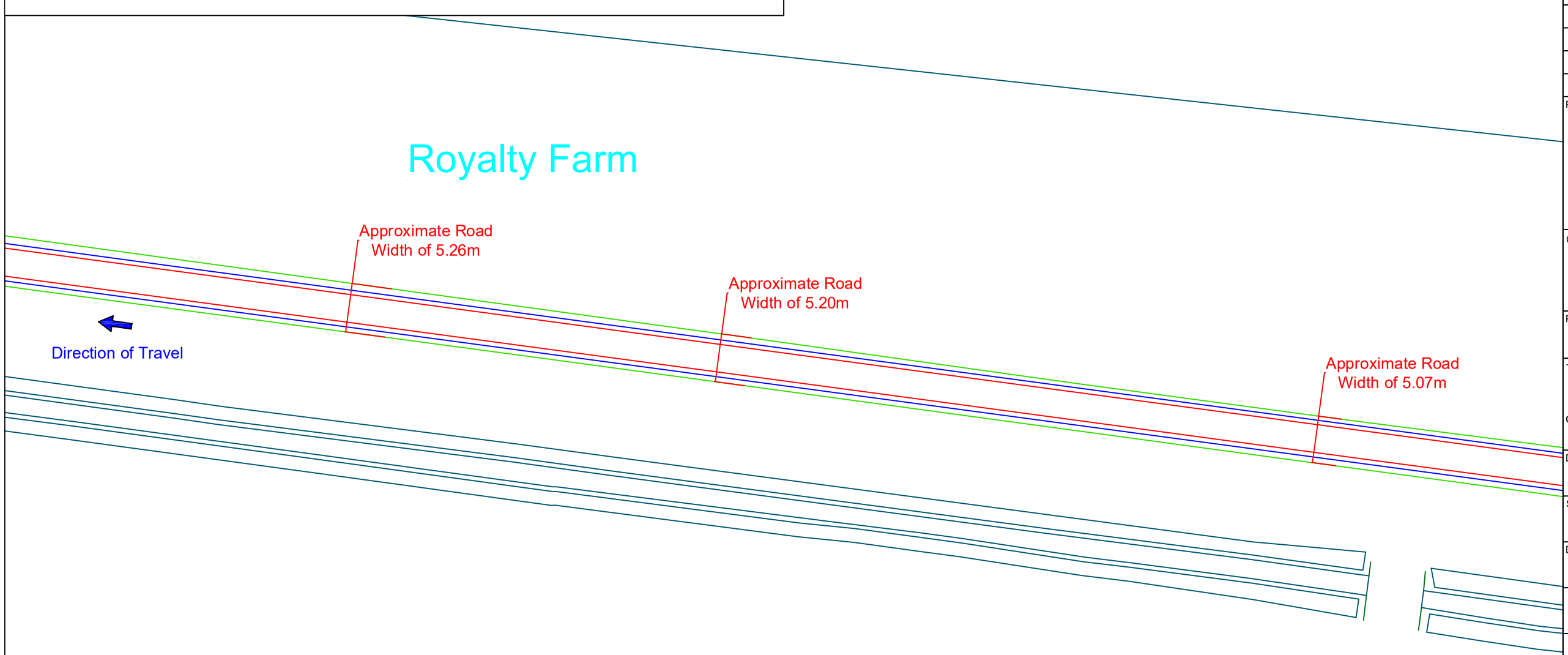
Dwg. no:	Sheet:	Rev:
23-1174.SPA03	7 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500



The delivery vehicle can be seen continuing along the unclassified road at approximate OS grid reference: TF 20984 41951.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected to occur.

Road width measuring approximately 5.07m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.53m.
Section considered to be negotiable.

Location Plan

Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20984 41951, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

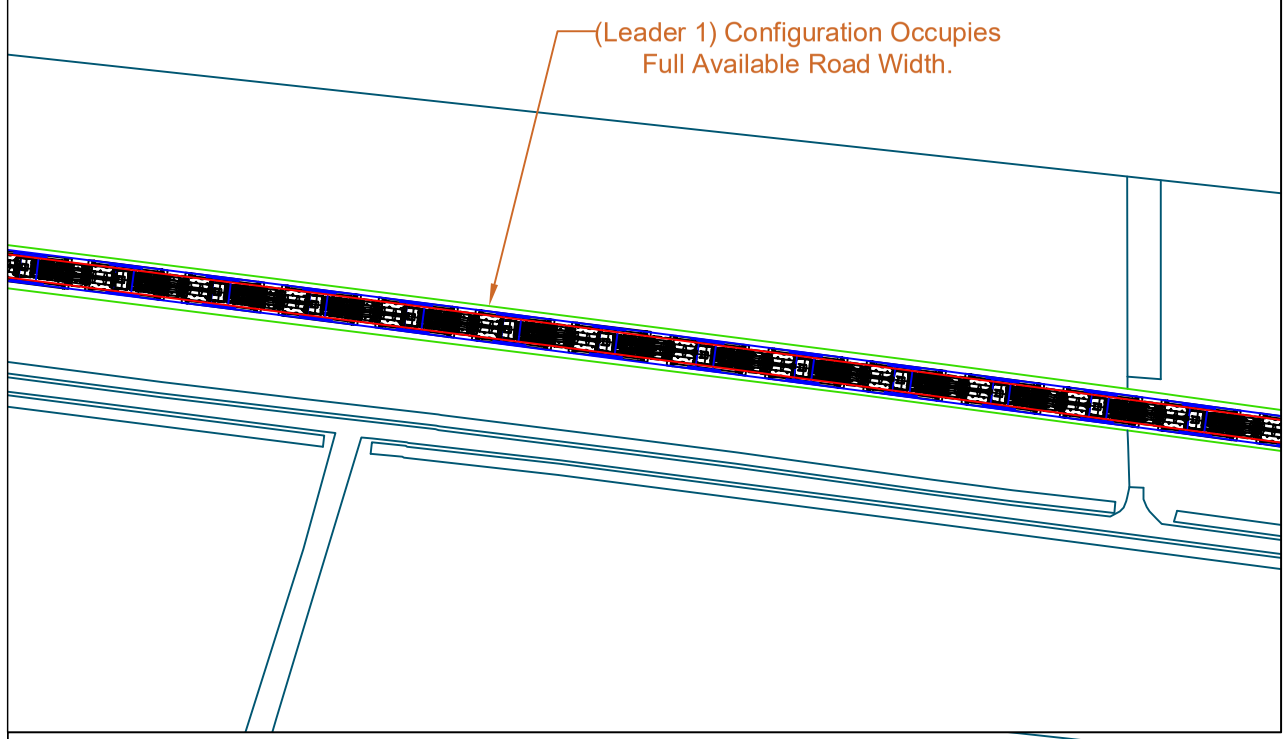
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

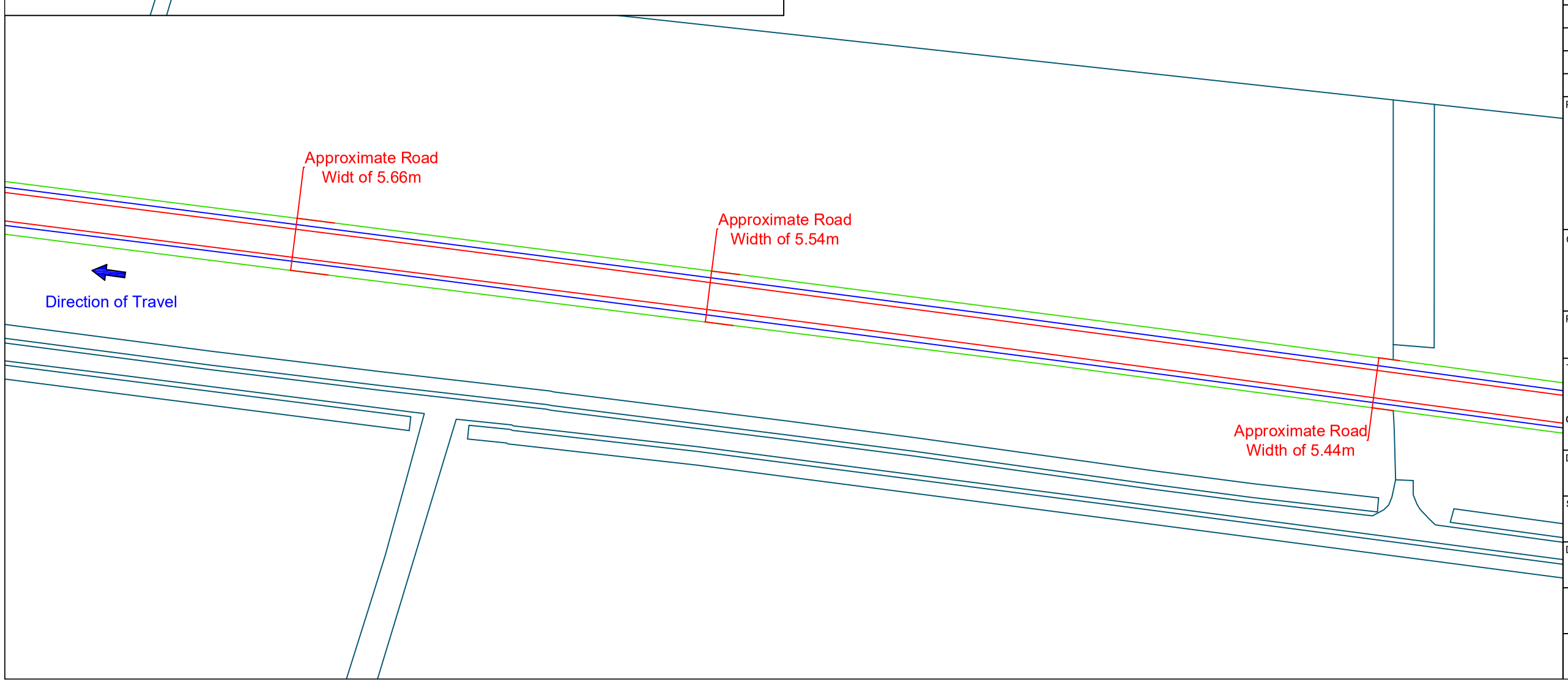
Dwg. no:	Sheet:	Rev:
23-1174.SPA03	8 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

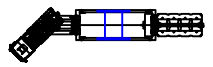


The delivery vehicle can be seen continuing along the unclassified road at approximate OS grid reference: TF 20798 41977.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected to occur.

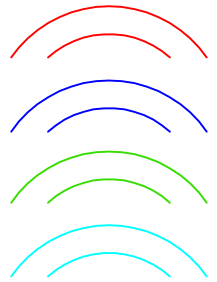
Road width measuring approximately 5.44m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.72m.
Section considered to be negotiable.

Location Plan

Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

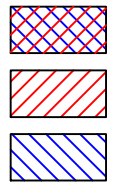


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20798 41977, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

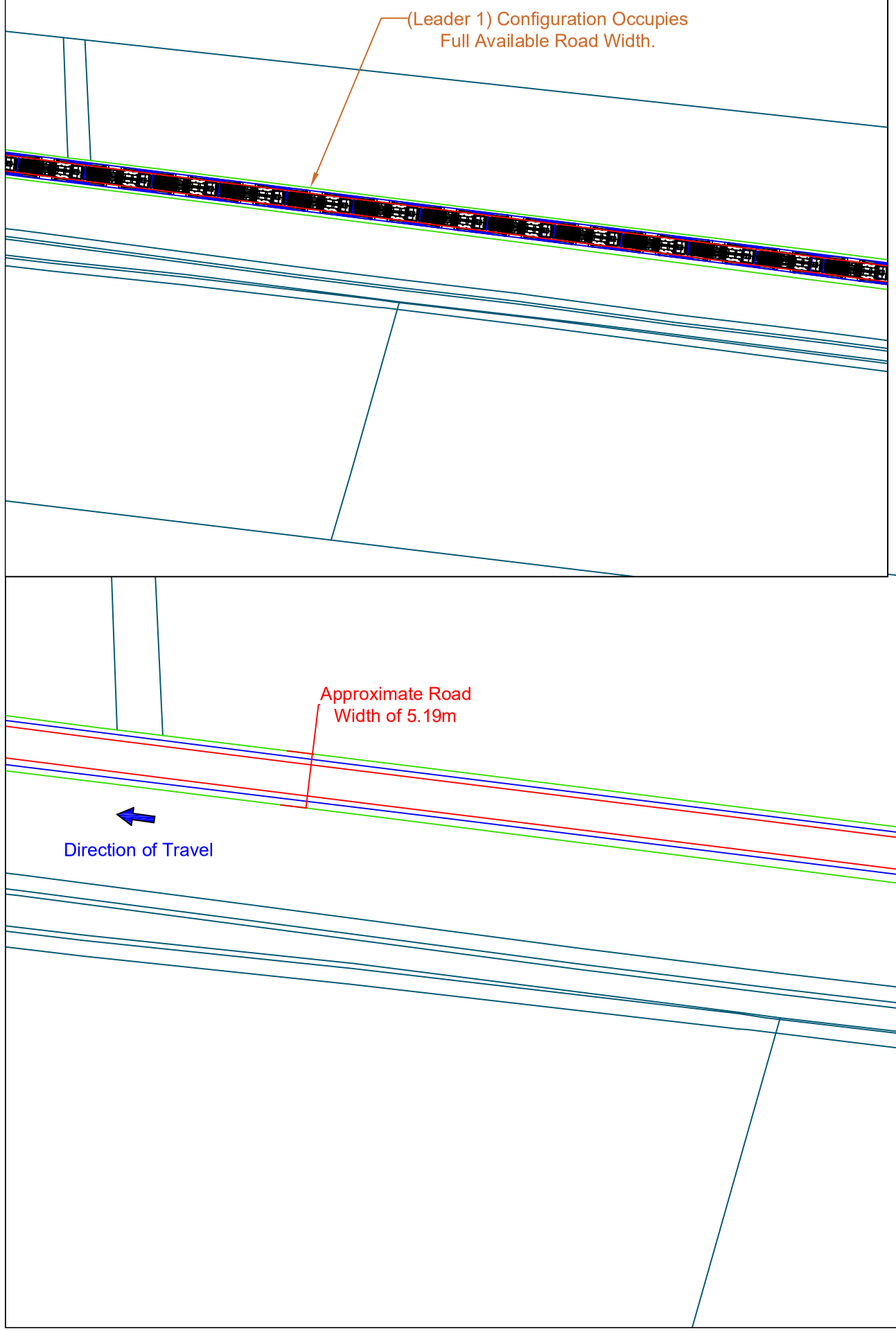
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	9 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

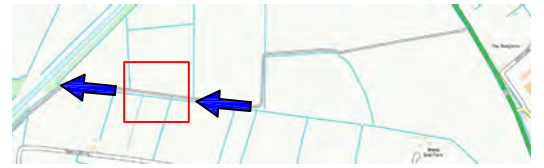


Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

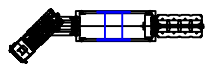
The delivery vehicle can be seen continuing along the unclassified road at approximate OS grid reference: TF 20606 42001.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected to occur.

Road width measuring approximately 5.19m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.59m.
Section considered to be negotiable.

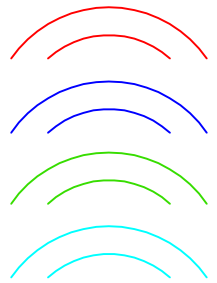
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20606 42001, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

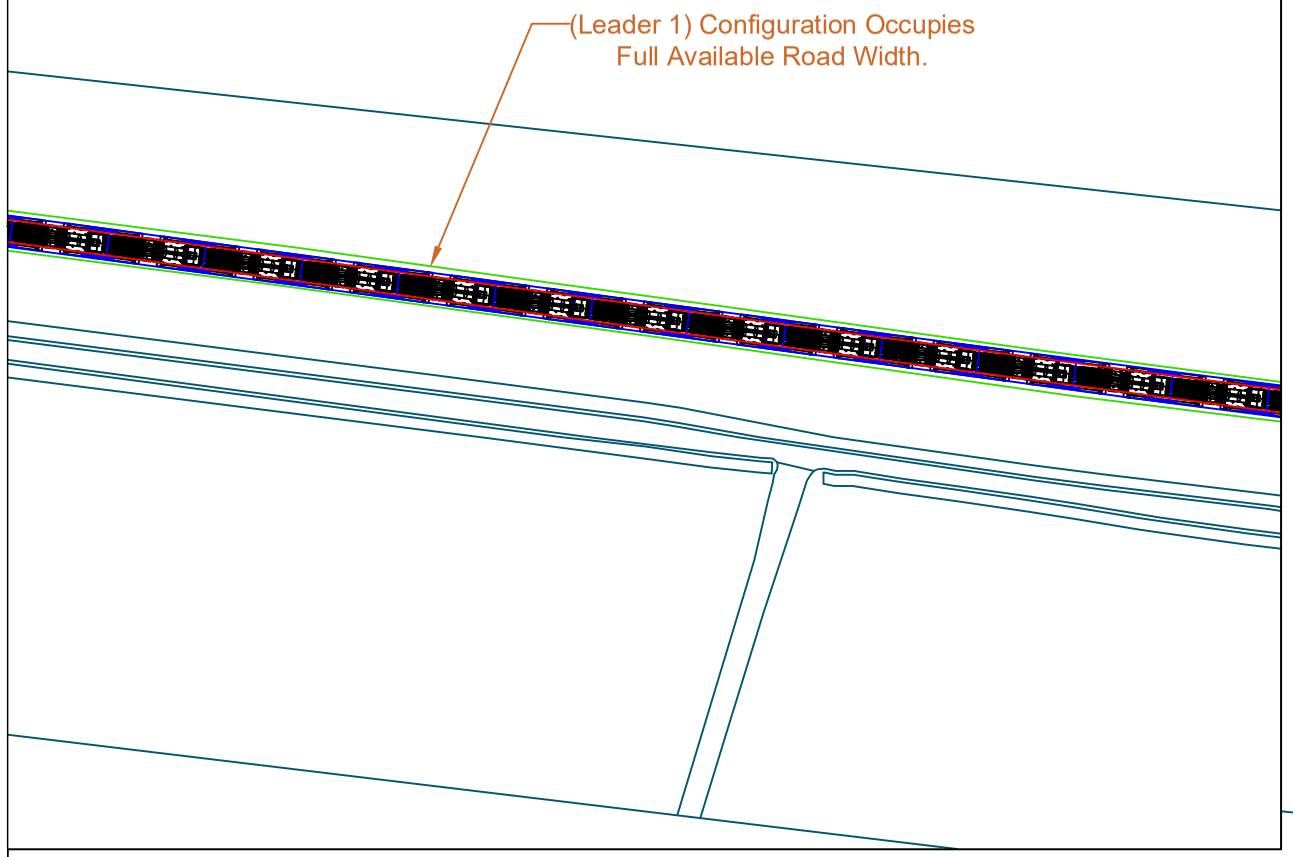
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	10 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

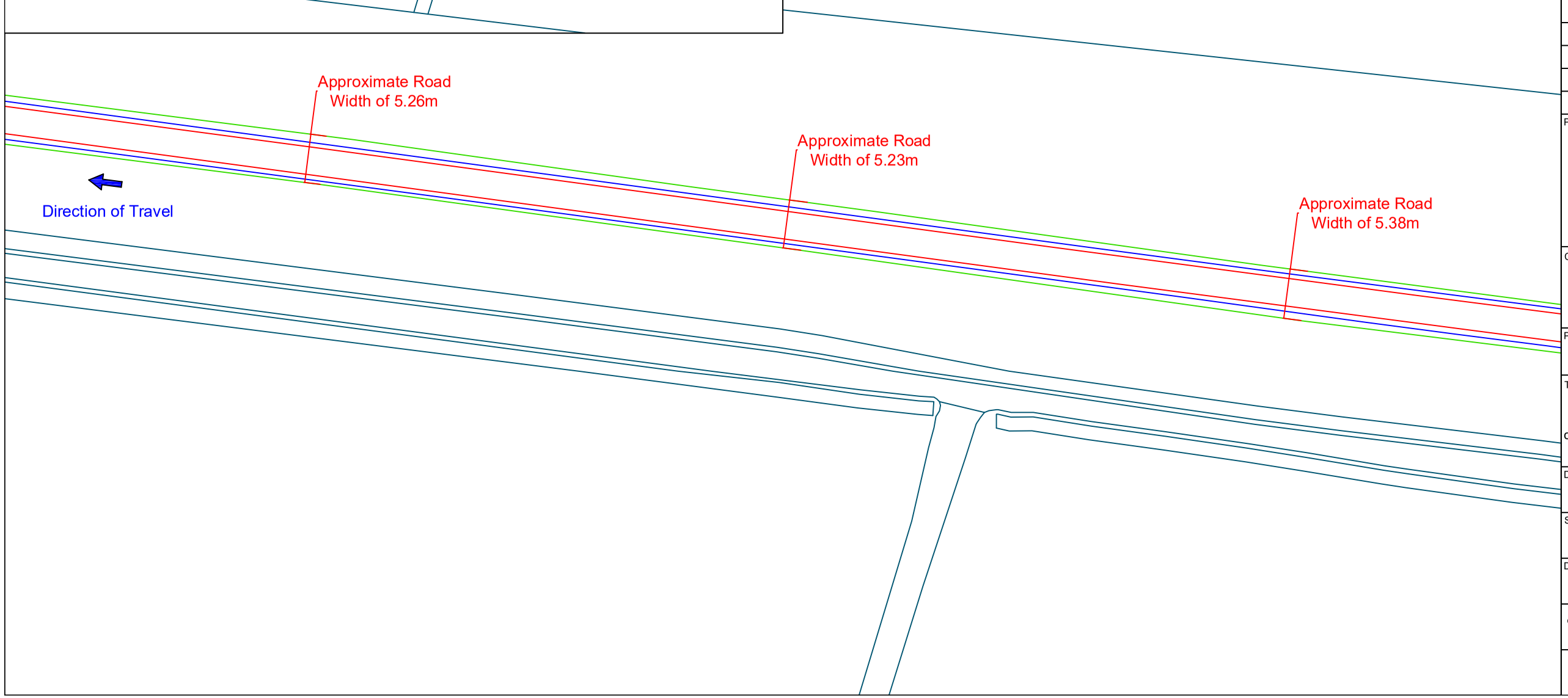
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

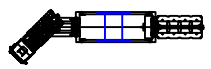
The delivery vehicle can be seen continuing along the unclassified road at approximate OS grid reference: TF 20413 42029.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, no oversail is expected to occur.

Road width measuring approximately 5.23m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.61m.
Section considered to be negotiable.



Location Plan

Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20413 42029, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

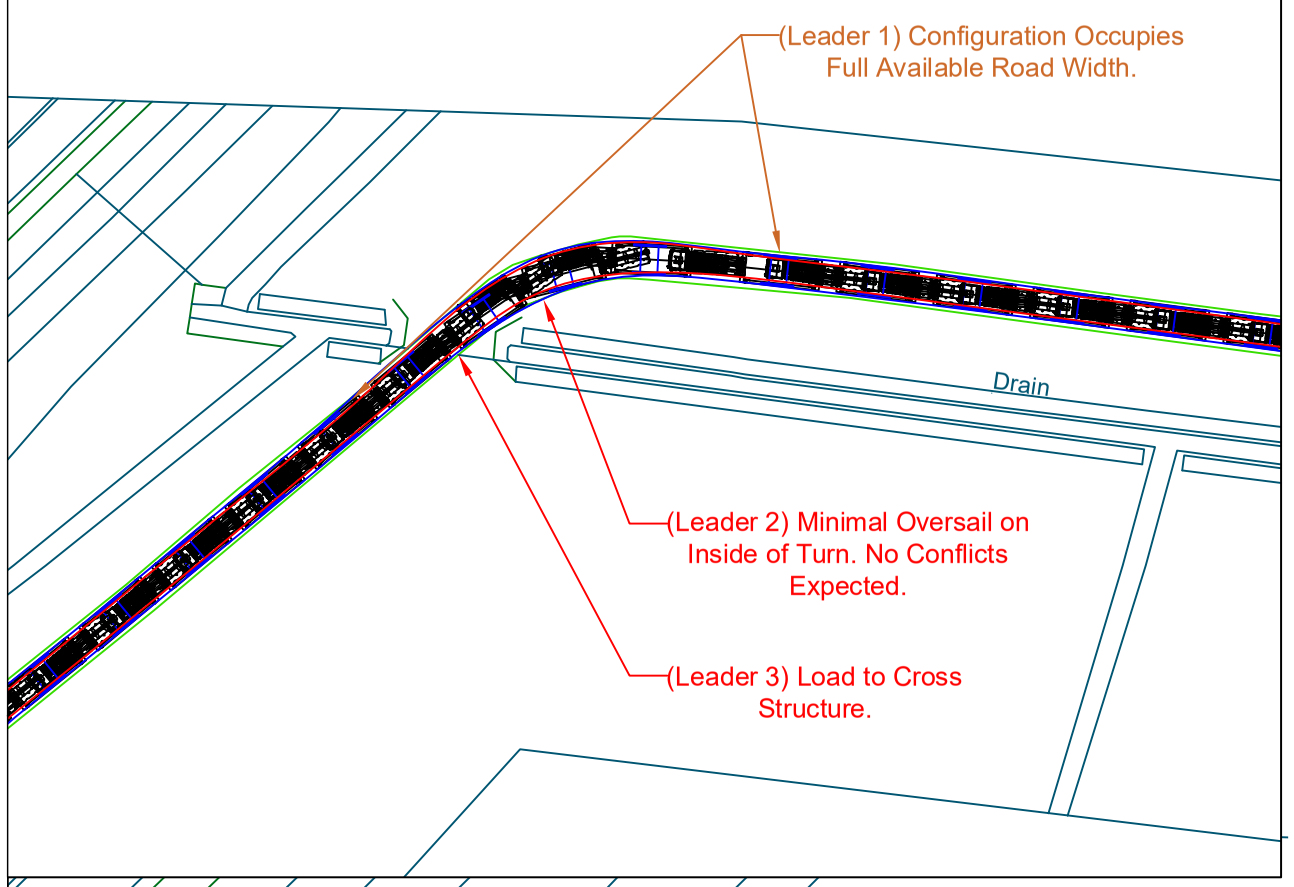
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	11 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



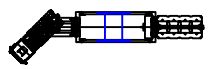
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

The delivery vehicle can be seen taveling along the unclassified road, turning left along the bend and continuing along the unclassified road at approximate OS grid reference: TF 20246 42038.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, minimal oversail is expected to occur on the inside of the turn (Leader 2), no conflicts are expected to result from this.
Additionally, where the load crosses a structure, structural capacity is to be confirmed with the private road owner, although no problems are expected as heavy transformers have crossed in the past (Leader 3).

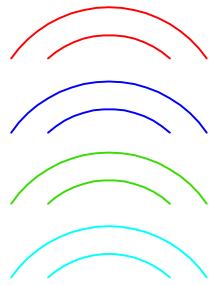
Road width measuring approximately 5.03m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.51m.
It should be noted that as the configuration negotiates the bend in the road, that no clearance between the configuration on the road edge may occur, this however does not anticipate any oversail.
Section considered to be negotiable.

Location Plan

Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

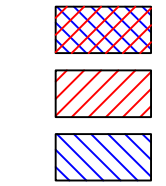


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20246 42038, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

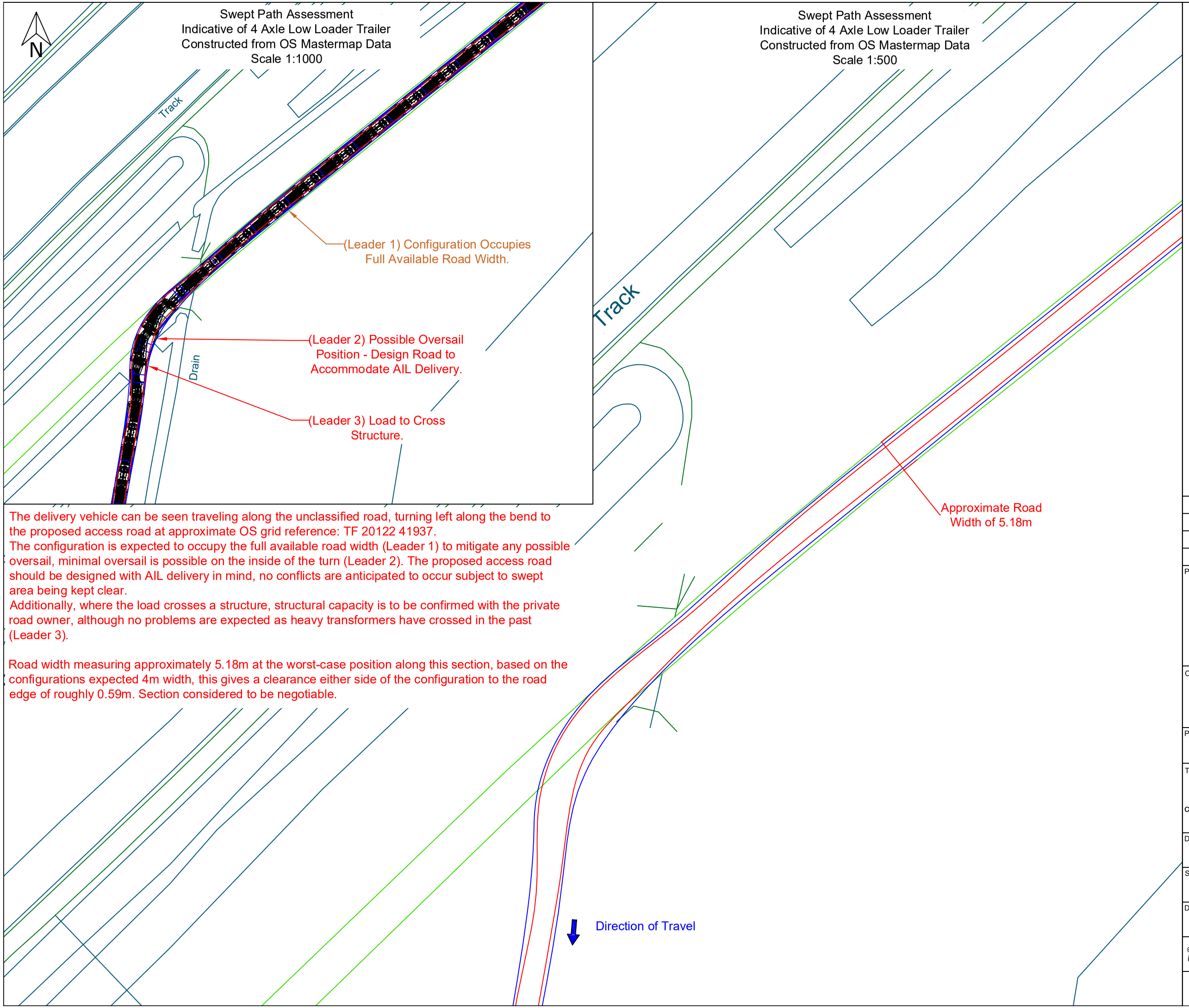
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP
Dwg. no:	**Sheet:**	**Rev:**
23-1174.SPA03	12 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

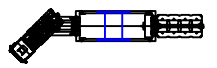


The delivery vehicle can be seen traveling along the unclassified road, turning left along the bend to the proposed access road at approximate OS grid reference: TF 20122 41937.
The configuration is expected to occupy the full available road width (Leader 1) to mitigate any possible oversail, minimal oversail is possible on the inside of the turn (Leader 2). The proposed access road should be designed with AIL delivery in mind, no conflicts are anticipated to occur subject to swept area being kept clear.
Additionally, where the load crosses a structure, structural capacity is to be confirmed with the private road owner, although no problems are expected as heavy transformers have crossed in the past (Leader 3).

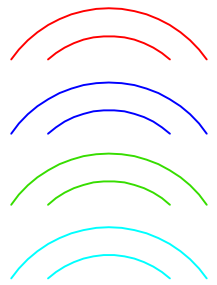
Road width measuring approximately 5.18m at the worst-case position along this section, based on the configurations expected 4m width, this gives a clearance either side of the configuration to the road edge of roughly 0.59m. Section considered to be negotiable.

Location Plan

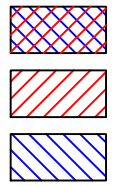
Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06



Extent of vehicle track
Extent of oversail
Extent of road boundary
Extent of property boundary



Overrun and oversail beyond kerb
Overrun beyond kerb
Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20122 41937, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

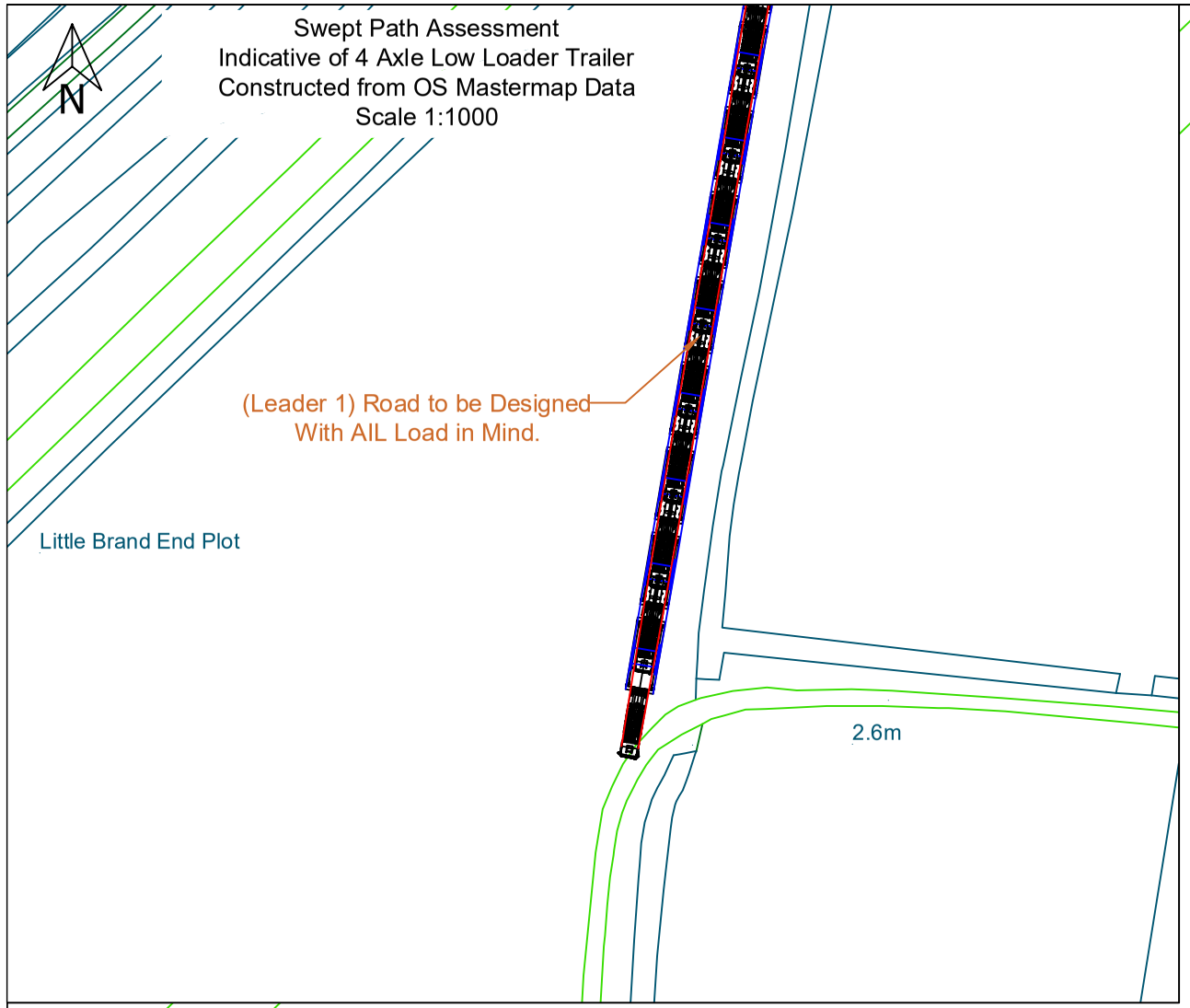
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	13 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

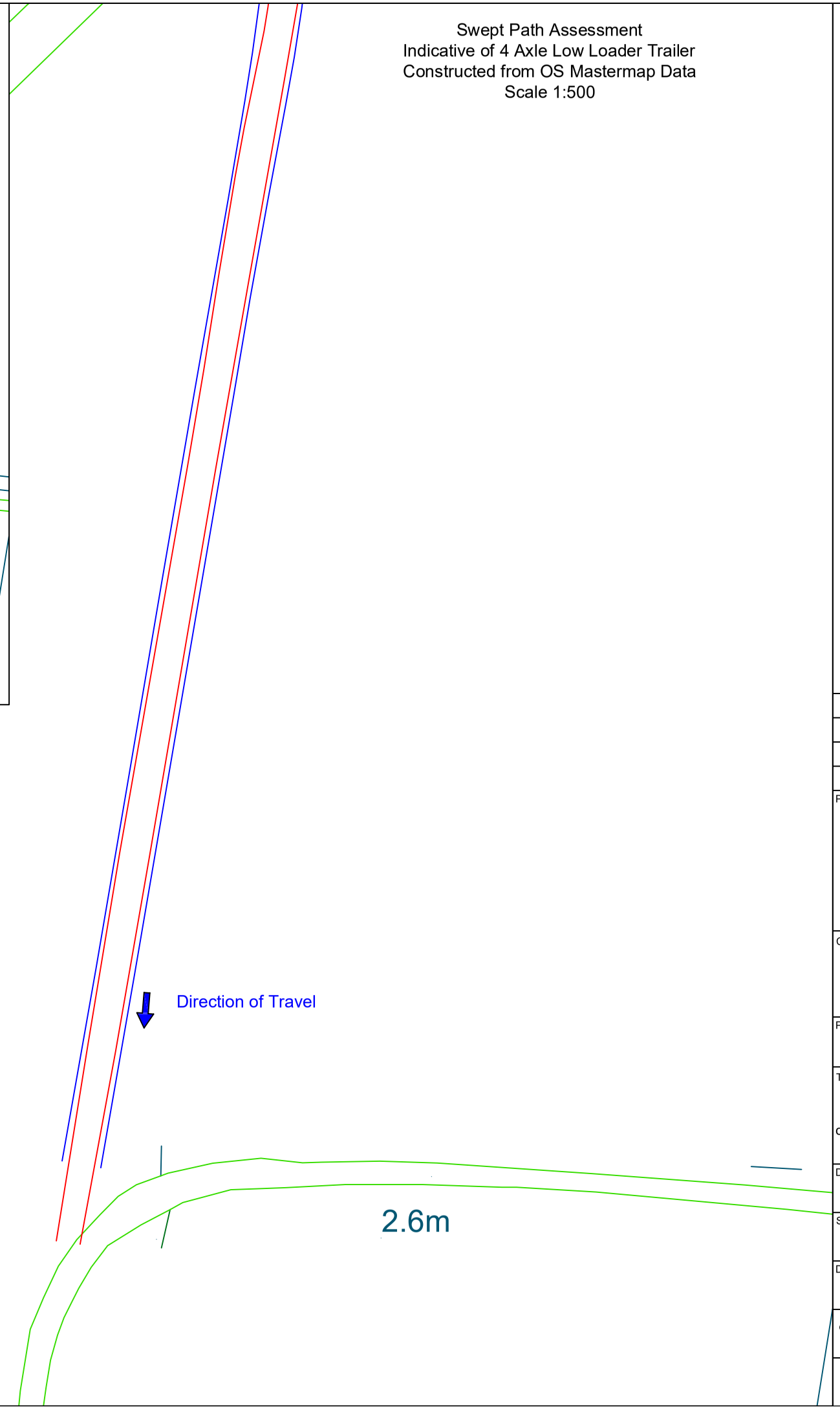
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



The delivery vehicle can be seen traveling at approximate OS grid reference: TF 20045 41780.
The proposed access road should be designed with AIL delivery in mind, no conflicts are anticipated to occur subject to swept area being kept clear (Leader 1)
Section considered to be negotiable.

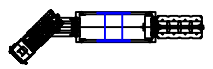
Little Brand End Plot

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

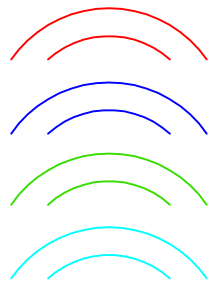


Location Plan

Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road at approximate OS grid reference: TF 20045 41780, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

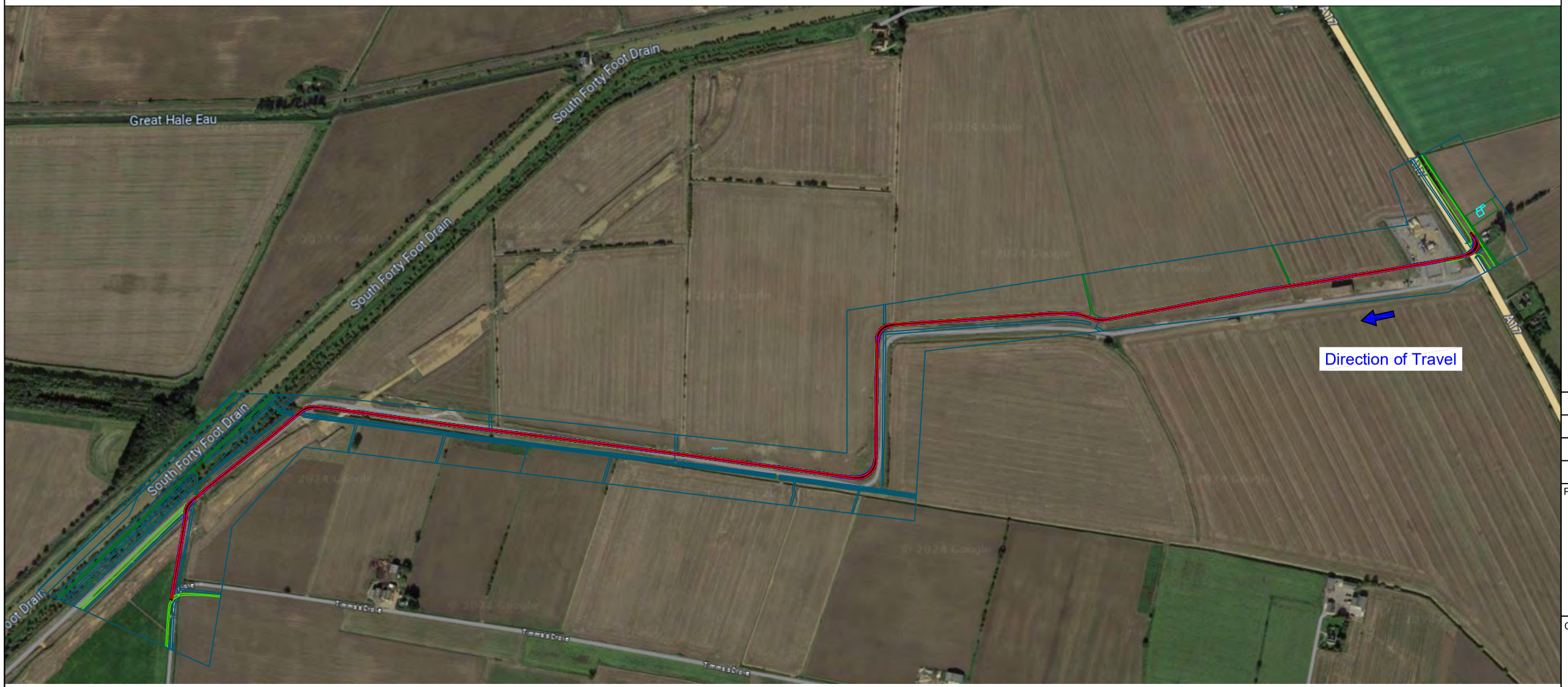
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	14 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:7500

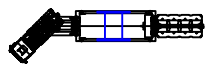
NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



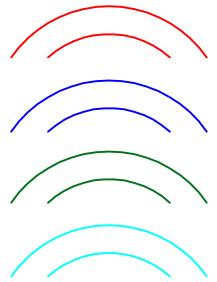
The delivery vehicle can be seen negotiating the unlcassified road, toward the proposed site access road. The configuration does not anticipate oversail to occur along the route, with the exception of when the vehicle is negotiating bends along the route. Oversail that does occur is minimal, and does not anticipate any conflicts to occur. It should be noted that the proposed access road to the site should be designed with AIL (Abnormal Indivisible Loads) delivery vehicle in mind, this can mitigate potential future remedial worlks being required. Further from this, where and access road is being created, there should be no impact upon the swept area of the vehicle to esnure the appropriate clearances are maintained.

Location Plan

Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

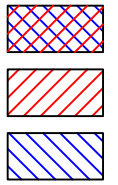


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	06.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 5

Title:
Swept Path Assessment
Negotiability of continuing along Unclassified Road from approximate OS grid reference: TF 22139 42293, to OS grid reference: TF 20045 41780 considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA03	15 of 15	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Beacon Fen, Access to Construction Laydown Area 4 - Abnormal Indivisible Load Swept Path Assessment Considerate of 30te Cable Drum Delivery

Prepared for Low Carbon

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

NAME		SIGNATURE	DATE
Prepared by:	Micah Orbart	[redacted]	09.02.24
Checked by:	Andy Pearce		09.02.24
Approved by:	Andy Pearce		09.02.24

DISCLAIMER

Any conclusions, calculations or findings presented here should not be changed or altered.

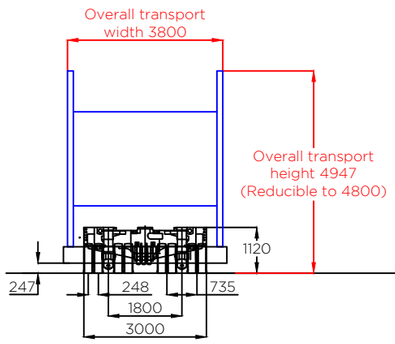
COPYRIGHT AND NON-DISCLOSURE NOTICE

THIRD PARTY DISCLAIMER

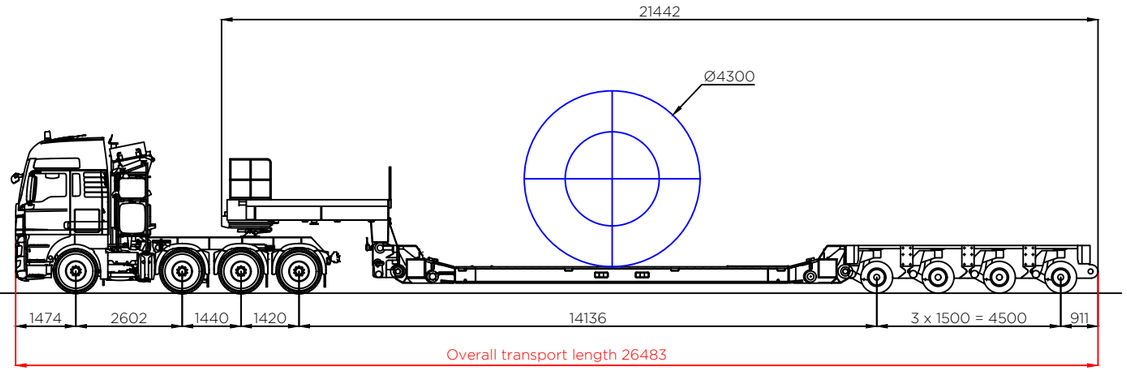
Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Wynns Ltd at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. Wynns Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

DOCUMENT REVISIONS

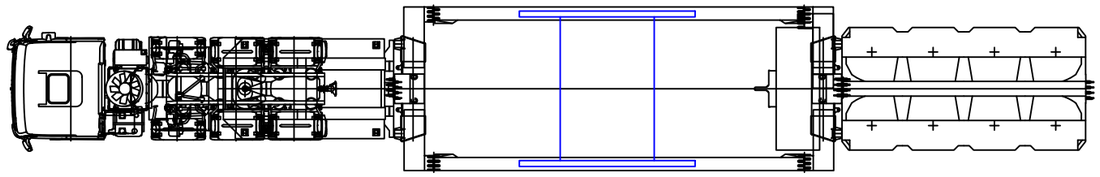
Issue	Date	Details
0	09.02.24	SPA03 Drawings Issued
1		
2		



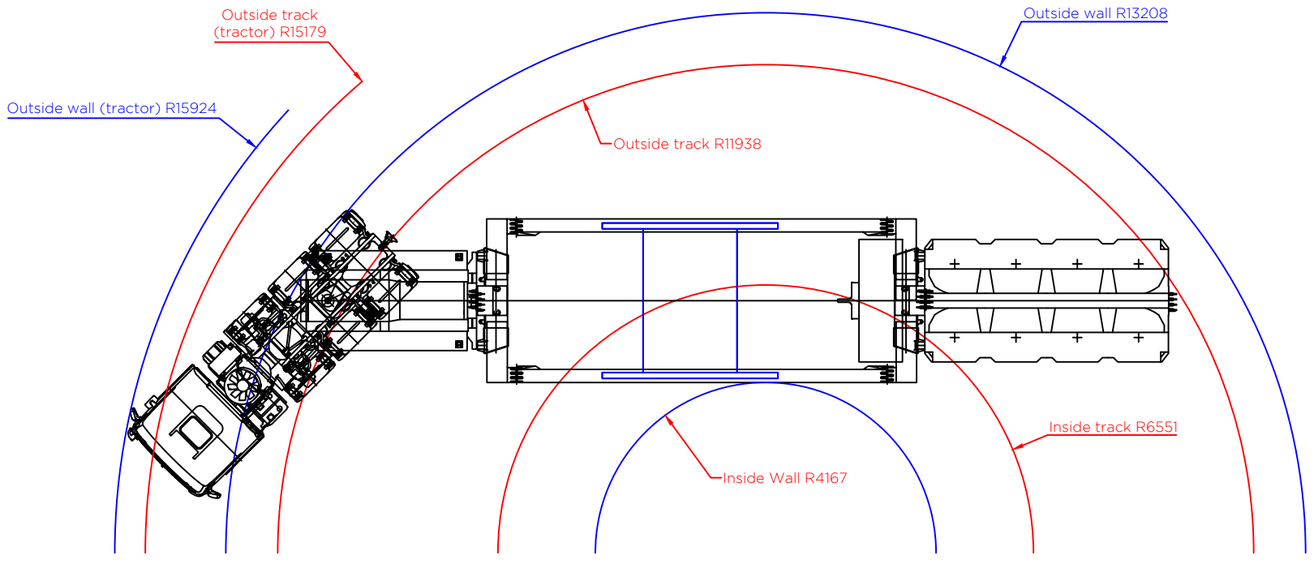
Profile view



Elevation view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Plan view - 4 axle low loader - concept model only
Indicative 30 te cable drum



Minimum turning radii information
4 axle low loader - concept model only
Indicative 30 te cable drum

Load table	
4 axle modular reeling trailer	
Self weight of cable drum	30.0 te
Self weight of trailer	30.0 te
Self weight of tractor	15.0 te
Total combined weight	75.0 te
Load per axle line (trailer)	10.0 te
Load per axle	5.0 te
Load per wheel (4 per axle)	1.25 te
Overall ground bearing pressure	2.96 te/m²
Tractor (15 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	10.0 te
Rear axle	10.0 te

Notes:
[1] The figures shown above are representative of the transport configuration portrayed. However as tractor and trailer arrangements vary then the loads and dimensions indicated should be treated as probable values.

[2] Actual dimensions, including axle spacing and mean running height, may vary slightly depending on manufacturer of trailer deployed.

[3] All linear measures in millimetres unless stated otherwise.

Rev.	Date	Amendments
1		
0	25.01.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen

Title: Indicative transport configuration
Indicative 30.0 te cable drum carried on
4 axle low loader
showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn By:	Checked By:
1:150	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.TC06	1 of 1	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Transport Configurations\23-1174.TC06 Cottam & West Burton Solar 30t Cable Drum 4 Axle Low Loader R0.dwg

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Approximate Road
Width of 4.15m

Oversail of Approximately
72.96m²
(Continues onto Sheet 2)

Oversail of Approximately
124.75m²
(Continues onto Sheet 2)

Approximate Road
Width of 3.39m

Approximate Oversail
of 0.36m

Approximate Oversail
of 0.58m

Direction of Travel

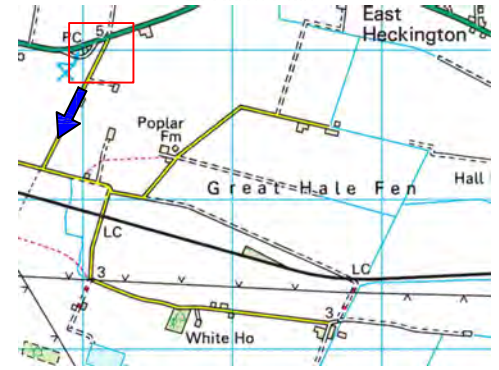
The delivery vehicle can be seen traveling along Carterplot Road from A17, at approximate OS grid reference: TF 17156 44057.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.39m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.31m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

(Leader 1) Configuration Occupies
Full Available Road Width.
Oversail Anticipated, No Conflicts
Expected.

Location Plan



Legend:

4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 17156 44057, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	1 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Oversail of Approximately
124.75m²
(Continued from Sheet 1)

Approximate Oversail
of 0.49m

Oversail of Approximately
72.96m²
(Continued from Sheet 1)

Approximate Road
Width of 3.18m

Approximate Oversail
of 0.40m

Car Dyke
ROMAN CANAL

Approximate Road
Width of 3.10m

Approximate Road
Width of 3.06m

Direction of Travel

The delivery vehicle can be seen traveling along Carterplot Road, at approximate OS grid reference: TF 17097 43945.

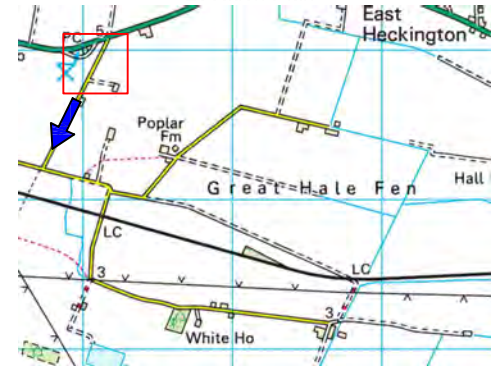
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.06m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.47m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

Car Dyke
ROMAN CANAL

(Leader 1) Configuration Occupies
Full Available Road Width.
Oversail Anticipated, No Conflicts
Expected.

Location Plan



Legend:

4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

low carbon
powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 17097 43945, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	2 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Approximate Road Width of 3.93m

Oversail of Approximately 80.11m²

Oversail of Approximately 49.74m²

Approximate Oversail of 0.63m

Approximate Oversail of 0.73m

Approximate Road Width of 2.97m

Approximate Road Width of 3.28m

Drain

Direction of Travel

The delivery vehicle can be seen traveling along Carterplot Road, at approximate OS grid reference: TF 17029 43800.

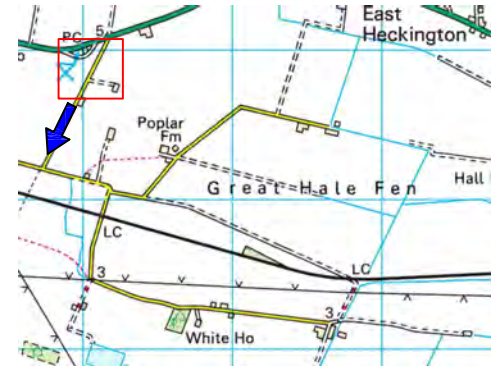
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 2.97m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.51m. It is also possible for minimal overrun to occur outside the road boundary, where this occurs, plating and packing should be carried out to facilitate. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

Drain

Location Plan



Legend:

4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 17029 43800, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	3 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Approximate Road Width of 3.63m

Oversail of Approximately 119.87m²
(Continues onto Sheet 5)

Approximate Overrun of 0.40m

Oversail of Approximately 10.68m²

White House

Approximate Road Width of 3.33m

Approximate Road Width of 3.06m

Approximate Oversail of 0.32m

Oversail and Overrun of Approximately 39.33m²
(Continues onto Sheet 5)

Oversail of Approximately 70.71m²
(Continues onto Sheet 5)

Anticipated Overrun of 0.61m

Anticipated Oversail of 1.01m

Approximate Road Width of 3.00m

Direction of Travel

The delivery vehicle can be seen traveling along Carterplot Road, at approximate OS grid reference: TF 16968 43680.

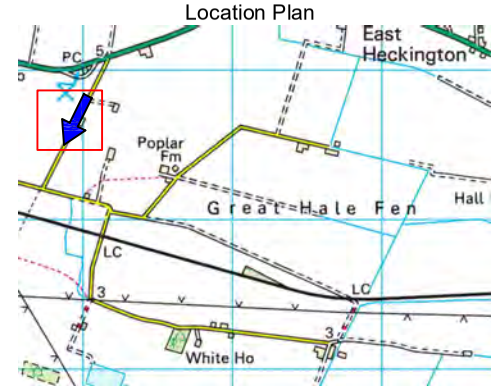
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.00m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.50m. Overrun is also expected to occur outside the road boundary, where this occurs, plating and packing should be carried out to facilitate. Oversail and overrun does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

White House

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 16968 43680, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	4 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Oversail of Approximately 70.71m²
(Continued from Sheet 4, Continues onto Sheet 6)

Oversail and Overrun of Approximately 39.33m²
(Continued from Sheet 4)

Oversail of Approximately 119.87m²
(Continued from Sheet 4, Continues onto Sheet 6)

Approximate Road Width of 3.24m

Approximate Oversail of 0.39m

Approximate Oversail of 0.38m

Approximate Road Width of 3.37m

Car Dyke
ROMAN CANAL

Approximate Road Width of 3.13m

Direction of Travel

The delivery vehicle can be seen traveling along Carterplot Road, at approximate OS grid reference: TF 16905 43567.

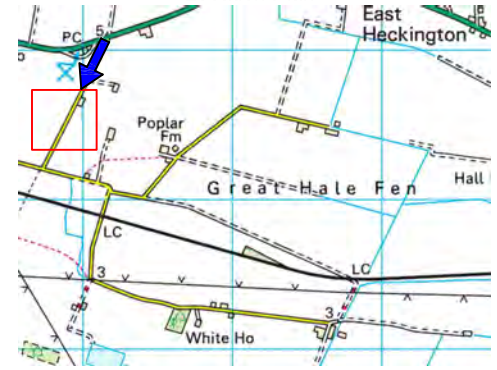
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.13m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.44m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

Car Dyke
ROMAN CANAL

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

Location Plan



Legend:

4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 16905 43567, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	5 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Oversail of Approximately
70.71m²
(Continued from Sheet 5)

Oversail of Approximately
119.87m²
(Continued from Sheet 5)

Lay-by

Approximate Road
Width of 5.77m

Great Hale

Oversail of Approximately
39.59m²

Approximate Road
Width of 3.13m

Approximate Oversail
of 0.35m

Oversail of Approximately
122.31m²
(Continues onto Sheet 7)

Approximate Oversail
of 0.58m

Approximate Road
Width of 3.19m

Drain

Direction of Travel

The delivery vehicle can be seen traveling along Carterplot Road, at approximate OS grid reference: TF 16833 43431.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.13m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.44m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

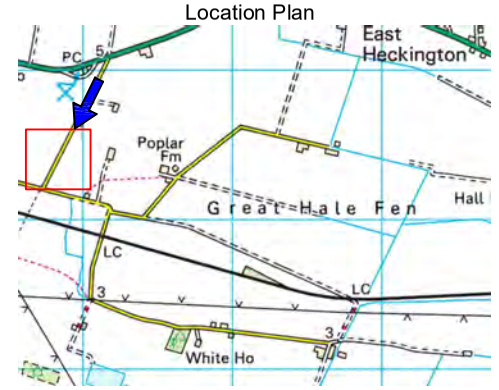
Lay-by

Great Hale F

(Leader 1) Configuration Occupies
Full Available Road Width.
Oversail Anticipated, No Conflicts
Expected.

Drain

Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of Carterplot Road at approximate OS grid reference: TF 16833 43431, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	6 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Oversail of Approximately 6.92m²

Approximate Road Width of 3.74m

Oversail and Overrun of Approximately 11.85m²

Oversail of Approximately 122.31m² (Continued from Sheet 6)

17.45m

1.62m

Oversail and Overrun of Approximately 35.29m²

Approximate Oversail of 4.09m

Approximate Overrun of 2.57m

Oversail of Approximately 24.11m²

Oversail of Approximately 19.68m²

GP

3.9m

Approximate Oversail of 0.45m

Direction of Travel

Approximate Road Width of 3.70m

Approximate Oversail of 0.25m

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

(Leader 4) Configuration to Cross Culvert Structure.

(Leader 2) Oversail and Overrun to Inside of Turn. Plating and Packing Required. No Conflicts Anticipated.

(Leader 3) Sign on Inside of Turn, Conflict Expected, Removal Required.

GP

3.9m

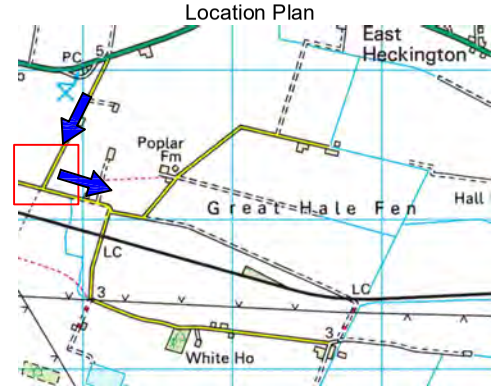
Drain

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

The delivery vehicle can be seen turning left from Carterplot Road onto Great Hale Drove, at approximate OS grid reference: TF 16759 43258.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). The configuration is expected to oversail and overrun on both the inside and outside of the turn (Leader 2), where overrun occurs, plating and packing should be carried out to facilitate the manoeuvre. Oversail and overrun does not anticipate any conflicts, section considered to be negotiable. A sign on the inside of the turn anticipates conflict with the configuration, therefore removal is required (Leader 3). Additionally, where the load crosses a structure, structural capacity is to be confirmed by LCC (Lincolnshire County Council) though no problems are expected (Leader 4).
Subject to carrying out the recommended remedial works, this section is considered negotiable.

Location Plan



Legend:

4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen
Access to Construction Laydown Area 4

Title: Swept Path Assessment
Negotiability of left turn from Carterplot Road onto Great Hale Drove at approximate OS grid reference: TF 16759 43258, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	7 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Oversail of Approximately
24.11m²

Approximate Oversail
of 0.37m

Approximate Road
Width of 4.02m

Fen House

Oversail of Approximately
19.68m²

Approximate Road
Width of 3.44m

Direction of Travel

Approximate Oversail
of 0.26m

Approximate Road
Width of 4.02m

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

(Leader 2) Possible Trimming to
Vegetation Depening on Growth.

(Leader 1) Configuration Occupies
Full Available Road Width.
Oversail Anticipated, No Conflicts
Expected.

Fen House

(Leader 4) Configuration to Cross
Culvert Structure.

(Leader 3) Telegraph Poles Either
Side of Road. Conflict Not
Anticipated.

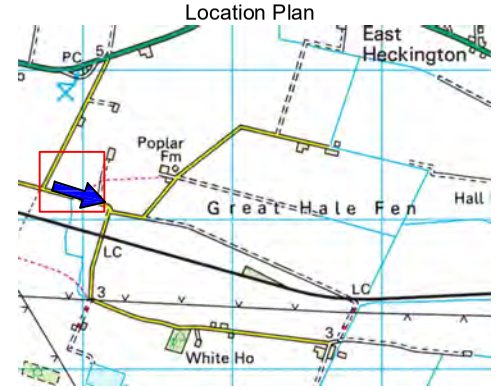
Drain

The delivery vehicle can be seen traveling along Great Hale Drove, at approximate OS grid reference: TF 16913 43169.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.44m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.28m. it should be cautioned that vegetation on the south side of the road may require trimming depending on growth at the time of movement (Leader 2), further from this, there are also telegraph poles positioned either side of the roadway, conflict is not anticipated but should be cautioned (positions approximate)(Leader 3). Finally, the the load crosses a structure, therefore structural capacity is to be confirmed by LCC (Lincolnshire County Council) though no problems are expected (Leader 4).

Oversail does not anticipate any conflicts, section considered to be negotiable.

Location Plan



Legend:

4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 16913 43169, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	8 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

N

Approximate Road Width of 3.92m

Oversail of Approximately 7.791m²

Approximate Oversail of 0.38m

Oversail of Approximately 4.18m²

Oversail of Approximately 44.28m²

Approximate Road Width of 5.17m

The delivery vehicle can be seen turning right along Great Hale Drove, at approximate OS grid reference: TF 17147 43104.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.04m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.48m. It should be cautioned that there is a telegraph pole positioned on the inside of the turn, fitted with tethers, though no conflict is anticipated (position approximate)(Leader 2).
Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

(Leader 2) Telegraph Poles + Pole Tether on Inside of Turn. Conflict Not Anticipated.

3.6m

Drain

3.6m

Drain

Oversail and Overrun of Approximately 8.10m²

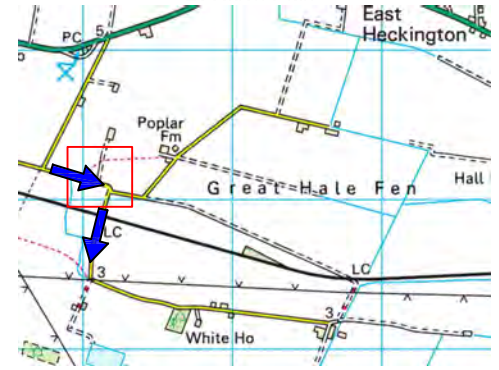
Oversail of Approximately 58.43m² (Continues onto Sheet 10)

Approximate Oversail of 0.64m

Approximate Road Width of 3.04m

Direction of Travel

Location Plan



Legend:

4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen
Access to Construction Laydown Area 4

Title: Swept Path Assessment
Negotiability of turning right along Great Hale Drove at approximate OS grid reference: TF 17147 43104, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	9 of 23	0

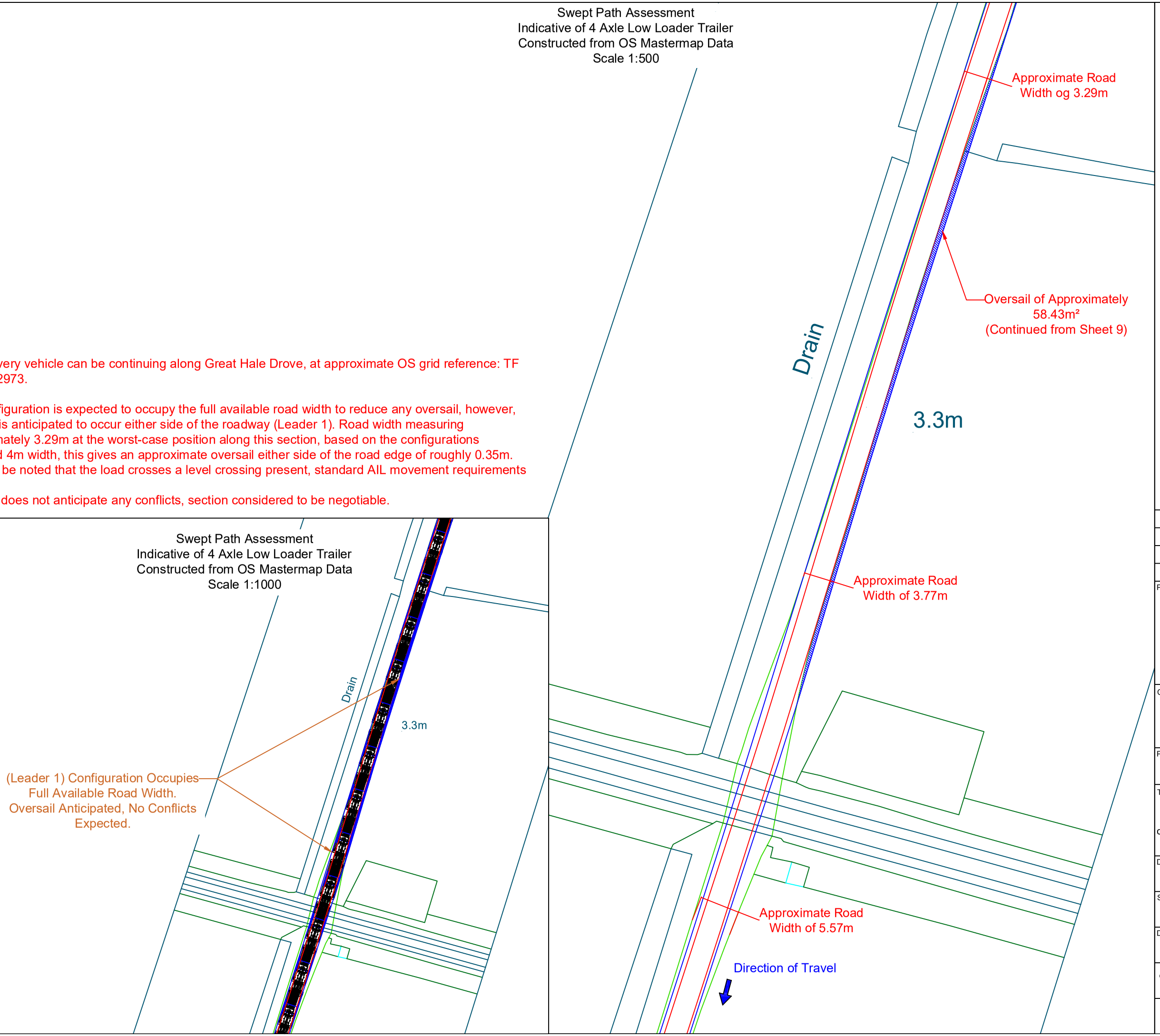
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

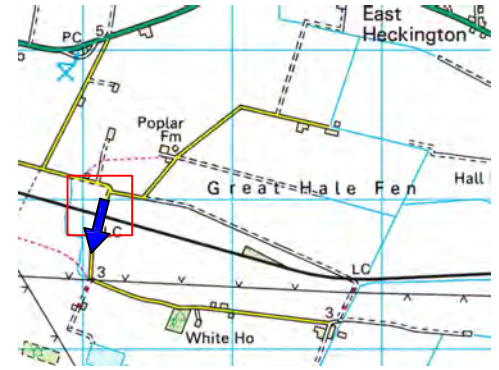
The delivery vehicle can be continuing along Great Hale Drove, at approximate OS grid reference: TF 17147 42973.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.29m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.35m. it should be noted that the load crosses a level crossing present, standard AIL movement requirements apply.
Oversail does not anticipate any conflicts, section considered to be negotiable.

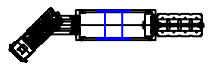


Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

low carbon
powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17147 42973, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	10 of 23	0

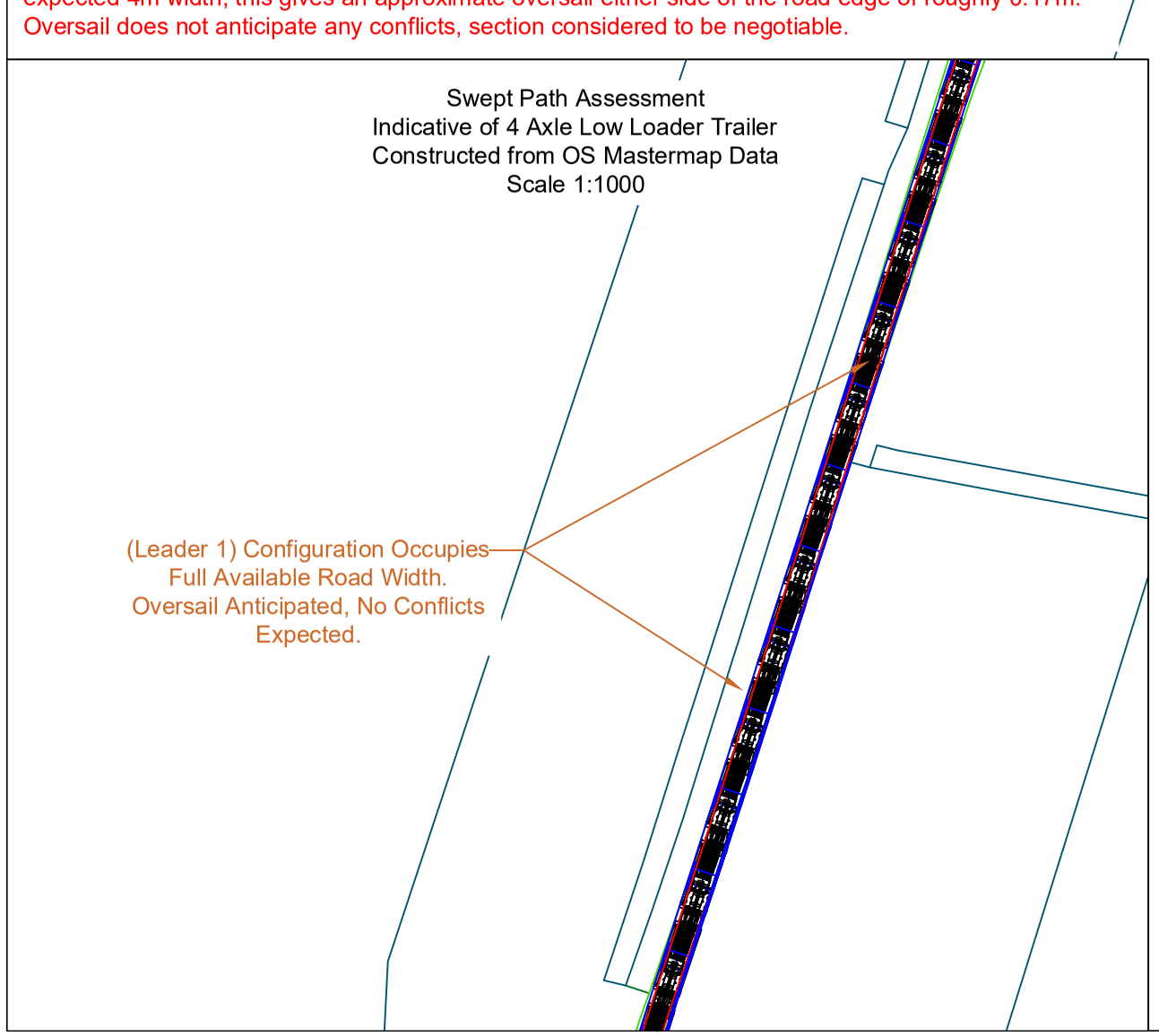
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

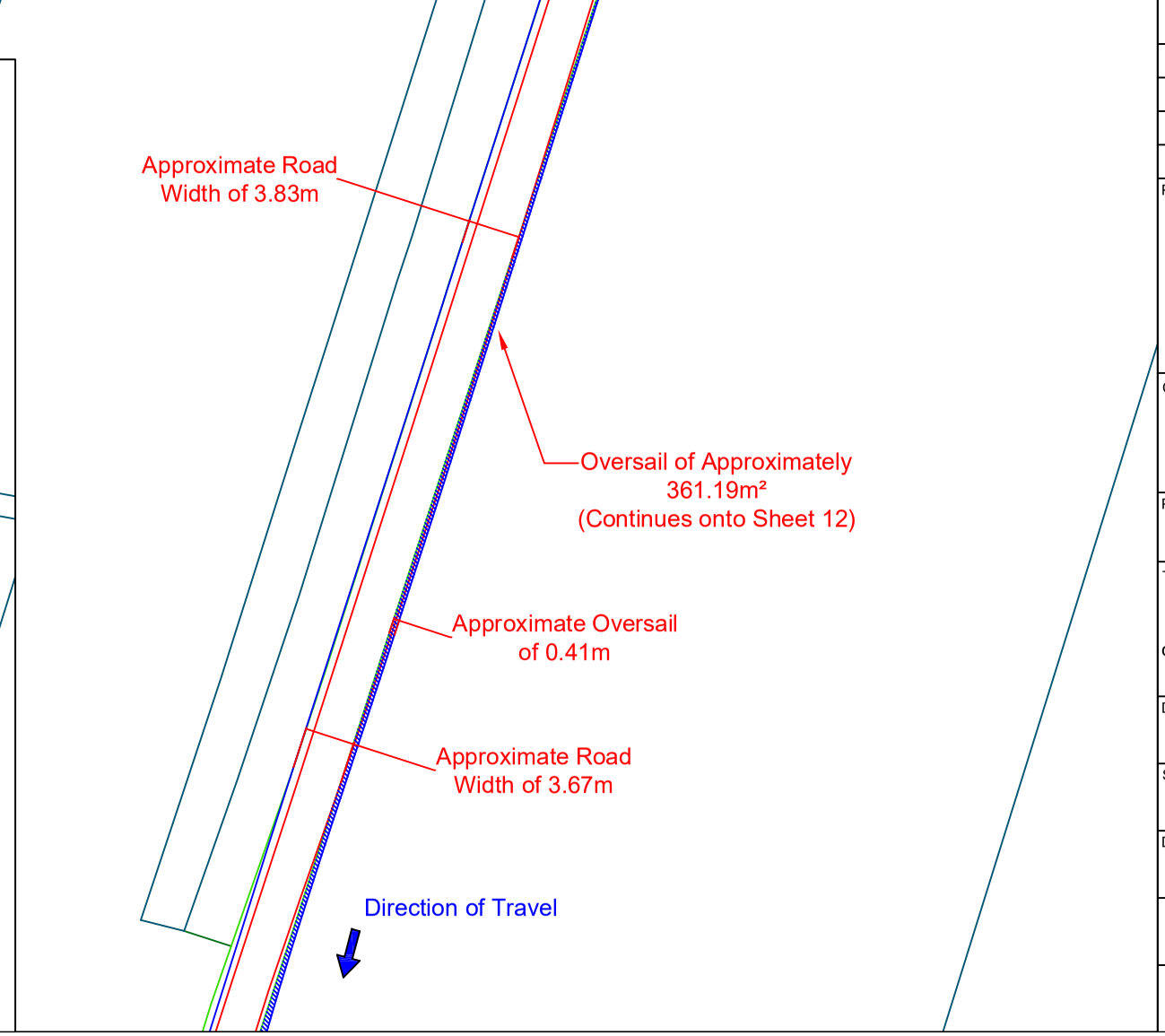
N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

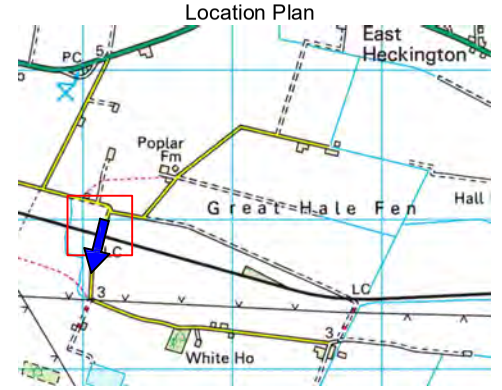
The delivery vehicle can be continuing along Great Hale Drove, at approximate OS grid reference: TF 17111 42853.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.67m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.17m. Oversail does not anticipate any conflicts, section considered to be negotiable.





Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen
Access to Construction Laydown Area 4

Title: Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17111 42853, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status: Final Report

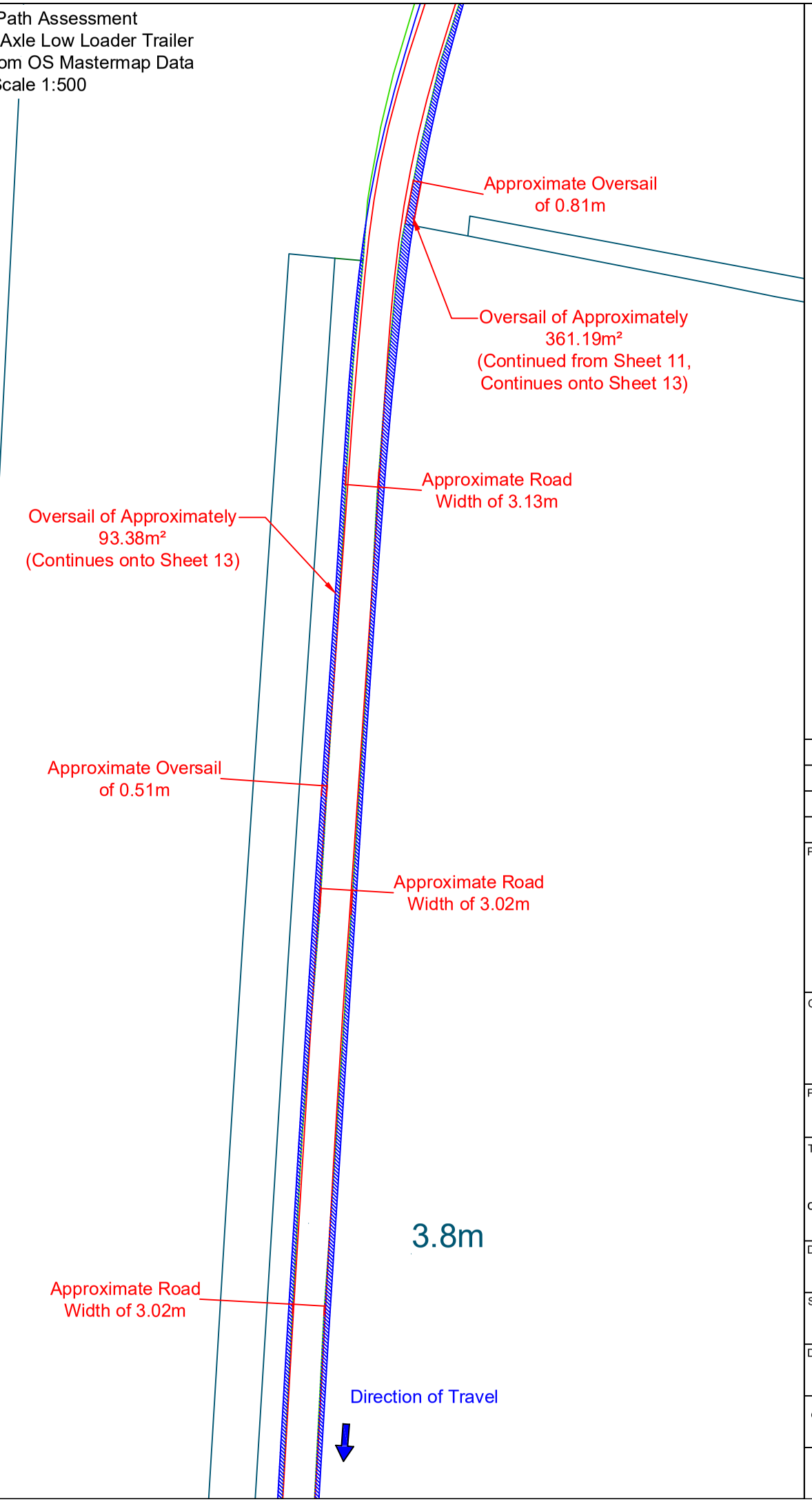
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	11 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

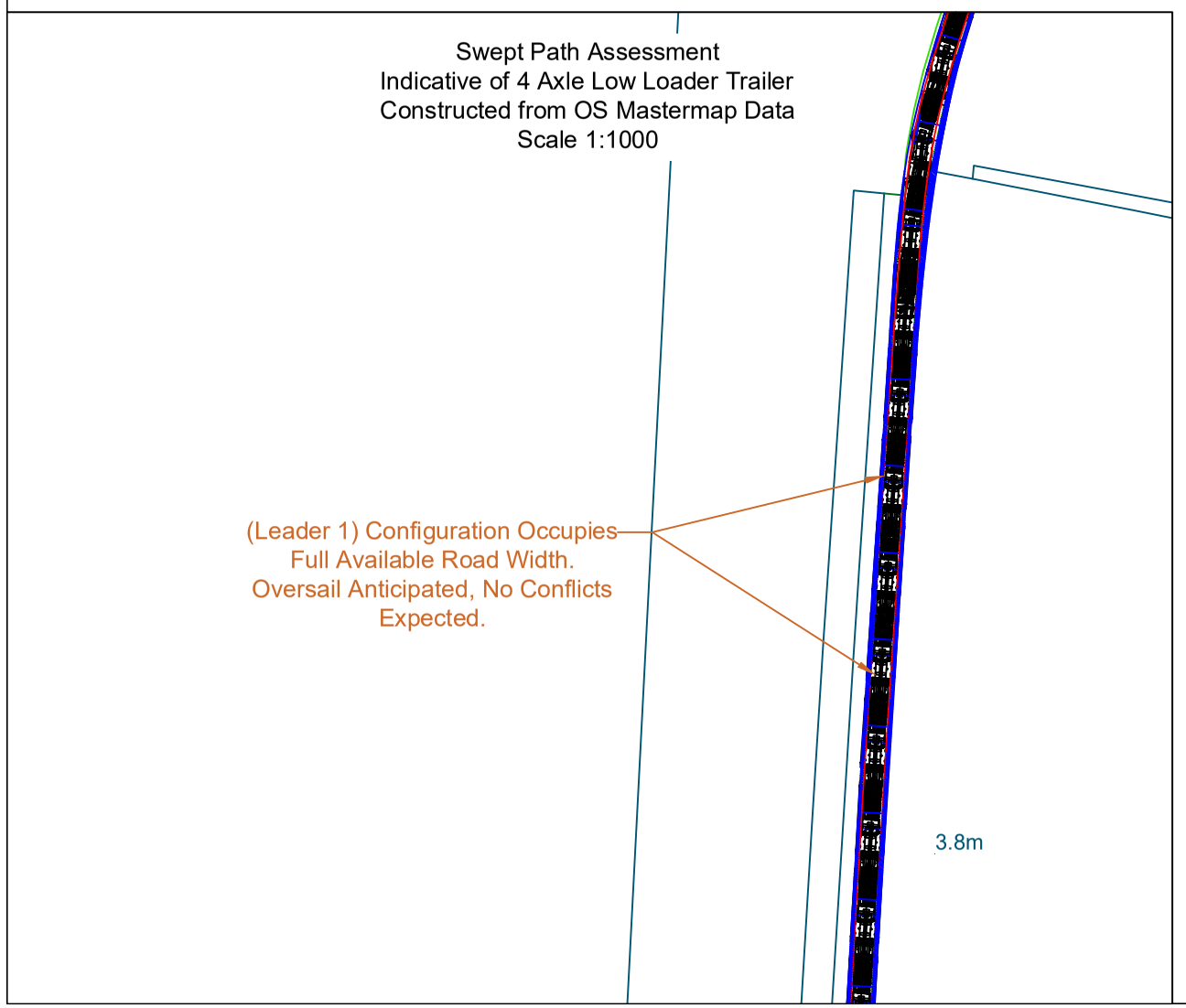
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500



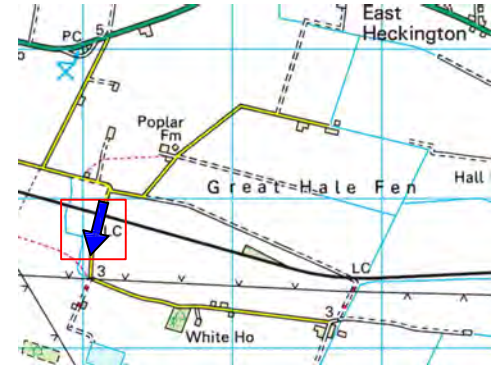
The delivery vehicle can be continuing along Great Hale Drove, at approximate OS grid reference: TF 17061 42689.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.02m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.49m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17061 42689, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	12 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

Oversail of Approximately 93.38m²
(Continued from Sheet 12)

Approximate Road Width of 2.78m

Oversail of Approximately 361.19m²
(Continued from Sheet 12, Continues onto Sheet 14)

Approximate Oversail of 0.83m

Oversail and Overrun of Approximately 22.55m²

Approximate Oversail of 1.58m

Approximate Overrun of 0.83m

Oversail and Overrun of Approximately 4.06m²

Oversail and Overrun of Approximately 7.04m²

Direction of Travel

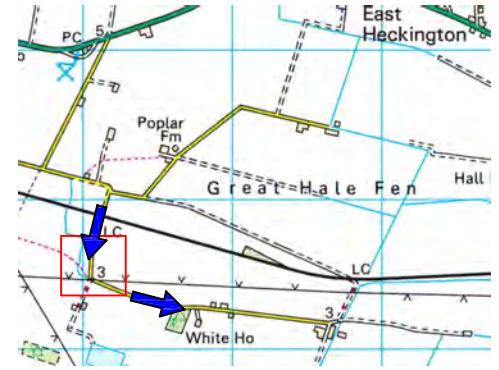
Approximate Road Width of 3.84m

(Leader 1) Configuration Occupies Full Available Road Width. Oversail Anticipated, No Conflicts Expected.

The delivery vehicle can be seen turning left along Great Hale Drove, at approximate OS grid reference: TF 17049 42497.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 2.78m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.61m. It is also possible for overrun to occur outside the road boundary, where this occurs, plating and packing should be carried out to facilitate. Oversail does not anticipate any conflicts, section considered to be negotiable.

Location Plan



Legend:

4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
WYNNS Independent Transportation Engineers
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of turning left along Great Hale Drove at approximate OS grid reference: TF 17049 42497, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

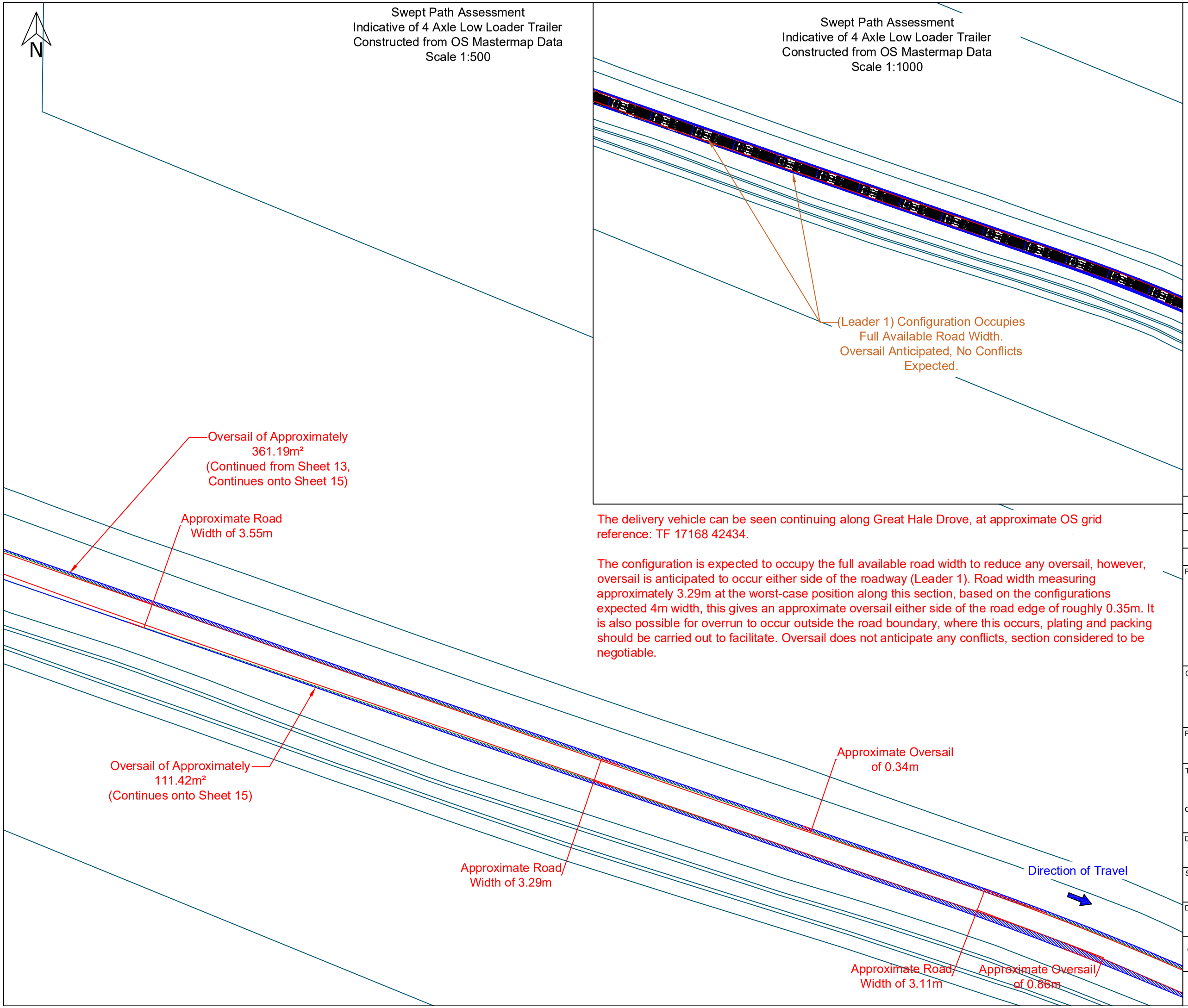
Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP
Dwg. no:	**Sheet:**	**Rev:**
23-1174.SPA04	13 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

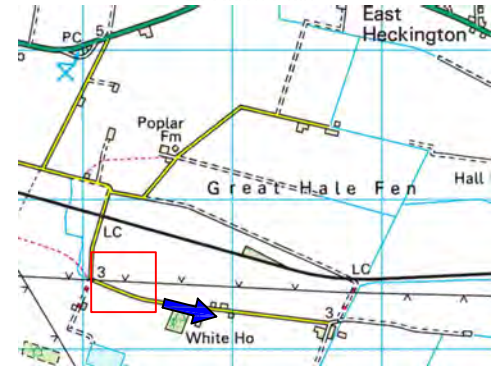
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17168 42434.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.29m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.35m. It is also possible for overrun to occur outside the road boundary, where this occurs, plating and packing should be carried out to facilitate. Oversail does not anticipate any conflicts, section considered to be negotiable.

Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
WYNNS Independent Transportation Engineers
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17168 42434, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

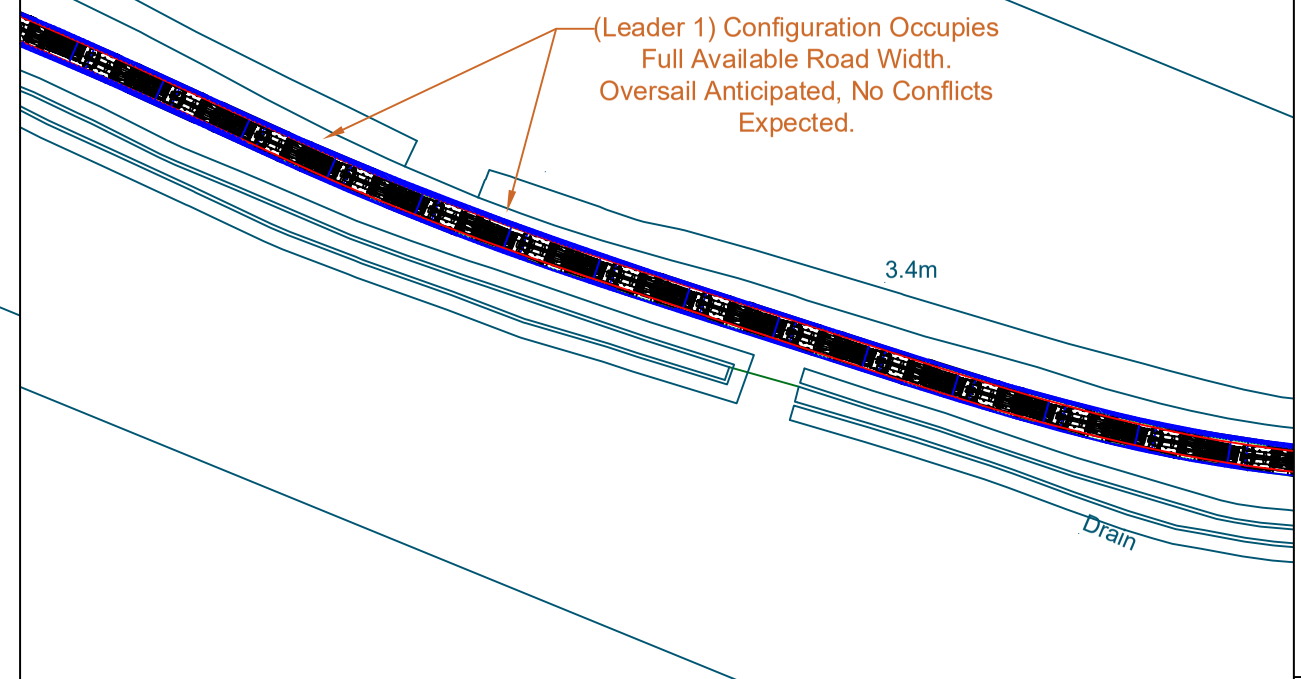
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

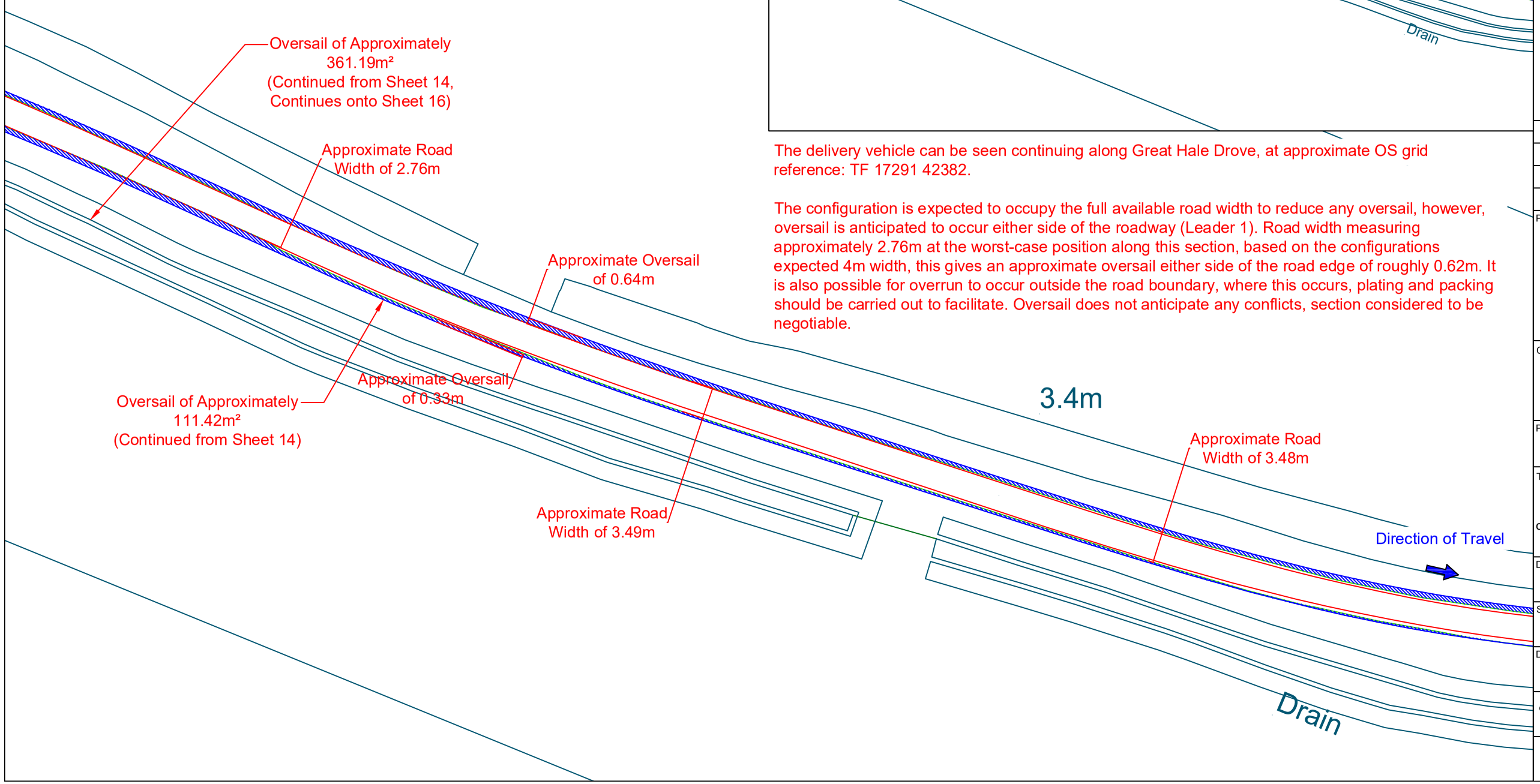
Dwg. no:	Sheet:	Rev:
23-1174.SPA04	14 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

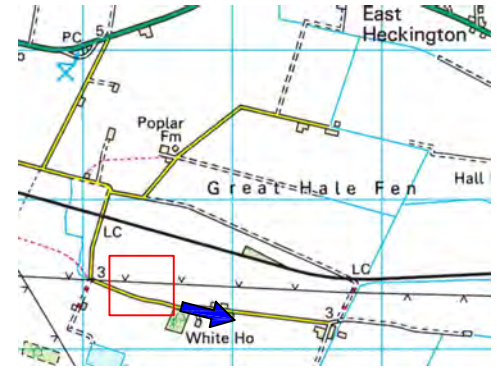




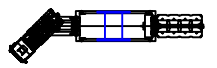
The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17291 42382.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 2.76m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.62m. It is also possible for overrun to occur outside the road boundary, where this occurs, plating and packing should be carried out to facilitate. Oversail does not anticipate any conflicts, section considered to be negotiable.

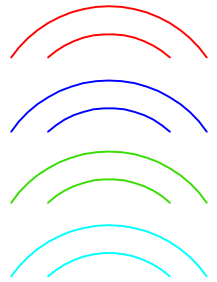
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06



Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17291 42382, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

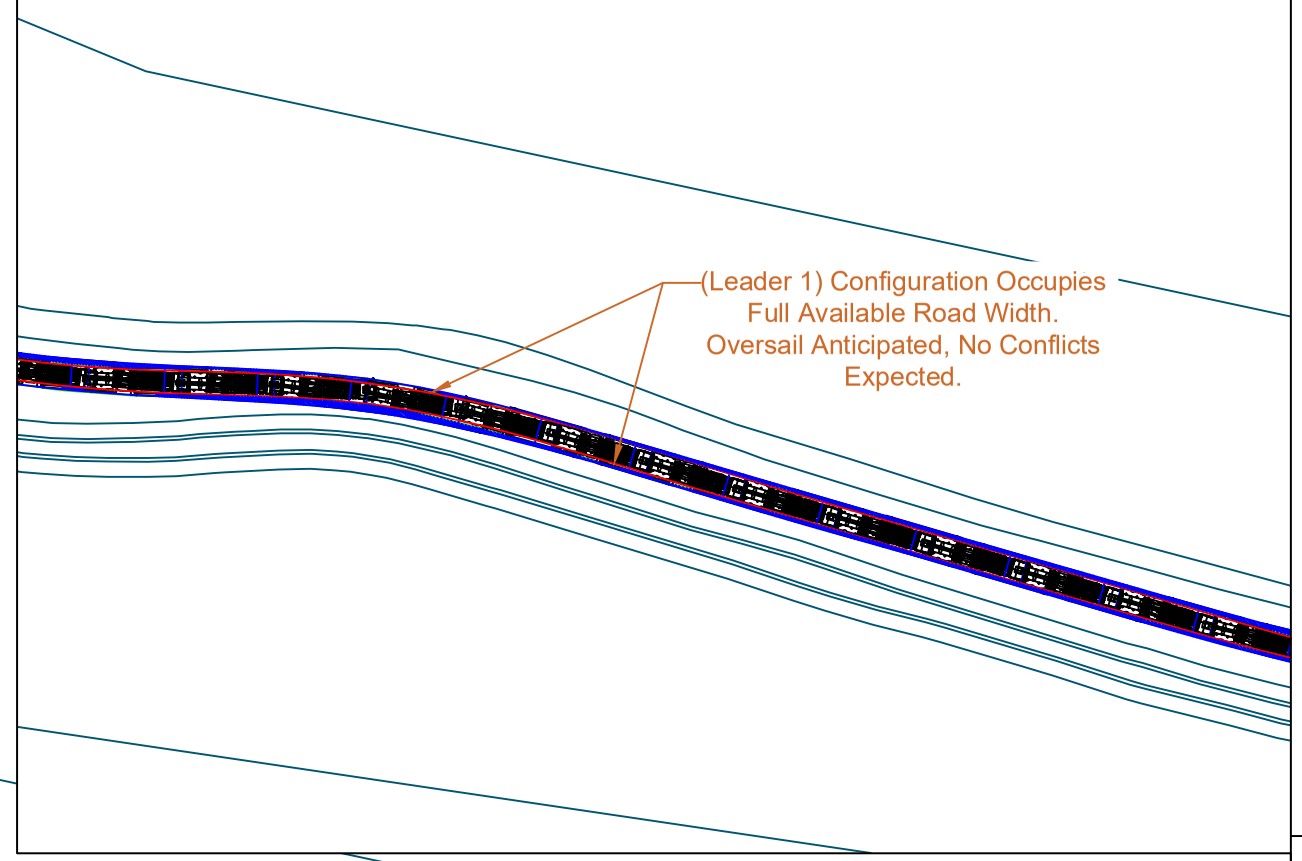
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	15 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17433 42343.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.20m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.40m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Oversail of Approximately
361.19m²
(Continued from Sheet 15)

Approximate Oversail
of 0.89m

Approximate Road
Width of 3.62m

Oversail of Approximately
69.84m²
(Continues onto Sheet 17)

Approximate Road
Width of 3.36m

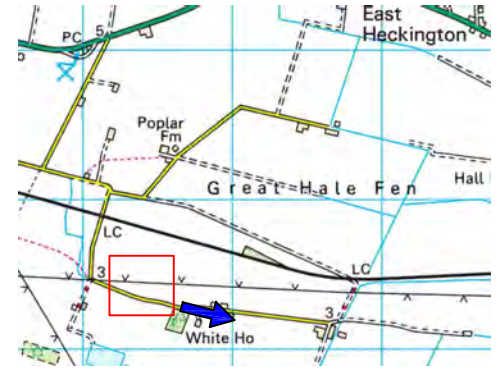
Approximate Oversail
of 0.35m

Oversail of Approximately
140.06m²
(Continues onto Sheet 17)

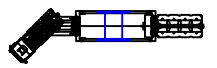
Approximate Road
Width of 3.20m

Direction of Travel

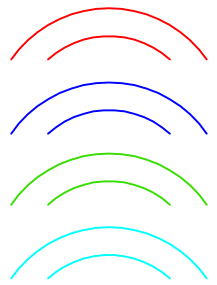
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

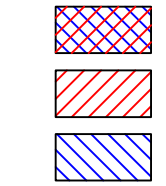


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17433 42343, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

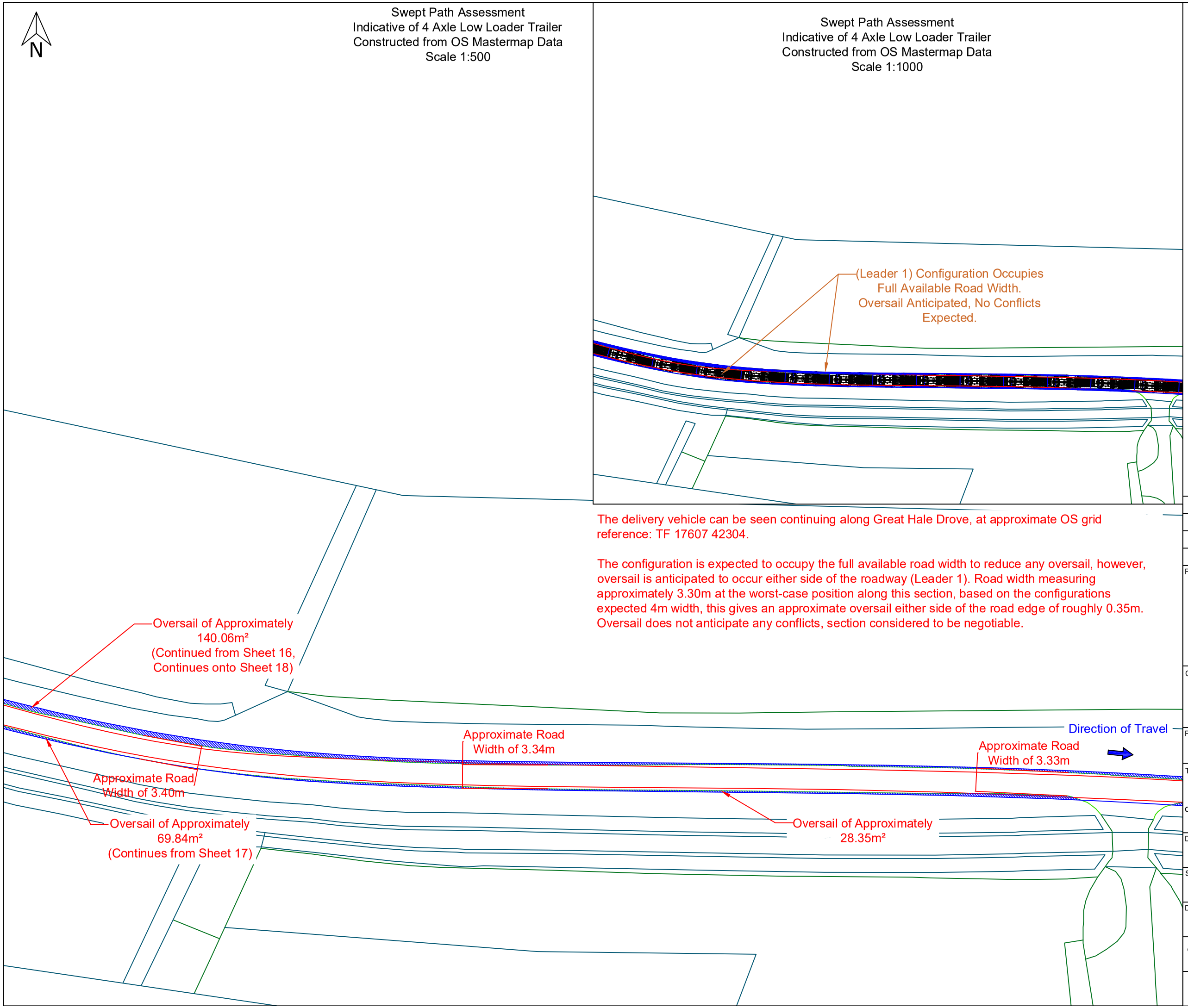
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	16 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

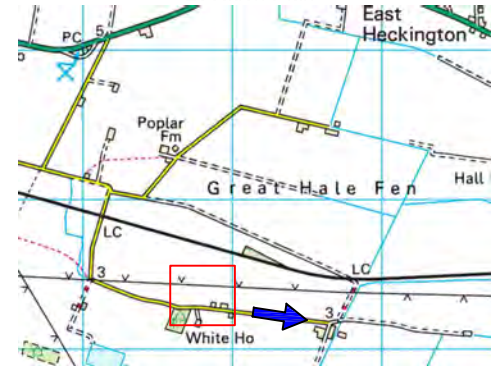
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17607 42304.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.30m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.35m. Oversail does not anticipate any conflicts, section considered to be negotiable.

Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
WYNNS Independent Transportation Engineers
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17607 42304, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

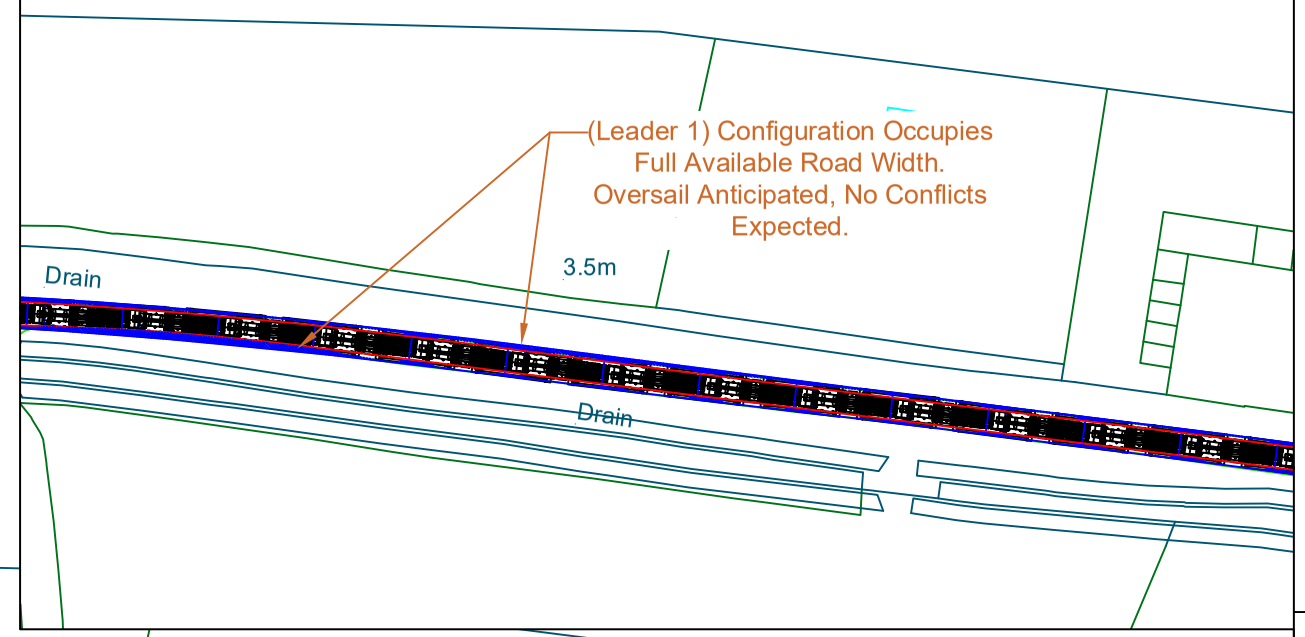
Dwg. no:	Sheet:	Rev:
23-1174.SPA04	17 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

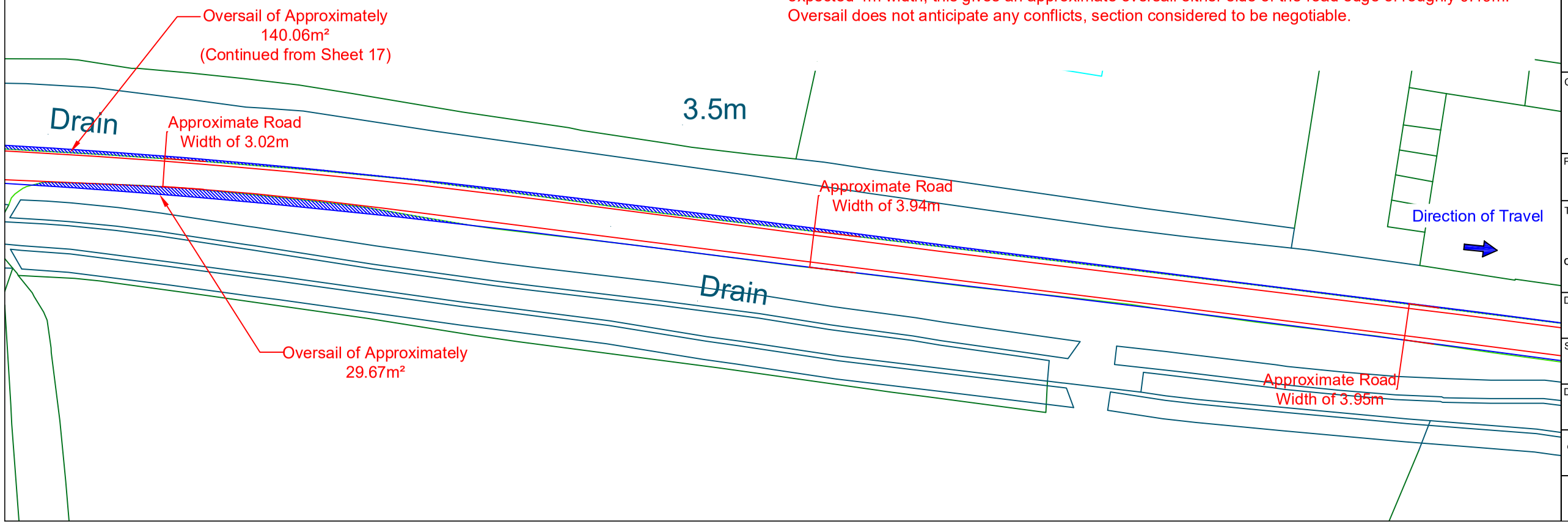
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

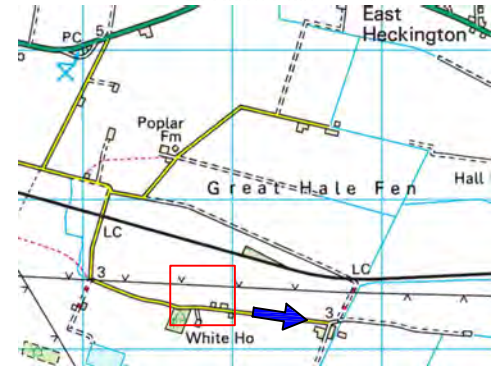


The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17777 42294.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.02m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.49m. Oversail does not anticipate any conflicts, section considered to be negotiable.



Location Plan



Legend:

- 4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06
- Extent of vehicle track
- Extent of oversail
- Extent of road boundary
- Extent of property boundary
- Overrun and oversail beyond kerb
- Overrun beyond kerb
- Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon

Project:
Beacon Fen
Access to Construction Laydown Area 4

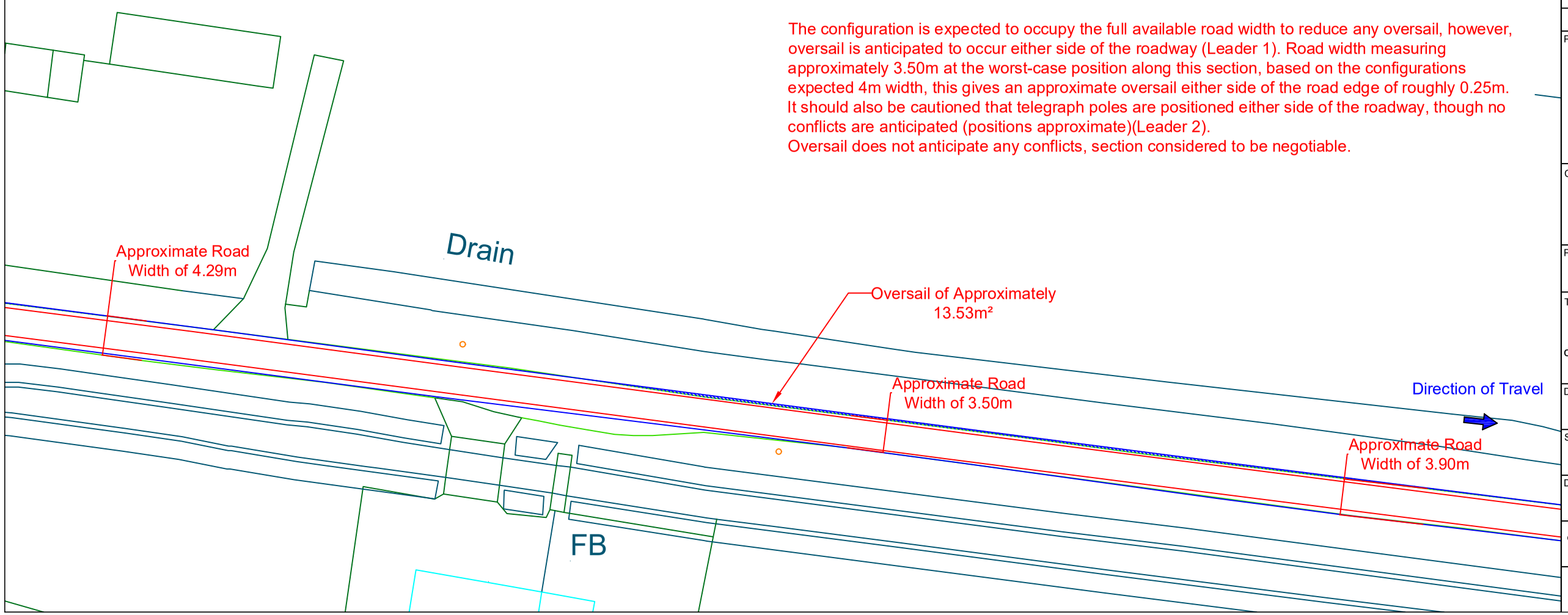
Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17777 42294, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

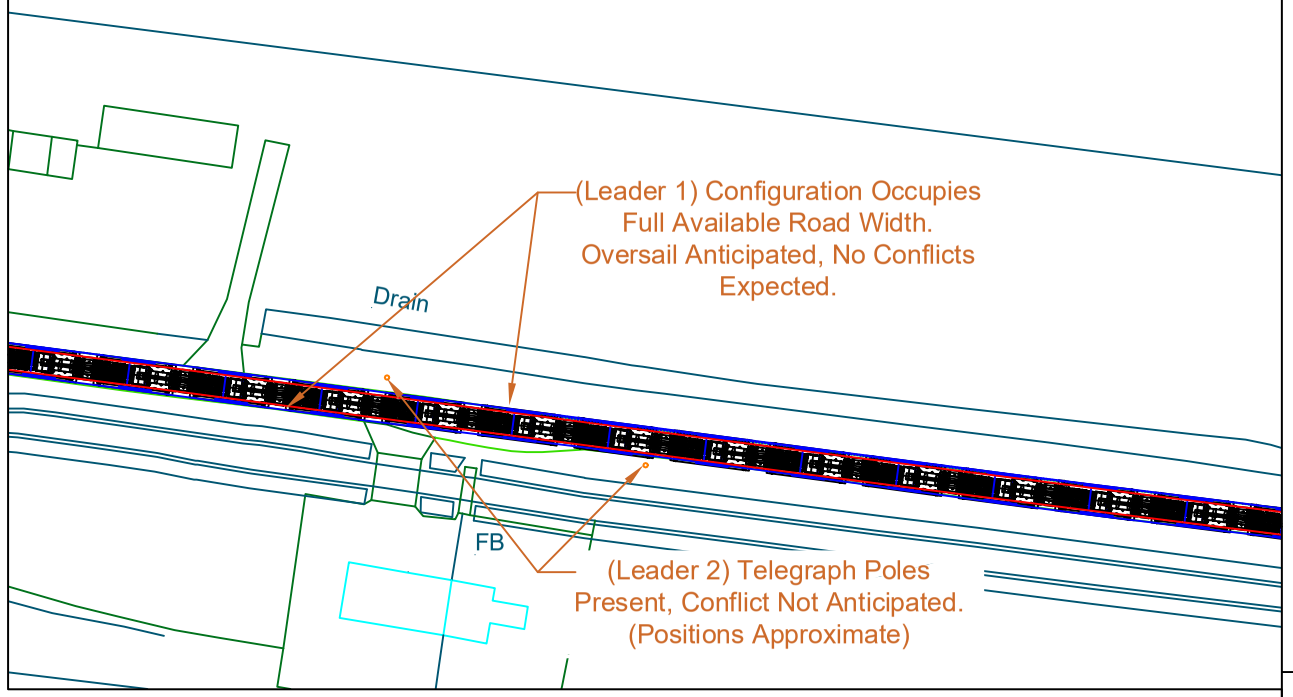
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP
Dwg. no:	**Sheet:**	**Rev:**
23-1174.SPA04	18 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500



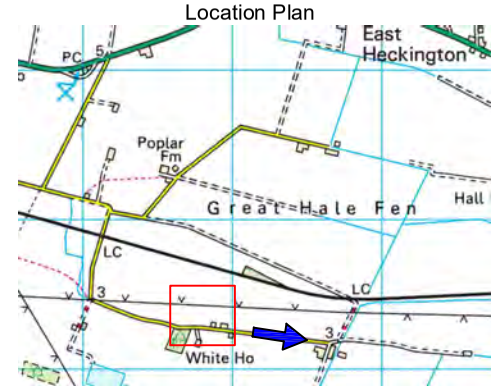
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000



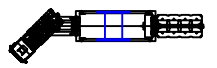
The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 17994 42270.

The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.50m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.25m. It should also be cautioned that telegraph poles are positioned either side of the roadway, though no conflicts are anticipated (positions approximate)(Leader 2).
Oversail does not anticipate any conflicts, section considered to be negotiable.

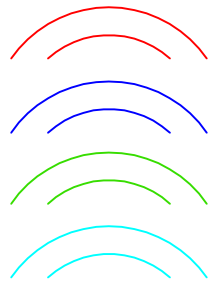
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

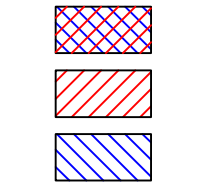


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

low carbon
powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 17994 42270, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

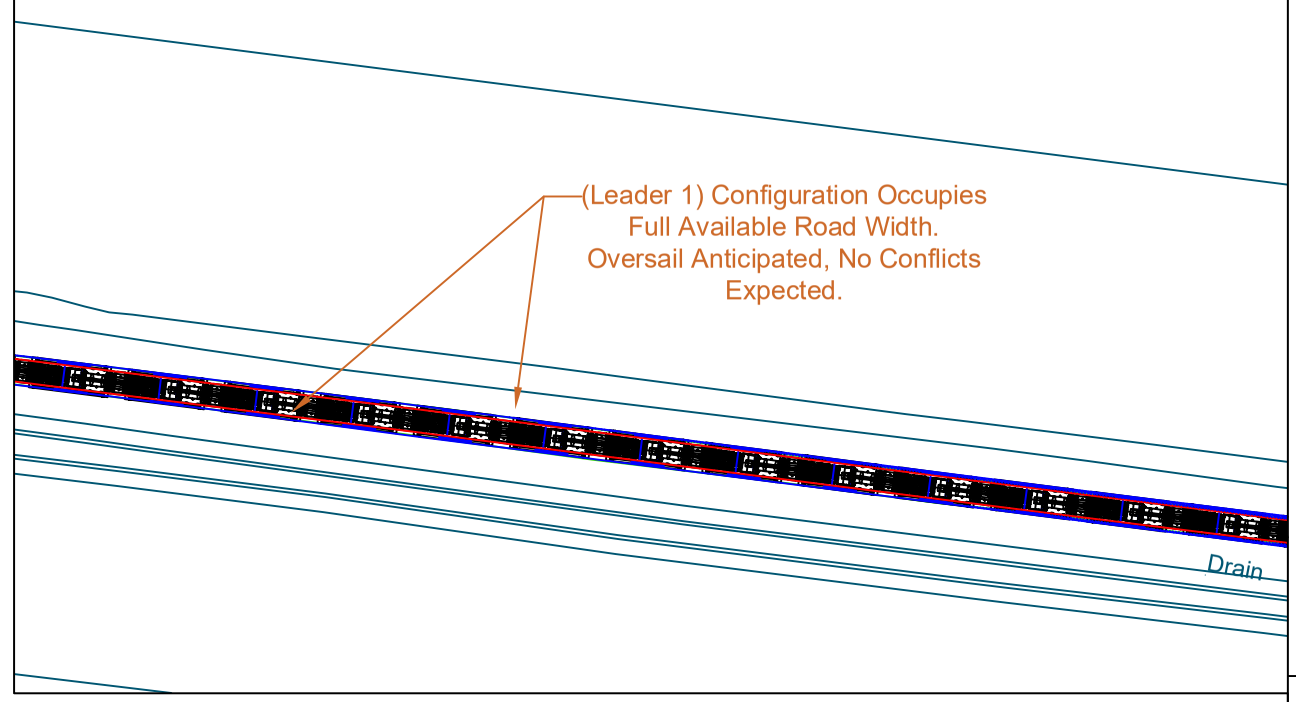
Dwg. no:	Sheet:	Rev:
23-1174.SPA04	19 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

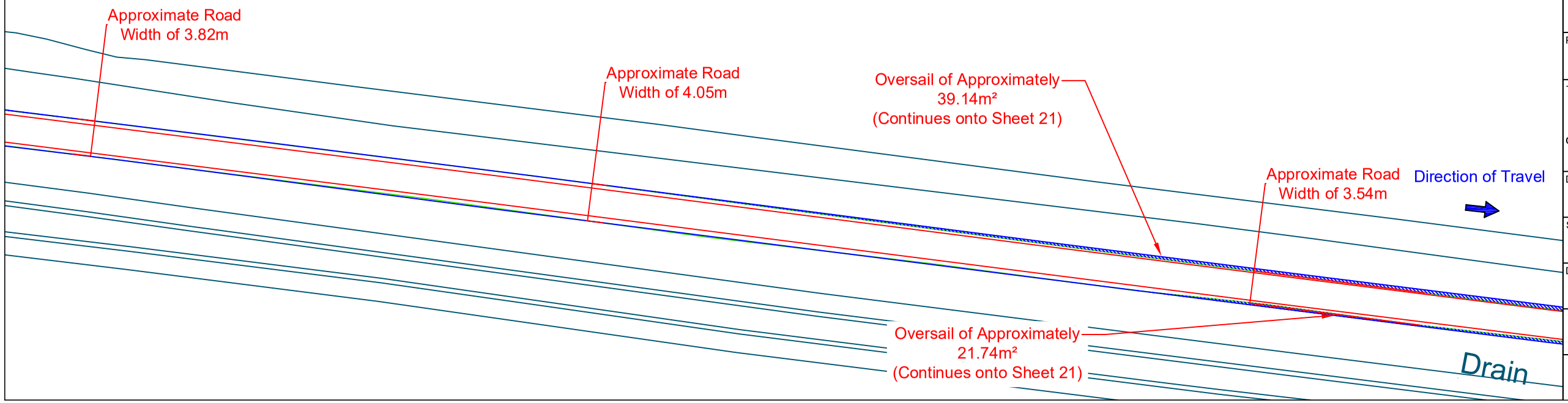
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

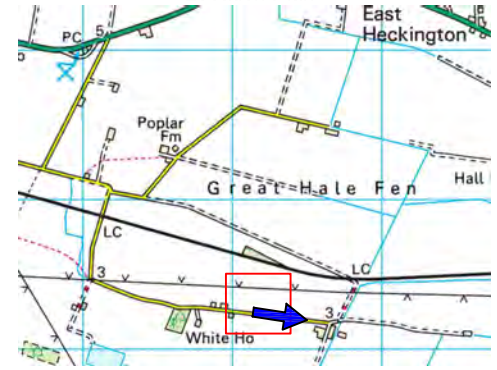


The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 18176 42252.

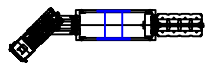
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.54m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.23m. Oversail does not anticipate any conflicts, section considered to be negotiable.



Location Plan



Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen
Access to Construction Laydown Area 4

Title: Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 18176 42252, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

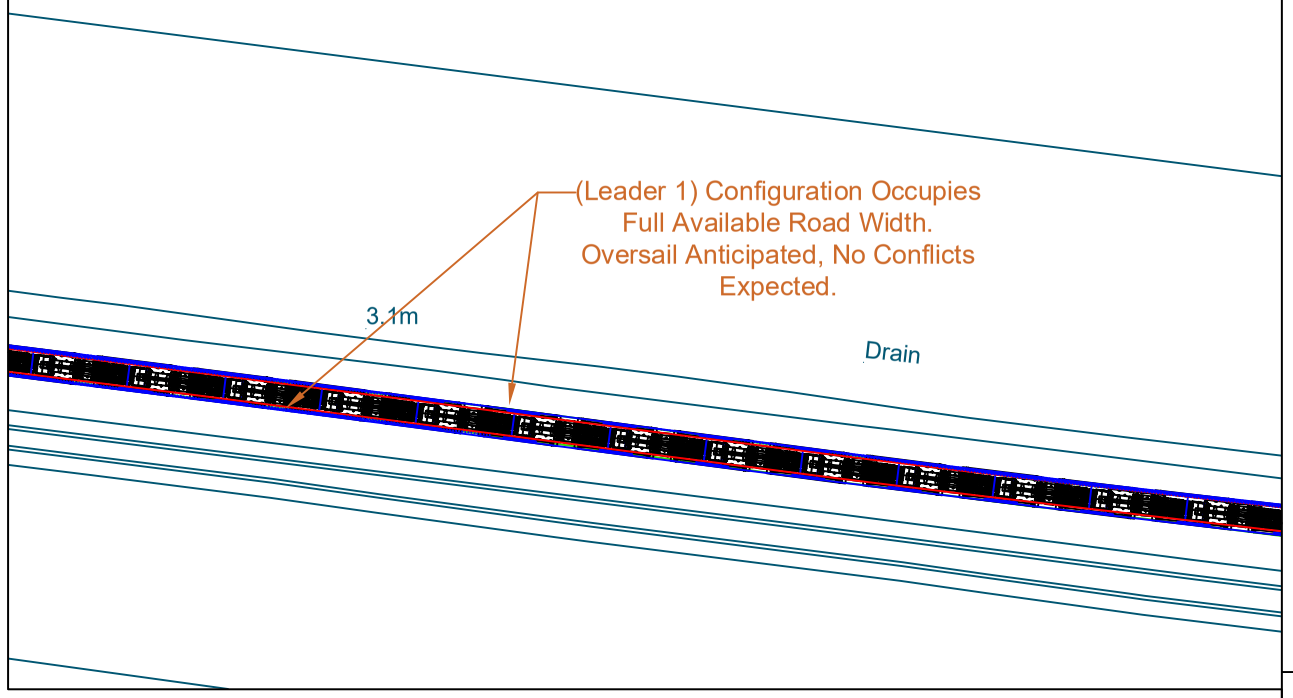
Dwg. no:	Sheet:	Rev:
23-1174.SPA04	20 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

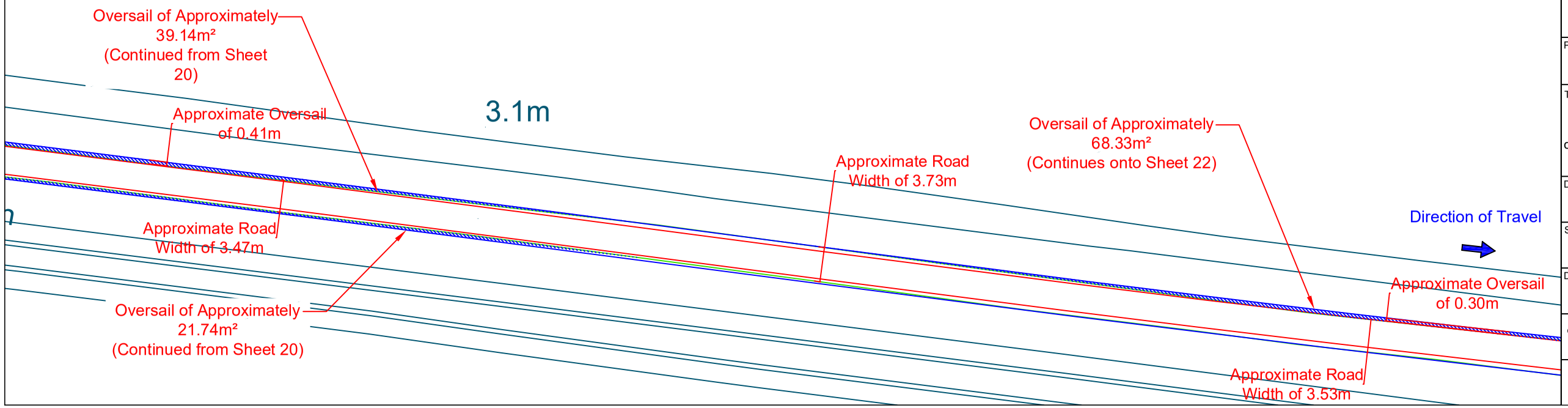
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

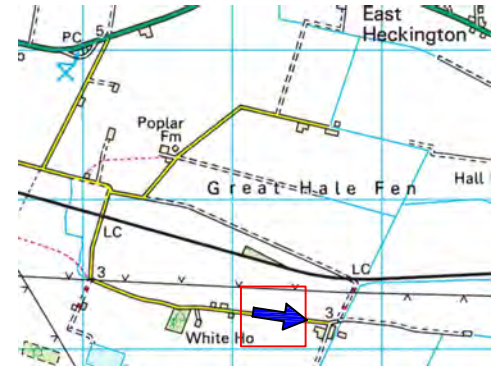


The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 18417 42223.

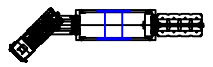
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.47m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.26m. Oversail does not anticipate any conflicts, section considered to be negotiable.



Location Plan



Legend:



4 axle low loader trailer minimum turning arrangements Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client: low carbon powering tomorrow

Project: Beacon Fen
Access to Construction Laydown Area 4

Title: Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 18417 42223, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status: Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	21 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

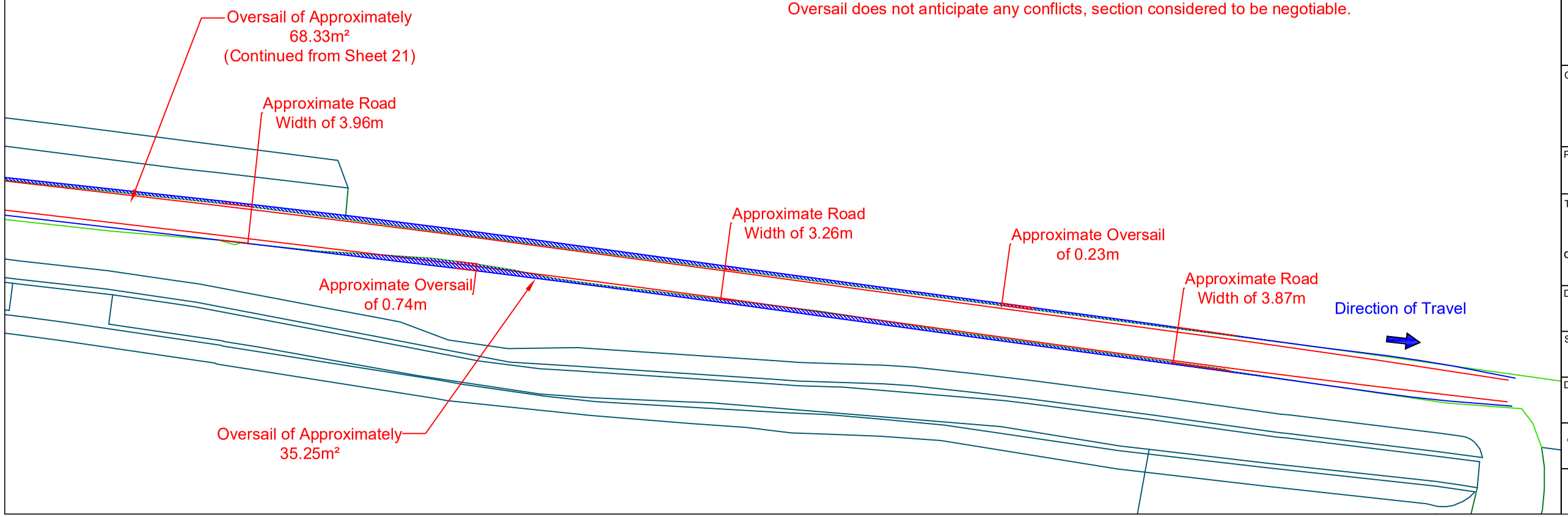
N

Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:500

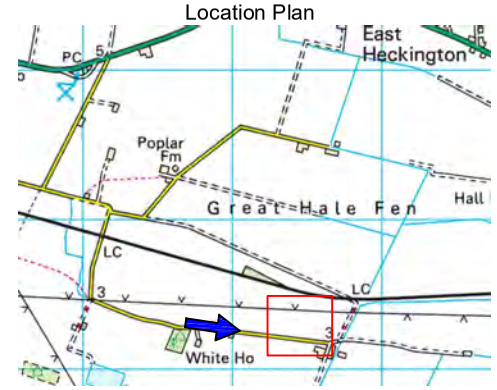
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:1000

The delivery vehicle can be seen continuing along Great Hale Drove, at approximate OS grid reference: TF 18608 42187.

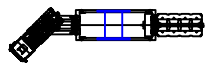
The configuration is expected to occupy the full available road width to reduce any oversail, however, oversail is anticipated to occur either side of the roadway (Leader 1). Road width measuring approximately 3.25m at the worst-case position along this section, based on the configurations expected 4m width, this gives an approximate oversail either side of the road edge of roughly 0.37m. Oversail does not anticipate any conflicts, section considered to be negotiable.



Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:
Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: low carbon powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of continuing along Great Hale Drove at approximate OS grid reference: TF 18608 42187, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP

Dwg. no:	Sheet:	Rev:
23-1174.SPA04	22 of 23	0

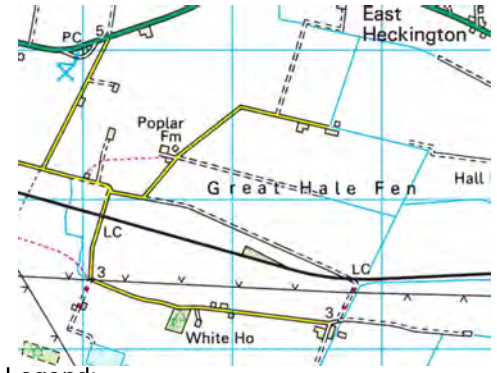
P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

N

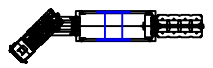
Swept Path Assessment
Indicative of 4 Axle Low Loader Trailer
Constructed from OS Mastermap Data
Scale 1:7500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.

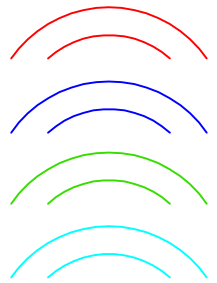
Location Plan



Legend:



4 axle low loader trailer
minimum turning arrangements
Drawing ref. 23-1174.TC06

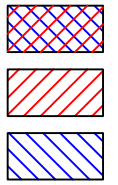


Extent of vehicle track

Extent of oversail

Extent of road boundary

Extent of property boundary



Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	09.02.24	Issued for comment

Revisions

Prepared by:

Shaftesbury House, 2 High Street,
Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411

Independent Transportation Engineers

Client:

low carbon
powering tomorrow

Project:
Beacon Fen
Access to Construction Laydown Area 4

Title:
Swept Path Assessment
Negotiability of approximate OS grid reference: TF 17156 44057, to approximate OS grid reference: TF 18608 42187, considerate of indicative 30 te cable drums transported on 4 axle low loader trailer.

Drawing status:
Final Report

Scale (A3):	Drawn by:	Checked by:
As shown	MTO	AP
Dwg. no:	**Sheet:**	**Rev:**
23-1174.SPA04	23 of 23	0

P:\Clients\Existing Clients\Low Carbon\23-1174 Beacon Fen\Swept Path Assessments

Appendix 4

Correspondence

[redacted]

From: [redacted]lincolnshire.gov.uk>
Sent: 13 March 2024 17:57
To: [redacted]
Cc: Ab_Loads; [redacted]
Subject: RE: AIL Access Study - Cable Roue for the Battery Energy Storage System Proposed New Site Beacon Fen
Attachments: 133447.tif

Afternoon[redacted]

I've found the assessment for Swineshead bridge as attached and appears to be good for 45HB. Couldn't track anything down assessment wise for Hammond Beck Bridge but as this is on the A17 would assume this also 45HB.

With regards the cable drum routes, as the max axles weights are in the region of 14.12t, I don't have any major concerns about the weight along proposed routes as they will be marginally above a standard HGV axle weight if I've understood the proposal correctly. However manoeuvrability should be assessed for bends and junctions for any obstructions like street furniture and such like.

Regards

[redacted] [redacted]
Principal Engineer Structures
Technical Services Partnership, Highways
Lincolnshire County Council
County Offices
Newland
Lincoln LN1 1YL

Impending Annual Leave dates:

Phone: [redacted]
Mobile: 0[redacted]
Email: [redacted]incolnshire.gov.uk
Teams: **Chat with me**
Website: www.lincolnshire.gov.uk

From: [redacted]
Sent: Wednesday, January 17, 2024 4:25 PM
To: [redacted]incolnshire.gov.uk>
Cc: Ab_Loads <Ab_Loads@lincolnshire.gov.uk>; [redacted]lincolnshire.gov.[redacted]