One Earth Solar Farm

Volume 6.0 Environmental Statement [EN010159]

Volume 3: Technical Appendices Supporting ES Volume 2

Appendix 12.2: Transport Assessment (TA)

February 2025

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Revision 01

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

Contents

Glossary

Term	Meaning
Annual Average Daily Traffic (AADT)	A measurement of the average number of vehicles on a road over a year
Abnormal Indivisible Load (AIL)	Abnormal loads that cannot be divided into two or more loads to be transported by road and are in excess of the limits set out in the Road Vehicles (Construction and Use) Regulations 1986.
Construction Traffic Management Plan (CTMP)	A document that sets out measures on how construction traffic, including Site personnel movements, will be safely controlled during a construction period.
Department for Transport (DfT)	The UK Government department responsible for transport matters.
Design Manual for Roads and Bridges (DMRB)	A set of documents and design guidelines that contains information about current design standards relating to the design, assessment and operation of roads within the UK.
Environmental Impact Assessment Report (EIAR)	A report that details the potential environmental effects of a proposed development Proposed Development.
Heavy Goods Vehicle (HGV)	A vehicle that is used to transport goods and materials and has a gross combination mass of more than 3,500 kg.
Light Goods Vehicle (LGV)	A vehicle that is used to transport goods and materials and has a gross combination mass of less than 3,500 kg.
National Cycle Network (NCN)	A UK-wide network of signed paths and routes for walking, wheeling, cycling and exploring outdoors.
National Road Traffic Forecast (NRTF)	Forecasts produced by the DfT to predict further traffic growth.
Ordnance Survey (OS)	The national mapping agency for Great Britain. Excludes Northern Ireland.

List of Abbreviations and Acronyms

Term	Meaning
AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
BoP	Balance of Plant
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
LGV	Light Goods Vehicle
NCN	National Cycle Network
NRTF	National Road Traffic Forecast
OS	Ordnance Survey

A.12 Appendix 12.2: Transport Assessment (TA)

A.12.1 Introduction

Report Purpose

A.12.1.1. Pell Frischmann has been instructed by One Earth Solar Farm Limited (the Applicant) to produce a Transport Assessment (TA) to support the application for development consent for the Proposed Development (described below), located either side of the River Trent, to the southwest and southeast of the village of Dunham, Nottinghamshire.

A.12.1.2. The project comprises the construction, operation and maintenance, and decommissioning of a solar photovoltaic (PV) array electricity generating facility. The project includes solar PV panels, Battery Energy Storage Systems (BESS), onsite substations and associated grid connection infrastructure which will allow for the generation and export of electricity to the proposed National Grid High Marnham Substation. The Applicant has secured a connection agreement with National Grid which will allow export and import of up to 740 megawatts (MW) of electricity to the National Grid High Marnham Substation (hereafter 'the Proposed Development'). The Applicant has secured a connection agreement with National Grid which would allow export and import of up to 740 megawatts (MW) of electricity to the National Grid High Marnham Substation. The Proposed Development straddles the administrative boundaries of Nottinghamshire and Lincolnshire County Councils.

A.12.1.3. This TA provides an overview of the identifies the key transport and access issues associated with the Proposed Development. It should be read in conjunction with the **Outline Construction Traffic Management Plan [EN010159/APP/7.9**] (oCTMP).

Report Structure

A.12.1.4. Following this introduction, the TA report is structured as follows:

- **Section A.12.2** describes the Proposed Development;
- **Section A.12.3** reviews the relevant transport and planning policies;
- **Section A.12.4** sets out the methodology used within this assessment;
- **Section A.12.5** describes the baseline transport conditions;
- **Section A.12.6** describes the trip generation and distribution of traffic in the Study Area;
- **Section A.12.7** summarises the traffic impact assessment;

- **Section A.12.8** considers mitigation proposals for development related traffic within the Study Area; and
- **Section A.12.9** summarises the findings of the TA and outlines the key conclusions.

A.12.2 Proposed Development Description

Site Location

A.12.2.1. The Proposed Development straddles the adminstrative boundaries of both Nottinghamshire County Council (NCC) and Lincolnshire County Council (LCC), with the majority of the Proposed Development falling within NCC.

A.12.2.2. The location of the Proposed Development is illustrated in **Figure 1**, to the west of Lincoln and north of Newark. The development areas are highlighted in red.

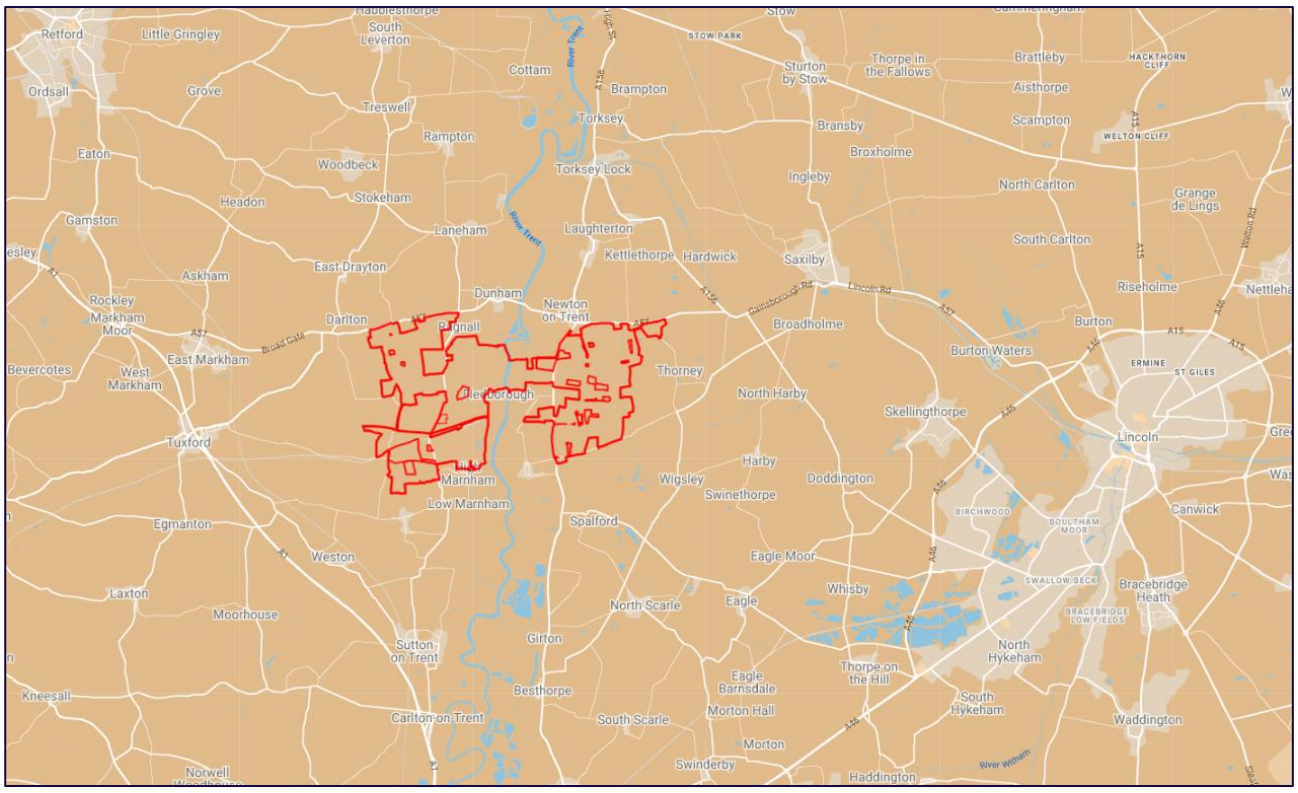

Figure 1 Proposed Development Location Plan

A.12.2.3. For ease of reference and for the purposes of the TA, the Site can be subdivided into four sections; namely:

- The Western Development area (located to the west of the River Trent and accessed from the A57);

- The Southwestern Development area (located to the west of the River Trent and accessed from Polly Taylor's Road and Crabtree Lane);
- The Eastern Development area (located to the east of the River Trent and accessed directly from the A1133); and
- The Southeastern Development area (located to the east of the River Trent and located to the south of the disused Fledborough – Lincoln railway line).

A.12.2.4. **Figure** 2 illustrates these areas.

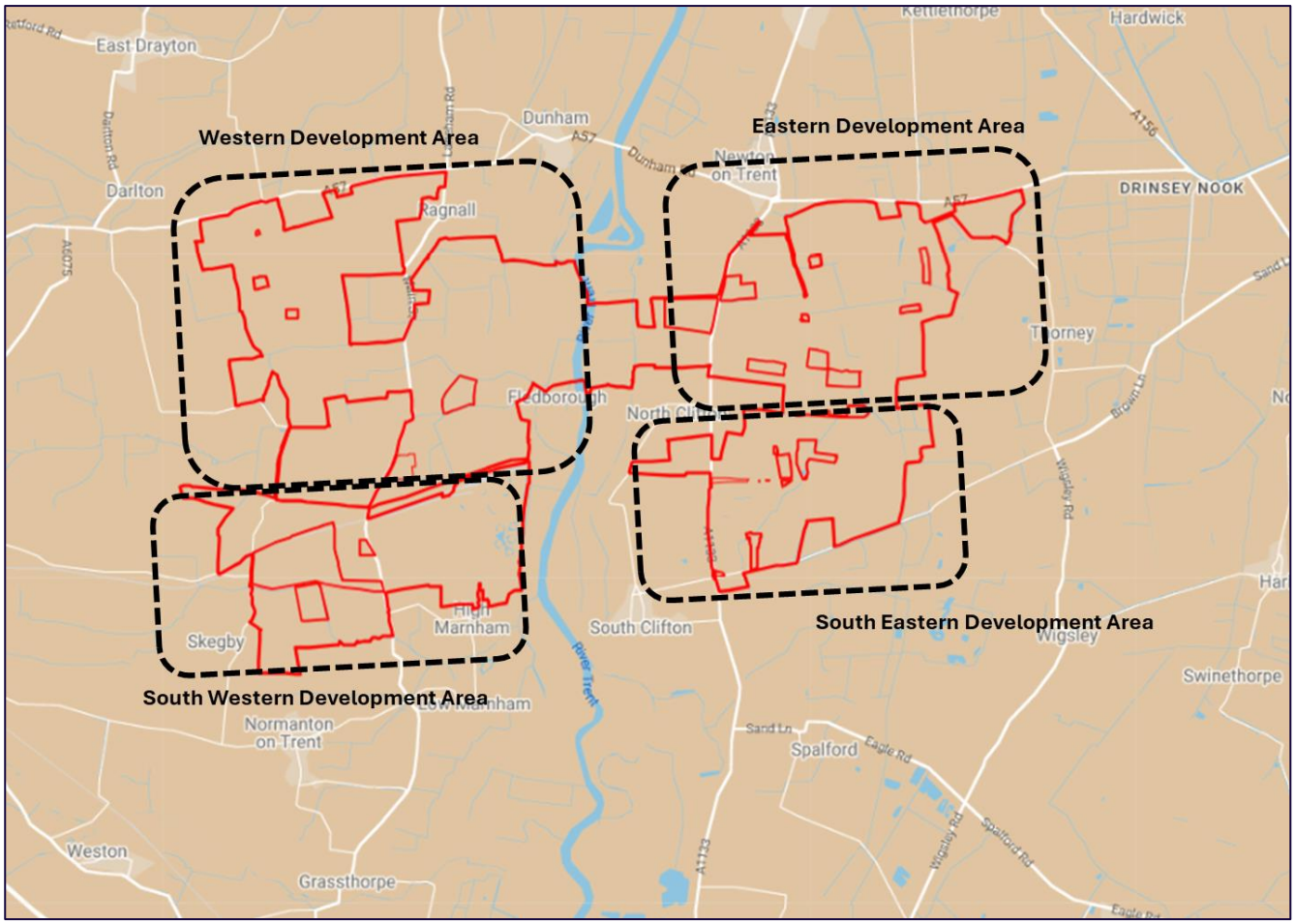

Figure 2: Site Development Areas

Proposed Development Overview

A.12.2.5. As above, the Proposed Development will involve the installation, operation (including maintenance) and decommissioning of solar photovoltaic (PV) panels, Battery Energy Storage Systems (BESS) onsite substations and associated grid connection infrastructure which will allow for the generation and export of electricity to the proposed National Grid High Marnham Substation.

A.12.2.6. The Proposed Development includes works to facilitate the construction, operation, maintenance and decommissioning of a solar photovoltaic (PV) array electricity generating facility and BESS including PV modules and mounting structures, on-site supporting equipment including inverters, transformers and switchgears, on-site substations and underground cabling to connect to the National Grid substation, associated infrastructure including fencing, drainage and storage containers and biodiversity and landscaping enhancement measures, together with temporary development during the construction phase.

Illustrative Masterplan

A.12.2.7. The illustratiave masterplan of the Proposed Development is shown in **Figure 3** and submitted as part of the application **[EN010159/APP/2.7]**.

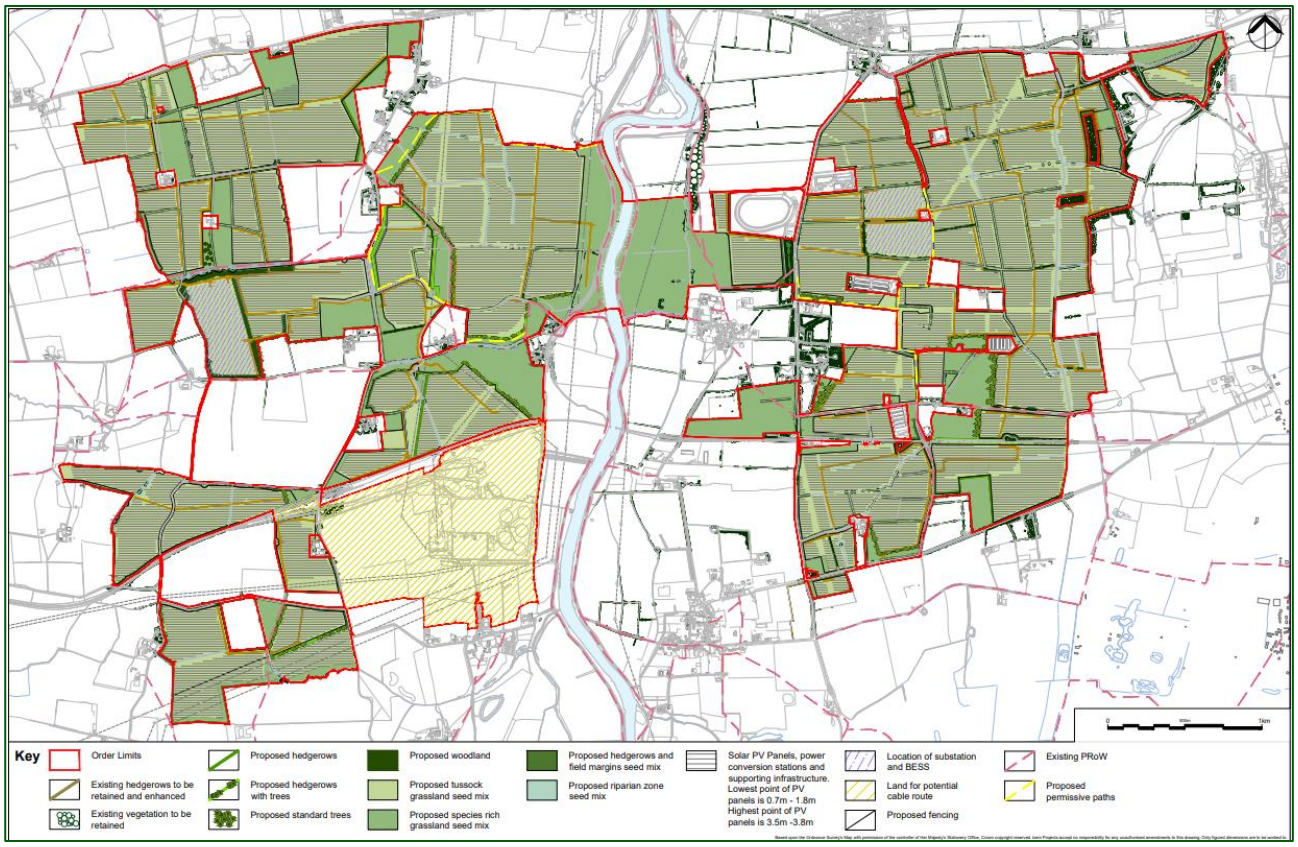

Figure 3 Illustrative Masterplan

A.12.3 Access Strategy

General

A.12.3.1. To construct the Proposed Development, a variety of vehicles will be required. These will include, but not be limited to:

- Cars, Light Goods Vehicles (LGV) and Vans;
- Articulated and rigid Heavy Goods Vehicles (HGV) delivering plant, materials and electrical components;
- Rigid HGV delivering bulk materials such as aggregate, ready mix concrete, etc for use on the Site;
- Specialist machinery, usually delivered using a low loader style articulated HGV, including loads that may include loads such as directional drilling equipment and excavation plant (for the cable grossing under the River Trent); and
- Abnormal Indivisible Loads (AIL) carrying special oversized loads such as electrical grid transformers.

Water-based Access

Background

A.12.3.2. The River Trent is the United Kingdom's third longest river and flows from its source in Staffordshire to Trent Falls in Lincolnshire where it meets the River Humber. The river has historically been used for the movement of freight from the East Coast ports of Grimsby, Hull and Goole into the Midlands, however freight usage along the length of the river is now rare.

A.12.3.3. The navigation of the river is controlled by two agencies. The southern portion of the river is controlled by the Canal & Rivers Trust (CRT) from Gainsborough to the south. The facilities in the northern section fall under Associated British Ports (ABP) who operate the principal quay facilities between Gainsborough and the Humber Estuary. These include Kings Ferry Wharf at Burton Stather, Flixborough Wharf and Gunness.

A.12.3.4. The river is tidal between the Humber Estuary and Cromwell Lock (approximately 5 kilometres (km) north of Newark).

A.12.3.5. The Humber River is circa 66 km from the northernmost land parcel of the Proposed Development.

A.12.3.6. The river was popular for the movement of freight, with a peak of 1,020,000 tons in 1964. Since then, commercial traffic has significantly diminished, along the whole length of the river.

A.12.3.7. The northern section between Trent Falls and Gunness Grove is regularly used by freight vessels with connections to other UK ports and Europe. The section to the south is less well used and the section operated by the CRT is mainly used by leisure craft.

A.12.3.8. Quarry operator LaFarge has used barges to transport gravel and aggregates from their Besthorpe Quarry. These regular bulk delivery operations appear to have ceased in 2015 / 2016.

River Transport Restrictions

A.12.3.9. The CRT advises that the maximum vessel sizes between Cromwell Lock (to the south of the One Earth Site) and Gainsborough are as follows:

- Maximum Length: 45.57 metres (m)
- Beam: 7.06m
- Draught: 2.13m
- Headroom: 4.27m

A.12.3.10. The majority of structures on the river are fixed and as the river is tidal, progress along it for high loads may be influenced by the clear head height available under structures.

A.12.3.11. The Inland Waterways Association indicate that a transit of the river between Cromwell Lock and Keadby (located close to the Humber Estuary) is recommended as a two day transit. Access from the Proposed Development to the Humber is estimated as being circa 1¾ days for a one-way transit, with average speeds of circa 4 miles per hour (mph).

River Transport Facilities at the Site

A.12.3.12. The Site has no freight mooring facilities within the development area. The closest commercial facility is the disused facility at Gainsborough located approximately 16km to the north of the Proposed Development.

A.12.3.13. There is a disused facility associated with the former High Marnham Power Station located to the south of the Site, adjacent to the former pump house, however this appears to be in a state of disrepair and is not considered suitable without extensive reconstruction works.

A.12.3.14. For river access to be used, a mooring and offloading facility would be required. This could take the form of mooring pylons in the river and a hard standing on the riverbank to support a crane / grab or could be a fully formed wharf on the river. Given the Proposed Development straddles both sides of the River Trent however, either duplicate facilities would need to be provided or transhipping from the mooring facility to opposite side of the river would be required.

A.12.3.15. The creation of a new facility would not eliminate traffic movement within the local area of the development as transhipping would still be required from one

side of the river to the other and from that point to the construction areas, using public roads and interfacing with other road users.

Potential River Access

A.12.3.16. The construction activities where river access would be most suited would be the import of aggregate and the movement of AIL. Movement of construction staff and non-bulk materials would not be feasible or economic for river transport.

A.12.3.17. The movement of gravel and aggregate from quarries to the Proposed Development could only be undertaken where quarries had suitable river facilities to allow transport by barge. Of these Besthorpe Quarry, located to the north of Newark, has the infrastructure to accommodate this.

A.12.3.18. The quarry previously shipped aggregate by river but suspended this service in 2015 / 2016. The volume required to make this bulk material shipping economical is significantly higher than what could be realistically required at the scheme.

A.12.3.19. The journey distance from Besthorpe Quarry to Site by river is 14.9km (9.3 miles). By road (to the far bank of the One Earth Site) is 19.3km (12 miles). The time taken by barge, including loading, travelling and discharging would be approximately 4-5 hours for 350 tonnes of aggregate. In comparison, single HGV with a 35 tonne capacity can undertake the journey in 18 minutes and can transport a higher volume of material in the same time.

A.12.3.20. Transport of aggregate by barge would require triple handling of material. Barges would need to be loaded at the quarry, transport the material to the Proposed Development, be offloaded to a stockpile area and then material then transported by HGV within the Site to where it would be required. This triple handling adds cost and potential delay to the Proposed Development. HGV delivery can be made direct to where it is required within the Site, saving time and ultimately cost.

A.12.3.21. Barge access is considered not suitable for bulk material deliveries for this Proposed Development for economic, practical, programme and risk issues. Barge deliveries however may be suitable for the transport of AIL components.

A.12.3.22. AIL movements across the UK are undertaken in line with the Department for Transport (DfT) “Water Preferred Policy”. This policy seeks to ensure that marine access is used to transport abnormal loads are far as possible to their destination to reduce traffic impacts on road and for environmental benefits.

A.12.3.23. The policy requires deliveries to be made as far as is “practical, economic and environmentally desirable” by sea or inland waterways.

A.12.3.24. Consideration jhas been given to transporting transformer loads, as the largest AIL, to Site using the river in part. This is dsicussed in greater detail in **Appendix A: AIL Route Survey Report**.

Construction Traffic

A.12.3.25. Construction traffic will enter the Proposed Development via a number of specifically designed access junctions. The principal access points are located on the A57 and A1133 and serve the main development areas of the Proposed Development. Further access points are also provided on other roads to distinct, smaller sections of the Site.

A.12.3.26. A plan illustrating the access points is provided in **Figure 4**.

A.12.3.27. Construction traffic will be split between the west and east development areas.

A.12.3.28. All construction access for the west development area will be taken from the A57 to the west of Dunham. Traffic will access land parcels from a set of private access roads that bypass the village of Ragnall. Access to other sections of the western development area will be taken from new access junctions located on the public road network to the south of Ragnall.

A.12.3.29. Bulk materials for the western area will be sourced from local quarries and suppliers located to the south and would access the construction Site via the A1 corridor and A57.

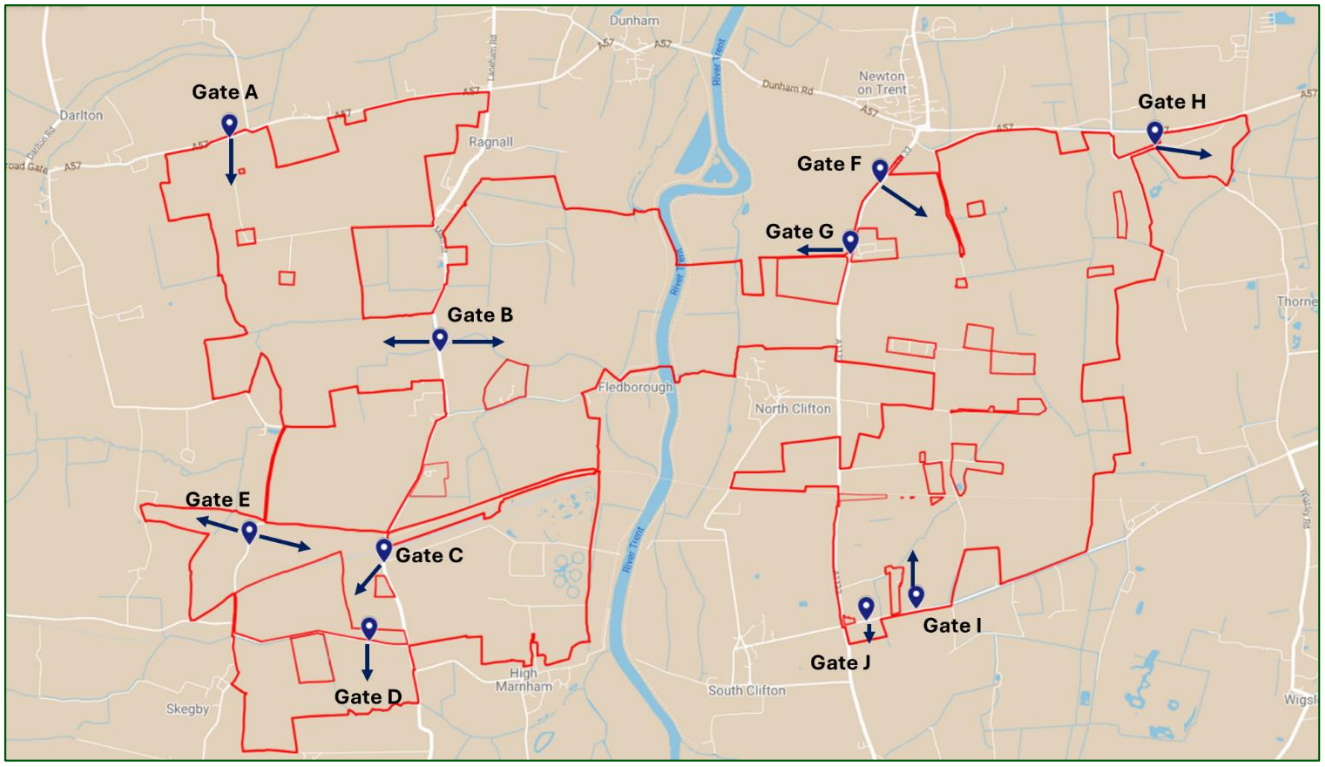

Figure 4 Site Access Location Plan

A.12.3.30. The majority of the eastern development area will be accessed from the A1133 at a new access junction located to the south of Newton on Trent. A further access on Moor Lane provides access to the development area to the south of the disused Fledborough – Lincoln railway line.

A.12.3.31. Bulk materials for the eastern area will be sourced from local quarries and suppliers located to the south and would access the construction Site via the A1133 corridor. Likley suppliers will include the Tramac Besthorpe Quarry, access from the A1133 and the Tillcoultry Quarries facility at Whisby.

A.12.3.32. The HGV access routes are illustrated in Figure 5. The proposed HGV access routes are shown in purple, whilst the onsite bypass track of Ragnall, is illustrated in green.

A.12.3.33. The access routes to the Proposed Development will be controlled by a Construction Traffic Management Plan (CTMP). An **Outline Construction Traffic Management Plan [EN010159/APP/7.9**] (oCTMP) has been submitted as part of the DCO application.

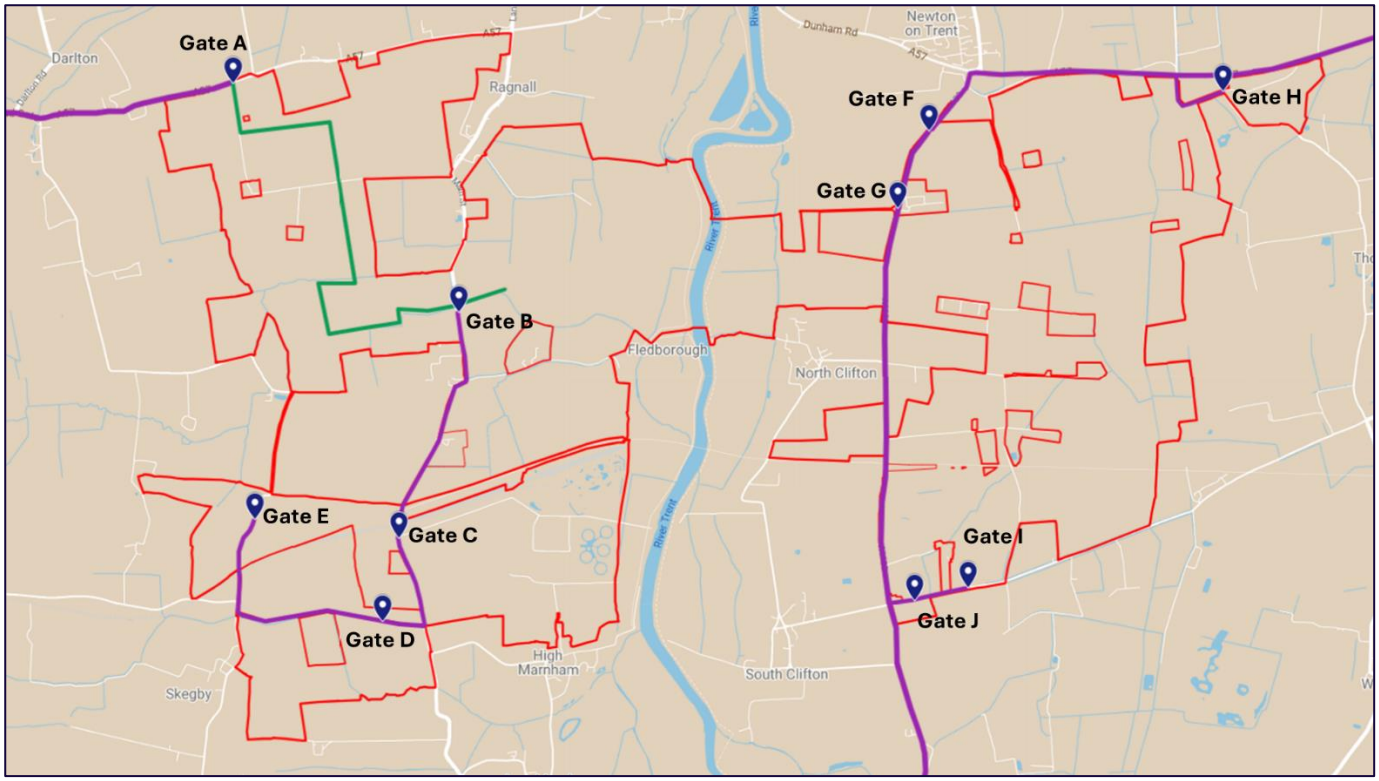

Figure 5 HGV Access Plan

A.12.3.34. To ensure that traffic uses roads that are appropriate for the traffic flows and vehicle types, certain routes will be barred. Barred routes to HGV and LGV traffic will include:

- A6075 Darlton Road;
- Marnham Road (to the west of Crabtree Lane);
- Crabtree Lane (to the north of the Site access junctions);
- Woodcaotes Road in Darlton;
- Main Street (between the A57 junction and they proposed Site access junction);
- Roadwood Lane (to the south and west of the Site access junction)
- Mill Lane (to the east of the A1133);
- Moor Lane (to the west of the A1133);
- High Street (South Clifton), to the west of the A1133;
- Eagle Road and Spalford Road (to avoid traffic cutting through from the east);
- A1133 to the north of the A57; and
- Drinsey Nook Lane.

A.12.3.35. Traffic will be monitored as per the details contained in the oCTMP.

A.12.3.36. The majority of construction staff will be located in the local area and will access the Scheme from the A57 and A1133. No designated route or time restrictions are proposed for these types of vehicles (non-HGV), although travel planning measures will be taken to ensure that the increase in traffic associated with the construction workers is minimised.

A.12.3.37. Prior to any construction works being undertaken within the limits of road adoption, the detailed design of these works must be submitted to the appropriate highway authority for approval. These submisisons 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 standard;
- Details of any necessary road signage and road markings; and
- Details of any proposed remediation proposals should the works not be permanent.

A.12.3.38. 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.

A.12.3.39. The access junctions will be metalled for the initial section to prevent debris being brought out onto the public road network. Access control gates will be set back by at least 15m to prevent traffic from blocking back onto the public road during construction.

Abnormal Loads

A.12.3.40. A detailed Route Survey of the access route has been undertaken and is provided in this report as **Appendix A: AIL Route Survey**.

A.12.3.41. AIL acecss has been considered from Goole Harbour and the Port of Immingham. Access from Cottam Quay has been considered, however the

Applicant does not have access rights to this facility and as such is unable to commit to the use of this facility.

Proposed Operational and Maintenance Access Strategy

A.12.3.42. During the operational phase, up to 10 LGV trips per day, on average, are predicted to cater for cleaning of panels and general Site maintenance. When longer term maintenace of battery units or panels is required, HGV access will be necessary with up to 12 HGV trips potentially per day. The number of vehicle trips occurring during this phase will be well below the number of movements assessed for the construction phase and significantly below the overall IEMA guidance thresholds. As such, no further assessment is required.

A.12.3.43. Access infrastructure to enable maintenance and potential replacement of larger equipment on Site will be retained to facilitate access, when required.

A.12.3.44. The traffic impact of the operational phase is considered to be minimal and below the trigger for an assessment. The Planning Inspectorate in their scoping review of the Proposed Development, has also agreed that the operational and maintenance phase can be scoped out of the assessment (see **ES Volume 3: Scoping Opinion [EN010159/APP/6.23]**).

Proposed Decommissioning Access Strategy

A.12.3.45. At the end of the operational life of the Proposed Development, the arrays, batteries and all associated above ground equipment will be completely removed in line with the Decommissioning Statement.

A.12.3.46. At this stage, it is not possible to accurately forecast the traffic impacts during the decommissioning phase, as Proposed Developmentions of the baseline data into the future would not be accurate.

A.12.3.47. The levels of traffic associated with the decommissioning of the Proposed Development will be less than that during construction since some of the below ground elements will be left in situ and the access tracks may be retained for use by the landowners, as detailed in the Decommissioning Statement.

A.12.3.48. To protect future stakeholders, it is proposed that a Decommissioning Traffic Management Plan (DTMP) is prepared prior to decommissioning works commencing and that this requirement is secured via the Development Consent Order (DCO).

A.12.4 Study Methodology

Introduction

A.12.4.1. There are three phases of the Proposed Development, which have been considered in this assessment and are as follows:

- the construction phase;
- the operational phase; and
- the decommissioning phase.

Proposed Development Phases

A.12.4.2. Of the three phases, the construction phase is considered to have the greatest impact in terms of transport and potential impacts on the road network and sensitive receptors. Construction plant, bulk materials and electrical components will be transported to the Proposed Development, potentially resulting in temporary significant increases in traffic on the study network.

A.12.4.3. The operational phase is restricted to occasional maintenance operations which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network.

A.12.4.4. The decommissioning phase involves fewer trips on the road network than the construction phase, as minor elements of infrastructure are likely to be left in place, adding to local infrastructure that can potentially be used for future agricultural or leisure uses in the future.

Scoping Discussions

A.12.4.5. The Applicant submitted a request for Scoping Direction to the Planning Inspectorate (PINS) in respect of the Environmental Impact Assessment (EIA) which included a section considering traffic and transport.

A.12.4.6. Further consultation with officers from both LCC and NCC has been held and the Applicant is grateful for the input of officers from both authorities.

A.12.5 Baseline Conditions

Study Area Determination

A.12.5.1. The Study Area has been based on those roads that are expected to experience increased traffic flows associated with the construction of the Proposed Development. The geographic scope was determined through a review of the other developments in the area, Ordnance Survey (OS) plans

and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

A.12.5.2. Bulk materials for use in the Proposed Development will be sourced from existing supply locations located to the south. It is proposed that access will be taken from either side of the River Trent for these materials, with western river bank quarries feeding the western development areas and those on the eastern bank feeding the eastern development areas.

A.12.5.3. Electrical component, plant and general deliveries are likely to originate along the A1(M) corridor and from Lincoln.

A.12.5.4. Staff engaged during the construction process will be based within the major urban areas located close to the scheme during the construction and decommissioning phases.

A.12.5.5. The proposed study area therefore includes the road links most likely to be impacted by the proposed movements associated with the scheme and includes:

- A57(between the M1 corridor and Saxilby);
- A1133;
- Moor Lane;
- Roadwood Lane;
- Main Street;
- Polly Taylor's Road; and
- Crabtree Lane.

A.12.5.6. A plan illustrating the proposed study area (in green) is provided in **Figure 6**.

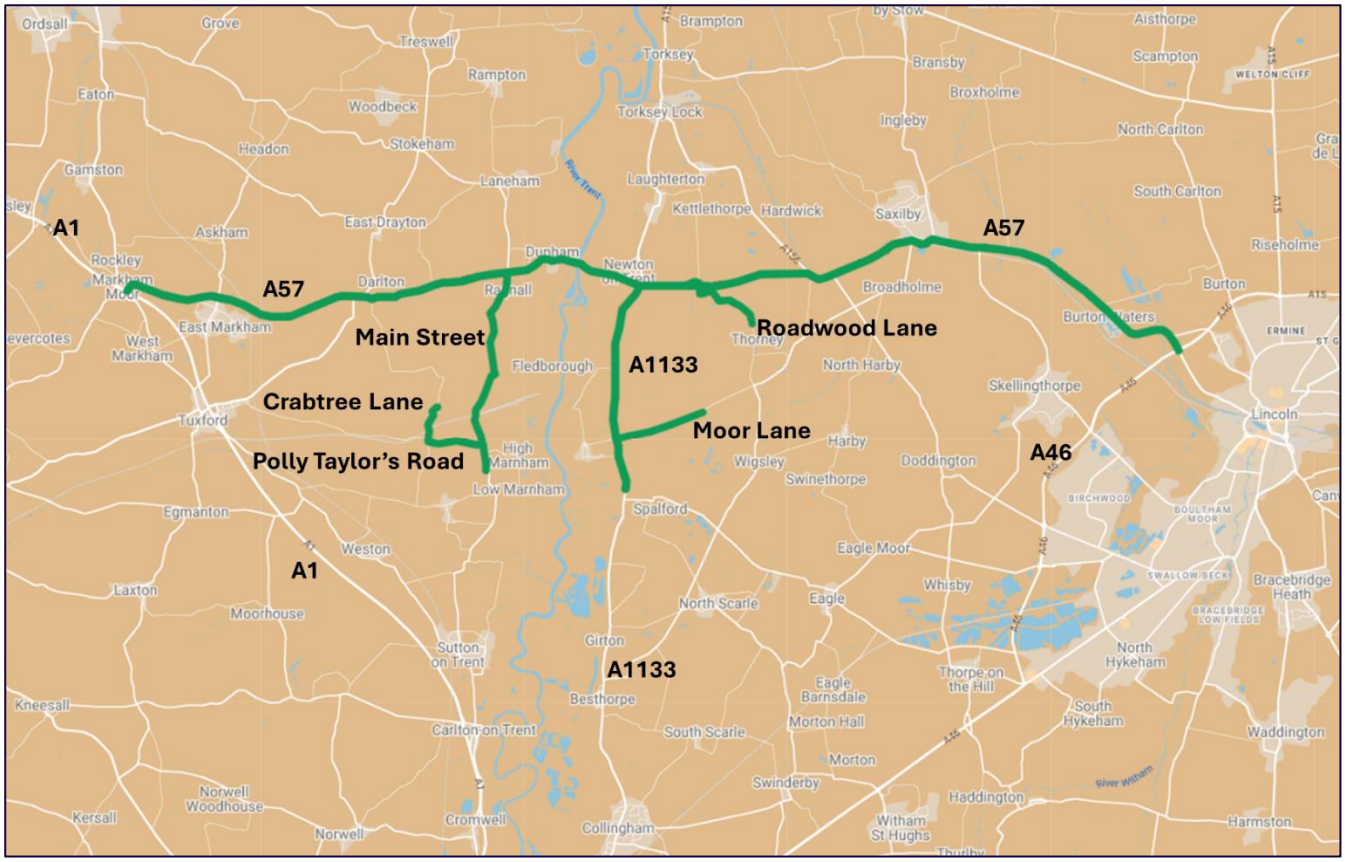

Figure 6 Study Area Network

A.12.5.7. Effects associated with construction traffic generated by the scheme would be most pronounced in close proximity to the scheme access junctions and on the final approaches to these locations. As vehicles travel away from the Proposed Development, they would disperse across the wider road network, thus diluting any potential effects. It is therefore expected that the effects relating to construction traffic are unlikely to be significant beyond the Study Area identified above.

Pedestrian & Cyclist Links

A.12.5.8. There are limited pedestrian facilities in the immediate vicinity of the scheme, reflecting the rural nature of the location.

A.12.5.9. With the exception of a footway between the junction of the A57 / Main Street / Laneham Road, (to the west of Dunham) and the Dunham Toll Bridge Trent, there are no pedestrian footways along the A57. No footways are provided on the A1133, Moor Lane, Polly Taylor's Road or Crabtree Lane.

A.12.5.10. There are Public Rights of Way (PRoW) leading through the scheme development area. These are considered in detail in the Landscape and Visual Impact review of the Proposed Development and include the following:

- Lincolnshire CC PRoW 7023;
- Lincolnshire CC PRoW 4046;
- Lincolnshire CC PRoW 4048;
- Lincolnshire CC PRoW 4045;
- Nottinghamshire CC PRoW North Clifton FP3;
- Nottinghamshire CC PRoW North Clifton FP1;
- Nottinghamshire CC PRoW North Clifton FP2;
- Nottinghamshire CC PRoW North Clifton Byway Open to All Traffic (BOAT) BOAT12;
- Nottinghamshire CC PRoW North Clifton BW10;
- Nottinghamshire CC PRoW Thorney FP6;
- Nottinghamshire CC PRoW Ragnall FP4; and
- Nottinghamshire CC PRoW Ragnall BW3.

A.12.5.11. Located within the Site and approximately 500m south of its centre, is the Sustrans Cycle National Cycle Route (NCR) 647. This part of the NCR uses a disused railway line associated with the former Lancashire, Derbyshire and East Coast Railway, which ran east-west connecting Lincoln to the east with Tuxford to the west. Crossing over the River Trent, the Sustrans Route utilises the Fledborough Viaduct.

A.12.5.12. The NCR departs the former railway line alignment at Main Street, where the route bifurcates. To the north, a segregated spur passes through agricultural land and connects to Crabtree Lane. To the south, the route uses Main Street and Polly Taylor's Road to proceed westbound. The two routes join together and then proceed west towards Tuxford using a minor public road.

Road Access

A.12.5.13. Access to the Proposed Development will be split across 10 gates labelled Gate A – Gate J. Gate A – Gate E will be located to the west of River Trent and Gate F – Gate J to the east. The access junctions will be constructed to suit the Proposed Development and the junction works will be agreed with NCC and LCC prior to works commencing

A.12.5.14. Access to the nearest district distributor road is available at the A57 to the north of the Proposed Development. The A57 provides strategic road connections from Lincoln to Sheffield and is operated by NCC and LCC. The A57 also links onto the A1 at Markham Moor which is a direct link into Central London to the south and Edinburgh to the north.

A.12.5.15. The A57 features a private toll bridge at Dunham. The bridge is free at all times for pedestrians, cyclists, motorcyclists and three-wheeled invalid carriages. Tolls for motorised vehicles are regulated by the DfT and are set at £0.50 for cars and minibuses, £1.00 for LGV and coaches and £2.00 for HGV and farm traffic (at the time of writing).

A.12.5.16. The A1133 provides connections from the A156 to Newark-on-Trent. The road is local distributor road and is operated by LCC and NCC. The road is approximately 7.5 – 8m in width and capable for regular HGV use. The road is mainly subject to a 60mph speed limit, although the road is restricted to 30mph in Collingham to the south.

A.12.5.17. Main Street is a 40mph single carriageway road, surrounded primarily by residential properties, and otherwise operates a 60mph speed limit throughout more rural sections. Main Street provides a direct connection between the A57 to the north and Sutton on Trent to the south.

A.12.5.18. Polly Taylor's Road is a quiet 60mph single carriageway road, approximately 6m in width, off Main Street which connects directly onto Crabtree Lane. Crabtree Lane is a quiet and narrow 60mph road with passing places to allow for two way traffic.

A.12.5.19. Moor Lane, within the vicinity of the Proposed Development, is a quiet 60mph single carriageway road, approximately 6m in width and is accessible off the A1133.

Existing Traffic Conditions

A.12.5.20. In order to assess the impact of construction traffic on the Study Area, Automatic Traffic Counts (ATCs) were undertaken by a specialist indepenant traffic surveying contractor throughout the study area between 12th March and 27th March 2024.

A.12.5.21. Following an initial review by NCC officers, the classification of HGV vehciles was revised to ensure that long wheel base LGV were not erroneously classifed as two wheel HGV trips. This reclaibration was undertaken independantly to the assessment team and has been crosschecked to Department for Transport (DfT) traffic data.

A.12.5.22. Traffic flows were observed at nine locations, noting the numbers and directions of Cars & LGVs and HGV traffic. The locations of the ATC sites are illustrated in **Figure 7**.

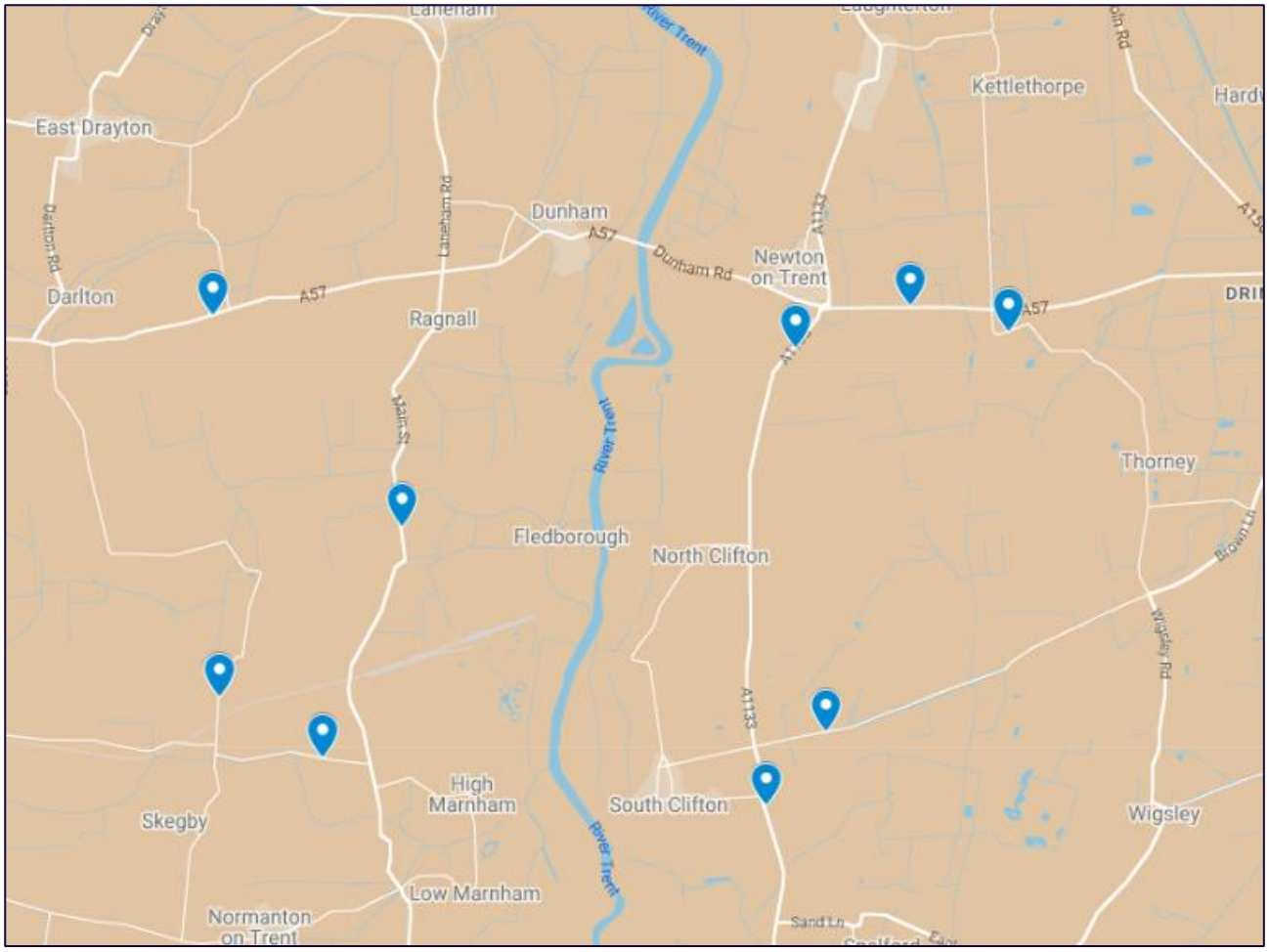

Figure 7 Traffic Survey Locations

A.12.5.23. The existing traffic survey data for 2024 has been summarised in **Table 1**.

Table 1 2024 Surveyed Vehicle Flow

Link	Car & LGV	HGV	Total Traffic
A57 west of Dunham	8152	865	9017
A57 Dunham	8152	865	9017
A57 east of Newton on Trent	8332	727	9059
A1133 north of North Clifton	3210	336	3547
A1133 south of South Clifton	2979	792	3771
Moor Lane	350	79	429
Roadwood Lane	187	33	220

Link	Car & LGV	HGV	Total Traffic
Main Street south of Ragnall	936	83	1019
Polly Taylor's Road	319	21	340
Crabtree Lane	59	4	63

Road Accident Review

A.12.5.24. Personal Injury Accident (PIA) data for the five-year period covering 2019 to 2023 for the roads within the Study Area, was obtained from the online resource CrashMap which uses data collected by the Police about road traffic crashes occurring on roads, where someone is injured.

A.12.5.25. Analysis of the PIA data on the road network in the vicinity of the Proposed Development has been undertaken for the key road links outlined within the Study Area.

A.12.5.26. The statistics are categorised into three categories, namely “Slight”, “Serious” and “Fatal”, for those accidents that result in a death. The general locations and severity of the recorded accidents within the Study Area are summarised in **Table 2**.

Table 2 PIA Data Within the Vicinity of the Site

Link	Slight	Serious	Fatal
A57	17	11	1
A1133	6	1	1
Main Street	1	1	0

A.12.5.27. A total of 39 accidents were recorded across the five-year period. Of these the majority were classed as being “slight” (61.5%) and resulted in damage only incidents. 14 accidents were noted as being “serious” resulting in an injury and two accidents resulted in a fatality.

A.12.5.28. Of the recorded accidents, the following vehicles were involved:

- Young drivers (under 25) accounted for ten “slight” accidents, one “serious” and one fatal accident;
- Motorcyclists were involved in two “slight” and “three” serious accidents and one fatal accident;

- Cyclists were involved in one “slight” accident;
- HGV traffic was involved in 16 “slight” and four “serious” accidents. Of these one occurred on Main Street, two on the A1133, with the remainder occurring on the A57;
- 20 accidents were individual accidents with no other vehicles involved;
- Eight accidents occurred during winter months;
- No child or pedestrian casualties were recorded; and
- No accidents involving bus passengers were recorded.

A.12.5.29. Accidents on the A57 tend to occur at junctions or on the approach to the Dunhan toll bridge booths. These suggest improved road signage and other features be deployed.

A.12.5.30. The more rural roads, Polly Taylor’s Road, Moor Lane, Crabtree Lane and Roadwood Lane have not seen any PIA within the most recent five-year period.

Future Year Traffic Conditions

A.12.5.31. Construction of the Proposed Development is assumed to commence in 2027 and will be completed in 2029.

A.12.5.32. To assess the likely effects during the construction, base year traffic flows were determined by applying a National Road Traffic Forecast (NRTF) low growth factor to the surveyed traffic flows.

A.12.5.33. The NRTF low growth factor for 2024 to 2027 is 1.019. These factors were applied to the 2024 survey data to estimate the baseline traffic conditions within the peak period of construction, calculated to be April 2027.

A.12.5.34. This growth factor has been applied to the survey data to estimate the 2027 Base traffic flows, as shown in **Table 3**. This will be used in the Traffic Impact Assessment.

Table 3 2027 Future Baseline Daily Traffic Conditions

Link	Car & LGV	HGV	Total Traffic
A57 west of Dunham	8307	881	9188
A57 Dunham	8307	881	9188
A57 east of Newton on Trent	8490	741	9231
A1133 north of North Clifton	3271	343	3614
A1133 south of South Clifton	3036	807	3843
Moor Lane	357	81	437
Roadwood Lane	191	33	224
Main Street south of Ragnall	954	84	1038
Polly Taylor's Road	325	21	346
Crabtree Lane	60	4	64

Committed Developments

A.12.5.35. A review of the committed developments located in proximity of the Proposed Development has been undertaken and is reported in Chapter 18 of the EIA Report.

A.12.5.36. In line with agreed transport planning guidance, only committed developments will be included in the assessment. These will be included in the baseline traffic flows, should the Proposed Development be complete or likely to be complete by 2027.

A.12.5.37. Committed developments to be included in the assessment will be those of a significant scale, i.e. where their development impact exceeds a 10% increase in traffic flows on a link within the study area network.

A.12.5.38. Planning applications that are in development, scoping or are undetermined are not committed and as such will not be included in the final assessment.

A.12.5.39. A sensitivity review of link capacity will be undertaken for nearby schemes that are not determined, have publicly available traffic flow data and where their estimated traffic impact exceeds 10% on this scheme's study area network will be undertaken for the finalised application assessment.

A.12.5.40. Committed development assessments for the decommissioning phase will not be undertaken as the future baseline and traffic conditions are impossible to estimate.

A.12.6 Trip Generation and Distribution

Construction Phase – Trip Derivation

A.12.6.1. During the 26 month construction period, the following traffic will require access to the Site:

- staff transport, in either cars or staff minibuses;
- construction equipment and materials, deliveries of machinery and supplies such as ready-mix concrete and aggregate;
- solar panels and their mounting frames;
- components relating to the battery storage element and associated grid connection infrastructure; and
- AILs consisting of the transformers and a heavy lift crane.

A.12.6.2. A construction programme has been developed to help estimate the peak in construction activities. A copy of this is provided in **Appendix B**

A.12.6.3. Average monthly traffic flow data was used to establish the construction trips associated with the Proposed Development, based on the assumptions detailed in the following sections.

Construction Staff

A.12.6.4. Staff would arrive in cars, LGV and minibus vehicles. To promote sustainable travel, a Staff Travel Plan will be implemented to ensure the following to help reduce single occupancy car journeys:

- 80% of staff will arrive by minibus (a minimum of an 8-seat vehicle);
- 10% will arrive by LGV (expected to provide for three staff); and
- 10% will arrive by car.

A.12.6.5. The Staff Travel Plan will be secured by contract to ensure compliance on mode share. The requirement of the Staff Travel Plan is made in the oCTMP and is a requirement under the DCO.

A.12.6.6. The workforce will depend on the activities undertaken but based on previous solar farm construction site experience for a Proposed Development of this

scale, an estimate of staff requirements has been made, based against the construction programme.

A.12.6.7. Based on these assumptions, staff transport cars and light vehicles would account for a maximum of 220 vehicle trips (110 inbound and 110 outbound) per day during the peak of staff requirements (expected in the middle of the project programme).

General Deliveries

A.12.6.8. Throughout the construction phase, general deliveries will be made to construction areas via HGV. These would include fuel, Site office supplies, generic construction materials and staff welfare etc. At the height of construction, it is assumed that up to 616 trips to Site are made (308 in and 308 out) per month.

Material Deliveries

A.12.6.9. Various materials will need to be delivered to the construction site to construct the scheme. At the outset of the construction works, HGV deliveries will deliver plant and initial material deliveries to the site to enable the formation of the site compound and to deliver construction machinery.

A.12.6.10. The Proposed Development will require bulk material deliveries of aggregate, ready-mix concrete, geotextile, road surfacing materials, etc. During the construction programme, some of these materials that are used for temporary works will need to be removed from Site (such as temporary compound hardstands).

A.12.6.11. The estimated materials required on Site have been reviewed from the scheme design team. The following assumptions have been made to estimate the traffic volumes:

- All bulk aggregate and road building materials will be delivered by HGV with a 20tonne capacity;
- Foundation steel will be delivered via HGV in 30tonne deliveries;
- Ready-mix deliveries will be made by vehicles with a $6m^3$ capacity;
- 800 panels will be delivered by shipping container;
- BESS battery units will be delivered in shipping container format, one per HGV;
- Panel frame components can be delivered in component form by shipping container;
- Large invertor units are containerised and delivered individually;

- Cabling sand is delivered in 20tonne capacity HGV;
- Cabling is delivered in drums, none of which are considered AIL in dimension or weight;
- Transformers are considered as AIL and delivered as one delivery each; and
- Commissioning will be undertaken by staff specifically travelling to Site by LGV.

A.12.6.12. The resulting traffic generation estimates have been plotted onto the indicative construction programme to illustrate the peak journeys on the network. **Appendix B** illustrates the trip generation throughout the construction programme. An hourly breakdown of construction peak traffic is also provided in **Appendix C** at the request of National Highways.

A.12.6.13. The peak of construction in terms of vehicular movements will be 614 daily trips (110 Car/Lights and 504 HGV journeys).

A.12.6.14. As can be seen by the profile of construction traffic, the peak is very pronounced. The average total traffic flow over the full 26 month period is 384 movements. As such, the impact assessment undertaken and presented in the TA is overly robust.

Distribution of Construction Trips

A.12.6.15. The distribution of Proposed Development construction traffic on the network would vary depending on the types of loads being transported.

A.12.6.16. Construction traffic will be split between the west and east development areas, separated by the River Trent.

A.12.6.17. All construction access for the west development areas will be taken from the A57 to the west of Dunham. Traffic will access land parcels from a set of private access roads that bypass the village of Ragnall. Access to other sections of the western development area will be taken from new access junctions located on the public road network to the south of Ragnall.

A.12.6.18. Bulk materials for the western development areas will be sourced from local quarries and suppliers located to the south and would access the construction Site via the A1 corridor and A57.

A.12.6.19. The majority of the eastern development areas will be accessed from the A1133 at a new access junction located to the south of Newton on Trent. A further access on Moor Lane provides access to the development area to the south of the disused Fledborough – Lincoln railway line.

A.12.6.20. Bulk materials for the eastern areas will be sourced from local quarries and suppliers located to the south and would access the Site via the A1133 corridor.

A.12.6.21. The majority of construction staff will be located in the local area and will access the Scheme from the A57 and A1133. A gravity model based upon a one hour drive time has been undertaken to estimate where the wider workforce will be based during the construction period. The population of each urban area was then used to determine a weighting of the number of workers from each given origin and professional judgement used to determine which origins would route to which construction access.

A.12.6.22. Following the distribution and assignment of traffic flows to the Study Area network, the resultant daily traffic during the peak of construction is summarised in **Table 5**.

Table 4 Construction Peak Period Daily Traffic Flow

Link	Car & LGV	HGV	Total Traffic
A57 west of Dunham	92	289	381
A57 Dunham	37	13	50
A57 east of Newton on Trent	15	20	35
A1133 north of North Clifton	52	34	86
A1133 south of South Clifton	3	199	202
Moor Lane	3	9	12
Roadwood Lane	3	9	12
Main Street south of Ragnall	17	23	40
Polly Taylor's Road	6	8	13
Crabtree Lane	6	8	13

Operational Phase

A.12.6.23. During the operational phase, up to 10 LGV trips per day, on average, are predicted to cater for cleaning of panels and general Site maintenance. When longer term maintenace of battery units or panels is required, HGV access will be necessary with up to 12 HGV trips potentially per day. The number of vehicle trips occurring during this phase will be well below the number of

movements assessed for the construction phase and significantly below the overall IEMA guidance thresholds. As such, no further assessment is required.

Decommissioning Phase

A.12.6.24. During decommissioning, the cabling, solar panels, High Voltage (HV) equipment, foundations, etc comprising the surface elements of the scheme will be removed. Other elements such as sections of access tracks, access junctions, the grid connection ducting under the River Trent, landscaping, areas of ecological enhancement may be retained.

A.12.6.25. The traffic generation associated with the decommissioning phase is therefore less than that associated with the construction phase. As such, no further assessment is required.

A.12.7 Traffic Impact Assessment

Construction Impact

A.12.7.1. The peak month traffic data was combined with the future year (2027) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in Table 5.

Table 5 Percentage Impact Summary

Link	Car & LGV	HGV	Total Traffic
A57 west of Dunham	1.1%	32.8%	4.1%
A57 Dunham	0.4%	1.5%	0.5%
A57 east of Newton on Trent	0.2%	2.7%	0.4%
A1133 north of North Clifton	1.6%	9.9%	2.4%
A1133 south of South Clifton	0.1%	24.7%	5.3%
Moor Lane	0.8%	11.3%	2.7%
Roadwood Lane	1.4%	27.2%	5.3%
Main Street south of Ragnall	1.7%	27.8%	3.8%
Polly Taylor's Road	1.7%	37.2%	3.8%

Link	Car & LGV	HGV	Total Traffic
Crabtree Lane	9.2%	184.8%	20.7%

A.12.7.2. The highest expected total traffic movement increase occurs on Crabtree Lane, with an overall increase in traffic of 20.7%. This is expected, due to the relatively low baseline traffic flow on the road at present.

A.12.7.3. None of the other links within the Study Area experience traffic impacts in excess of 5.3%. This is well below the accepted industry standard estimate of daily traffic flow variation of 10%.

A.12.7.4. HGV traffic increases on the A57 and A1133 vary between an increase of 1.5% and 32.8%. An increase of HGV traffic on Crabtree Lane of 184.8% is predicted, whilst HGV flows on Polly Taylor's Road are predicted to increase by 37.2%.

A.12.7.5. It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short timeframe when taking account of the whole construction programme.

A.12.7.6. A review of existing theoretical road capacity has been undertaken using "The NESA Manual" formerly part of the Design Manual for Roads and Bridges. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the Study Area. The results are summarised in Table 6.

Table 6 Theoretical Road Capacity Review

Link	2027 Total Traffic – Baseline (vehs)	2027 Total Base + Development Traffic (vehs)	Theoretical 12 hour Capacity (vehs)	Spare road Capacity
A57 west of Dunham	9188	9569	28800	66.77%
A57 Dunham	9188	9238	19200	51.89%
A57 east of Newton on Trent	9231	9266	28800	67.83%
A1133 north of North Clifton	3614	3700	21600	82.87%
A1133 south of South Clifton	3843	4045	21600	81.27%

Link	2027 Total Traffic – Baseline (vehs)	2027 Total Base + Development Traffic (vehs)	Theoretical 12 hour Capacity (vehs)	Spare road Capacity
Moor Lane	437	449	19200	97.66%
Roadwood Lane	224	236	19200	98.77%
Main Street south of Ragnall	1038	1078	19200	94.39%
Polly Taylor's Road	346	359	19200	98.13%
Crabtree Lane	64	77	3360	97.69%

A.12.7.7. The results indicate there are no road capacity issues with the addition of construction traffic associated with the scheme and ample spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.

Operational Impact

A.12.7.8. The traffic impact of the operational phase is minimal and below the trigger for an assessment.

Decommissioning Impact

A.12.7.9. Prior to decommissioning of the scheme, a traffic assessment would be undertaken, and appropriate traffic management procedures followed.

A.12.7.10. The decommissioning phase would result in fewer trips on the road network than the construction as it is considered likely that elements of infrastructure such as access tracks would be left in place and structures may be broken up onsite to allow transport by a reduced number of HGV trips.

A.12.7.11. The growth of background traffic created through wider development in the area, will increase the baseline traffic flows. With a larger baseline and smaller development traffic generation, the potential traffic impact is therefore considered to be significantly below that reported for the construction phase.

A.12.8 Proposed Mitigation

Construction Mitigation

A.12.8.1. Given the importance of effective traffic management with construction Proposed Developments, an **Outline Construction Traffic Management Plan [EN010159/APP/7.9**] has been submitted as part of the DCO application..

A.12.8.2. The proposed mitigation package would be delivered by the Applicant through a suitably worded planning condition.

Operational Mitigation

A.12.8.3. Scheme access junctions and tacks will be well maintained and monitored during the operational life of the Proposed Development. Regular maintenance will be undertaken to keep the scheme access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

A.12.8.4. Due to the level of traffic associated with the operational phase, no physical traffic management measures are considered necessary.

A.12.8.5. In line with best practice, car / LGV sharing during the operation phase will be undertaken to reduce single occupancy trips as far as is practical.

Decommissioning Mitigation

A.12.8.6. Mitigation during the decommissioning stage will be similar to that proposed in the outline CTMP, albeit with reduce traffic generation as some elements of the scheme are likely to be retained, including sections of access tracks, access junctions, landscaping, areas of ecological enhancement, etc.

A.12.8.7. A Decommissioning Traffic Management Plan (DTMP) will be prepared prior to the decommissioning stage being commenced. This will ensure that all relevant transport receptors and issues are accounted for in preparing the traffic management measures at that stage, likely to undertaken up to 60 years following installation.

A.12.8.8. The DTMP would be secured within the DCO.

A.12.9 Summary & Conclusions

A.12.9.1. Pell Frischmann has been instructed by One Earth Solar Farm Limited (the Applicant) to produce a Transport Assessment for a solar energy development

located to the either side of the River Trent, to the southwest and southeast of the village of Dunham, Nottinghamshire.

A.12.9.2. Baseline traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.

A.12.9.3. The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the scheme. The peak of construction in terms of vehicular movements will be 614 daily journeys (110 Car / Lights and 504 HGV journeys). Over the course of a typical 12 hour working day on the Proposed Development, this would equate to approximately 18 two-way HGV movements per hour for the eastern side of the River Trent and approximately 24 two-way HGV movements per hour for the western side.

A.12.9.4. As can be seen by the profile of construction traffic, the peak is very pronounced. The average total traffic flow over the full 26 month period is 384 movements. As such, the impact assessment undertaken and presented is overly robust.

A.12.9.5. A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of the construction, operational and decommissioning phase traffic flows. It is proposed that these can be secured by condition with the local planning authorities.

A.12.9.6. No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

Appendix A Abnormal Load Route Survey

Pell Frischmann

One Earth Solar Farm

Abnormal Indivisible Load Route Survey

February 2025

108012

Report Ref.	**250218 One Earth Solar Farm Rsr**
File Path	**https://pellf.sharepoint.com/sites/EdinburghOfficeTeam/Shared Documents/General/Projects/108012 One Earth Solar Farm/01 - WIP/Reports/250218 One Earth Solar Farm RSR.docx**

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0		Issue	17/02/25	S Weston	G Buchan	G Buchan

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by One Earth Solar Farm Ltd (One Earth) to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for 161 tonne (te) transformer loads associated with the proposed development of One Earth Solar Farm, located to the west of Lincoln on a site that straddles both Nottinghamshire and Lincolnshire.

The Route Survey Review (RSR) has been prepared to help inform One Earth on the issues associated with the development of the site with regards to off-site transport and access for AIL traffic.

The RSR examines the issues associated with transport along the whole of the access routes from the ports to the site access junctions.

The report identifies the key issues associated with AIL deliveries and notes that remedial works, either in the form of physical works or as traffic management interventions will be required to accommodate the predicted loads.

The detailed designs of any remedial works are beyond the agreed scope of works between PF and One Earth at this point in time.

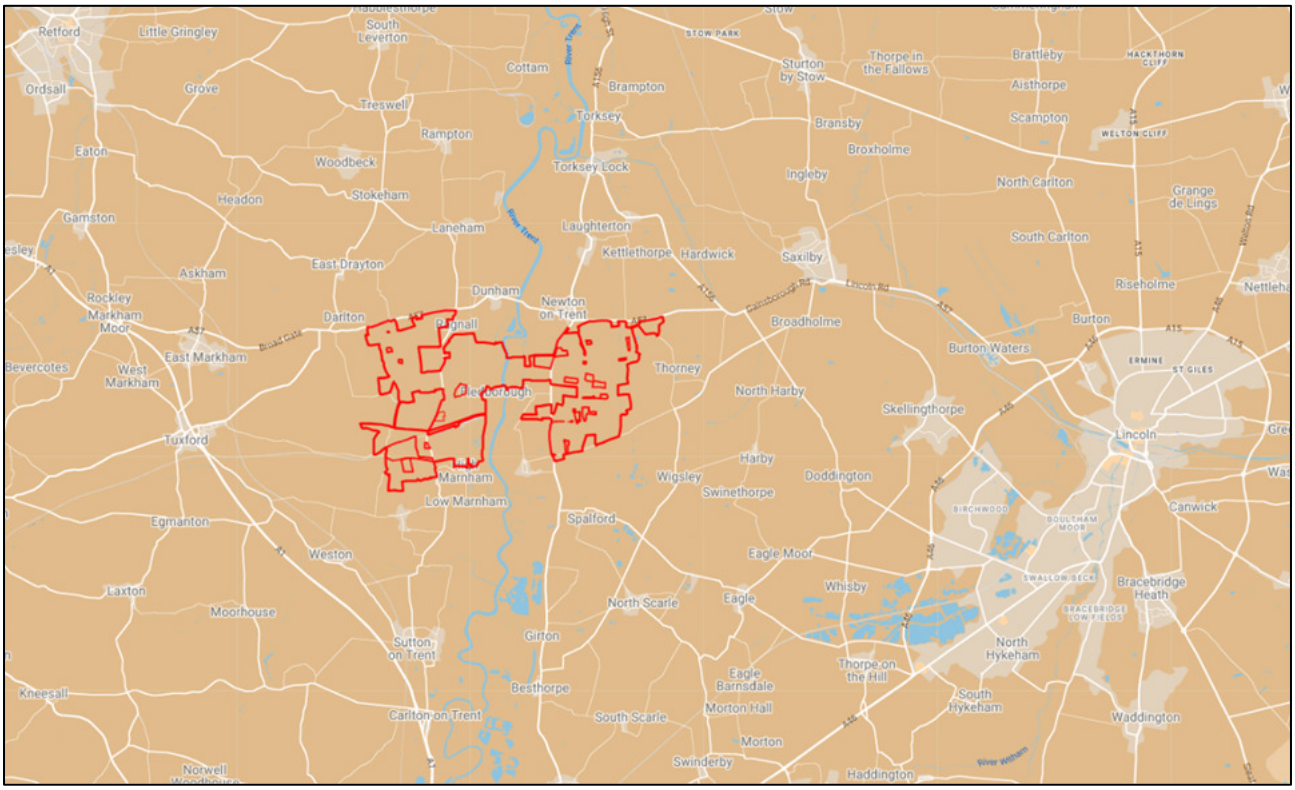
It is the responsibility of the transformer supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction (depending upon contract). The supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety consideration for all road users and are in line with the relevant legislation at the time of delivery.

2 Site Background

2.1 Site Location

2.1.1 The Proposed Development straddles the administrative boundaries of both Nottinghamshire County Council (NCC) and Lincolnshire County Council (LCC), with the majority of the Proposed Development falling within NCC. **Figure 2-1** illustrates the general site location in red.

Figure 2-1: Site Location Plan



The proposed AIL are required at two separate locations, separated by the River Trent. A common access route is not possible, due to vertical alignment and load hearing constraints associated with the Dunham Bridge over the River Trent. As such, a western and eastern access solution is required.

2.2 Candidate Transformer

One Earth have indicated that they wish to consider a 161 te transformer for the route assessment and to undertake the necessary swept path assessments.

The details of the transformer have been provided by the Applicant and are detailed below in **Table 2-1**.

Table 2-1: Transformer Dimensions

Component	Length [m]	Width [m]	Height [m]	Weight [te]
Transformer	10.3	3.1	3.9	161.0

These dimensions have been used for the subsequent assessment of the proposed loads along the access route.

2.3 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route it is proposed that the transformer be delivered on a 16-axle Girder Frame Trailer (GFT).

Figure 2-2 illustrates an example of the proposed delivery equipment likely to be used for the Proposed Development.

Figure 2-2: Girder Frame Trailer

This configuration is subject to confirmation by the chosen haulier at the time of their commissioning.

3 Access Route Review

3.1 Initial Access Considerations

A review of potential access facilities along the River Trent was undertaken to comply with the Uk Government's "Water Preferred" policy for AIL movements. This states that loads should move by marine access as far as is physically and economically possible.

Existing river freight facilities at Flixborough, Gunness, and Althorpe were considered. None of these were suitable for a variety of reasons including insufficient quay bearing strength, inadequate loading facilities and limited road access.

Consultation with National Highways was held and the jetty facility at Cottam was proposed. This facility is private and the Applicant does not have any access rights to use it or the private road network leading from it to Cottam Road.

Access from the jetty onto the nearby Torksey Ferry Road has been examined, however access from here will require loads passing through the villages of Rampton and Laneham. Swept path assessments in both villages identifies the need for tree removal, removal of private gardens and collisions with existing buildings.

Access from Cottam would result in longer journey times and higher costs than similar journeys by road from established port facilities on the River Humber.

As access from Cottam is constrained by physical constraints (via Rampton and Laneham) or not deliverable by the private nature of the jetty and its access through the power station to Cottam Road, an alternative access strategy will therefore be required to demonstrate that AIL access to the Proposed Development is achievable.

The alternative access strategy has therefore tried to respect the "Water Preferred Policy" as far as possible and has considered access to the western substation via the Port of Goole and access to the eastern area via the Port of Immingham.

3.2 Port of Entry

ABP Immingham has been considered Port of Entry (PoE) for the eastern sites and, due to limitations posed by structure no. 10697 Dunham Bridge, Goole Docks has been considered PoE for the western sites. Loads can be offloaded by geared vessel or onshore mobile cranes and both port facilities have been used for the delivery of components for a number of electricity generation sites and is therefore well-proven as being capable of dealing with AIL of the size considered in this RSR.

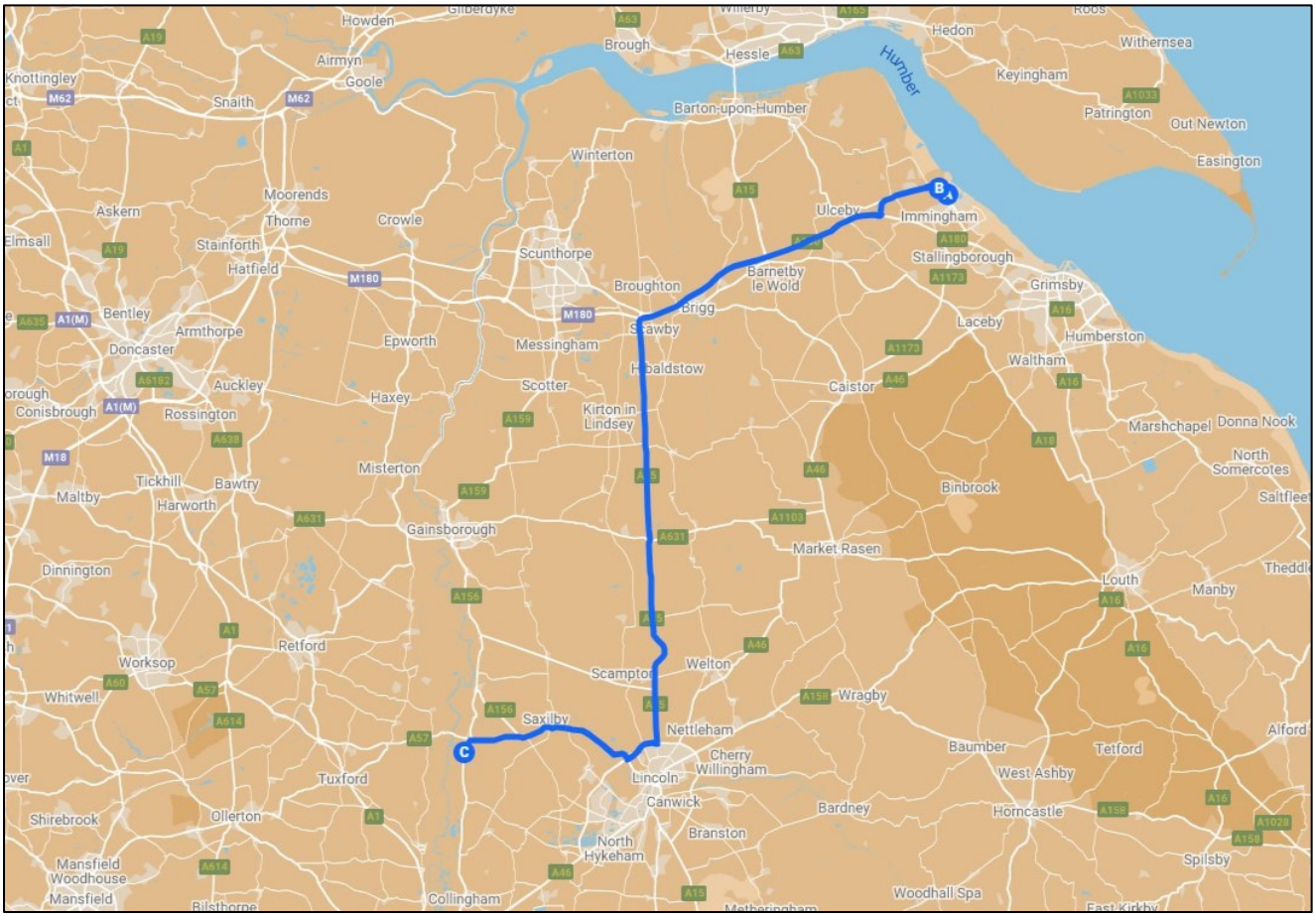
3.3 Proposed Access Route 1

The proposed access route from ABP Immingham to the eastern site access junction is as follows:

- Loads would depart ABP Immingham through the west gate proceeding west on Humber Road;
- Loads would travel straight on at Manby Roundabout onto A160 proceeding west towards A180;
- Loads would take the second exit at Brocklesby Interchange onto A180 proceeding west, which merges into M180;
- Loads would take the third exit at Riseholme Roundabout onto A46 proceeding west;
- Loads would take the third exit at Carholme Roundabout onto A57 proceeding north;
- Loads would turn left onto A1133 proceeding south before turning left onto the eastern site access road.

The proposed access route is illustrated in **Figure 3-1**.

Figure 3-1: Access Route 1



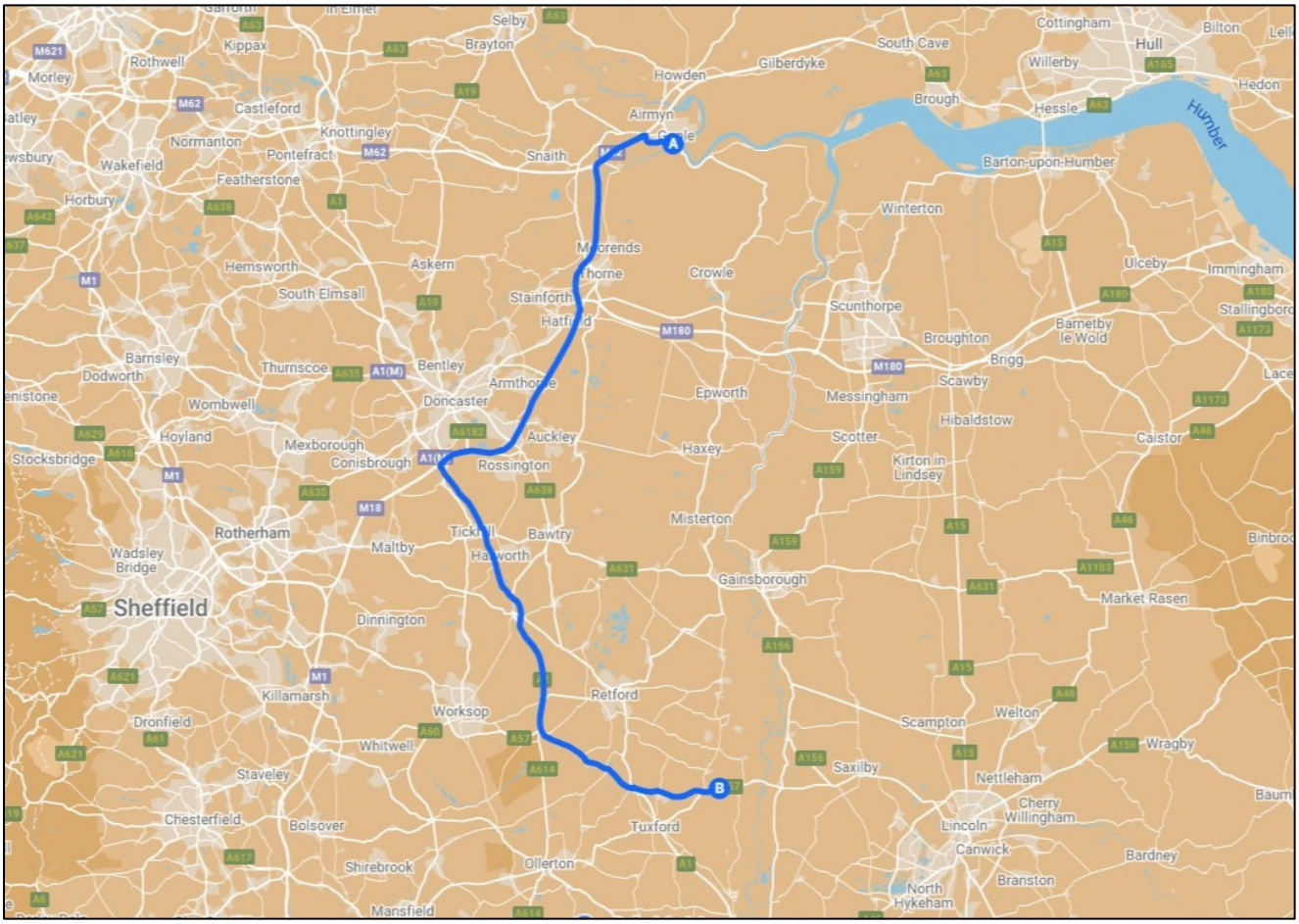
3.4 Proposed Access Route 2

The proposed access route from Goole Docks to the western site access junction is as follows:

- Loads would depart Goole Docks onto A161 proceeding west;
- Loads would turn left onto M62 at Junction 36 proceeding west;
- Loads would turn left at M62 Junction 35 onto M18 proceeding south;
- Loads would turn left at M18 Junction 2 onto A1(M) proceeding south, which merges into A1;
- Loads would exit the A1 at Markham Moor Interchange and then take the second exit onto A57 proceeding east;
- Loads would take the third exit at Carholme Roundabout onto A57 proceeding north before turning right onto the western site access road.

The proposed access route is illustrated in **Figure 3-2**.

Figure 3-2: Access Route 2



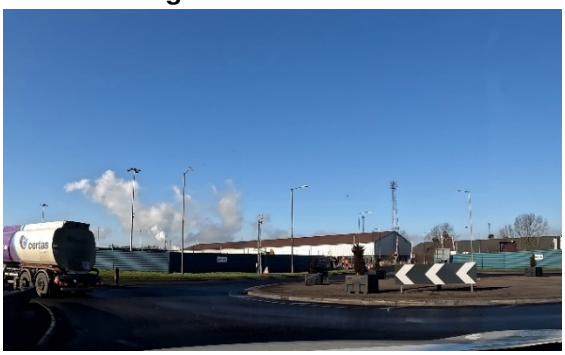
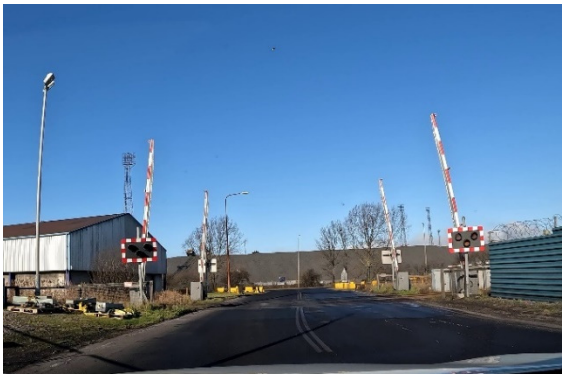
3.5 Route Constraints

The constraints noted during the review are provided in **Tables 3-1 and 3-2** below. These cover all constraints from the port access gates through to the site access junctions.

Plans illustrating the location of the constraints are provided in **Appendix A**.

3.5.1 Route 1 (ABP Immingham to eastern site)

Table 3-1: Route 1 Constraint Points and Details

POI	Key Constraint	Details
1	**Western Access Road / ABP Immingham level crossing roundabout** 	ABP Immingham have advised that the current structural capacity of asset no. KIL1 1A West Haven Way is insufficient to accommodate the 16-axle girder frame trailer, therefore, loads are to depart ABP Immingham via KIL1-104-55 Western Entrance level crossing and Humber Road. Loads will proceed northbound on the Western Access Road and will travel straight on at the roundabout enroute to KIL1-104-55 Western Entrance level crossing. A swept path assessment has been undertaken and indicates that loads will overrun and oversail the central roundabout island. A load bearing surface should be laid and one road sign and one planter will need to be removed. Loads will also oversail beyond the kerb and on the entry and exit splitter islands on approach to and exit from the roundabout, however no physical mitigation measures are required to facilitate. Swept path drawing SK01 is included in **Appendix B**.
2	**KIL1-104-55 Western Entrance level crossing** 	Loads will proceed northbound on the ABP Immingham access road and cross KIL1-104-55 Western Entrance level crossing. Contact with Network Rail and ABP Immingham will be required during deliveries to ensure that the convoy does not pass the level crossing when rail services are timed to cross the road.
3	**ABP Immingham level crossing / Humber Road left-hand turn** 	Loads will turn left from the ABP Immingham access road onto Humber Road proceeding westbound. A swept path assessment has been undertaken and indicates that loads will oversail beyond both kerbs on exit from the turn. No physical mitigation measures are required. Swept path drawing SK02 is included in **Appendix B**.

POI	Key Constraint	Details
4 & 5	**Humber Road / W Haven Way roundabout & ABP Immingham AIL gate** 	Loads will travel straight on at Humber Road / W Haven Way roundabout continuing westbound on Humber Road. A swept path assessment has been undertaken and indicates that loads will negotiate the roundabout using a contraflow transit. The abnormal load access barriers will need to be opened and oncoming port traffic held during the manoeuvre. Swept path drawing SK03 is included in **Appendix B**.
6	**Humber Road / A160 Manby Roundabout**  	Loads will take the second exit at Manby Roundabout proceeding onto A160 westbound. The roundabout is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
7	**A160 / A1077 Habrough Roundabout**  	Loads will take the second exit at Habrough Roundabout proceeding onto A160 westbound. The roundabout is negotiable for the loads with no physical mitigation measures required.
8	**A160 / A180 Brocklesby Interchange**  	Loads will take the second exit at Brocklesby Interchange proceeding onto A180 westbound. The roundabout is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
9	**M180 Junction 4 / A15 Broughton Interchange exit slip** 	Loads will turn left from M180 westbound at Junction 4 onto the Broughton Interchange slip road. The junction is negotiable for the loads with no physical mitigation measures required.
10	**M180 Junction 4 exit slip / A15 Broughton Interchange** 	Loads will turn left at Broughton Interchange from M180 Junction 4 exit slip road onto A15 southbound. The roundabout is negotiable for the loads with no physical mitigation measures required.
11	**A15 gradient** 	Loads will continue southbound on A15 along sections of steep gradient. An additional tractor unit(s) is required to provide necessary tractive and braking effort.

POI	Key Constraint	Details
12	**A15 Caenby Corner Roundabout**  	Loads will travel straight on at Caenby Corner Roundabout continuing on A15 southbound. A swept path assessment has been carried out and indicates that loads will oversail the central roundabout island. Four road signs should be removed. Vegetation pruning required. Loads will also oversail beyond the eastern kerbline on entry to and exit from the roundabout, however no physical mitigation measures are required. Swept path drawing SK04 is included in **Appendix B**.
13	**A15 Horncastle Lane Roundabout**  	Loads will travel straight on at Horncastle Lane Roundabout continuing on A15 southbound. A swept path assessment has been carried out and indicates that loads will oversail beyond the eastern kerb line on the approach to the roundabout. The girder frame should be raised above wooden rail fence using the trailer hydraulics. Loads will also oversail the central roundabout island. The girder frame should be raised above raised island using trailer hydraulics. Swept path drawing SK05 is included in **Appendix B**.

POI	Key Constraint	Details
14	**A15 / A46 Riseholme Roundabout**  	Loads will turn right at Riseholme Roundabout from A15 onto A46 westbound. The roundabout is negotiable for the loads with no physical mitigation measures required.
15	**07/63/02 Long Leys Road Bridge** 	Loads will travel westbound on A15 over structure no. 07/63/02 Long Leys Road Bridge. Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.

POI	Key Constraint	Details
16	**A46 / A57 Carholme Roundabout**  	Loads will turn right at Carholme Roundabout from A46 onto A57 northbound. The roundabout is negotiable for the loads with no physical mitigation measures required.
17	**97/53/02 Bishop's Bridge (East)** 	Loads will travel westbound on A57 over structure no. 97/53/02 Bishop's Bridge (East). Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.
18	**97/43/92 A Bishop's Bridge (West)** 	Loads will travel westbound on A57 over structure no. 97/43/92 A Bishop's Bridge (West). Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.

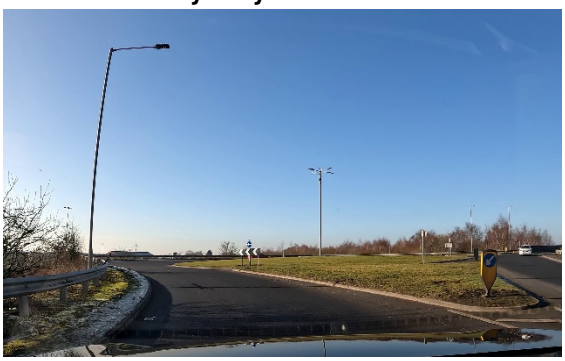
POI	Key Constraint	Details
19	**A57 Burton Roundabout**  	Loads will travel straight on at Burton Roundabout continuing on A57 northbound. A swept path assessment has been carried out and indicates that loads will oversail the central roundabout island. Three road signs should be removed. Loads will also oversail beyond the western kerb line on approach to the roundabout. No physical mitigation measures required. Swept path drawing SK06 is included in **Appendix B**.
20	**A57 central splitter island no.1** 	Loads will continue northbound on A57 past a central splitter island. Loads will oversail the splitter island with no mitigation measures required.
21	**A57 central splitter island no.2** 	Loads will continue northbound on A57 past a central splitter island. Loads will oversail the splitter island. To improve clearances, it is proposed that the two bollards and one lighting column are removed.

POI	Key Constraint	Details
22	**97/14/78 Odder Bridge** 	Loads will travel westbound on A57 over structure no. 97/14/78 Odder Bridge. Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.
23	**87/95/71 Saxilby (Foss Dyke)** 	Loads will travel westbound on A57 over structure no. 87/95/71 Saxilby (Foss Dyke). Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.
24	**87/95/60 Saxilby Railway Bridge** 	Loads will travel westbound on A57 over structure no. 87/95/60 Saxilby Railway Bridge. Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.
25	**A57 / A156 LH turn** 	Loads will turn left at A57 / A156 junction continuing on A57 westbound. The junction is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
26	**87/44/40 A Plotwood Bridge** 	Loads will travel westbound on A57 over structure no. 87/44/40 A Plotwood Bridge. Lincolnshire County Council (LCC) has advised that the structure will require a structural assessment.
27	**A57 / A1133 left-hand turn**  	Loads will turn left from A57 onto A1133 southbound. The proposed loads will require access to both lanes of the A57 and A1133 to negotiate the turn. A swept path assessment has been carried out and indicates that loads will overrun and oversail the entry splitter island. A load bearing surface should be laid. Loads will also oversail beyond the kerb line to the inside of the turn and on the exit splitter island. No physical mitigation measures are required. Swept path drawing SK07 is included in **Appendix B**.
28	**A1133 / Eastern Site access road left-hand turn** 	Loads will turn left from A1133 onto the eastern sites access road. A swept path assessment has been carried out and indicates that loads will oversail beyond the kerb to the inside of the turn. Vegetation to be cleared and the area should be kept clear of street furniture during deliveries. Swept path drawing SK08 is included in **Appendix B**.

3.5.2 Route 2 (Goole Docks to Western Sites)

Table 3-2: Route 2 Constraint Points and Details

POI	Key Constraint	Details
29	**Goole Docks exit gate / A161 right-hand turn** 	Loads will exit Goole Docks and turn left onto A161 westbound. Travelling towards the camera. The junction is negotiable for the loads with no physical mitigation measures required.
30	**A161 Normandy Way roundabout**  	Loads will travel straight on at A161 Normandy Way roundabout continuing on A161 westbound. A swept path assessment has been undertaken and indicates that loads will oversail beyond the southern kerb line on entry to the roundabout with no physical mitigation measures required. Swept path drawing SK09 is included in **Appendix B**. The condition of the road surface was noted as poor during survey. Repairs to this are suggested prior to deliveries commencing.
31	**A161 central splitter island no.1** 	Loads will continue westbound on A161 past a central splitter island. Loads will oversail the splitter island. No physical mitigation measures are required.

POI	Key Constraint	Details
32	**A161 central splitter island no.2** 	Loads will continue westbound on A161 past a central splitter island. Loads will oversail the splitter island. No physical mitigation measures are required.
33	**A161 Tom Pudding Way roundabout**  	Loads will travel straight on at A161 Tom Pudding Way roundabout continuing on A161 northbound. The roundabout is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
34	**A161 / M62 Junction 36**  	Loads will turn left from A161 onto M62 southbound at Junction 36. The junction is negotiable for the loads with no physical mitigation measures required.
35	**M62 Junction 35 / M18 left-hand turn** 	Loads will exit M62 westbound at Junction 35 and merge onto M18 southbound. The junction is negotiable for the loads with no physical mitigation measures required.
36	**M18 Junction 18 southbound exit slip** 	In order to avoid structure no's 3223 Waterside I/C North and 3221 Waterside I/C South that have historically had insufficient capacity to accommodate AIL loads, loads will exit M16 southbound at Junction 6 and perform an off-and-on manoeuvre. The junction is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
37	**M18 Junction 6 Waterside Roundabout**  	Loads will travel straight on at Waterside Roundabout and re-join M18 southbound at Junction 6. The roundabout is negotiable for the loads with no physical mitigation measures required.
38	**M18 Junction 2 southbound / A1(M) Junction 35 exit slip** 	Loads will exit M18 southbound at Junction 2 towards A1(M). The junction is negotiable for the loads with no physical mitigation measures required.

POI	Key Constraint	Details
39	**M18 Junction 2 / A1(M) Junction 35 Wadworth Viaduct**  	Loads will turn left at Wadworth Viaduct from M18 southbound Junction 2 exit slip road onto A1(M) southbound. The roundabout is negotiable for the loads with no physical mitigation measures required.
40	**A1 southbound Markham Moor Interchange exit slip** 	Loads will exit A1 southbound at Markham Moor Interchange. The junction is negotiable for the loads with no physical mitigation measures required.
41	**A1 southbound exit slip / A57 Markham Moor Interchange**  	Loads will take the second exit at Markham Moor Interchange from A1 southbound exit slip road onto A57 eastbound. A swept path assessment has been undertaken and indicates that loads will oversail beyond the western kerb line on entry to the roundabout and on the central roundabout island. No physical mitigation measures are required. Swept path drawing SK10 is included in **Appendix B**.

POI	Key Constraint	Details
42	**A57 gradient** 	Loads will continue eastbound on A57 along sections of steep gradient. An additional tractor unit(s) is required to provide the necessary tractive effort.
43 & 44	**A57 central splitter island no.1 & 2** 	Loads will continue northbound on A57 past two central splitter islands. Loads will oversail the splitter islands. To improve clearances, it is suggested that the island bollards and lighting columns are removed.
45	**A57 / western sites access road right-hand turn** 	Loads will turn right from A57 onto the western sites access road. A swept path assessment has been carried out and indicates that loads will oversail beyond the kerb line to the inside of the turn. Vegetation should be cleared and area kept clear of street furniture during deliveries. Swept path drawing SK11 is included in **Appendix B**.

3.6 Swept Path Assessment Results and Summary

The detailed swept path drawings for the locations assessed are provided in **Appendix B** for review. The drawings illustrate tracking undertaken for the worst-case loads at each location.

The colours illustrated on the swept paths are:

- Grey / Black – OS / Topographical Base Mapping;
- Green – Vehicle body outline (body swept path);
- Red – Tracked pathway of the wheels (wheel swept path); and
- Purple – The over-sail tracked path of the load where it encroaches outwith the trailer (load swept path).

Please note that where assessments have been undertaken using Ordnance Survey (OS) base mapping, there can be errors in this data source.

Where provided by the client, topographical data has been utilised. Please note that PF cannot accept liability for errors on the data source, be that OS base mapping or client supplied data. Where applicable, mapping has been augmented with aerial imagery for illustration only.

Where mitigation works are required, the extent any of overrun and oversail areas are illustrated on the swept path drawings. Additional land areas to those indicated in the swept path assessment drawings may be required to facilitate the construction of the proposed physical mitigation measures depending on the site conditions and topography. The extent of any additional areas required to construct mitigation works highlighted within this study and the detailed design of said mitigation works is beyond the scope of this study and should be confirmed on detailed topographical survey data.

3.7 Third-Party Land & Land Ownership

A review of third-party land should be undertaken by the client to ensure that no additional land rights are required to enable deliveries or mitigation works. PF accepts no responsibility for the accuracy of land ownership assumptions, all of which should be confirmed across the entire access route by a qualified land agent.

The limits of road adoption can vary depending upon the location of the site and the history of the road agencies involved. The adopted area is generally defined as land contained within a defined boundary where the road agency holds the maintenance rights for the land. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge.

In rural areas, the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established fence / hedges lines or a maximum 2 m from the road edge. This can vary between area and location.

3.8 Weight Review

A weight review has been undertaken via the ESDAL (Electronic Service Delivery for Abnormal Loads) contacts database using the Highways Agency website www.esdal.com.

All of the relevant road authorities are noted in **Table 3-3**, and all have been contacted to ascertain if there are any relevant constraints that should be noted. Where comments are received, these are provided in **Appendix C**.

Table 3-3: ESDAL Contacts

Organisation	Email Address
East Riding of Yorkshire Council Abnormal Load Service	eastriding@abloads.com
Humberside Police	abnormalloads@humberside.pnn.police.uk
Immingham Dock - ABP	humberabnormalloads@abports.co.uk
Lincolnshire County Council	ab_loads@lincolnshire.gov.uk
Lincolnshire Police	AbnormalLoads@lincs.police.uk
National Highways Area 7	area7abnormalloads@nationalhighways.co.uk
National Highways Yorkshire & North East Region	yneabnormalloads@nationalhighways.co.uk
Network Rail	abnormalloadsenquiries@networkrail.co.uk
North Lincolnshire Council Unitary Authority	abnormalloads@northlincs.gov.uk
Nottinghamshire County Council	abnormalloads@viaem.co.uk
Nottinghamshire Police	abloads@notts.police.uk
Philips 66	manuel.tortosa-perez@p66.com
PRAX Lindsey Oil Refinery	simon.cole@praxrefining.com
South Yorkshire Police	abnormal.loads@southyorks.pnn.police.uk

4 Summary

4.1 Summary of Access Review

Pell Frischmann (PF) has been commissioned by One Earth Solar Farm Ltd (One Earth) to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for 161 te transformer loads associated with the proposed development of One Earth Solar Farm.

This report identifies the key points and issues associated with the proposed routes and outlines the issues that will need to be considered for successful delivery of components.

The access review has been based upon 161 te transformers and has been undertaken on the basis of a 16-axle Girder Frame Trailer (GFT). Due to the gross weight of the transport configuration being classified as Special Order, a full Police escort would be required.

Route 1 from ABP Immingham to the eastern sites is considered negotiable for the 16-axle GFT with special manoeuvres, street furniture removals, vegetation clearance, Police escort and Temporary Traffic Regulation Orders (TTRO). Special Order applications and TTROs can take 12-weeks plus to process and should be planned for accordingly.

As advised by Lincolnshire County Council, structural assessments will be required at structure no's 07/63/02 Long Leys Road Bridge, 97/53/02 Bishop's Bridge (East), 97/43/92 A Bishop's Bridge (West), 97/14/78 Odder Bridge, 87/95/71 Saxilby (Foss Dyke), 87/95/60 Saxilby Railway Bridge and 87/44/40 A Plotwood Bridge. These will need to be undertaken prior to loads being transported, once the transformer has been selected and the haulier confirmed, a standard process in AIL movements.

The A1133 / eastern sites access junction is negotiable for the 16-axle GFT although oversail is required beyond the kerb to the inside of the turn. Vegetation clearance is required in this area and no items of street furniture should be located here in order to allow access.

Route 2 from Goole to the western sites considered negotiable for the 16-axle GFT with special manoeuvres, street furniture removals, vegetation trimming, Police escort and Temporary Traffic Regulation Orders (TTRO).

The A57 / western sites access junction is negotiable for the 16-axle GFT although oversail is required beyond the kerb to the inside of the turn. Vegetation clearance is required in this area and no items of street furniture should be located here in order to allow access.

The report is presented to One Earth for consideration. Various road modifications and interventions are required to successfully access the site. If these are assessed, approved and undertaken, access to the solar farm site is considered feasible.

Appendix A Points of Interest

An electronic version of the POI plan can be found here:
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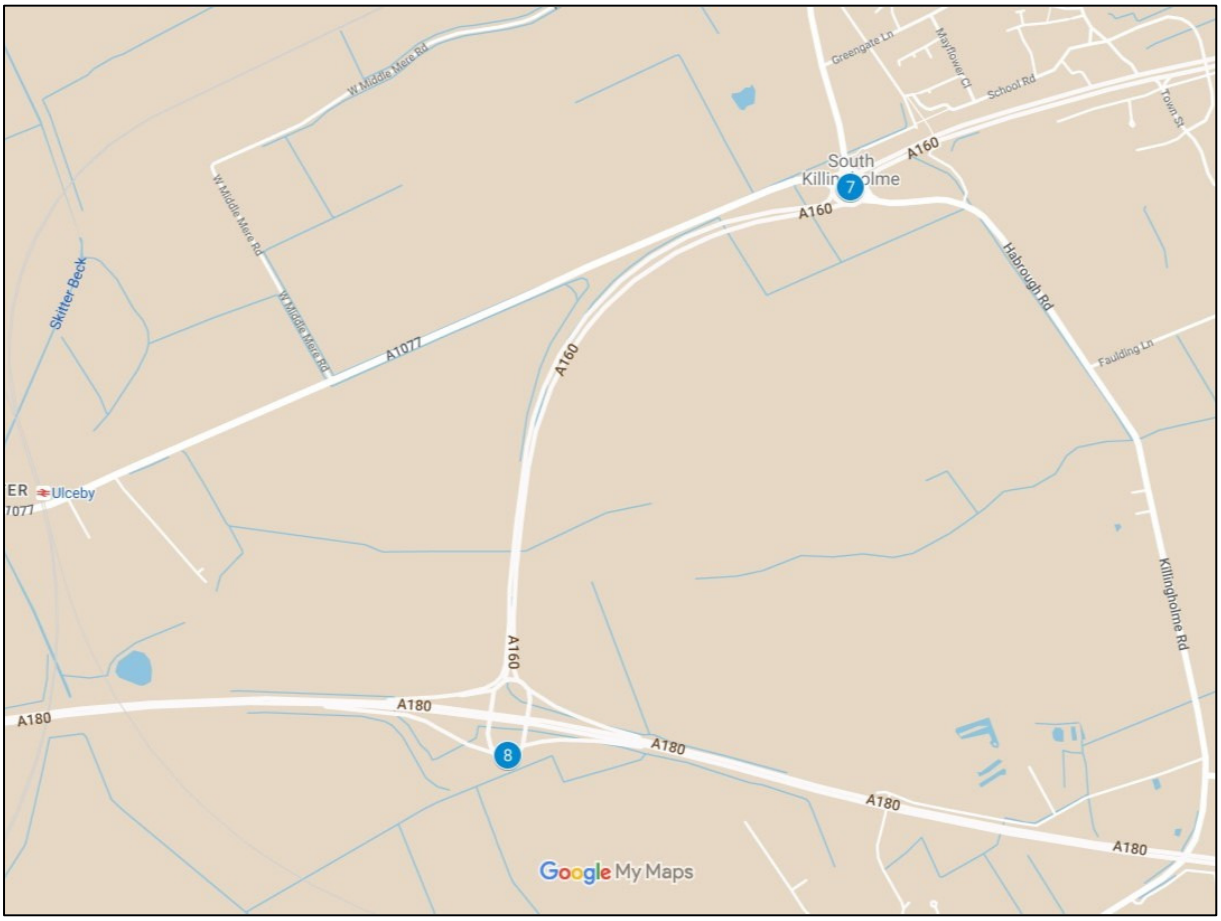

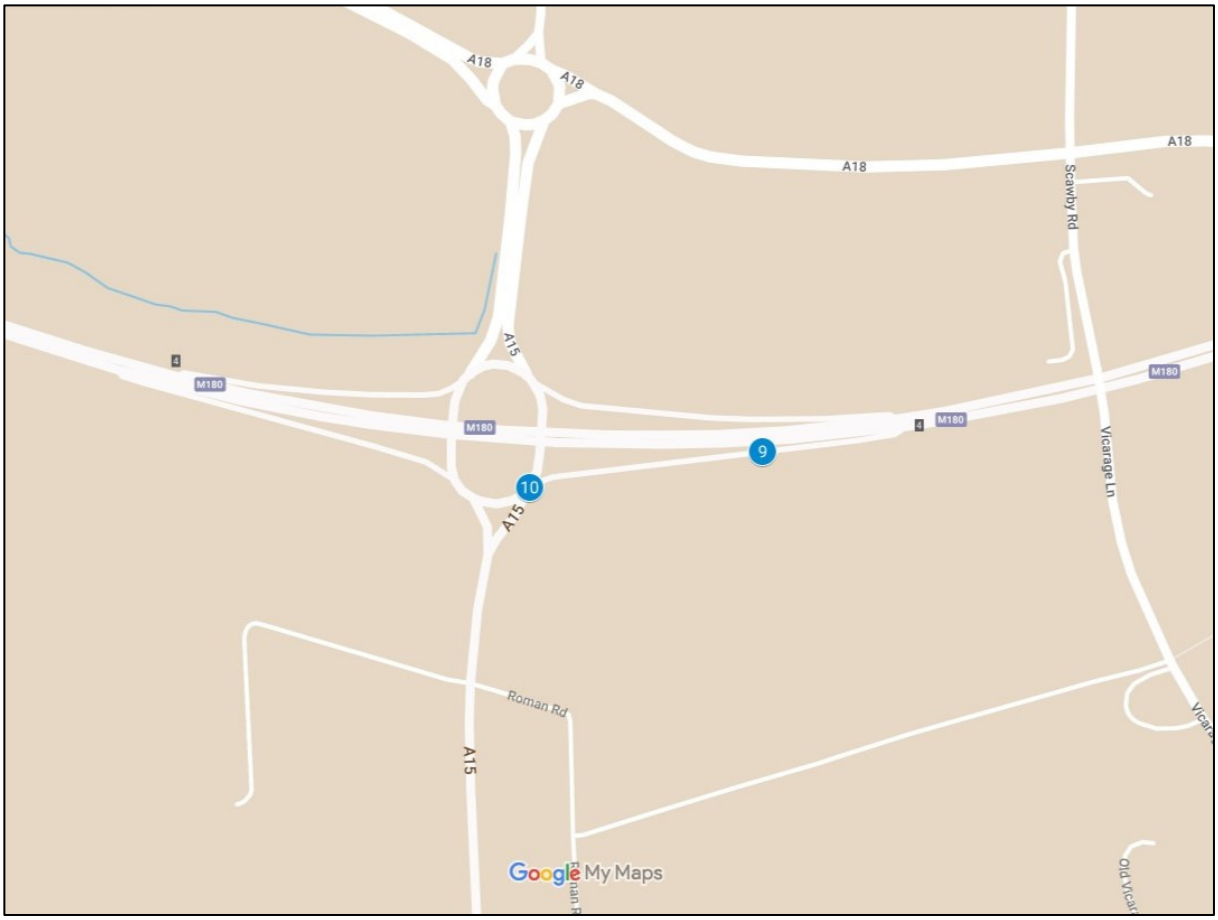
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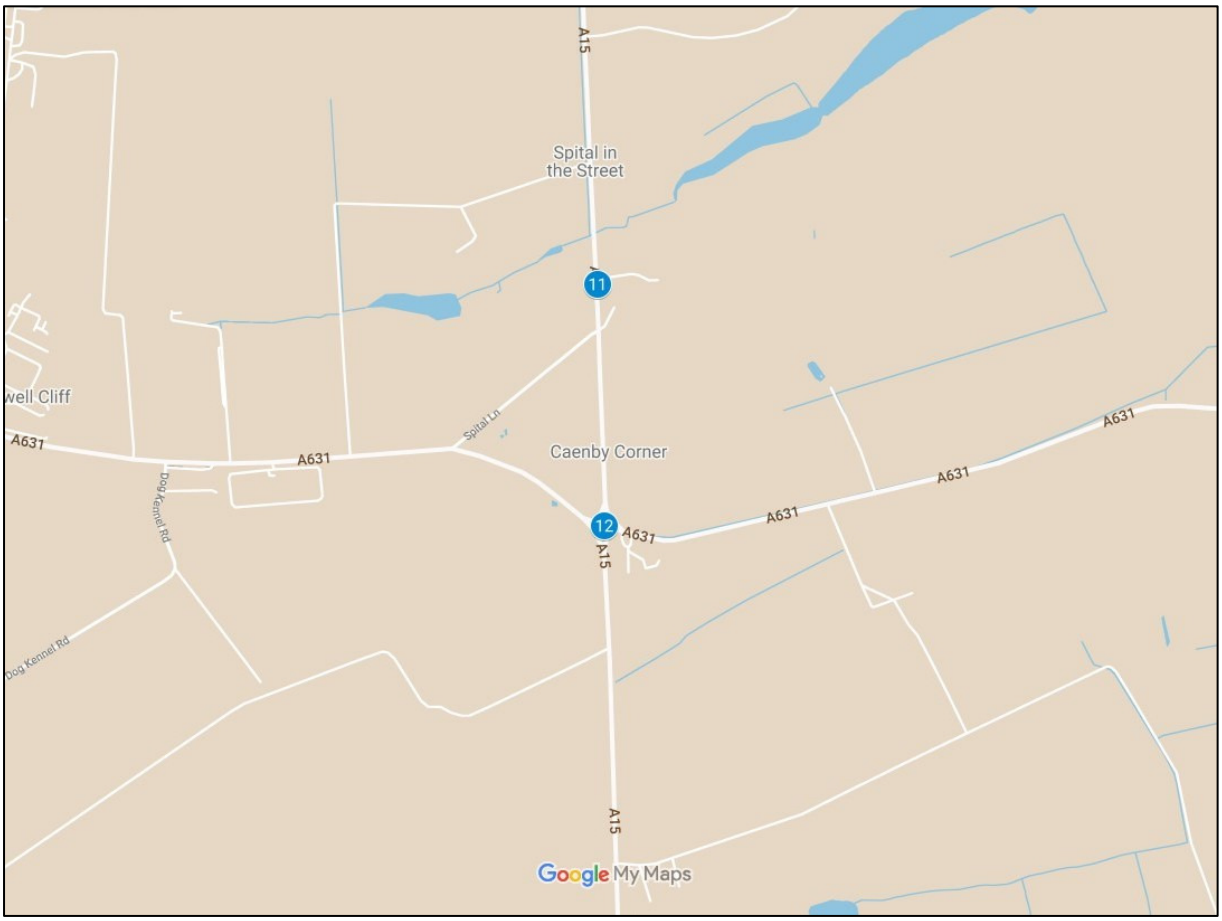
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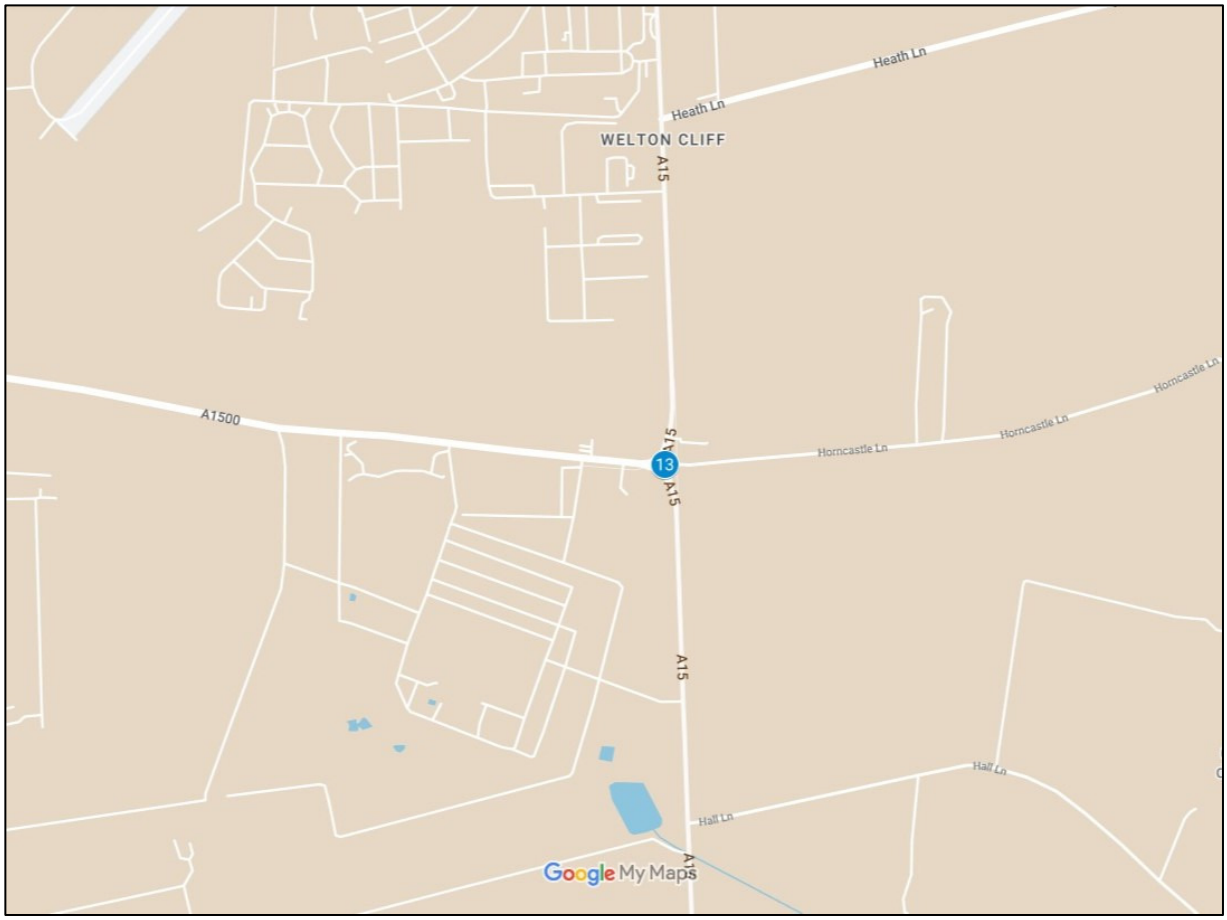
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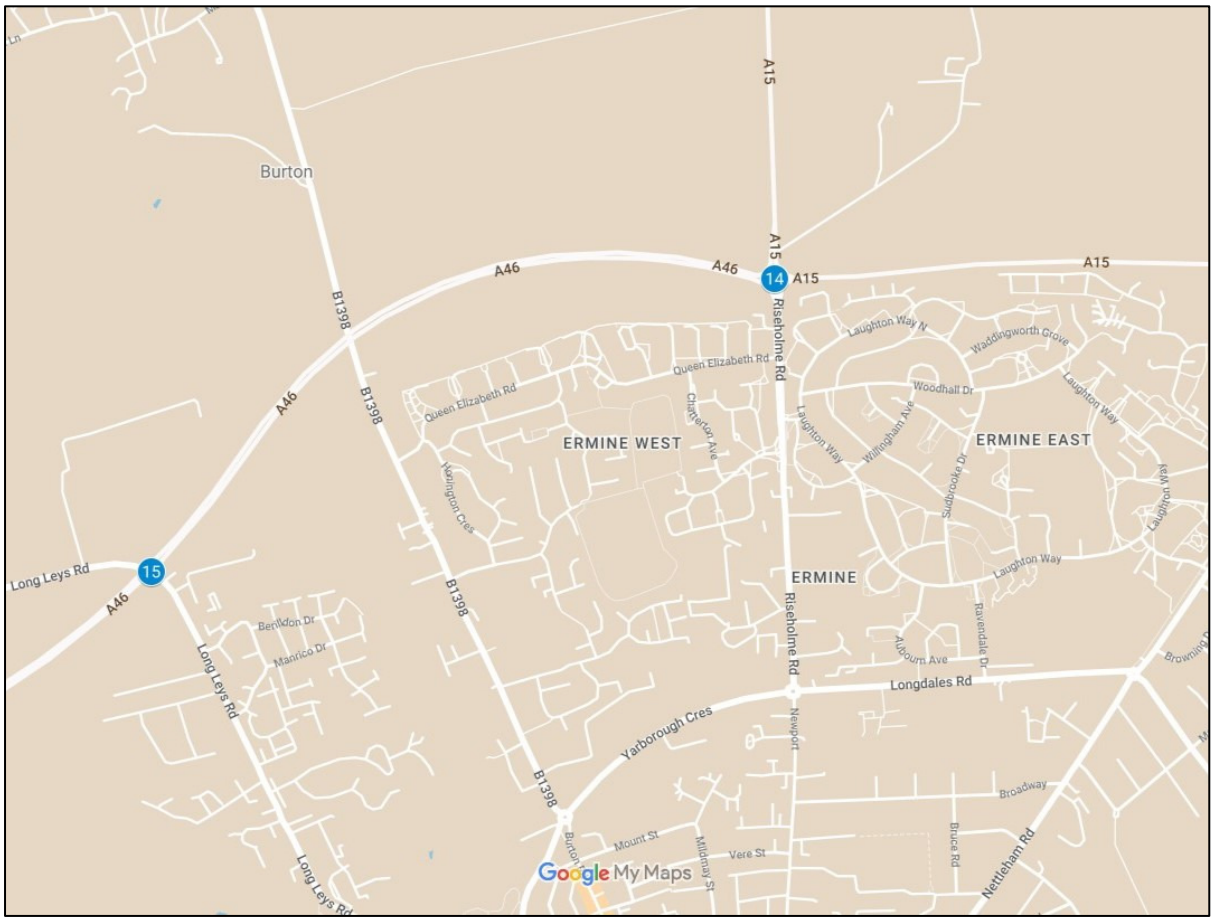
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Queen Elizabeth Rd
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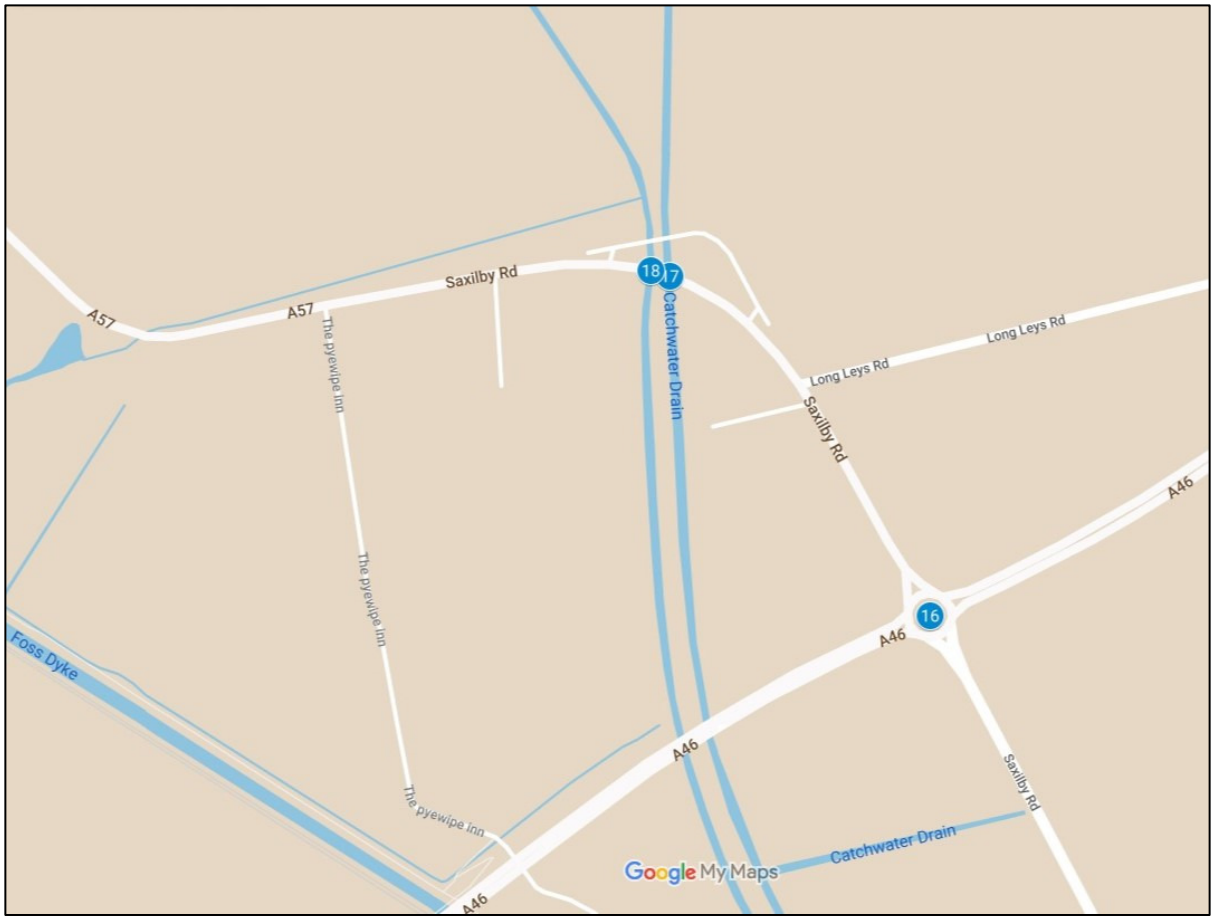
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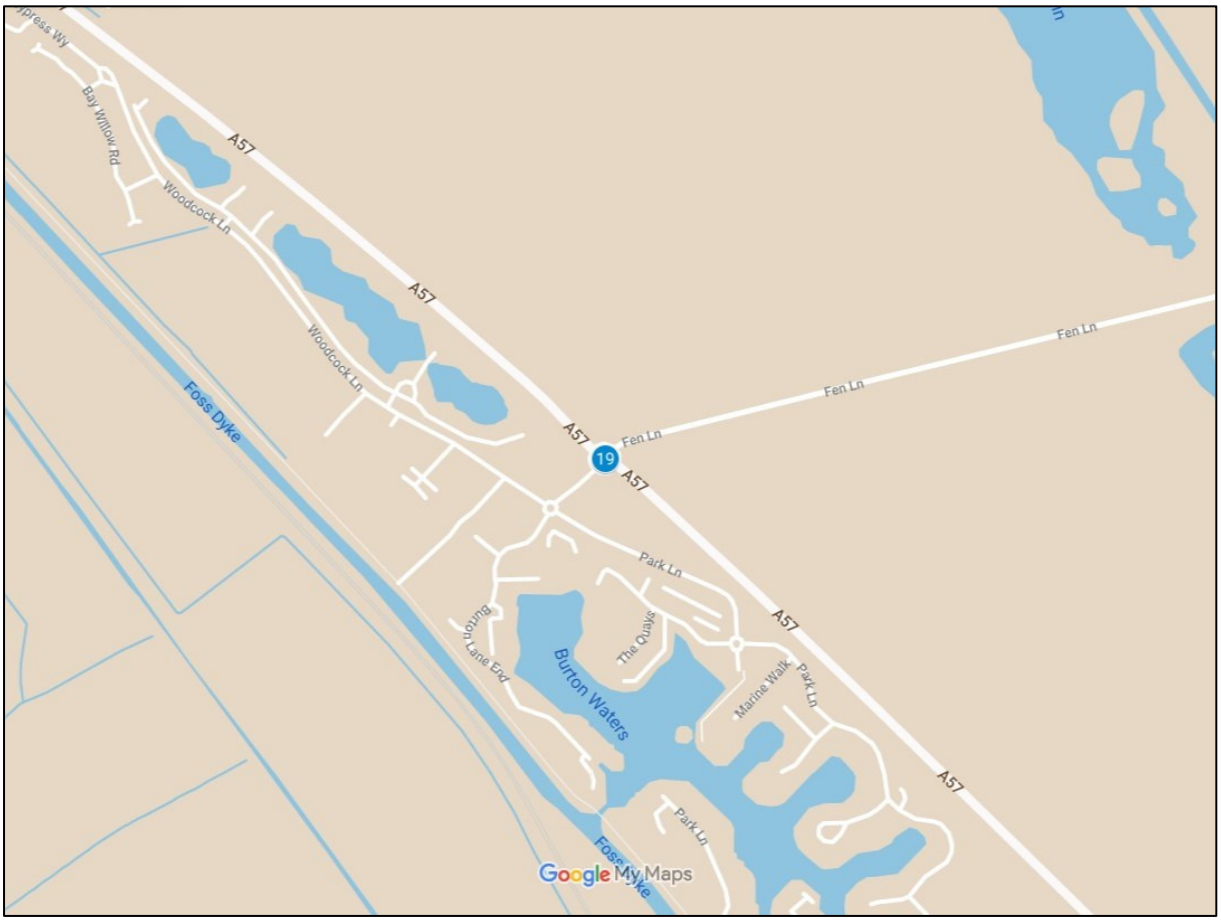
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Park Ln
A57
Burton Lane End
The Quays
Burton Waters
Marine Walk
Park Ln
A57
Park Ln
Foss Dyke
Google My Maps


Broxholme Ln
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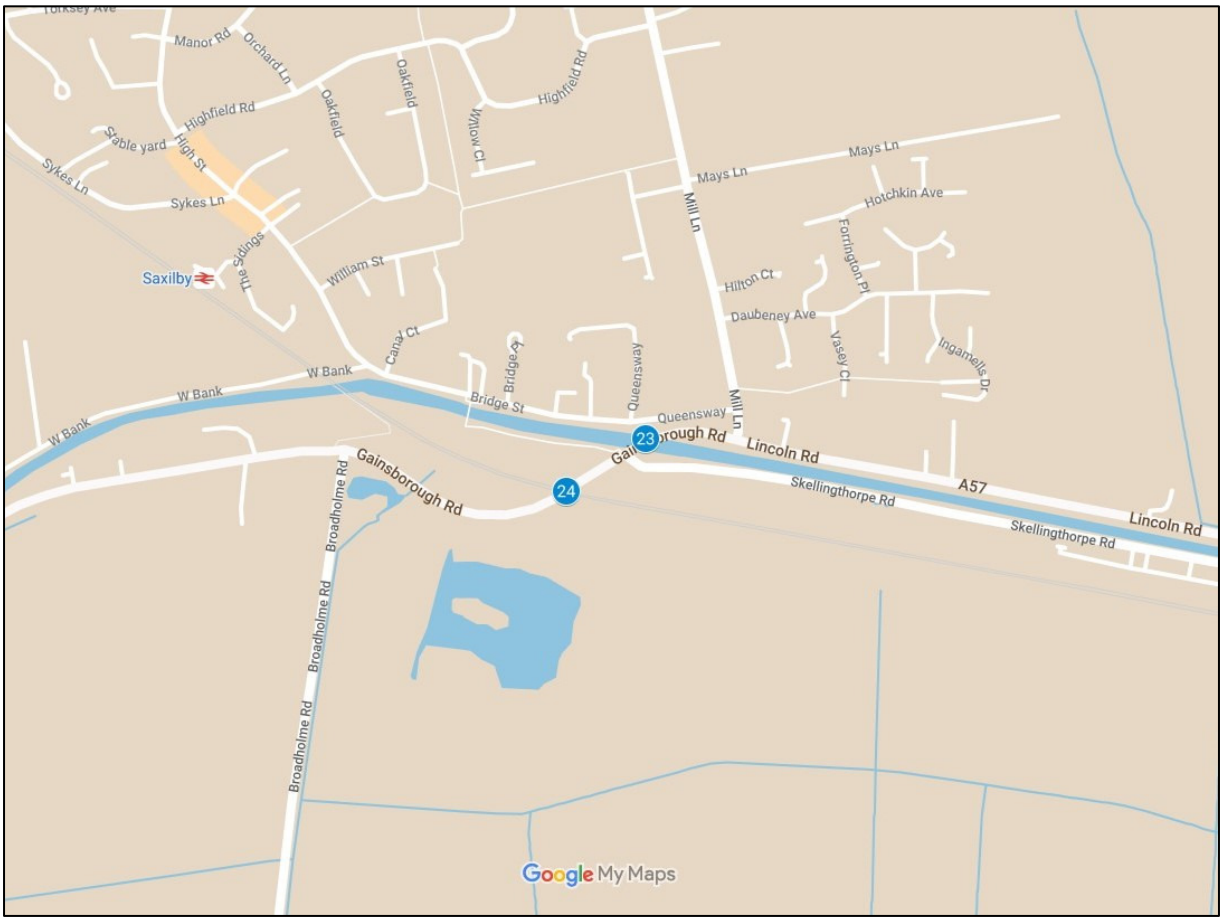
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Willow Ct
Highfield Rd
Sable yard
High St
Sykes Ln
Sykes Ln
Mays Ln
Mays Ln
Hotchkin Ave
Mill Ln
Saxilby
Sidings
William St
Hilton Ct
Daubeney Ave
Farrington Pl
Vasey Ct
Ingamells Dr
Canal Ct
Bridge St
Queensway
W Bank
W Bank
W Bank
Bridge St
Queensway
Mill Ln
23
Lincoln Rd
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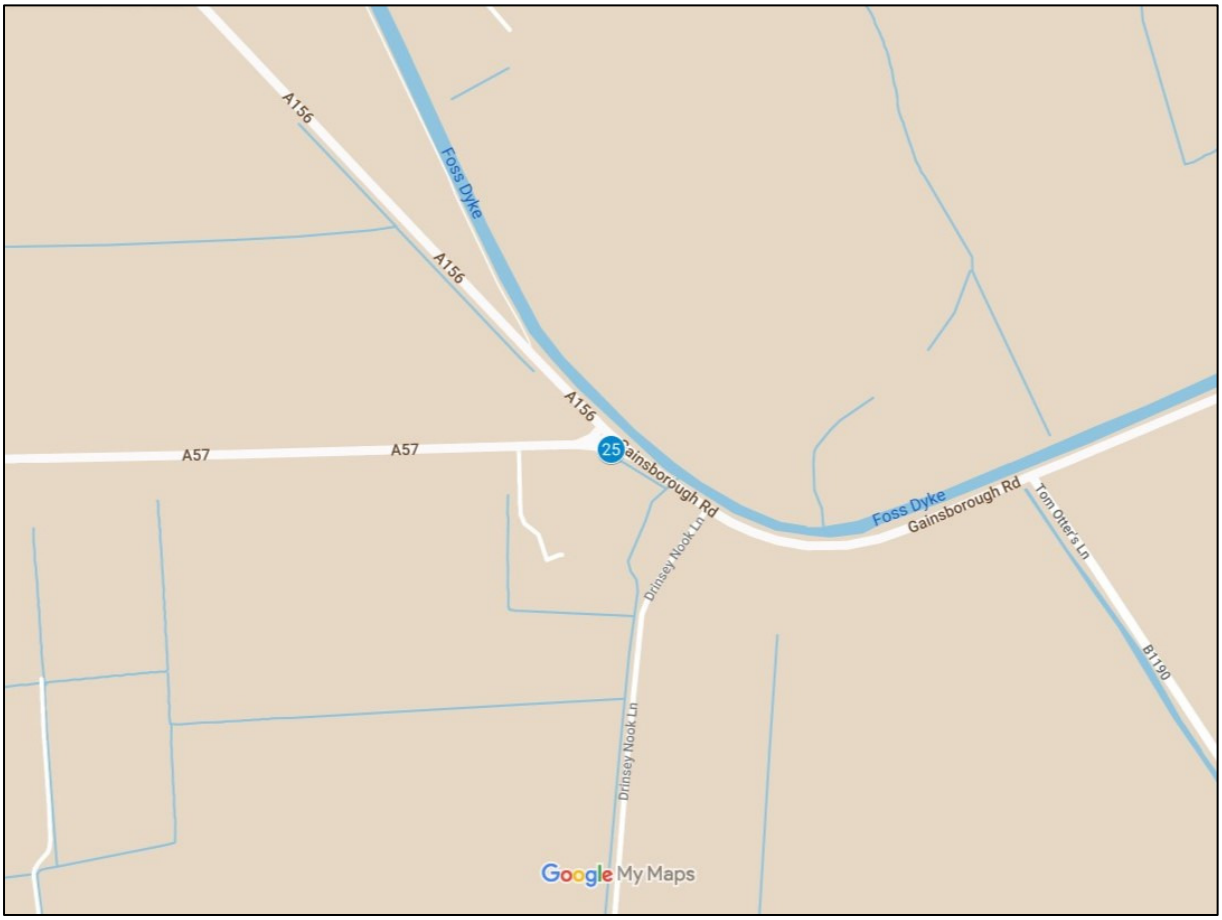
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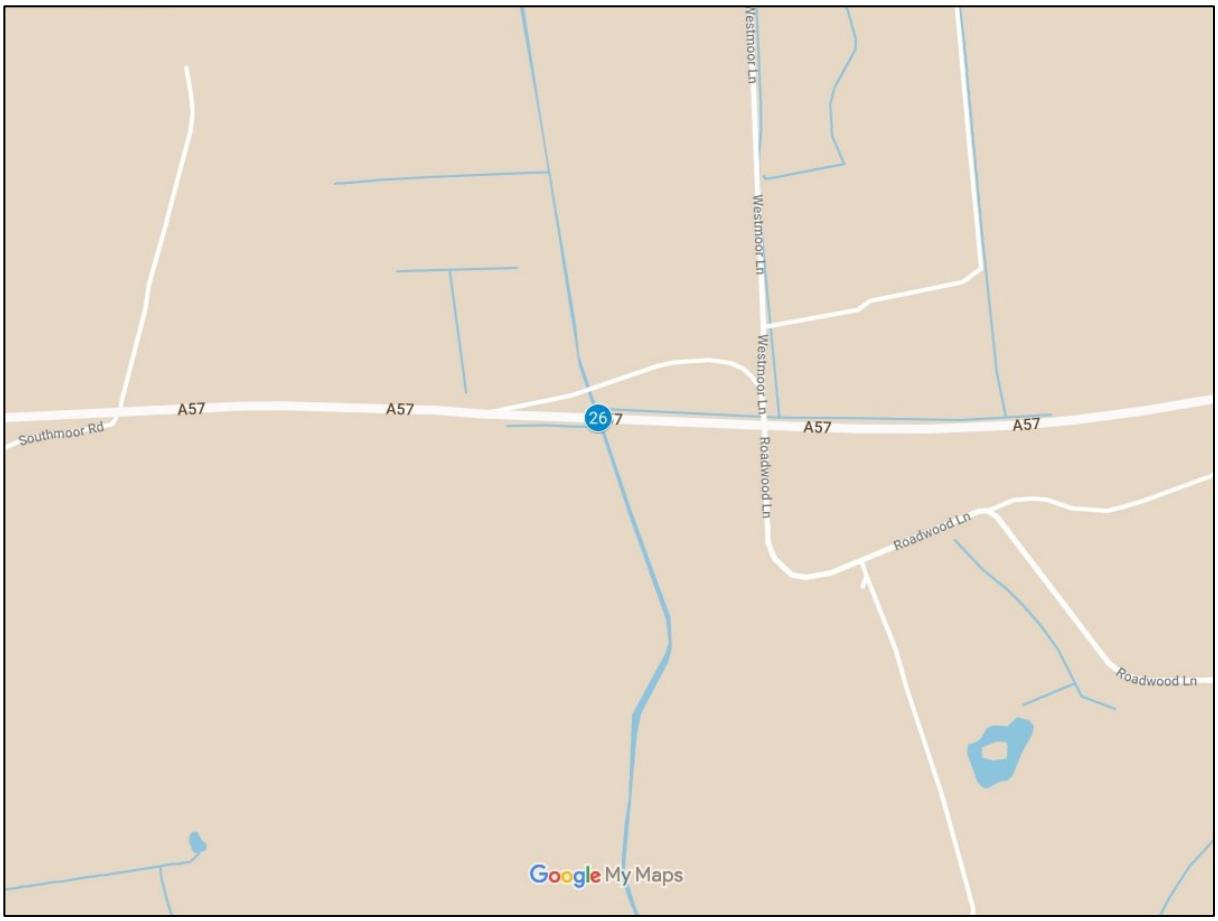
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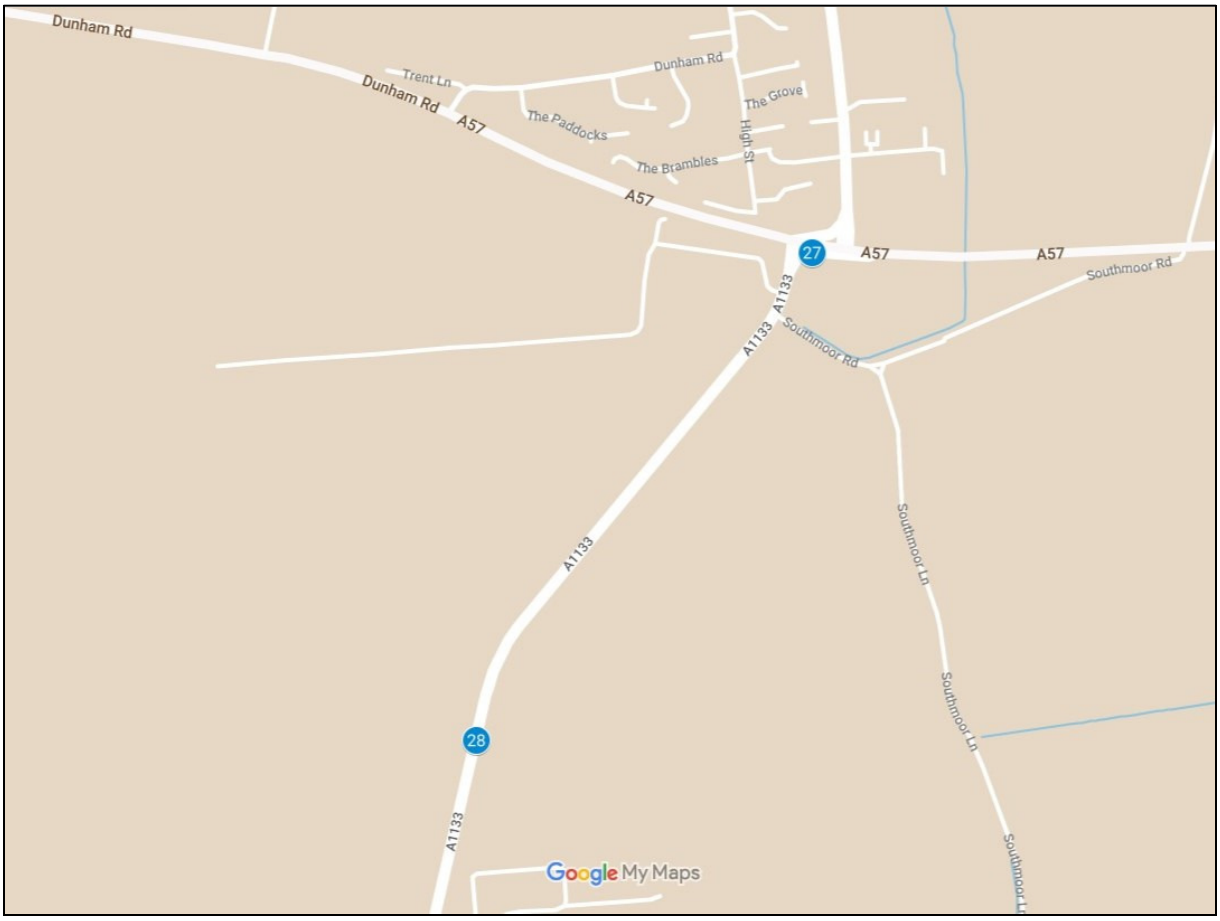
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The Paddocks
The Grove
High St
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A1133
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Google My Maps


Township Drain
Airmyn Rd
M62
Towns Drain
A614
34
A614
CLIFTON GARDENS
Boothferry Rd
Boothferry Rd
Goole
A161
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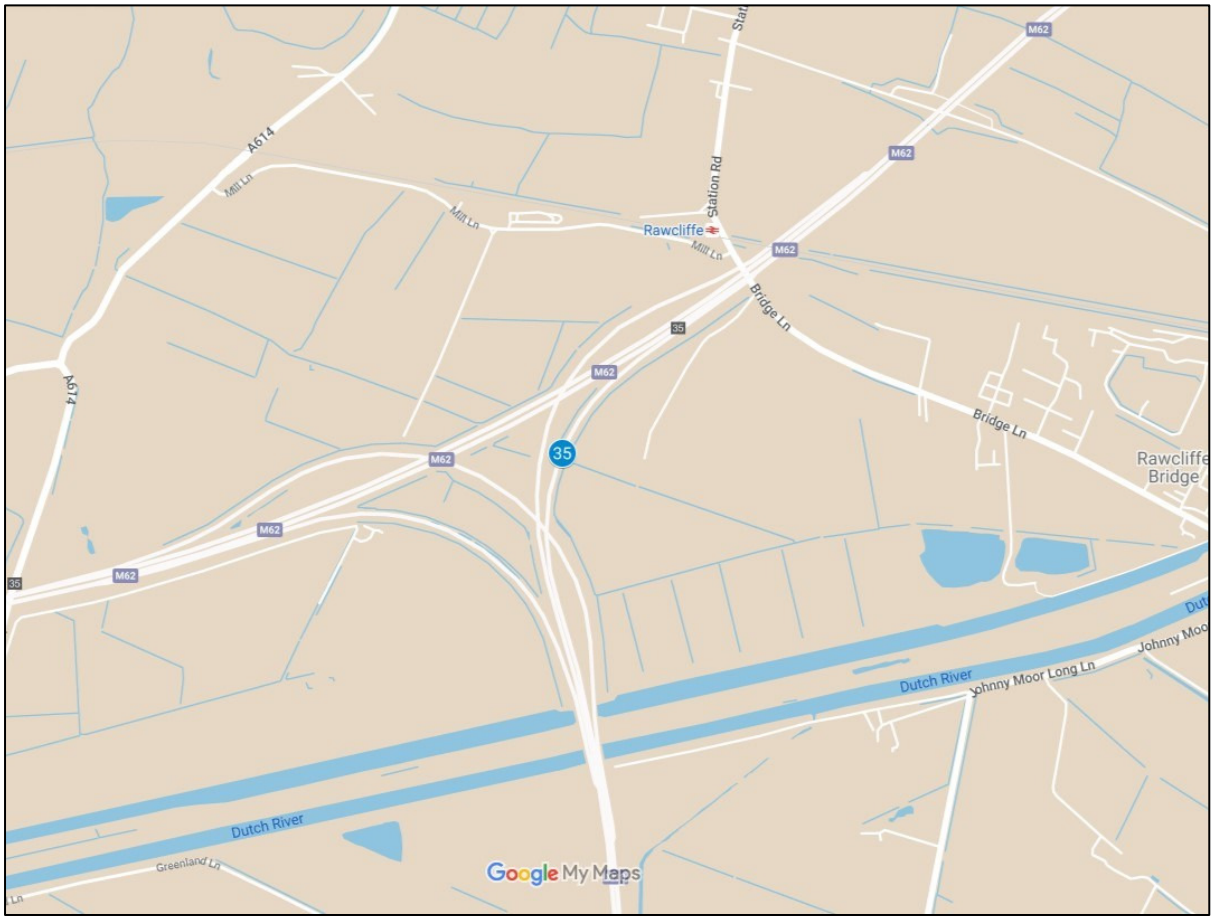
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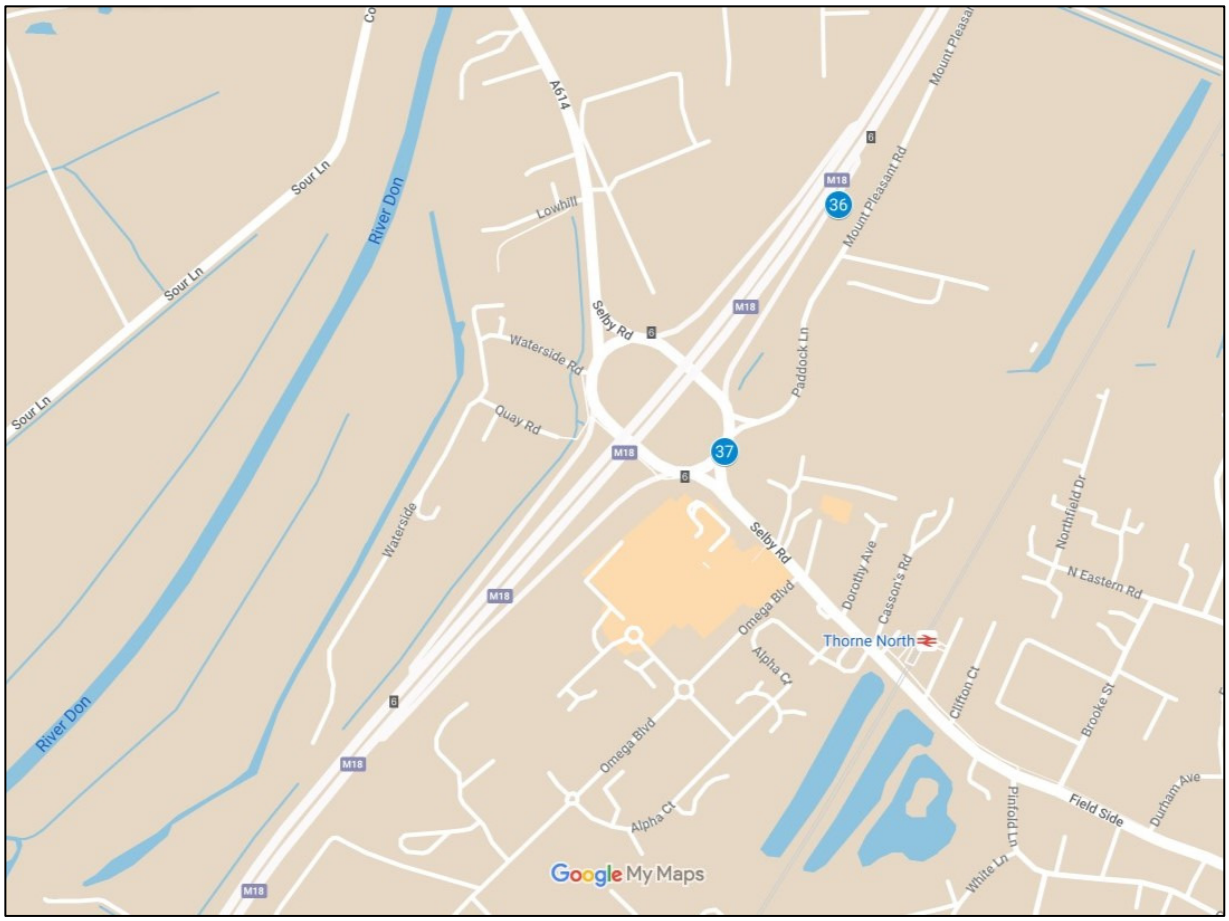
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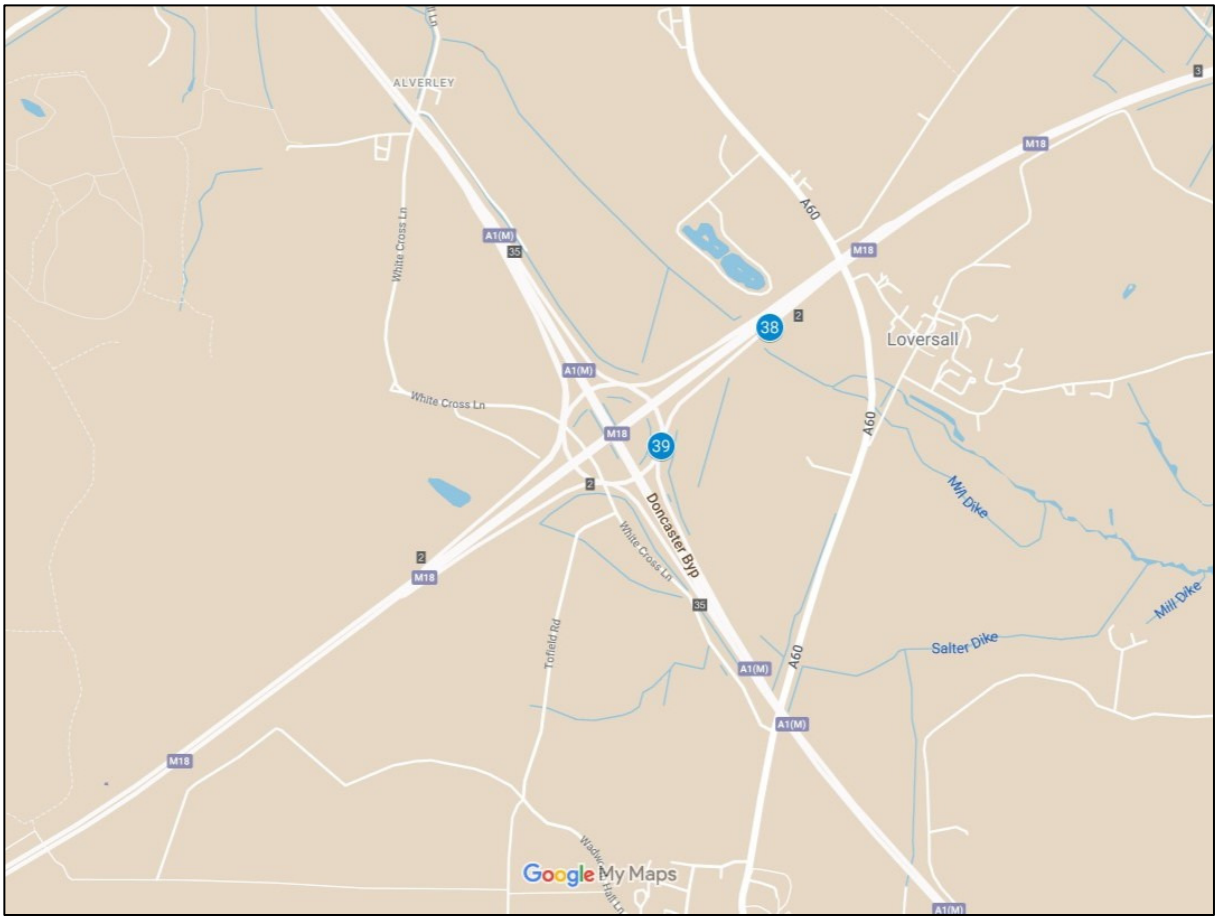
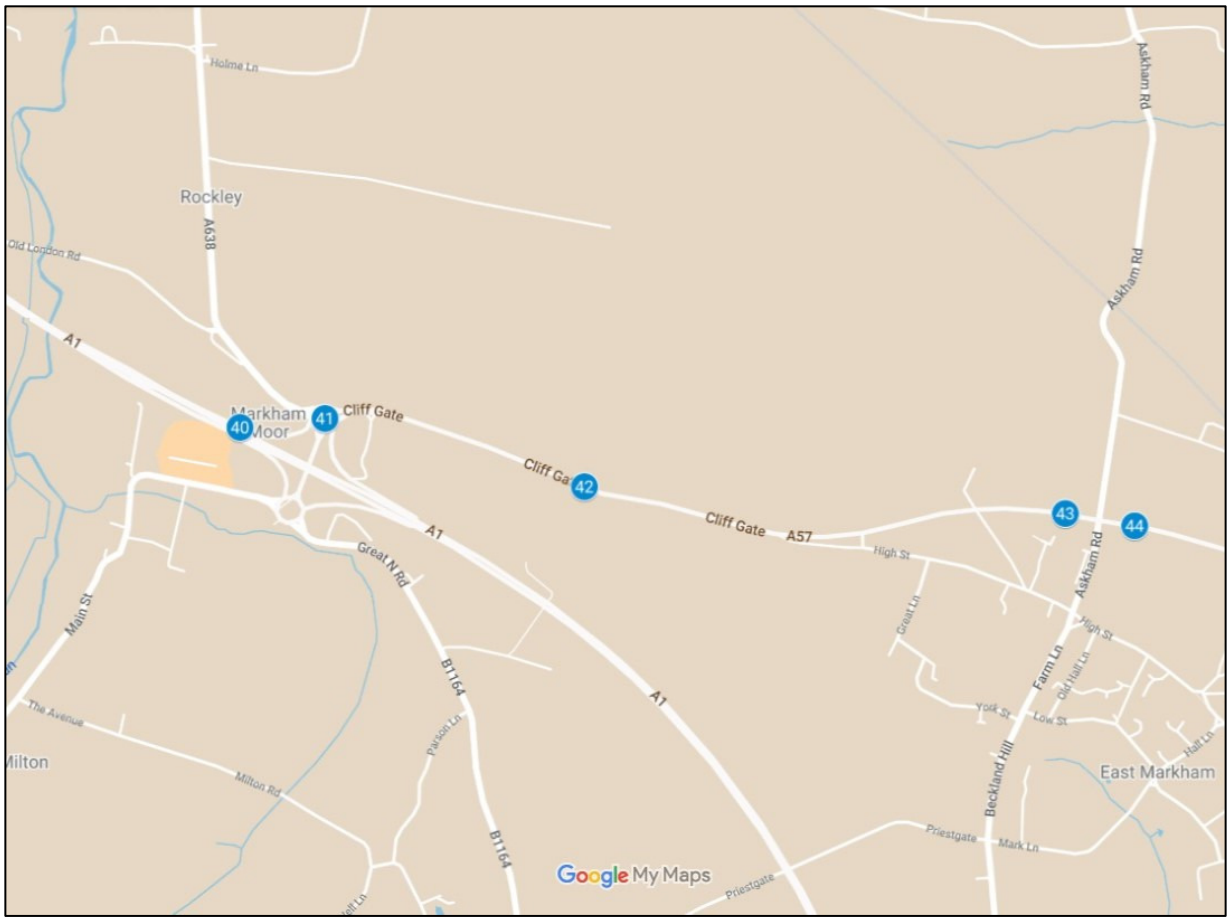
Sour Ln
River Don
Lowhill
Selby Rd
Waterside Rd
Quay Rd
Waterside
Paddock Ln
Mount Pleasant Rd
M18
36
37
Omega Blvd
Alpha Ct
Thorne North
Dorothy Ave
Casson's Rd
Northfield Dr
N Eastern Rd
Clifton Ct
Brooke St
Field Side
Durham Ave
Pinfold Ln
White Ln
Google My Maps


ALVERLEY
White Cross Ln
A1(M)
35
A60
M18
3
38
2
Loversall
White Cross Ln
39
Doncaster Byp
Mill Dike
Torfield Rd
Salter Dike
Google My Maps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Rockley
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Old London Rd
A1
Markham Moor
40
41
Cliff Gate
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Cliff Gate
A57
43
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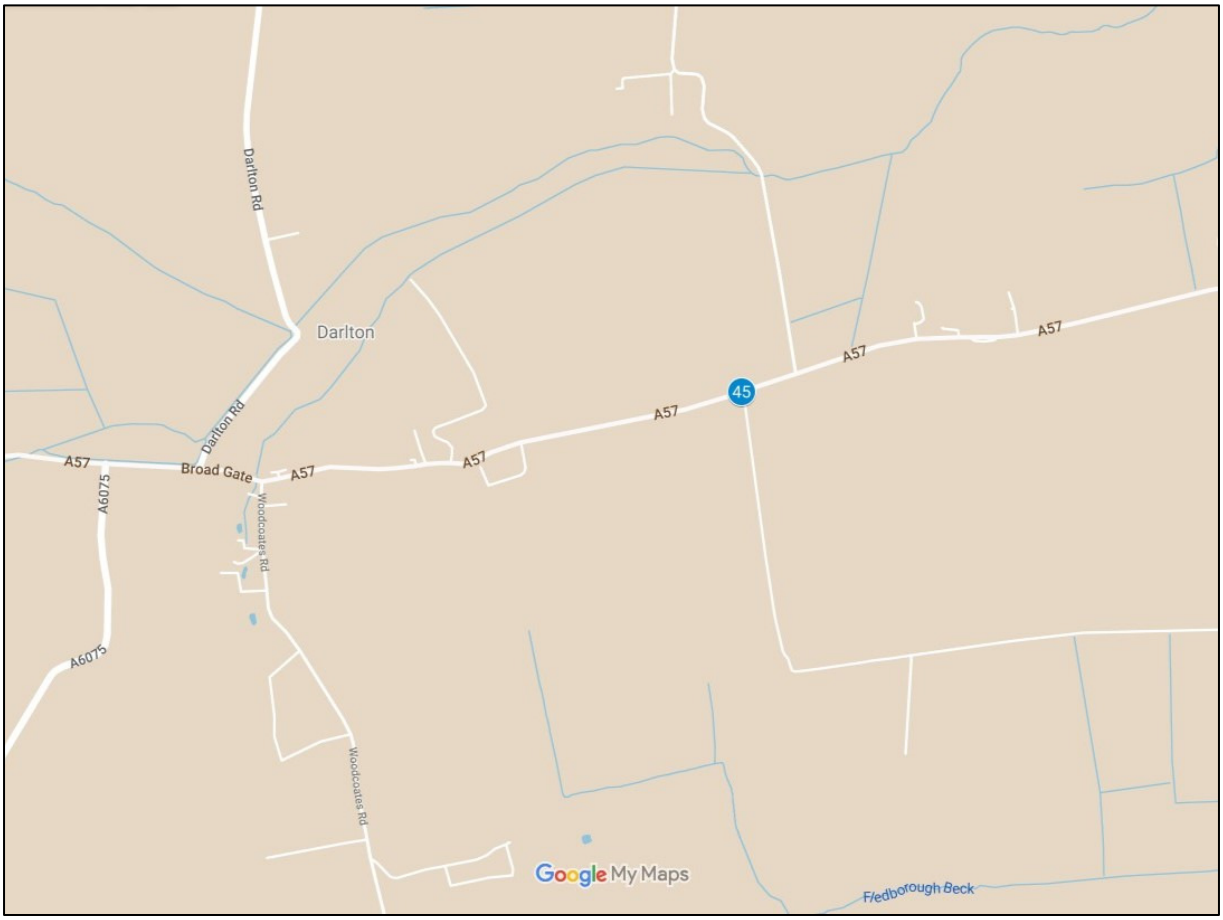
Askham Rd
High St
Great N Rd
B1164
Main St
The Avenue
Milton
Milton Rd
Parkson Ln
Great Ln
Farm Ln
Old Hall Ln
York St
Low St
Beckland Hill
East Markham
Hall Ln
Priestgate
Mark Ln
Google My Maps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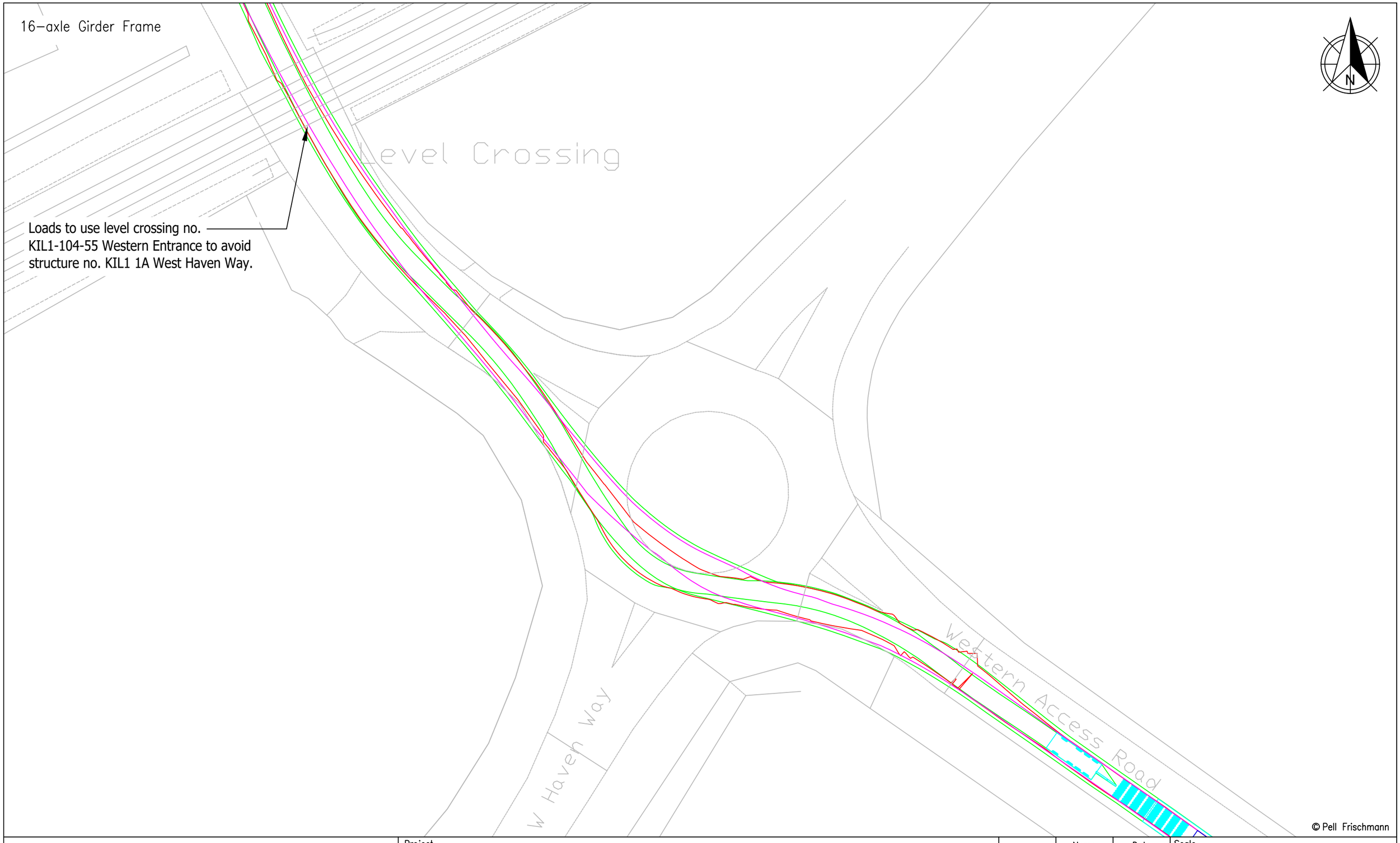
Darlton
A57
45
A57
A57
A57
Darlton Rd
A57
Broad Gate
A57
A6075
Woodcoates Rd
A6075
Woodcoates Rd
Google My Maps
Fledborough Beck

Appendix B Swept Path Assessments

16–axle Girder Frame



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www.pellfrischmann.com

Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: Western Access Rd / W Haven Way Rbt & ABP Immingham Level Crossing

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		1 & 2

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

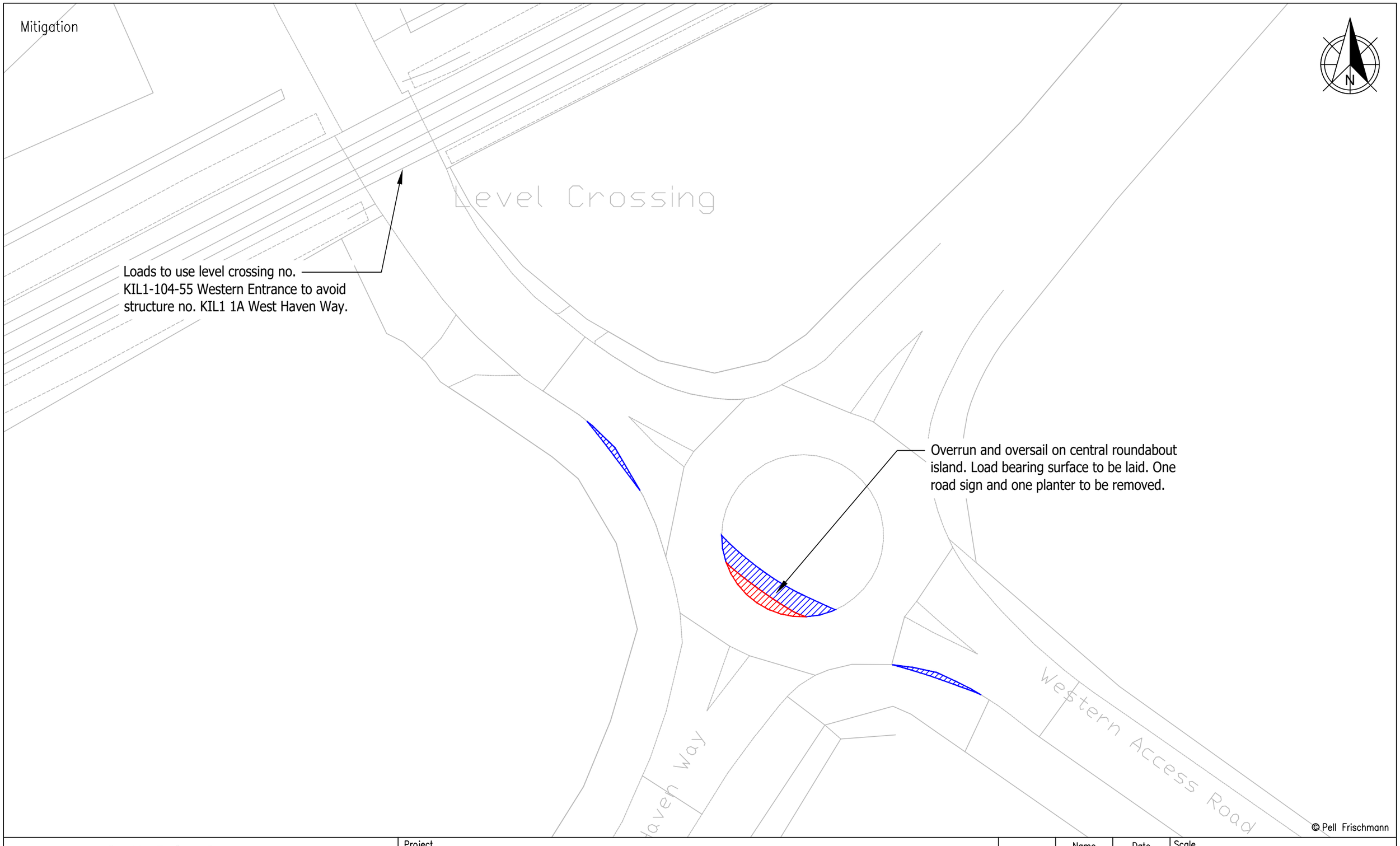
Drawing Status: Draft

Drawing No.: SK01

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: Western Access Rd / W Haven Way Rbt & ABP Immingham Level Crossing

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		1 & 2

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

Drawing Status: Draft

Drawing No.: SK01A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame

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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: ABP Immingham Level Crossing access road / Humber Rd LH turn

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		2 & 3

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

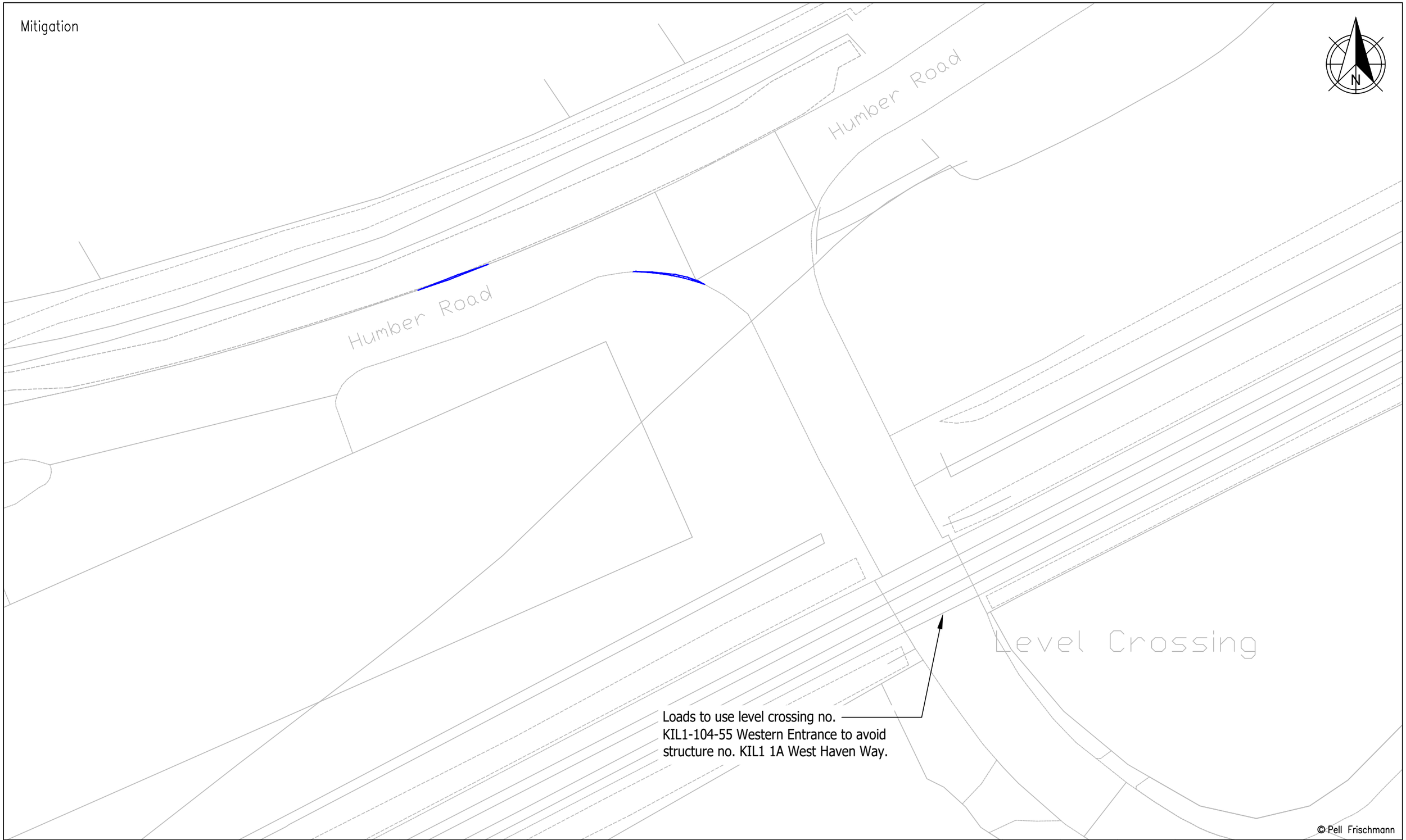
Drawing Status: Draft

Drawing No.: SK02

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: ABP Immingham Level Crossing access road / Humber Rd LH turn

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		2 & 3

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

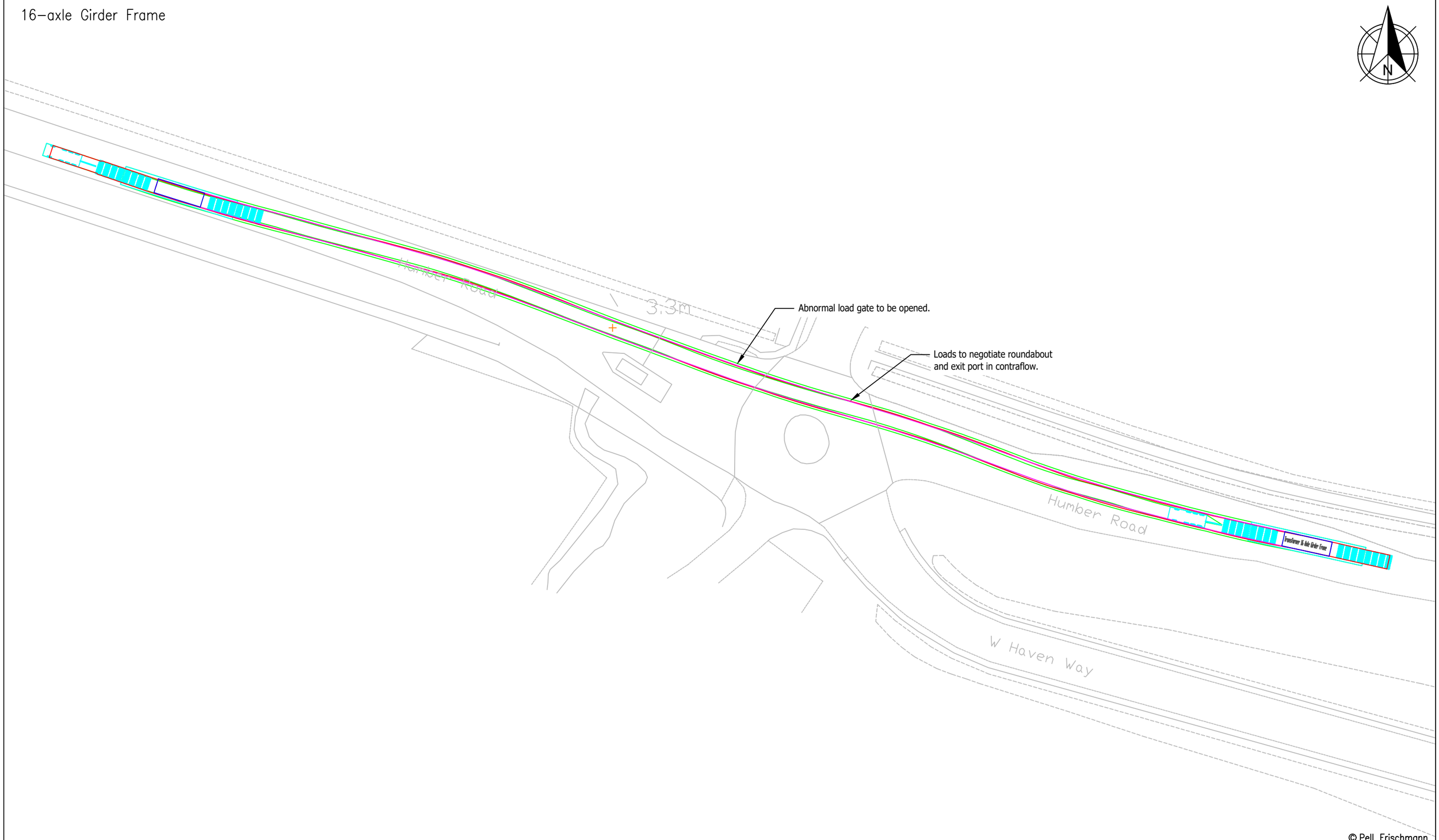
Drawing Status: Draft

Drawing No.: SK02A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: Humber Rd / W Haven Way Roundabout & ABP Immingham Exit

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		4 & 5

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

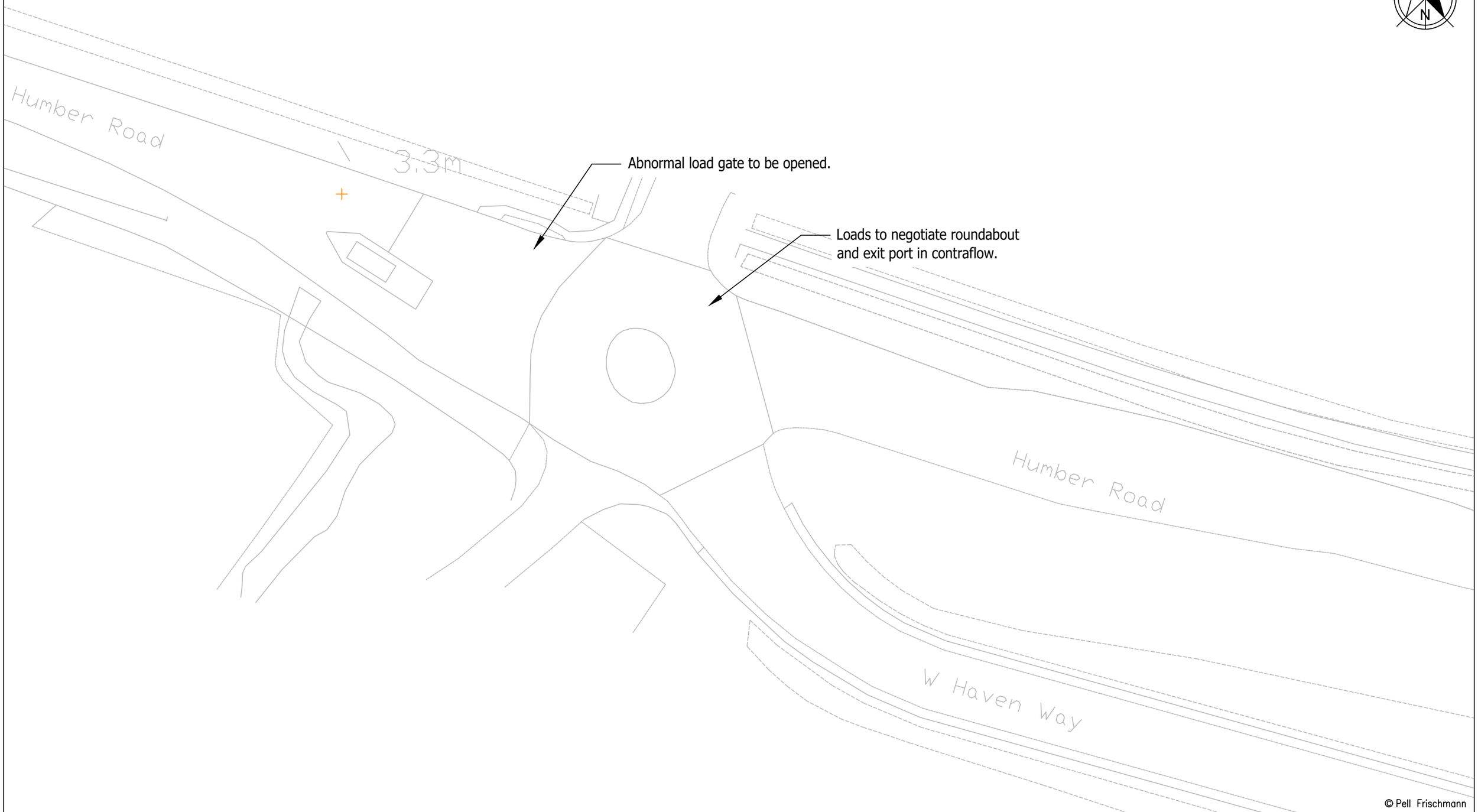
Drawing Status: Draft

Drawing No.: SK03

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: Humber Rd / W Haven Way Roundabout & ABP Immingham Exit

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		4 & 5

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

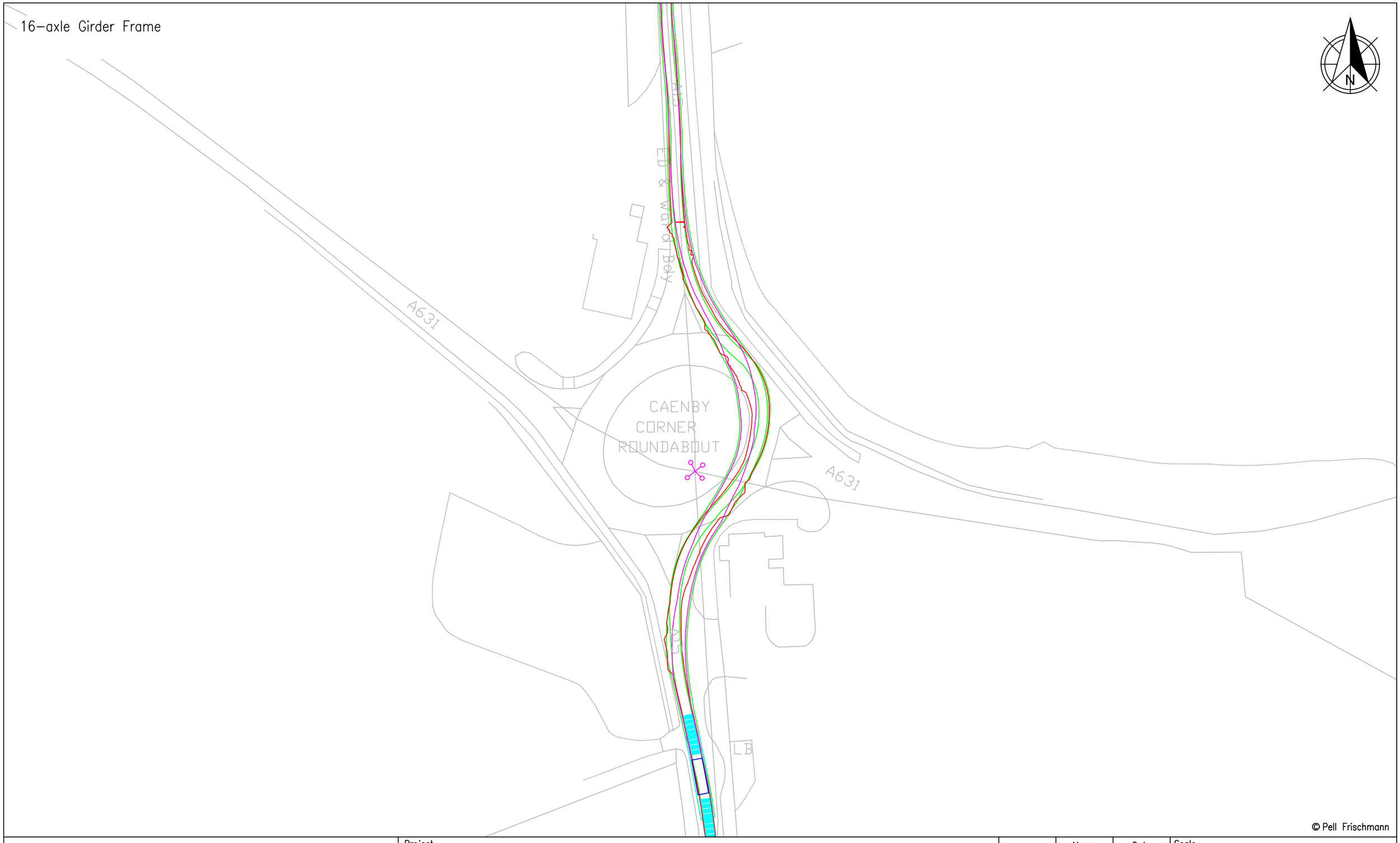
Drawing Status: Draft

Drawing No.: SK03A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16-axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A15 Caenby Corner Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		12

Scale: 1:1_1 @ A3

File No: 250217 One Earth transformer SPA.dwg

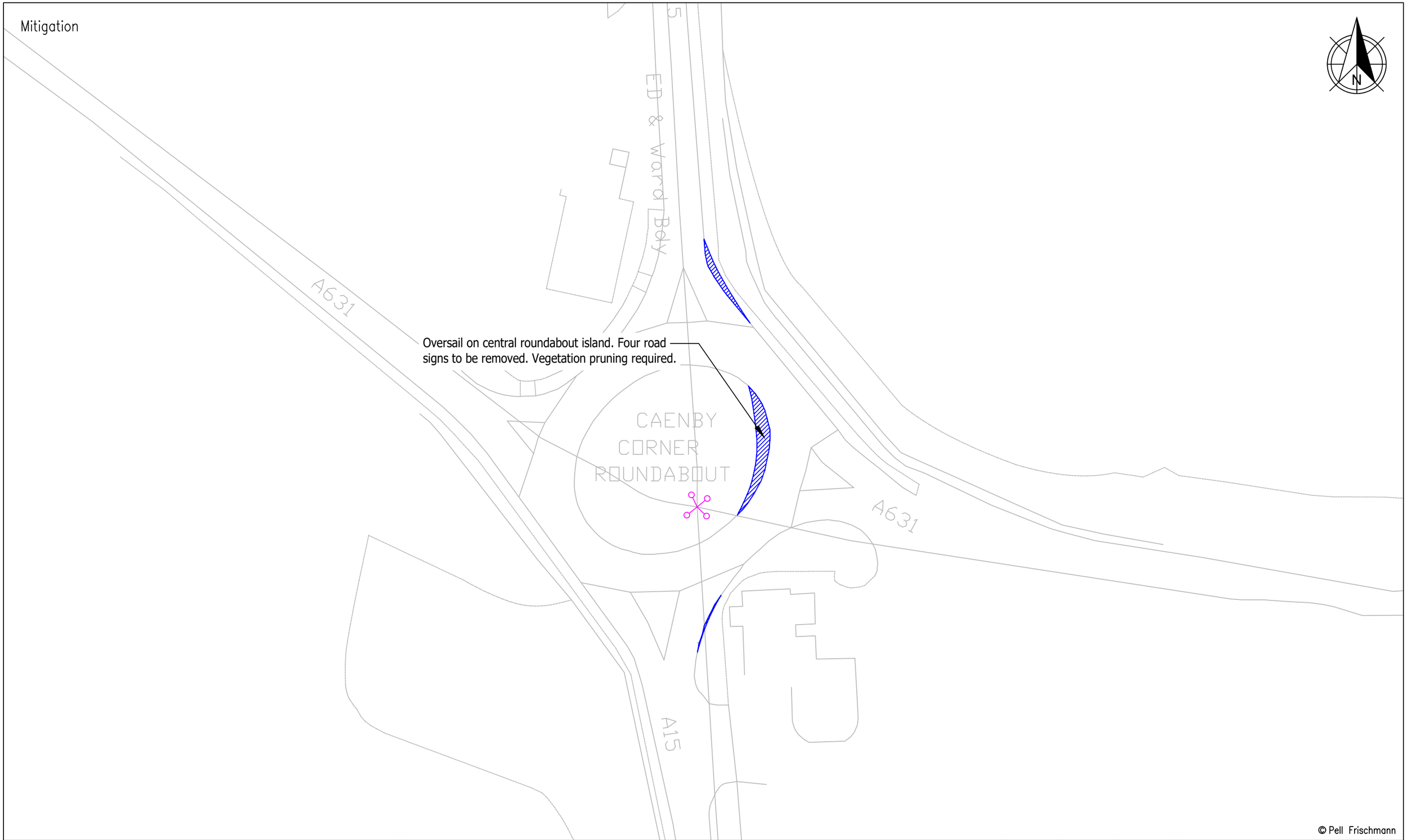
Drawing Status: Draft

Drawing No.: SK04

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A15 Caenby Corner Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		12

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

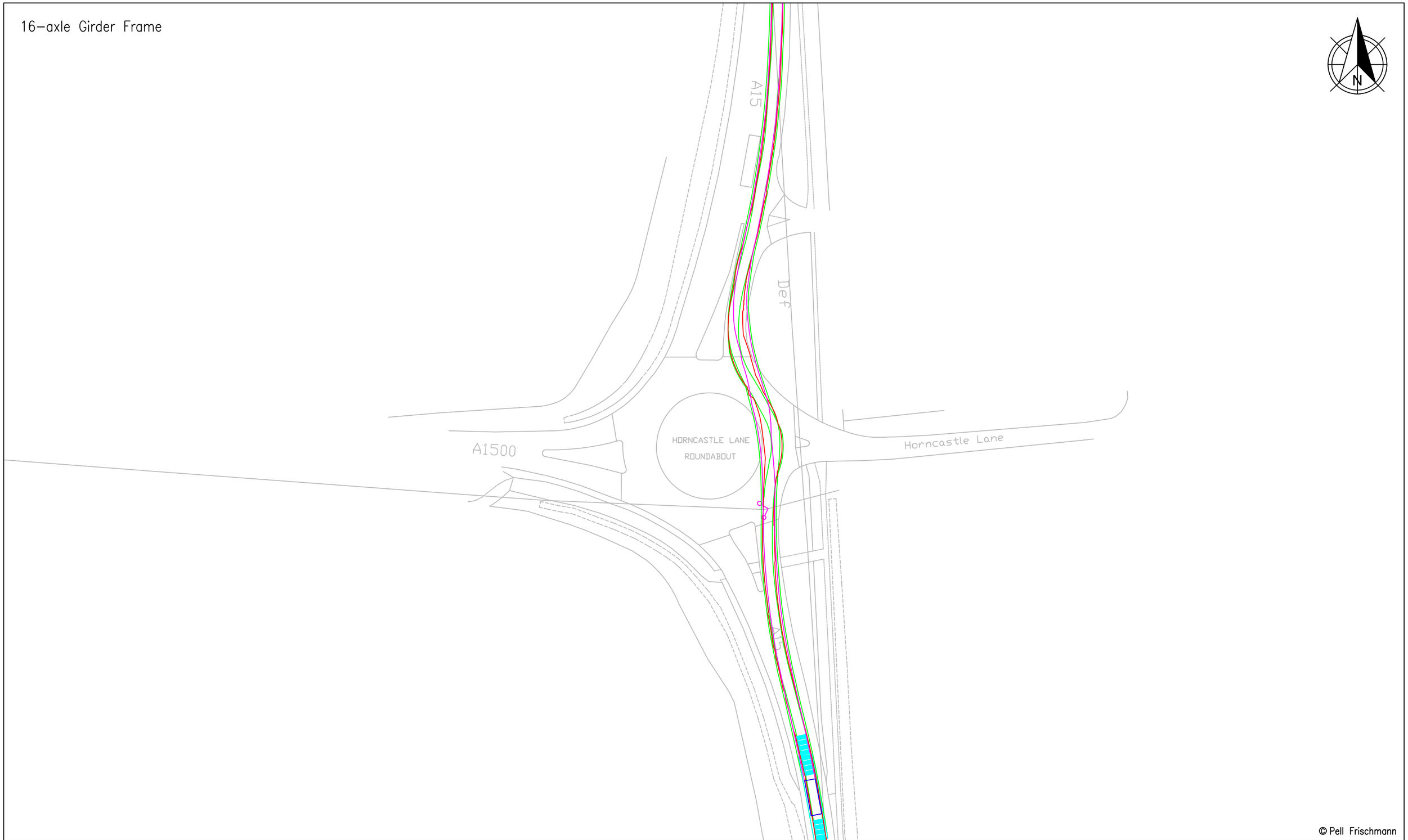
Drawing Status: Draft

Drawing No.: SK04A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A15 Horncastle Lane Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		13

Scale: 1:1_1 @ A3

File No: 250217 One Earth transformer SPA.dwg

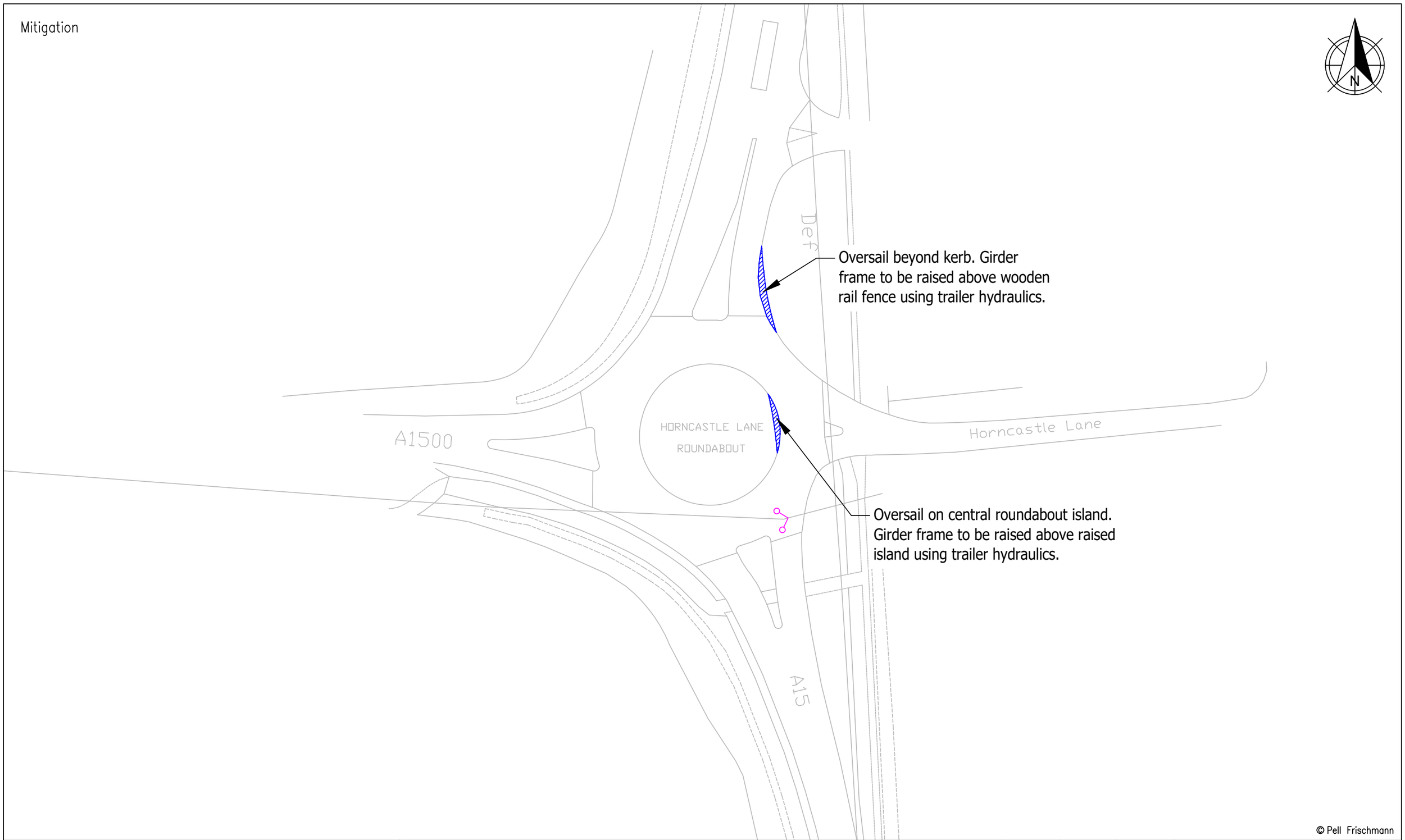
Drawing Status: Draft

Drawing No.: SK05

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A15 Horncastle Lane Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		13

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

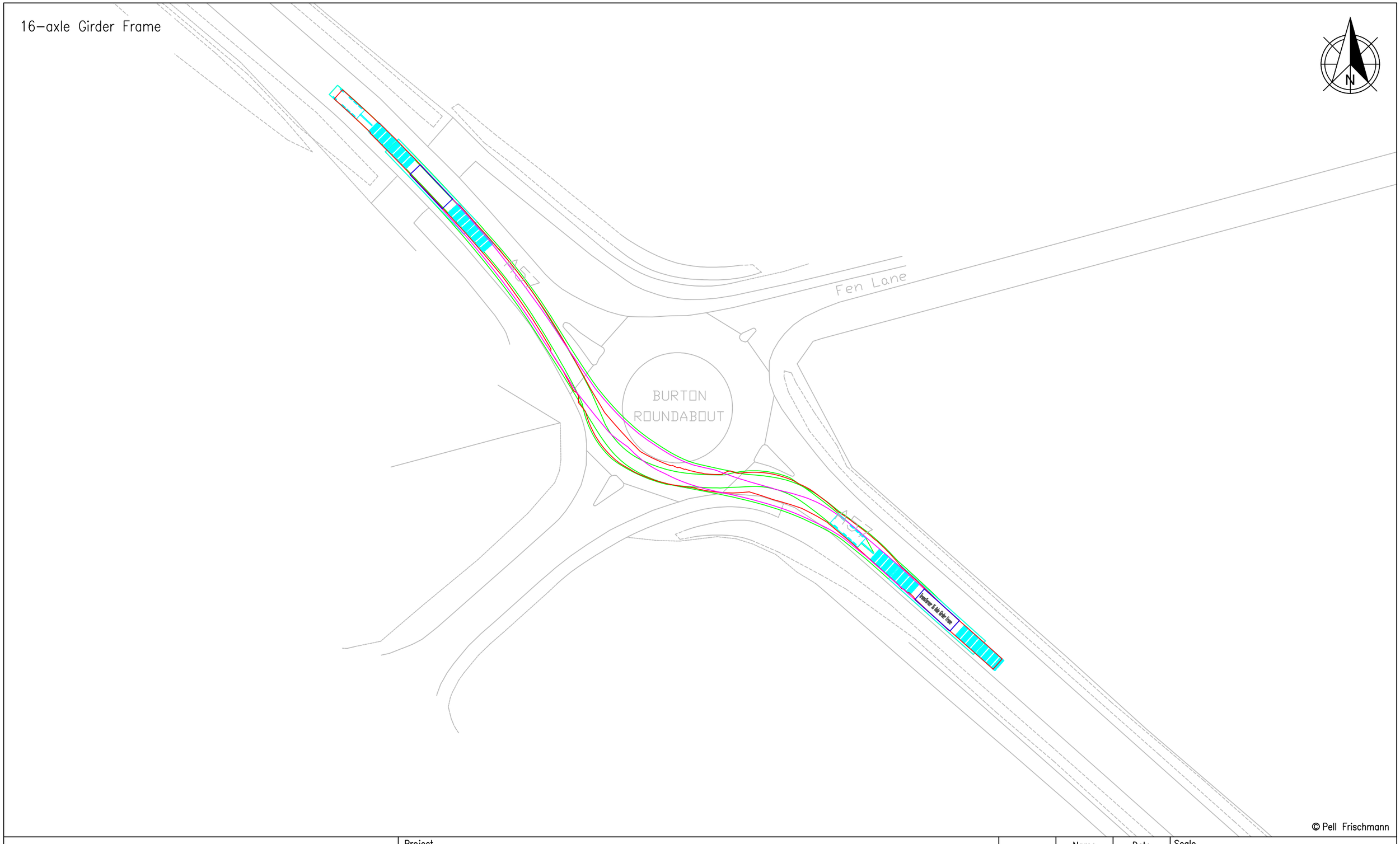
Drawing Status: Draft

Drawing No.: SK05A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 Burton Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		19

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

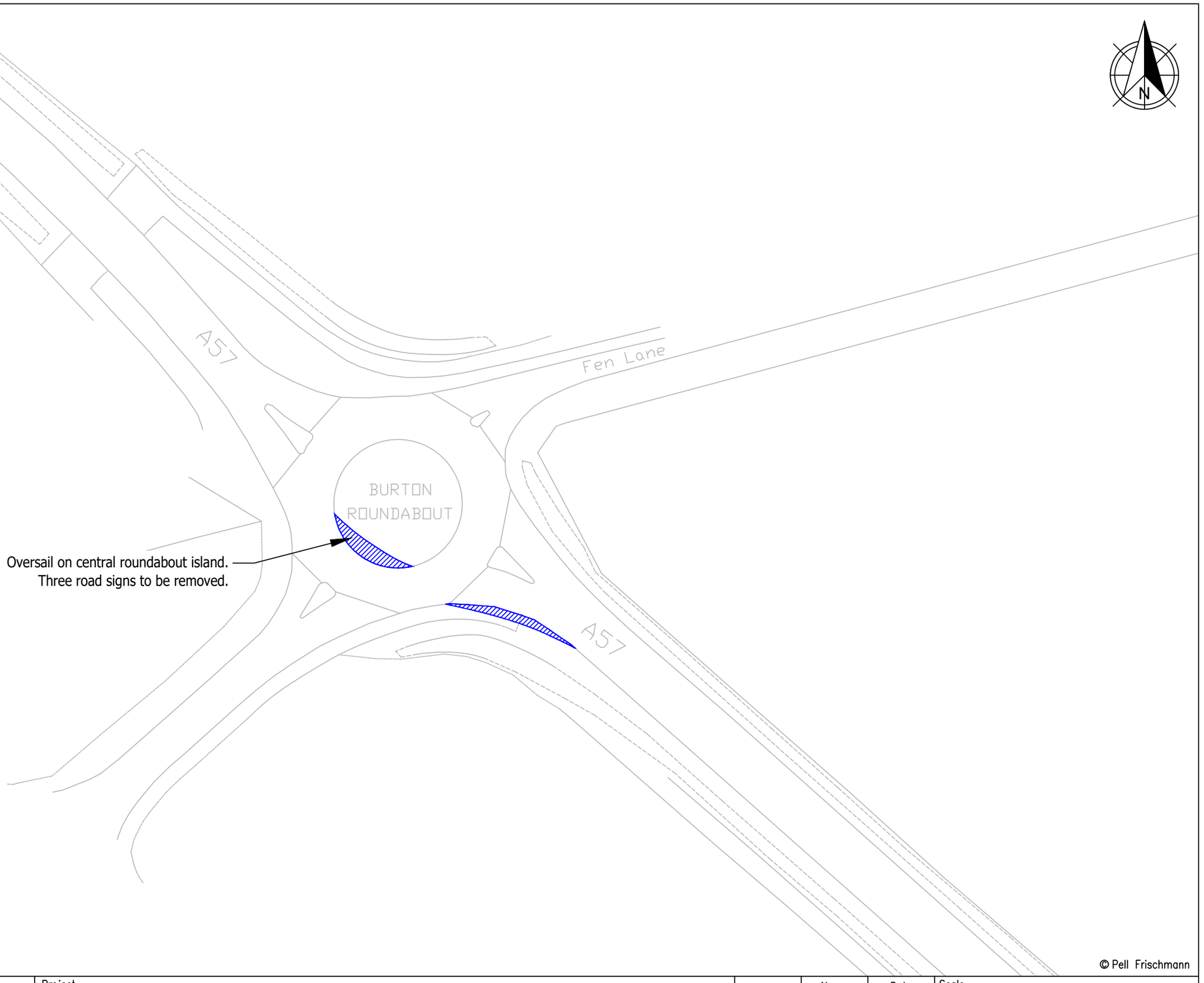
Drawing Status: Draft

Drawing No.: SK06

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 Burton Roundabout

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		19

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

Drawing Status: Draft

Drawing No.: SK06A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame

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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 / A1133 LH turn

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		27

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

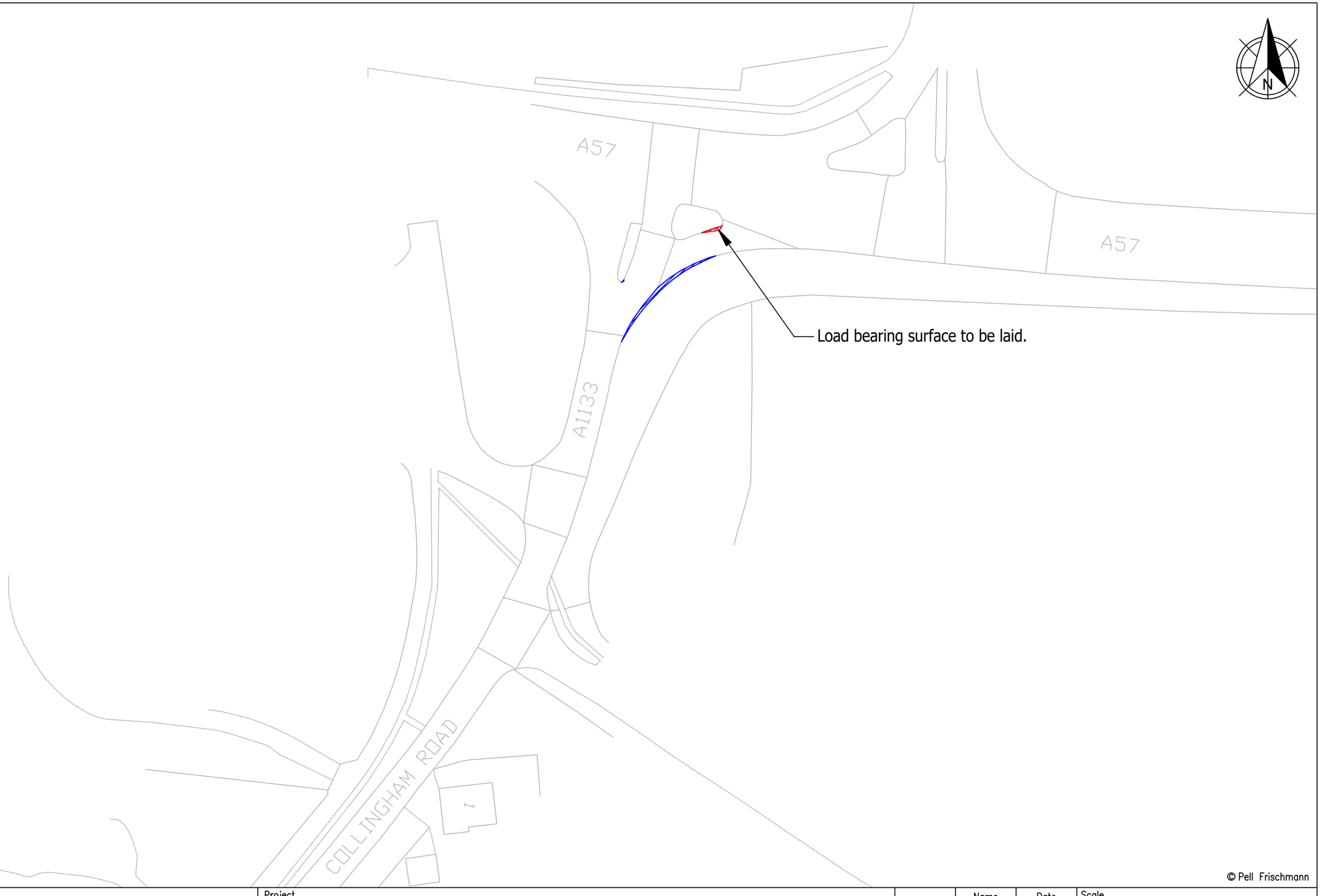
Drawing Status: Draft

Drawing No.: SK07

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 / A1133 LH turn

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		27

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

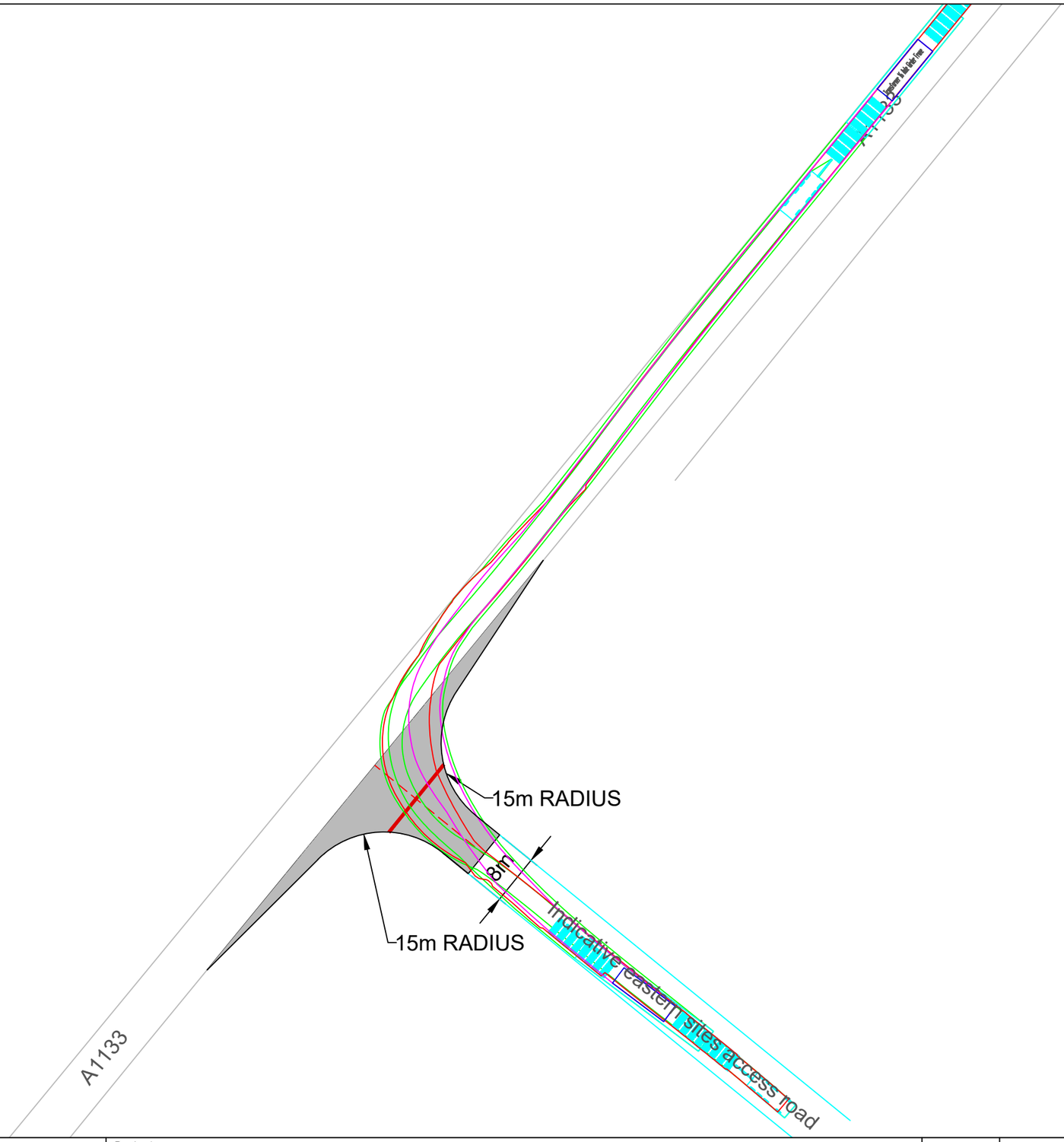
Drawing Status: Draft

Drawing No.: SK07A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16-axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A1133 / Eastern Sites Access Junction

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		28

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

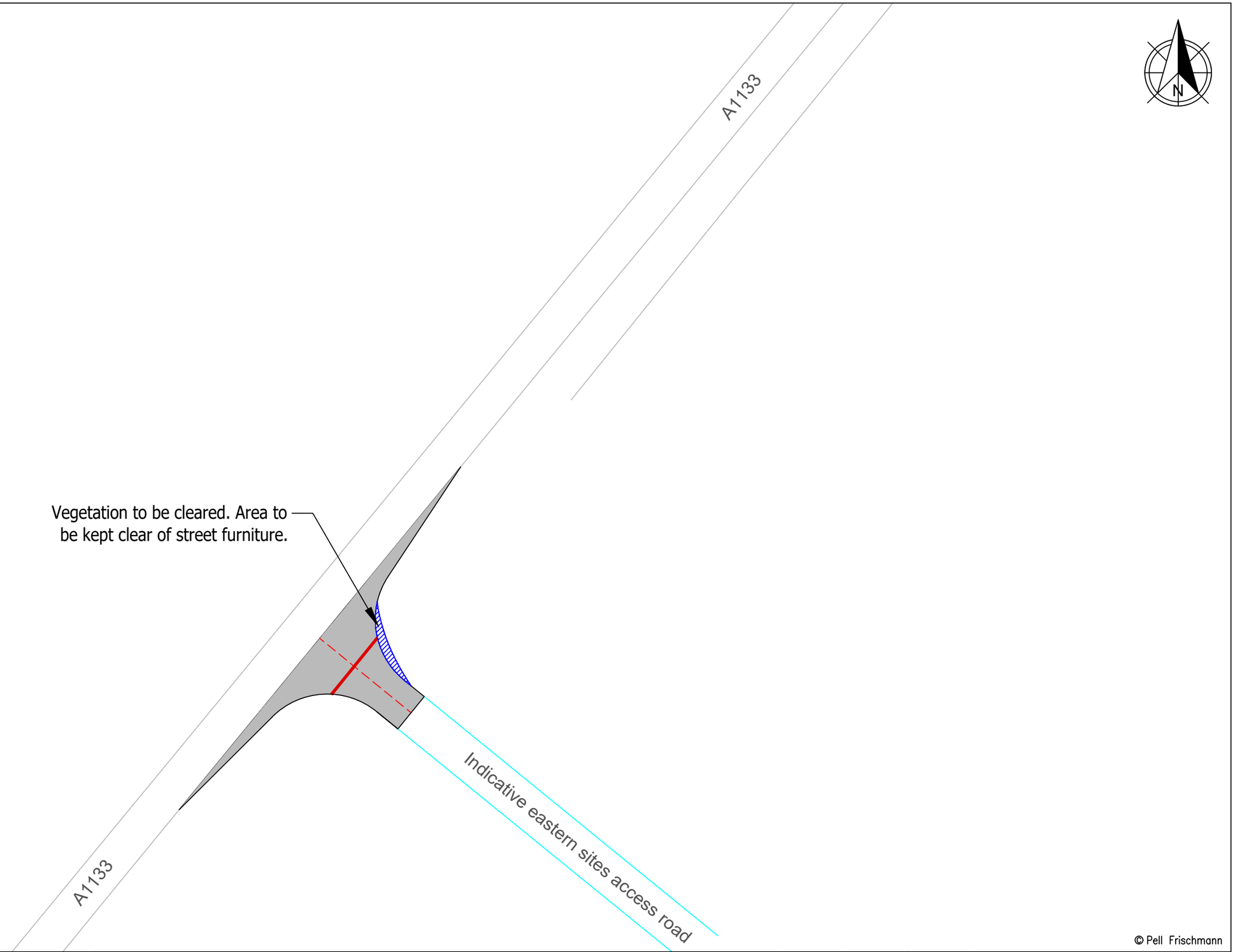
Drawing Status: Draft

Drawing No.: SK08

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A1133 / Eastern Sites Access Junction

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		28

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

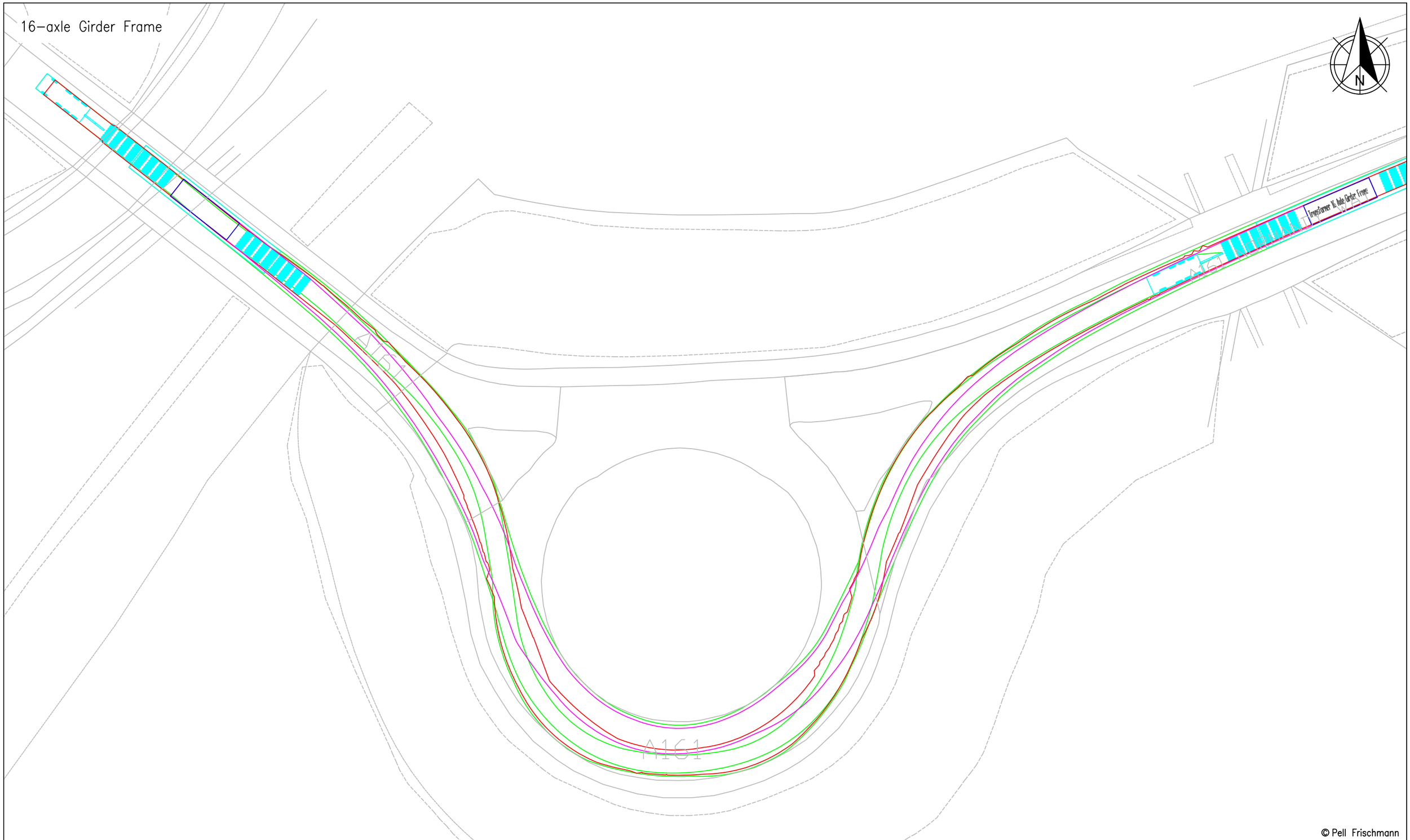
Drawing Status: Draft

Drawing No.: SK08A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A161 Normandy Way Rbt

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		30

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

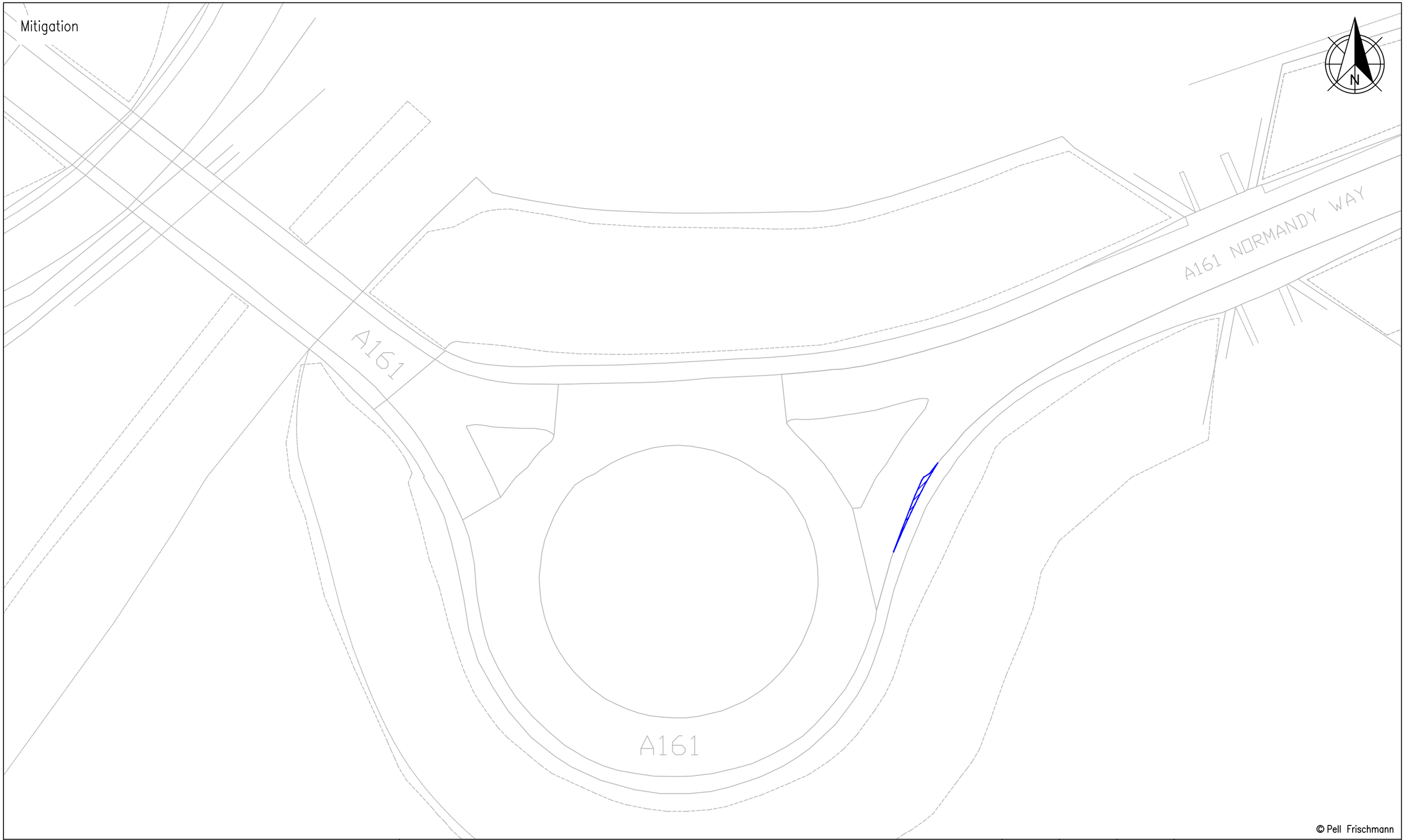
Drawing Status: Draft

Drawing No.: SK09

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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www.pellfrischmann.com

Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A161 Normandy Way Rbt

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		30

Scale: 1:500 @ A3

File No: 250217 One Earth transformer SPA.dwg

Drawing Status: Draft

Drawing No.: SK09A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16–axle Girder Frame

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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A1 Southbound Exit Slip / A57 Markham Moor Interchange

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		41

Scale: 1:1_1 @ A3

File No: 250217 One Earth transformer SPA.dwg

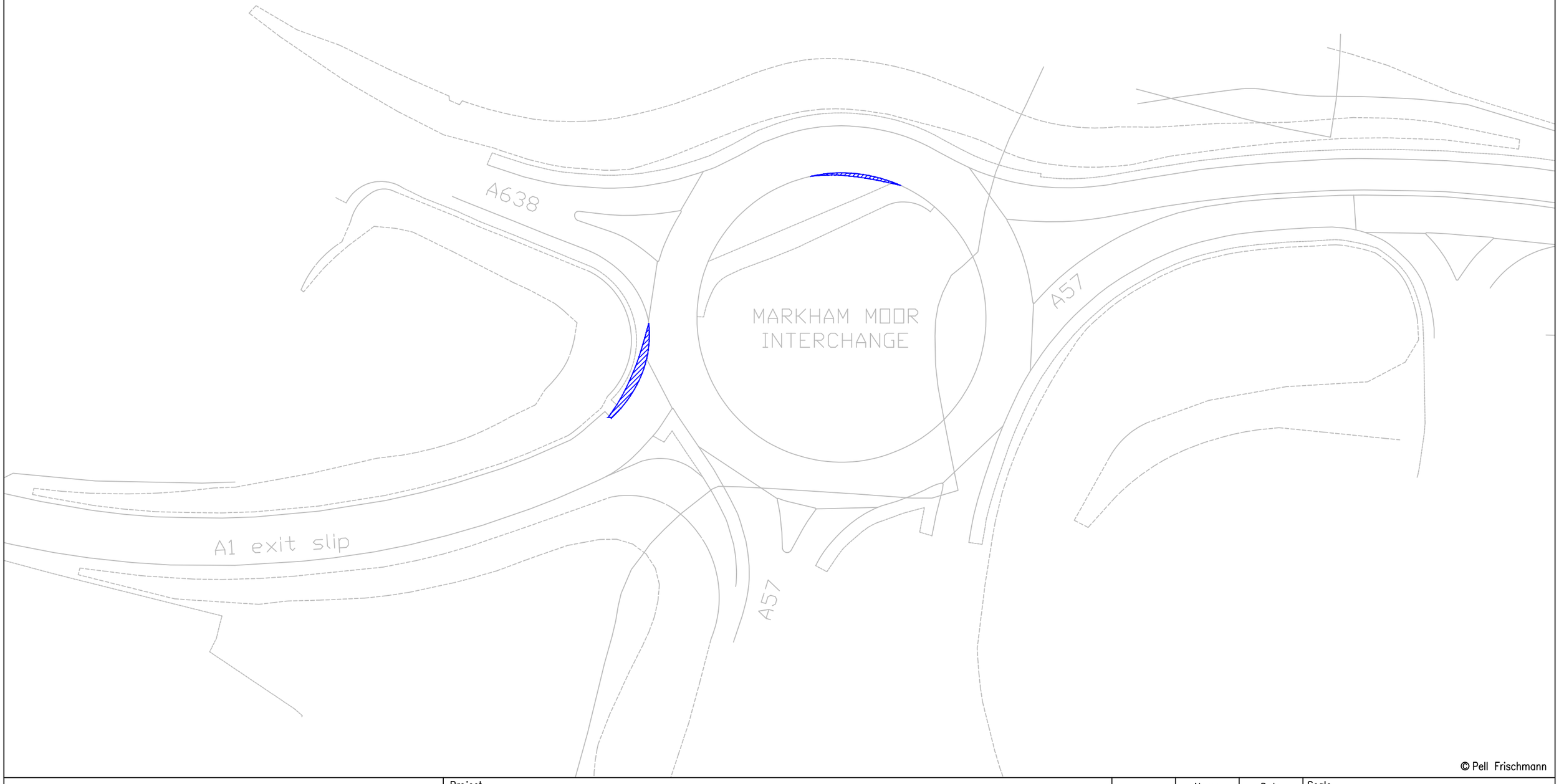
Drawing Status: Draft

Drawing No.: SK10

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A1 Southbound Exit Slip / A57 Markham Moor Interchange

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		41

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

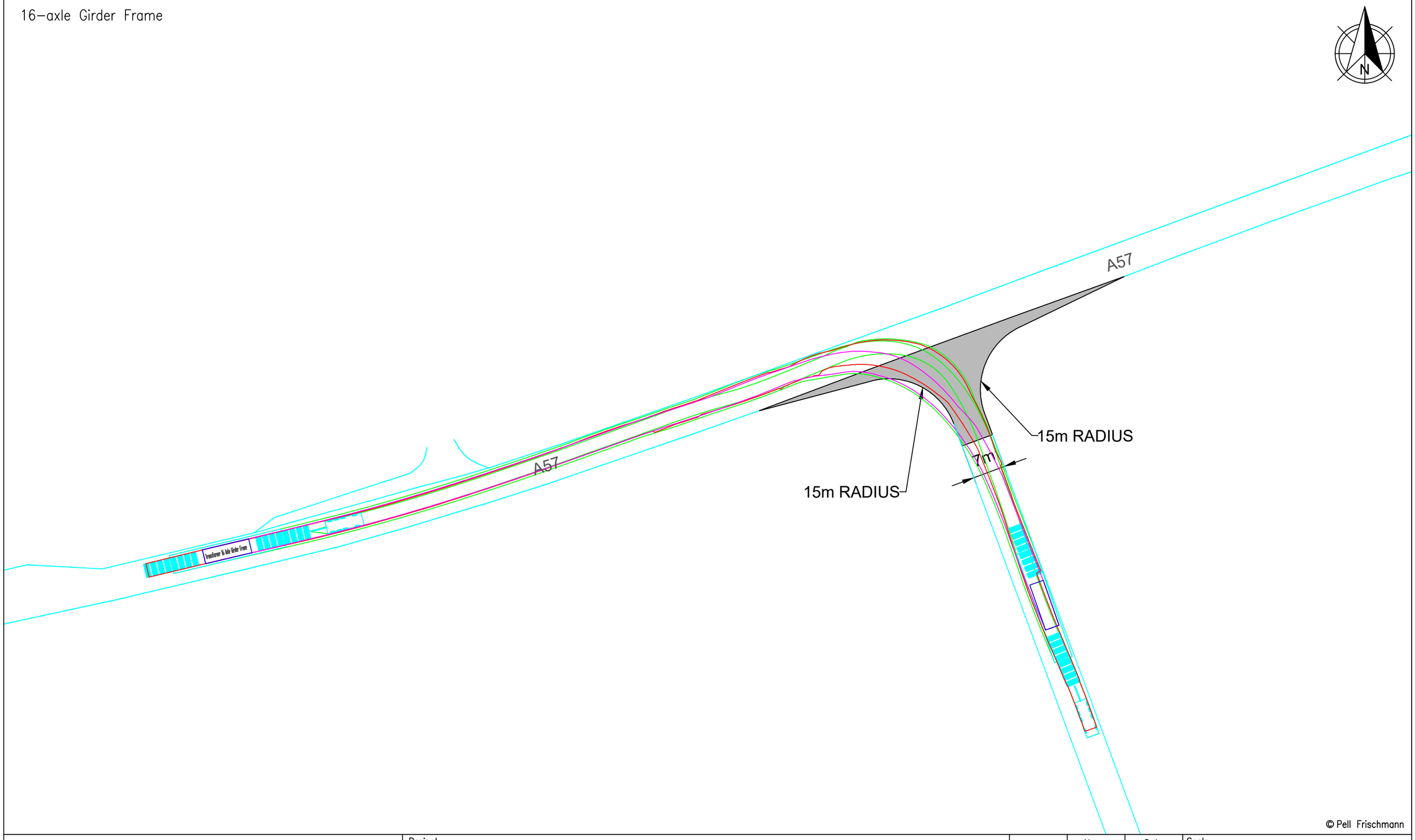
Drawing Status: Draft

Drawing No.: SK10A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

16-axle Girder Frame



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 / Western Site Access Junction

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		45

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

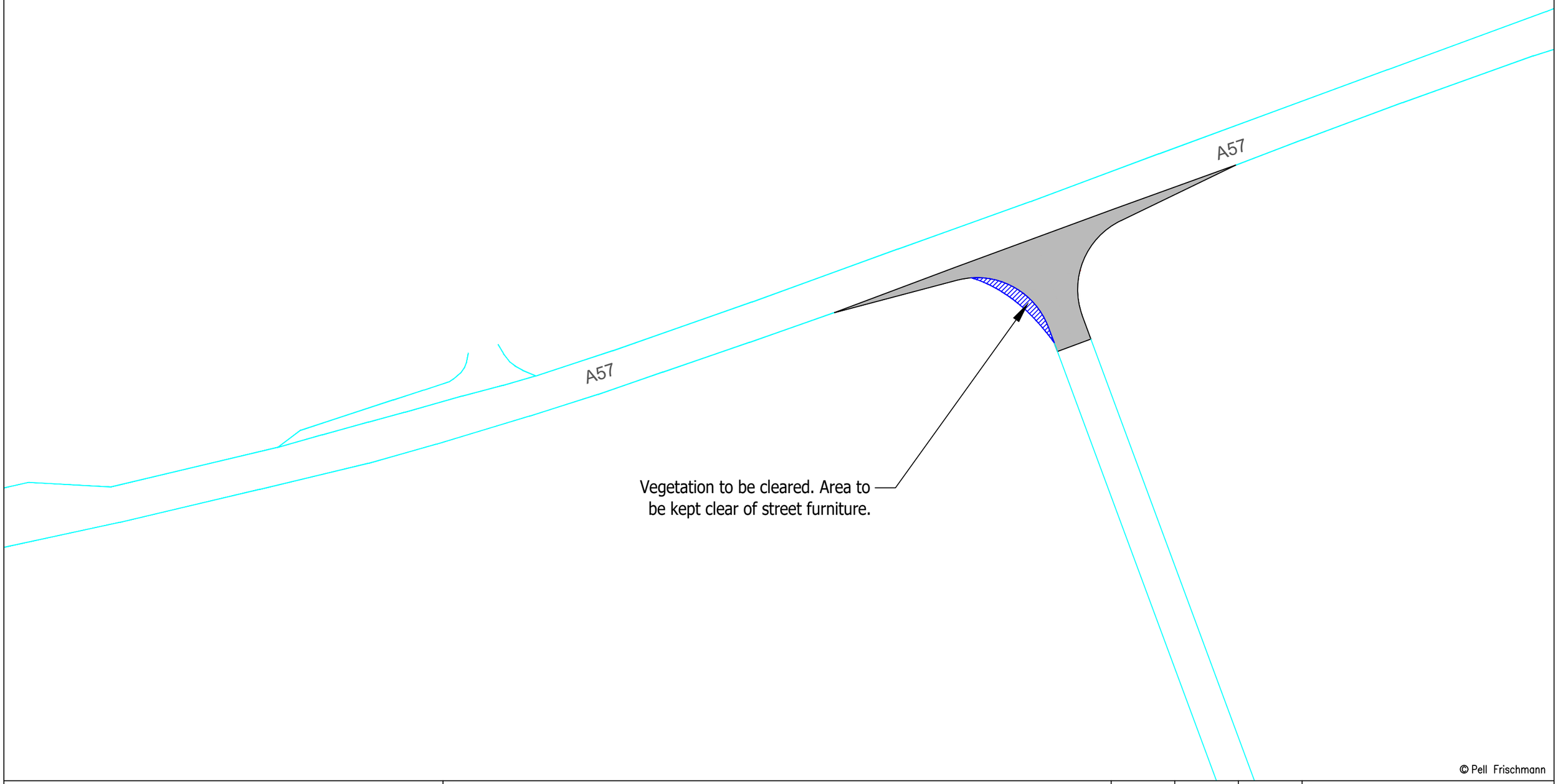
Drawing Status: Draft

Drawing No.: SK11

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Mitigation



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Client: One Earth

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: 108012 One Earth Solar Farm

Drawing Title: 161 te Transformer Swept Path Analysis

SPA Location: A57 / Western Site Access Junction

	Name	Date
Drawn	SJW	25/11/2024
Designed	SJW	25/11/2024
Checked	GB	27/11/2024
Point of Interest		45

Scale: 1:750 @ A3

File No: 250217 One Earth transformer SPA.dwg

Drawing Status: Draft

Drawing No.: SK11A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 0

Appendix C ESDAL Responses

From: Humber Abnormal Loads

Sent: 27 November 2024 11:30

To: Sally Weston

Cc: Ron Dempster

Subject: RE: 108012 One Earth Solar Farm 161 te transformer 16-axle girder frame feasibility study

Good morning, Sally, thanks for approaching us at feasibility stage.

The Goole route is acceptable, but the Immingham route needs to be amended to exclude the West Haven Way Flyover https://w3w.co/confining.strongly.reassured.

You can avoid the West Haven Flyover by using Humber Road and the Western Access Road. This will mean that you would have to traverse a level crossing, but at <16t per axel we are content that the loads could be accommodated.

As part of the discharge operation, you would need to supply a temporary works design for any cranes on the quayside, to ensure that the loads are transferred in a way that does not affect our infrastructure. We have accepted AILs of this mass before so it should be feasible to undertake the operation in Immingham or Goole.

Do you have any details and projected dates for this aspect of the movement please?

Regards Joel

Joel Bridger | Project Engineer | Associated British Ports

ASSOCIATED BRITISH PORTS

From: Jake Goddard

Sent: 07 November 2024 13:58

To: Sally Weston

Subject: RE: 108012 One Earth Solar Farm 161 te transformer 16-axle girder frame feasibility study

Morning Sally,

Thank you for sending this through.

I have only looked at route 1 as it is the only one that affects Lincolnshire County Council structures.

Due to the size and weight of the proposed vehicle we would require a full structural assessment of a few structures along the route. The details of these structures are given below. We do not currently have the capacity in house to carry out these assessments, we can however pass over any as-built information on these structures.

Fossdyke canal bridge – 87/95/71

Long Leys road bridge – 97/63/02

Saxilby railway bridge – 87/95/60

Plotwood Bridge – 87/44/40A

Odder bridge – 97/14/78

Bishops bridge East – 97/53/02

Bishops bridge West – 97/43/92A

I will send through the as-built drawings for these structures.

Due to the number of drawings for each structure it will be probably be best to send each bridge's as-builts through as a separate email so apologies if you get bombarded with emails.

Kind regards,

Jake

Jake Goddard

Senior Technician (Structures)

Lincolnshire County Council,

From: Wayne Darrington **On Behalf Of** Abnormal Loads

Sent: 04 November 2024 10:07

To: Sally Weston

Subject: RE: 108012 One Earth Solar Farm 161 te transformer 16-axle girder frame feasibility study

Hi Sally

This would need a police escort through Nottinghamshire.

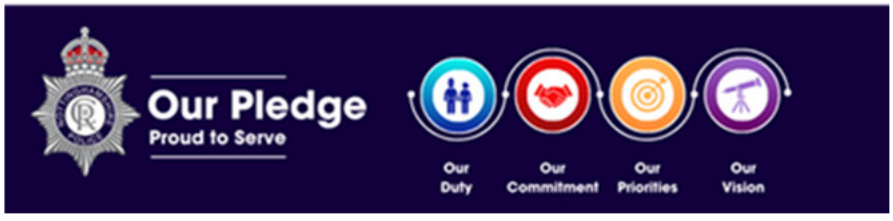
regards

Wayne Darrington

Vehicle Recovery & Abnormal Loads Manager

Nottinghamshire Police

www.nottinghamshire.police.uk



From: Simon Cole

Sent: 27 November 2024 07:56

To: Sally Weston

Subject: RE: 108012 One Earth Solar Farm 161 te transformer 16-axle girder frame feasibility study

Dear All,

We confirm that the load, described in your notification below, may traverse our pipe culvert on Humber Road (A160) at Killingholme.

Regards,

Simon Cole

Refinery Civil and Structural Engineer

Prax Group | Technical – Projects

From: Abnormal.Loads

Sent: 04 November 2024 09:43

To: Sally Weston

Subject: RE: 108012 One Earth Solar Farm 161 te transformer 16-axle girder frame feasibility study

Morning,

Re the below.

I cover the area of the potential move from A1 J34 (Blyth) to the M180 J2. Due to the size of these loads they would require a POLICE ESCORT on the sections mentioned above at your expense.

I cannot comment on the structure weight limits but from other similar moves in the past a load of this weight would need to exit the M18 at J2 (Wadworth) and re-join and the same at M18 J6 (Thorne) hence the police presence.

Phil Carson

Abnormal Loads Officer

South Yorkshire Police

South Yorkshire
POLICE

Appendix B Construction Traffic Programme

Construction Traffic Movement Programme

	2027												2028												2029		
Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
East Cluster																											
Site Establishment	0	117	117	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	117	117	0
General Deliveries	0	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	0
Compound	0	2581	2581	2581	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site Tracks	0	0	0	2169	2169	2169	2169	2169	2169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geotextiles	0	12	0	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Substation Platform	0	0	0	0	0	0	282	282	282	282	282	282	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cabling Works	0	0	0	0	0	0	0	0	0	0	0	0	120	120	120	120	120	0	0	0	0	0	0	0	0	0	0
Substation Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	73	73	0	0	0	0	0	0	0	0	0	0	0	0
Substation HV Deliveries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Internal HV Works & Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	30	0	0	0	0	0	0	0
Solar Array Works	0	0	0	0	0	0	0	0	0	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	0	0
Cabling & Cabling Sand	0	0	0	0	0	0	0	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	0	0	0	0
Battery Platform	0	0	0	0	0	0	0	0	0	0	0	0	1467	1467	1467	1467	1467	1467	0	0	0	0	0	0	0	0	0
Battery Foundations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Battery Cabling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	535	535	535	535	535	0	0	0	0	0	0	0	0
Site Restoration & Fencing	0	31	31	31	31	0	0	0	0	8	8	8	8	8	0	0	0	0	0	1106	1106	1106	1106	1106	1106	1106	0
Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	82	0	0	82	82	0
Final Connection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	704	704	0	0	0	0	0	0	704
Staff Movements	0	352	704	1320	1320	1672	1936	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2156	1936	1672	1672	1320	968	704	704
Total Car & LGV / Month	0	352	704	1320	1320	1672	1936	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	3124	2860	1936	1672	1672	1320	968	704	1408
Total HGV / Month	0	3357	3345	5526	2816	2797	3067	3485	3485	1531	1531	1531	2836	2909	3436	3364	3365	3275	1809	2378	2430	2430	2348	2047	2128	1921	0
Total Vehicles / Month	0	3709	4049	6846	4136	4469	5003	5905	5905	3951	3951	3951	5256	5329	5856	5784	5785	5695	4933	5238	4366	4102	4020	3367	3096	2625	1408
East																											
Total Car & LGV / Day	0	15	29	55	55	70	81	101	101	101	101	101	101	101	101	101	101	101	130	119	81	70	70	55	40	29	59
Total HGV / Day	0	140	139	230	117	117	128	145	145	64	64	64	118	121	143	140	140	136	75	99	101	101	98	85	89	80	0
Total Vehicles / Day	0	155	169	285	172	186	208	246	246	165	165	165	219	222	244	241	241	237	206	218	182	171	167	140	129	109	59
West Cluster																											
Site Establishment	0	130	130	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	130	130	0
General Deliveries	0	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	616	0
Compound	0	3887	3887	3887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site Tracks	0	0	0	1870	1870	1870	1870	1870	1870	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geotextiles	0	10	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Substation Platform	0	0	0	0	0	0	733	733	733	733	733	733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cabling Works	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0
Substation Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	328	328	0	0	0	0	0	0	0	0	0	0	0	0
Substation HV Deliveries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0
Internal HV Works & Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41	41	0	0	0	0	0	0	0
Solar Array Works	0	0	0	0	0	0	0	0	0	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	0	0
Cabling & Cabling Sand	0	0	0	0	0	0	0	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	0	0	0	0
Battery Platform	0	0	0	0	0	0	0	0	0	0	0	0	1467	1467	1467	1467	1467	1467	0	0	0	0	0	0	0	0	0
Battery Foundations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	293	293	293	293	293	0	0	0	0	0	0	0
Battery Cabling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	625	625	625	625	625	0	0	0	0	0	0	0	0
Site Restoration & Fencing	0	35	35	35	35	0	0	0	0	10	10	10	10	10	0	0	0	0	0	1666	1666	1666	1666	1666	1666	1666	0
Nat Grid Connection Cabling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	760	760	0	0	760	760	0
Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	792	792	0	0	0	0	0	0	792
Staff Movements	0	352	704	1320	1320	1672	1936	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2156	1936	1672	1672	1320	968	704	704
West																											
Total Car & LGV / Month	0	352	704	1320	1320	1672	1936	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	2420	3212	2948	1936	1672	1672	1320	968	704	1496
Total HGV / Month	0	4678	4668	6548	2521	2496	3219	3466	3466	1827	1827	1827	2660	2988	3603	3568	3570	3512	2045	3083	3509	3509	2749	2633	3393	3172	0
Total Vehicles / Month	0	5030	5372	7868	3841	4168	5155	5886	5886	4247	4247	4247	5080	5408	6023	5988	5990	5932	5257	6031	5445	5181	4421	3953	4361	3876	1496
Total Car & LGV / Day	0	15	29	55	55	70	81	101	101	101	101	101	101	101	101	101	101	101	134	123	81	70	70	55	40	29	62
Total HGV / Day	0	195	194	273	105	104	134	144	144	76	76	76	111	124	150	149	149	146	85	128	146	146	115	110	141	132	0
Total Vehicles / Day	0	210	224	328	160	174	215	245	245	177	177	177	212	225	251	250	250	247	219	251	227	216	184	165	182	161	62
Total Project																											
Total Car & LGV / Day	*0*	*29*	*59*	*110*	*110*	*139*	*161*	*202*	*202*	*202*	*202*	*202*	*202*	*202*	*202*	*202*	*202*	*202*	*264*	*242*	*161*	*139*	*139*	*110*	*81*	*59*	*121*
Total HGV / Day	*0*	*335*	*334*	*503*	*222*	*221*	*262*	*290*	*290*	*140*	*140*	*140*	*229*	*246*	*293*	*289*	*289*	*283*	*161*	*228*	*247*	*247*	*212*	*195*	*230*	*212*	*0*
Total Vehicles / Day	*0*	*364*	*393*	*613*	*332*	*360*	*423*	*491*	*491*	*342*	*342*	*342*	*431*	*447*	*495*	*491*	*491*	*484*	*425*	*470*	*409*	*387*	*352*	*305*	*311*	*271*	*121*

Appendix C Daily Peak Traffic Profile

Hourly Peak Traffic Profile		Total Construction Traffic				Traffic West of Dunham		
		Daily Peak Traffic (vehs / hr)				Daily Peak Traffic (vehs / hr)		
Time Period		Cars & LGV	HGV	Total Flow		Cars & LGV	HGV	Total Flow
00:00 - 01:00		0	0	0		0	0	0
01:00 - 02:00		0	0	0		0	0	0
02:00 - 03:00		0	0	0		0	0	0
03:00 - 04:00		0	0	0		0	0	0
04:00 - 05:00		0	0	0		0	0	0
05:00 - 06:00		0	0	0		0	0	0
06:00 - 07:00		28	0	28		23	0	23
07:00 - 08:00		11	42	53		9	24	33
08:00 - 09:00		6	42	47		5	24	29
09:00 - 10:00		6	42	47		5	24	29
10:00 - 11:00		3	42	45		2	24	26
11:00 - 12:00		3	42	45		2	24	26
12:00 - 13:00		0	42	42		0	24	24
13:00 - 14:00		0	42	42		0	24	24
14:00 - 15:00		0	42	42		0	24	24
15:00 - 16:00		3	42	45		2	24	26
16:00 - 17:00		3	42	45		2	24	26
17:00 - 18:00		6	42	47		5	24	29
18:00 - 19:00		6	42	47		5	24	29
19:00 - 20:00		11	0	11		9	0	9
20:00 - 21:00		28	0	28		23	0	23
21:00 - 22:00		0	0	0		0	0	0
22:00 - 23:00		0	0	0		0	0	0
23:00 - 24:00		0	0	0		0	0	0

Appendix D Cumulative Development Review

ID	Application Ref	Application for 'other development' and brief description	Distance from Proposed Development	Status	Significant Trip Generator	Development Coincides with Construction Phase	Within Study Area	Has Publicly Available Data	Comment	Included in Cumulative Sensitivity Review
1	19/00765/OUT	Outline Planning Application with Some Matters Reserved (Approval Being Sought for Access) for Residential Development of up to 71 Dwellings (Resubmission of 18/00747/OUT)	8.7km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
2	19/01165/RES	Reserved Matters Application For Approval of Appearance, Landscaping, Layout, and Scale Following Outline P/A 15/00690/OUT For Residential Development of 86 Dwellings	3.86km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
3	20/00298/FUL	Erect Manager's Lodge and Siting of Ten Static Caravans	2.52km	Approved	No				Development does result in significant traffic flows	No
4	21/00554/RES	Reserved Matters Application for the Approval of Appearance, Landscaping, Layout and Scale for Residential Development of 71 Dwellings Following Outline P.A. 19/00765/OUT	9.33km	Approved	No				Covered by App 19/01165/RES	No
5	21/01147/FUL	Installation of a Solar Farm and Battery Storage Facility with Associated Infrastructure	2.43km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
6	21/01735/COU	Full Planning Application for Change of Use From Greyhound Centre Track for the Siting of 16 Lodges for Holiday Use, Construction of a Lake with Centre Island and Associated Landscaping	0.081km	Approved	No				Development does not result in significant traffic flows	No
7	22/00707/FUL	The Construction and Operation of a Solar Photovoltaic (PV) Farm with other Associated Infrastructure Including Sub Stations, Security Cameras, Fencing, Storage Containers, Access Tracks and Landscaping	Within RLB	Approved	Yes	Possible	Yes	Yes	At peak, there will be 16HGV on the A57 and Main Street	Yes
8	22/01633/OUT	Outline Application With Some Matters Reserved (Approval Being Sought for Access) For Residential Development, a Local Centre, School, Community Hub, Sports Pitches, Extra Care Facility, Community Park, Landscaping, Supporting Infrastructure and Means of Access	9.92km	Not determined	Yes	Possible	No		The study area does not coincide with that for the Project.	No
9	EN010133	Cottam - NSIP development comprising four electricity generating stations, with a capacity of up to 600MW, comprising of ground mounted solar arrays, with associated development comprising energy storage, grid connection infrastructure and other infrastructure integral to the construction, operation, and maintenance of the NSIPs.	11.6km	Approved	Yes	Assessment based in 2025 - unlikley	No		The study area does not coincide with that for the Project.	No
10	23/00083/FUL	Demolition of Existing Agricultural Buildings and Construction of 12 no. New Build Dwellings with Associated Highways and Hard and Soft Landscaping	4.56km	Not determined	No				Development does result in	No

									significant traffic flows	
11	23/00463/FUL	Sixteen Bay Golf Driving Range, Video Room, Ball Wash and Floodlights	10.2km	Approved	No				Development does result in significant traffic flows	No
12	EN010131	Gate Burton Energy Park - The Scheme comprises the installation of solar photovoltaic (PV) generating panels and on-site energy storage facilities and grid connection infrastructure. The Scheme would allow for the generation, storage and export of up to 500 (MW) electrical generation capacity.	9.44km	Approved	Yes	Possible	Yes	Yes	32 HGV / 58 LGV on A57	Yes
13	23/00656/FUL	Installation of a Solar Farm with an Output of Approximately 45.4MW and Ancillary Works	9.58km	Approved	Yes	Possible	No		Site Accessed from A1 at Elkesley	No
14	23/00801/FUL	Proposed Construction and Operation of An 8 MW Electrolytic Green Hydrogen Production Plant, with Associated Infrastructure Including HGV and Multi Cylinder Pack (MCP) Loading Areas, Vehicle Maintenance Unit, Staff Welfare Facilities and Control Room, 11KV Customer Sub-Station, Boundary Fencing, Internal Access Roads, Landscaping, External Lighting and Works.	Within RLB	Approved	Yes	Yes	Yes	Yes	126 HGV construction trips on A57 from the west, travelling through Ragnall on Main Street	Yes
15	23/01135/FUL	Full Planning Application for the Construction and Operation of A Prototype Facility for the Production of Hydrogen from Ammonia, and Associated HGV Loading and Unloading Areas, Staff Welfare Building, Boundary Fencing, Internal Access Roads, External Lighting and Works (EIA Development)	Within RLB	Approved	Yes	Yes	Yes	Yes	From the A1, via A57 to Main Street. 24 Car / LGV and 24 HGV during operation. Operational phase appears to be worst case.	Yes
16	23/01302/FUL	Erection of 28 No. Dwellings Together with Access, Open Spaces, Drainage and Service Infrastructure	10.4km	Not determined	No				Development does not result in significant traffic flows	No
17	24/00033/FUL	Construction and Operation of Additional Plant for Electrolytic Green Hydrogen Production and Associated Works	Within RLB	Approved	Yes	Yes	Yes	Yes	From the A1, via A57 to Main Street. 34 HGV during operation. Operational phase appears to be worst case.	Yes

18	19/00100/CMM	Proposed extraction of 1.8 million tonnes of sand and gravel together with the erection of mineral processing plant and associated ancillary infrastructure. The provision of a new access, and the progressive restoration of the site to nature conservation over a period of 9 years. To view application, please use following link: https://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=ES/3953	6.96km	Approved	Yes	Possible	No		Flows do not operate on study network	No
19	19/00072/RMAM	Erection of 60 extra care units with associated communal facilities and infrastructure within Phase 5 of the wider development	8.67km	Approved	No				Development does not result in significant traffic flows	No
20	19/00981/FUL	The installation of 5 x 4000 litre underground tanks with associated Secondary Regulator Housing Cabinet and amendments to the already approved equipped play area.	3.89km	Approved	No				Development does not result in significant traffic flows	No
21	19/01929/CMM	Planning application for an eastern extension to Besthorpe Quarry, (with retention of existing plant site, access and ancilliary facilities) along with restoration to water based nature conservation To view application; www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=Ref ES/4058	7.28km	Approved	No				Development does not result in significant traffic flows	No
22	19/02231/CMM	Proposed southern extension to the quarry for the extraction of approximately 550,000 tonnes of sand and gravel, with restoration to nature conservation. THIS APPLICATION IS BEING TWIN TRACKED WITH THE IDENTICAL APPLICATION ES/4082. To view application, please use following link: https://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=ES/4081	8.13km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
23	19/02232/CMM	Proposed southern extension to the quarry for the extraction of approximately 550,000 tonnes of sand and gravel, with restoration to nature conservation. THIS APPLICATION IS BEING TWIN TRACKED WITH THE IDENTICAL APPLICATION ES/4081 To view application, please use following link: https://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=ES/4082	8.2km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
24	20/00578/CMA	Proposed southern extension to the quarry for the extraction of approximately 550,000 tonnes of sand and gravel, with restoration to nature conservation. To view this application, please follow the link; http://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=ES/4081	7.95km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No

25	21/02478/CMA	Creation of Fish Farming Ponds to involve incidental mineral extraction, processing and export of minerals, forming pre phase of the wider development granted under Appeal Decision ref: 19/00551/FULM. Details of the planning application are available on www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=F/4338	1.99km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
26	20/02225/ELE	Proposed sub station	0.157km	Approved	No				No transport data publically available on planning portal	No
27	21/01577/FULM	Installation of a solar farm and battery storage facility with associated infrastructure.	1.36km	Approved	Yes	Possible	No	Yes	Transport Assessment does not include the study area	No
28	21/02182/FULM	Residential development of 29 retirement bungalows with extra care (Use Class C2) with associated garages, parking and landscaping	8.73km	Approved	No	Possible			Development does result in significant traffic flows	No
29	21/02607/FULM	Construction of 19 dwellings	9.97km	Approved	No	Possible			Development does result in significant traffic flows	No
30	22/01790/CMA	Proposed southern extension to the quarry for the extraction of approximately 550,000 tonnes of sand and gravel with restoration to agriculture and nature conservation. For further details and to view this application please see the following link; https://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=ES/4441	8.43km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
31	22/01612/FULM	Creation of Fish Farm Facility from Agricultural Land as a Farm Diversification Business	2.18km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
32	EN010162	Great North Road Solar Park	4.84km	Not determined	Yes	Possible	No		Transport Assessment will not coincide with the study area	No
33	138861	Application for lawful development certificate for the proposed use class and commencement of works of the 100 extra care dwellings, visitor centre and associated works in planning permission 138295	7.97km	Approved	No				Development does result in significant traffic flows	No

34	138818	Application for approval of reserved matters for residential development of 111no. dwellings, to include associated estate roads and open space, considering appearance, landscaping, layout and scale,following outline permission 131174 allowed on appeal 09 December 2015.	4.02km	Approved	No				No transport data publically available on planning portal	No
35	140171	Planning application to increase the 22 permanent residential units permitted in planning permission 137250 granted 22 September 2011 to 40 permanent residential units.	3.74km	Approved	No				No transport data publically available on planning portal	No
36	140375	Planning application for the demolition of 20no. garages and the construction of 14no. affordable dwellings	6.84km	Approved	No				Development does result in significant traffic flows	No
37	140696	Outline planning application for the material change of use of land, erection of buildings and associated development for employment uses falling within any of use classes B1 Business, B2 General Industrial and B8 Storage and Distribution, with means of access, layout of internal estate roads and drainage attenuation features to be considered. Layout (aside from internal estate roads and drainage attenuation features), appearance, landscaping and scale are reserved for future consideration	5.52km	Approved	No				No transport data publically available on planning portal	No
38	141141	Application for approval of reserved matters for 39no. dwellings with associated parking & landscaping considering access, appearance, landscaping, layout & scale following hybrid application 133907 granted 24 October 2017.	7.96km	Approved	No				No transport data publically available on planning portal	No
39	141455	Planning application to erect building for use as Storage and Distribution (B8) with ancillary offices (B1)including details of associated parking, landscaping and external lighting/signage	4.87km	Approved	No				No transport data publically available on planning portal	No
40	141731	Application for approval of reserved matters considering access, appearance, landscaping, layout and scale following outline planning permission 140259 granted 30 December 2019 to erect 5no. dwellings.	3.65km	Approved	No				No transport data publically available on planning portal	No
41	142225	Planning application for change of use of land from agricultural to siting of up to 12no. touring caravan pitches (4no. hardstanding and 8no. grass pitches), 2no. bell tents, 2no. glamping pods, creation of a permanent natural pond, associated access and parking and retention of building for welfare facilities.	10.7km	Approved	No				Development does result in significant traffic flows	No
42	142592	Planning application for 26no. single storey modular homes for occupation by over 55 year olds, including access arrangements, parking and landscaping.	7.45km	Approved	No				Development does result in significant traffic flows	No

43	145657	Application for approval of reserved matters to expand existing construction company site, with 3no. B1/B2/B8 buildings considering access, appearance, landscaping, layout and scale - following outline planning permission 142207 granted 16 February 2021.	5.51km	Approved	No				No transport data publically available on planning portal	No
44	142207	Outline planning application to expand existing construction company site, with 3 no. /B1/B2/B8 buildings, with all matter reserved.	7.78km	Approved	No				No transport data publically available on planning portal	No
45	146147	PINS consultation on Section 55 on adequacy of consultation request for application for an Order Granting Development Consent - Cottam Solar Project.	5.98km	Approved	No				No transport data publically available on planning portal	No
46	EN010132	West Burton Solar Project	4.68km	Approved	Yes	Possible	Yes	Yes	Cable route only. 8 HGV on A57 crossing the River Trent and approximately 12 Car / LGV	Yes
47	146527	Consultation - Adequacy of consultation request	4.66km	Not determined	No				No transport data publically available on planning portal	No
48	EN010154	Fosse Green Energy	9.63km	Pre App	Yes	Possible	Yes	Yes	No transport data publically available on planning portal	No
49	146954	PINS consultation on behalf of the Secretary of State for its opinion (a scoping Opinion) as to the information to be provided in an Environmental Statement - EN010154	9.02km	Approved	No				No transport data publically available on planning portal	No
50	EN020034	North Humber to High Marnham	Within RLB	Pre App	Yes				No transport data publically available on planning portal	No
51	147270	PINS consultation on behalf of the Secretary of State for its opinion (a scoping Opinion) as to the information to be provided in an Environmental Statement - EN020034	Within RLB	Approved	No				No transport data publically available on planning portal	No

52	147577	PINS consultation on behalf of the Secretary of State for its opinion (a scoping Opinion) as to the information to be provided in an Environmental Statement - EN010162	4.57km	Approved	No				No transport data publically available on planning portal	No
53	147672	Outline planning application for residential development of up to 100no. dwellings, including new junction to Sykes Lane, estate roads and associated infrastructure with all matters reserved.	3.67km	Not determined	Yes	Possible	No		Insufficent data to include in an assessment	No
54	20/00117/FUL	Installation and Operation of a Solar Farm Comprising an Array of Ground Mounted Solar PV Panels with Associated Infrastructure Including Housing for Inverters a Substation Compound, Point of Connection Mast, Fencing, Security Cameras, Cabling, Access Tracks and a Temporary Construction Compound.	10.3km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
55	24/00717/SCR	Screening Opinion - Proposed Battery Energy Storage Systems (BESS) Substation and Associated Infrastructure and Works	0.21km	Not determined	No				No transport data publically available on planning portal	No
56	24/00692/SCR	Screening Opinion - Proposed Battery Energy Storage System (BESS) and Associated Plant and Equipment	4.31km	Approved	No				No transport data publically available on planning portal	No
57	24/00735/SCR	Screening Opinion - Proposed Battery Energy Storage System (BESS) and Associated Plant and Equipment	1.68km	Approved	No				No transport data publically available on planning portal	No
58	24/00565/FUL	Erection of 95 Dwellings, Access, Parking, Landscaping and all Associated Infrastructure	8.71km	Not determined	Yes	Possible	No		Transport Assessment does not include the study area	No
59	WL/2024/00283	Application for approval of reserved matters for the erection of 2no. commercial office units with associated access & parking spaces considering appearance, landscaping, layout and scale following outline planning permission 147060 granted 16 October 2023.	5.55km	Approved	No				No transport data publically available on planning portal	No
60	148024	Local authority consultation on application for Hazardous Substances Consent for the proposed storage of a maximum of 4.9 tonnes of hydrogen	Within RLB	Approved	No				No transport data publically available on planning portal	No
61	148023	Local authority consultation on construction and operation of additional plant for electrolytic green hydrogen production and associated works - 24/00033/FUL	Within RLB	Approved	No				No transport data publically available on planning portal	No

62	24/01336/CMA	Upgrade of an existing junction between Ladywood Lane and Great North Road (B1164). For further details of this application, please follow this link; http://www.nottinghamshire.gov.uk/planningsearch/plandisp.aspx?AppNo=F/4661	2.45km	Approved	No		No		Transport Assessment does not include the study area	No
63	EN010142	Tillbridge - Generating station with an anticipated capacity in excess of 50MW, comprising ground mounted solar arrays, with associated development comprising energy storage, grid connection infrastructure and other associated development for the construction, operation, maintenance and decommissioning of the solar farm.	16.3km	Not determined	Yes	Possible	No		Transport Assessment does not include the study area	No
64	EN010163	Steeple - Proposed development of a Solar Farm located in Nottinghamshire comprising up to 400MW of solar energy generation and a 200MW Battery Energy Storage System (BESS).	10.5km	Pre App	Yes	Possible	No		No transport data publically available on planning portal	No
65	EN010149	Springwell West - Springwell Solar Farm is a proposed new solar farm with battery storage and supporting grid connection infrastructure in North Kesteven, Lincs.	25.6km	Pre App	Yes	Possible	No		Transport Assessment does not include the study area	No
66	V/4386	Variation of the trigger date of conditions 67 and 68 to 31 December 2024 to afford sufficient time for additional surveys, to secure all necessary approvals under non-planning regimes and implementation works to take place prior to extraction recommencing	10.1km	Approved	No				No transport data publically available on planning portal	No
67	WL/2024/00662	Planning application for the installation and operation of a Battery Energy Storage System (BESS) with ancillary infrastructure and landscaping and biodiversity enhancements.	8.83km	Refused						No
68	WL/2024/00395	Planning application for the development of a ground mounted solar PV array (up to 35MWac), supporting energy infrastructure (including battery storage) and associated site works comprising maintenance tracks, fencing, security measures and on-site cabling	5.84km	Not determined	Yes	Possible	No		Transport Assessment does not include the study area	No
69	WL/2024/00123	Planning application for extension to existing water treatment works including the installation a new vehicle access, the erection of a nitrate buildings, salt and brine tanks and other associated infrastructure including connecting pipework, landscaping and fencing.	0.043km	Approved	Yes	Possible	Yes	Yes	Between 20-25 HGV and 2 LGV trips per day during construction on A1133. No detail of distribution	Yes

70	EN010151	Beacon Fen Energy Park - A 400MW solar photovoltaic farm incorporating up to 600MVA Battery Energy Storage System and on-site substation and electrical connection, including solar PV panels up to 4.5m in height; single stacked BESS units up to 4.5m in height; security perimeter fencing; hedgerow improvements; ecological enhancements; above and/or below ground electrical cable connection at up to 400kV; associated development and ancillary works.	40.5km	Pre App					No transport data publically available on planning portal	No
71	EN010123	Heckington Fen Solar Park - The Proposed Development will comprise the construction, operation and decommissioning of a solar photovoltaic (PV) electricity generating facility exceeding 50 megawatt (MW) output capacity, together with associated energy storage. The installed capacity of the solar generation is expected to be in the order of 500MW.	43.8km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
72	EN010127	Mallard Pass Solar Project - Solar photovoltaic array and electrical storage and connection infrastructure, with a generation capacity of greater than 50 MW.	62.2km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
73	EN010126	Temple Oaks Renewable Energy Park - 250MW Solar Farm, accompanied by 400MWh Battery Energy Storage System	45.5km	Pre App					No transport data publically available on planning portal	No
74	19/0863/FUL	Proposed solar farm (32MW) and associated development including substation, inverter cabins, switchgear/communications buildings and access track	37.4km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
75	24/1265/FUL	Erection of 99MW Battery Energy Storage System (BESS) and associated infrastructure	11.3km	Not determined	Yes	Possible	No		Transport Assessment does not include the study area	No
76	EN010101	Little Crow Solar Park	36.7km	Approved	Yes	Possible	Yes	Yes	Transport Assessment does not include the study area	No
77	EN010116	North Lincolnshire Green Energy Park	40.5km	Approved	Yes	Possible	Yes	Yes	Transport Assessment does not include the study area	No
78	EN0110008	Theddlethorpe Flexible Generation Project	64.2km	Pre App					No transport data publically available on planning portal	No

79	19/01165/FULM	Installation and operation of a solar farm, 132kV electrical substation and associated infrastructure	19.2km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
80	19/01408/FULM	Installation and operation of a solar farm, 132kV electrical substation and associated infrastructure	21.0km	Approved	Yes	Possible	No		Transport Assessment does not include the study area	No
81	24/01240/SCR	Screening Request - Battery Energy Storage System (BESS) - Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017	1.0km	Screening						No
82	24/01239/SCR			Screening						No
83	24/01138/FUL	Battery Energy Storage System, Substation, Associated Infrastructure and Works	Within RLB	Not determined	Yes	Possible	Yes	Yes	60 Car / LGV and 30HGV deliveries at peak. A57 (both directions) Main Street, Polly Taylor's Road.	Yes
84	B/21/0443	Proposed construction and operation of a solar photovoltaic farm, battery storage	46.8km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
85	S21/1018	Installation and operation of a Solar Farm together with all associated works, equipment and necessary infrastructure	30.5km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
86	S24/2100	Installation of solar farm, comprising ground mounted solar photovoltaic panels, including mounting systems, inverters and transformers, stock proof fencing, CCTV internal access tracks and associated infrastructure and landscaping for a temporary period of 40 years	55.5km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
87	S24/1930	Intention to build a solar generating station and energy storage project	n/a	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
88	S24/1829	Construction, operation (including maintenance), and decommissioning of a ground-mounted solar photovoltaic (PV) generating station with battery storage, onsite substation and associated infrastructure to generate in excess of 50MW of electricity, as well as areas of landscaping and biodiversity enhancement	n/a	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No

89	22/00809/FUL	The construction, operation and decommissioning of a solar photovoltaic (PV) farm and associated infrastructure, including inverters, substation compound, security cameras, fencing, access tracks and landscaping	50.1km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
90	22/00303/FUL	Construction of a solar farm and battery stations together with all associated works, equipment and necessary infrastructure, together with the formation of a new vehicular access onto Bunny Hill (A60)	35.0km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
91	23/01285/FUL	Proposed Battery Energy Storage Facility	48.1km	Not determined	Yes	Possible	No		The study area does not coincide with that for the Project.	No
92	23/02250/FUL	Installation and operation of a renewable energy generating station comprising ground-mounted photovoltaic solar arrays and battery-based electricity storage station together with a switchgear container, inverters, site access, internal access tracks, security measures, access gates, other ancillary infrastructure and landscaping and biodiversity enhancements	18.9km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
93	24/00537/FUL	An energy storage facility, together with associated equipment, infrastructure and ancillary works	45.4km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
94	142117	Planning application for construction and operation of a solar photovoltaic farm, including fencing, internal service tracks, inverters, transformer stations, cabling, CCTV, landscaping, substations and ancillary cabins	18.9km	Approved	Yes	Possible	No		No transport data publically available on planning portal	No
95	WL/2024/00415	Planning application for development of a ground mounted solar farm, together with supporting infrastructure, cable route, access, landscaping and associated works	21.4km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
96	24/00468/EIA	Request for Screening Opinion under Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Regulation 6. Construct Solar Photovoltaic (PV) Solar Farm between Junction 25 and 26, Trowell	40.4km	Screening					The study area does not coincide with that for the Project.	No
97	DM/1156/23/FUL	Proposed construction, operation and decommissioning of a solar photovoltaic farm, a Battery Energy Storage System (BESS) facility, associated connection including a POC mast and substation, temporary construction compound, perimeter fencing, landscaping and associated infrastructure (sHRA for the attention of Natural England dated 8/3/2024)	49.2km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
98	DM/0108/24/FUL	Construction and operation of a solar farm (up to 49.9mw) and battery energy storage system (BESS) with associated works, equipment, infrastructure and landscaping - amended site plan and additional information December 2024	51.9km	Approved	Yes	Possible	No		The study area does not coincide with	No

									that for the Project.	
99	DM/0932/24/SCR	Request for EIA screening opinion for the proposed development of land at Kiln Lane, Stallingborough for the external storage and distribution of goods and products associated with port related import / export activities, together with landscaping, infrastructure, ground mounted solar photovoltaics and other associated works	52.6km	Screening					The study area does not coincide with that for the Project.	No
100	DM/0898/24/SCR	EIA screening opinion to construct and operate a renewable energy facility, Grange Energy Park, comprising of solar energy generation (PV), battery energy storage (BESS) and a high voltage substation (HVSS) on land near Stallingborough	47.9km	Screening					The study area does not coincide with that for the Project.	No
101	DM/0484/24/FUL	Proposed 80 mega watt capacity battery storage facility with associated plant and machinery, boundary treatments, hardstanding, CCTV and lighting, and various associated works	53.6km	Not determined	Yes	Possible	No		The study area does not coincide with that for the Project.	No
102	S/152/01297/22	Planning Permission - Installation of a ground mounted solar photovoltaic (PV) farm with battery storage; along with continued agricultural use, ancillary infrastructure and security fencing, CCTV, landscaping, bunding, ecological enhancements and associated works. Construction of a vehicular access	54.6km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
103	2022/0549	Installation of battery energy storage unit, transformer, blockwork walls (3.3m) and mesh fencing (2.3m	33.5km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
104	2023/0489	Installation of Battery Energy Storage Unit at constructed back-up electricity generation facility	33.5km	Approved	Yes	Possible	No		The study area does not coincide with that for the Project.	No
105	2024/0269	Proposed Battery Energy Storage System (BESS) and associated infrastructure	30.2km	Not determined	Yes	Possible	No		The study area does not coincide with that for the Project.	No
106	22/01983/FULM	Construction of Solar farm with associated works, equipment and necessary infrastructure.	8.9km	Not determined	Yes	Possible	No		Transport Assessment does not include the study area	No
107	23/01713/FUL	Conversion of existing barns to form 3 dwellings and 1 commercial unit (Use Class E(c) and E(g(i))), refurbishment of existing farmhouse and erection of 3 new dwellings, with associated internal access, parking and landscaping.	10.0km	Approved	No				Development does result in significant traffic flows	No

one earth

solar farm