NORTH FALLS

Offshore Wind Farm

ENVIRONMENTAL STATEMENT

Appendix 27.2 Abnormal Indivisible Load Access Report

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ORTH FALLS
Offshore Wind Farm

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Abnormal Indivisible Load Access Report for the Proposed North Falls Offshore Wind Farm Onshore Substation Site

Prepared for RWE

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Contents

Executive Summary

The contents of this report consider marine and land transport feasibility investigations into achieving access for transformers at 270te nett and shunt reactors at 95te for future delivery to a proposed North Falls Offshore Wind Farm Onshore Substation site which is located in a field east of Little Bromley, Essex.

Due to the overall transport weight of the transformer being considered (plus carrying trailer) being in excess of 150te gross weight, the move will require a Special Order from National Highways. It should be noted that Government policy is to maximise the use of water for the movement of Special Order (above 150te gross) AIL's wherever possible. National Highways require that access via the nearest available water access should be considered, as RWE would be required to deliver via the nearest available marine offloading point that is practicable for AIL delivery in line with the requirements of the Department for Transports Water Preferred Policy which requires that the nearest practicable port of access is used to deliver Special Order Abnormal Indivisible Loads (AIL). National Highways (NH) Abnormal Loads Team has provided an Agreement in Principle (AiP) for Special Order deliveries to the proposed site via Harwich Port confirmed in a letter dated 21.03.24, reference 872.

It is expected that the shunt reactor will be delivered within Special Types General Order regulations (STGO) Category 3, as the gross load of the loaded trailer arrangement will be below 150te gross. Therefore, this move will not require a Special Order from National Highways. STGO Category 3 loads are expected to be delivered by road from the UK port of delivery or manufacturing facility and this report therefore focuses on the potential route from the M25 via the A12 and A120.

In terms of marine access, the port of Harwich have confirmed that there is a 4te/m² limit on the quays through the port area. There are three possible offloading locations at Harwich, at Berth 1, Berth 3 and the General Cargo Berth. The port is available for roll on-roll off, geared vessels and also for delivery via coaster cranes.

There are 4 potential exits from Harwich Port to join the A120 all of which have been explored and are discussed further in this report. All potential exits require barrier removal for all proposed trailers.

A selection of transport configurations have been submitted to the structural authorities who have structures on the proposed route from the port, which is via the A120. A formal Special Order application has been submitted to National Highways AIL Team in Birmingham to enable their regional area team contractors to respond to the requirements (WYNL/130). There are several structures on the A120 trunk road and a response to enquiries remains outstanding from National Highways East in terms of their suitability for the proposed loads. The most significant structure would appear to be Bradfield Road (ID 13511) at Wix.

Essex County Council (Essex CC) have recently advised that they are now able to agree to the loads exiting the port of Harwich at the new eastern exit as the abnormal loads restriction on the Phoenix Bridge has been lifted. It is understood the bridge is 45HB, which is a design load considerate of heavy load access requirements, and as such will have reasonable heavy load capacity. Essex County Council have confirmed that they have no structural restrictions on the remaining sections of the proposed route.

It should be noted that there is a structure located immediately prior to the proposed site access point. The structural status of this needs to be confirmed. It is however a small structure and if necessary temporary plating could be installed to enable AIL access. Following construction of the new haul road to the proposed site the structure would not be of concern.

A Swept Path Assessment (SPA) of the right turn into Bentley Road from the A120 has been carried out confirming the remedial works that are required in order to negotiate the turn which will be approached in contraflow on the eastbound carriageway. North Falls plans to undertake modification works to the alignment of the turn into Bentley Road and the SPA has been produced based on the plans currently proposed. This will require relocation of the telegraph pole. The conventional right turn would need the crash barriers removed on the centre of the carriageway, and it is understood that North Falls have discussed this junction with National Highways as part of wider project planning and there are no plans to remove the barrier even for temporary AIL access.

It may also be possible to consider the use of a flattop trailer from Harwich as there are no major overhead structures on the route. Such a trailer would have a higher running height in excess of the standard 5m and in terms of height restrictions there are 13 locations where wires cross along the A120 and Bentley Road to site. BT Openreach and the local electricity network distribution network operator (UK Power Networks) would need to carry out a survey to check the route and determine how many man hours are required to lift the wires. The survey would be charged, and full costs would be established after the survey. However, any flattop trailer would have to exit the port via the new eastern gate onto Phoenix Road due to the 5m safe clearance that limits access across the electrified railway line on the on the Station Road and Parkstone Bypass exits. At present this route is not structurally acceptable to Essex County Council so it is discounted at this time.

The proposed reactor will be delivered within Special Types General Order regulations (STGO) Category 3, where the gross load of the loaded trailer arrangement will be below 150te gross the move will not require a Special Order from National Highways. Due to a 110te weight limit on the A12 near Colchester, it has been necessary to divert via Colchester town centre. This route involves traveling under a low bridge with a 4.6m signed headroom. Site measurements do indicate additional clearance is available and depending on the final height of the reactors and associated road transport vehicles it is expected that the diversion route will be available., However, this will need to be reconfirmed once the reactor transport dimensions are known

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

In summary, pending responses from National Highways East Region, it has not been possible to confirm that the route from Harwich via the A120 is available for transformer transport in terms of structural clearance.

1. Introduction

1.1. The contents of this report include marine and land transport feasibility investigations into achieving heavy load access for two transformers at 270te nett and reactors at 95te nett for future delivery to the proposed North Falls Offshore Wind Farm Onshore Substation Site east of Little Bromley, Essex.

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

1.3. This investigation considers the possible land transport routes from Harwich Port. Formal movement applications will be necessary upon appointment of a haulage contractor by the transformer manufacturer.

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

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

1.6. The report considers access to the proposed Substation site in terms of AIL transportation only.

2. National Highways Agreement in Principle and Legislative Requirements

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

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

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

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

2.2. *Legislation*

2.2.1. Conventional heavy goods vehicles have an operating weight limit of 44 tonnes. The category known as abnormal indivisible loads (AIL) covers those vehicles where the gross weight exceeds 44 tonnes. An Abnormal Load is defined as that which cannot be carried

under Construction and Use (C&U) Regulations. Items which, when loaded on the load carrying vehicle exceed the weights encompassed by the C&U Regulations, but do not exceed Special Order Permission Limits, are governed by Special Types General Order (STGO) categories 1 to 3 depending on size. National Highways have issued an aide memoir that explains notification requirements in more detail. This document has been attached as Appendix I.

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

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

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

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

2.2.5. As the transformer is advised at 270te nett it therefore will be above 150te gross, and a Special Order permit and Agreement in Principle (AiP) would be required from NH. This would require the loads to be moved from the nearest available port, in line with the Department for Transports (DfT) 'Water Preferred Policy'.

2.3. *Water Preferred Policy Requirements*

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

2.3.2. NH have advised (letter dated 21.03.24, AIP reference 872) that Special Order deliveries to the proposed North Falls On-Shore Substation, Great Bromley should be considerate of access from the Port of Harwich.

3. Abnormal Indivisible Load Movements - Highways Act 1980

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

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

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

3.2. *The Removal and Replacement of Street Furniture*

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

4. Transport Configurations

4.1. Based on the information available to date the transformer considered within this report is assumed to be 270te nett. The shunt reactor considered is assumed to be 95te. (Shown in Appendix 2).

4.2. At theses dimensions it is not possible to transport the transformers under the regulations governing Construction and Use (C&U) vehicles (44 tonne gross, 18.65m long and 2.9m wide). The weight of the shunt reactor considered in these investigations is 95te nett which is advised by RWE and as such will be transport at Special Types General Order (STGO) Category 3. It will therefore not be necessary to comply with legislation regarding Special Order movements for the reactor unit. As the load is not in need of Special Order permission there is no requirement by NH to be delivered via the nearest port of delivery.

4.3. As for the transformers, it is not possible within the Special Types General Order (STGO) regulations as the gross load will be in excess of 150te. It will therefore be necessary to comply with legislation regarding Special Order movements and to be delivered via the nearest port of delivery.

4.4. Based on information available at this moment in time it is assumed that the road transport configuration for the transformer would consist of a ballast tractor pulling a 20/ 28-axle girder frame trailer or a 16-axle flat top trailer.

4.5. The smaller shunt reactor would consist of a ballast tractor pulling a 5 axle bed 5 axle draw bar trailer for which the trailer element would weigh in the region of 141te. This has an expected reducible height of 4.650m based on the anticipated axle strokes for the trailer, though confirmation should be given by the appointed haulier as manufacturers can vary in equipment performance.

4.6. There are two main haulage contractors with equipment able to carry the transformer on a girder frame trailer in the UK, Allely's Heavy Haulage Ltd and Collett & Sons Heavy Haulage. Representative trailer arrangements have been produced and are included within Appendix 2 which shows the minimum turning radii and axle, wheel and overall ground loadings for girder frame.

4.7. As the route is relatively short from the Port of Harwich and also due to physical negotiability concerns from the A120 to the proposed site location a concept flat top trailer

has also been constructed as this could also be considered for transportation of the transformer as a high load from Harwich as there are no overhead structures on the route although consideration of overhead wires and vegetation is required.

4.8. This would avoid the need for larger girder frame trailers that are generally used for transformers of this size over longer journeys where loads have to pass underneath bridges. There are no overhead bridges on the routes from Harwich.

5. Marine Access

5.1. *Port of Harwich*

5.1.1. A site visit and meeting were held with the Harbour Master during April 2024. There are three possible offloading locations at Harwich, and these are detailed in the following notes and photographs that detail the facilities and the marine delivery options with additional information included within Appendix 3 as provided by the port. The three locations are Berth 1, Berth 3 and the General Cargo Berth.

5.1.2. The port is available for ro-ro, geared vessels and also for delivery via coaster cranes. Project cargo including wind turbines for on and offshore works and large cable drums have been offloaded at the port but not previously at the 270te weight required.

5.1.3. Vessels of up to 9.5m draft can be accommodated subject to tidal ranges. There is a 4m rise and fall that may need to be considered depending on the method of offloading. The length of the berth available is advised as 300m but with some current restrictions limiting vessels to approximately 200m Length Overall at the General Cargo Berth at present.

5.1.4. Storage is also advised to be available either short or long term on the project quay.

5.1.5. Berths No 1 and Berth No 3 could impact and would therefore need to avoid ferry offloading periods on the daily ferry operations, which are presently understood to be 4 a day. Any offloading operation at these berths would need to avoid ferry loading and offloading periods. This may make the use of large mobile cranes difficult to agree, not in terms of technical requirements, but in terms of the impact on other port traffic. This would be increased by the time needed to mobilise a large crane and demobilise as well as undertaking the lift itself. The use of geared vessels and roro barges may be preferable to the port at these berths due to the lesser impact port side on other traffic, but the exact requirements will be confirmed at the time of requirement with the port.

5.1.6. The port of Harwich have advised that there is a 4te/m^2 limit on the quays through the port area and any lifting plans will need to be approved. This may require additional load spreading to reduce loads to acceptable levels.

Photograph 1
View of Berth 3, there is a 4te/m² limit on the quays through the port area. No specific stand back distance is advised, and it is understood loads can be up to this figure up to the quay edge.

Photograph 2
Gate exit on the left of the Photograph from the Port on to Station Road.

Photograph 3
Maximum headroom 5m barrier restriction would require removal.

Photograph 4
Alternative view from level crossing looking back at port exit gate. 5m safe clearance limit advised due to electrified railway line.

5.1.7. The Network Rail Standard Caution for crossing a level crossing with an AIL is detailed below for information.

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

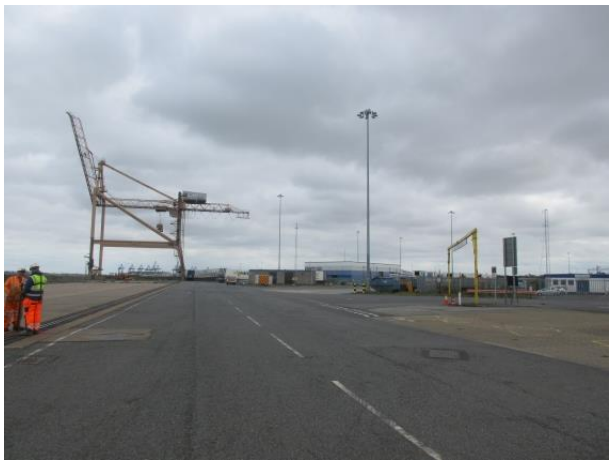
Photograph 5
View of Berth 1, there is a 4te/m^2 limit on the quays through the port area. No specific stand back distance is advised, and it is understood loads can be up to this figure up to the quay edge.

Photograph 6
View of Berth 1, there is a 4te/m² limit on the quays through the port area. No specific stand back distance is advised, and it is understood loads can be up to this figure up to the quay edge.

Photograph 7
Gate exit from Berth 1 onto the cruise terminal leading to East Dock Road or Phoenix Road.

Photograph 8
Alternative view looking back at Berth 1 gate exit from the cruise terminal.

Photograph 9
Two max headroom 5m barriers prior to East Dock Road would require removal



Photograph 10
View of General Cargo Berth, there is a 4te/m² limit on the quays through the port area. No specific stand back distance is advised, and it is understood loads can be up to this figure up to the quay edge.

Photograph 11
Third exit with no overhead restrictions leading to Phoenix Road.

6. Physical Restrictions Affecting a Road Movement

6.1. *General*

6.1.1. The weight and/or dimensions of the components may be such that they are only transportable on specialised transporters, the general arrangements of which are discussed further in Section 5. An AIL is one that is incapable of division into two or more loads by reason of expense or risk of damage, and which cannot be carried by a trailer complying in all respects with the Road Traffic; Road Vehicles (Construction and Use) Regulations 1986 (SI No. 1078) (C12) (S38) as amended ("the Construction and Use Regulations") or where the trailer does so comply, the total laden weight exceeds 44 tonnes.

6.1.2. This section of the report examines the general factors that have to be considered when assessing the suitability of road routes for the movement of abnormal loads with a more specific appraisal of the current status of the possible land transport routes detailed in Sections 7 and 8.

6.2. *Headroom*

6.2.1. Movement is impossible unless sufficient headroom is available along the proposed route to accommodate the travelling height of the load. Generally maximum headroom of 5.03 m (16'6") is maintained within the UK on major motorway and trunk road routes, but this is not guaranteed, and the actual height is posted on structures, such as bridges and gantries, which are below this figure. The UK electricity supply industry and plant manufacturers generally work to a travelling height of 4.95 m (16'3") to allow for a safe margin.

Library Photograph 1
Unmarked bridges provide a minimum height clearance ≥5.03 m. Below this height bridges are clearly marked and transport arrangements necessitating due diligence during the planning phase of a project need to account for low bridge heights.

6.2.2. The height of the load will be increased by the height of the trailer and any packing that may be utilised to give a gross travelling height.

6.2.3. Where restrictions are caused by overhead services such as telephone lines and local power distribution lines, it is feasible to raise or underground these along relatively short routes. Arrangements are made with the responsible undertakers. This is, however, not

usually feasible over longer routes or where there are a large number of lines involved. It is usually impossible to do anything to raise low bridges, but steel gantries with bolted connections can sometimes be temporarily lifted.

6.2.4. Although there is no legal limit on the travelling height of a load, the DfT does advise hauliers to inform the Distribution Network Operators (DNOs), British Telecom (Openreach) and any other company with overhead service lines, of the route of proposed movements with a travelling height in excess of 5.0 m. This enables arrangements to be made for temporary or permanent re-arrangement of facilities.

6.2.5. It should be noted that the Electricity Supply Regulations 1988 refer to the minimum height for overhead lines. Part IV, Section 13 of these regulations' states that the height above ground of any overhead line or wire shall not be less than a specific height at any point where the line is over a road depending on the voltages outlined below:

- Not Exceeding 33000 Volts – 5.8 m
- Exceeding 33000 Volts but Not Exceeding 66000 – 6.0 m
- Exceeding 66000 Volts but Not Exceeding 132000 – 6.7 m
- Exceeding 132000Volts but Not Exceeding 275000 – 7.0 m
- Exceeding 275000 Volts but Not Exceeding 400000 – 7.3 m

6.2.6. It is recommended that overhead line authorities are approached to confirm recorded and safe height clearances for all wires above the often referred to high load cut off point of 16'6" (5.03 m). Just because a line is of a given height it does not mean that high loads will automatically be permitted to pass underneath due to flashover and safe height clearance requirements of the line owner. Further information can be obtained from the Health & Safety Executive Guidance note GS6 'AVOIDANCE OF DANGER FROM OVERHEAD ELECTRIC POWER LINES' (HSE Books 1997 ISBN 0717613488).

Library Photograph 2
Overhead services being lifted to accommodate the transit of a vehicle height in excess of 6.0 m en-route between London Thamesport and Grain Power Station.

6.2.7. No liaison with national or regional electricity companies or with British Telecom (Openreach) has been carried out at this stage.

6.3. *Negotiability*

6.3.1. Assuming that sufficient headroom is available, or can be achieved, it is necessary to establish that the route can be negotiated in terms of the overall width and length of the transporter arrangement. Selection of transporter is often influenced by the load carrying capability of the route. If a large number of axles are needed in order to obtain the required load distribution on the road and bridge decks, this may result in a configuration that is unable to negotiate the particular route.

6.3.2. Where negotiability is restricted by the width or the curvature of the route, it can be increased by the temporary removal of 'street furniture' such as lamp posts, traffic signs etc., but normally little can be done if passage is restricted by more permanent objects such as buildings. These works are done with the agreement of the relevant local and highway authorities.

6.3.3. The negotiability of the proposed routes are detailed within Section 8.

6.4. *Structural Capability and Highway Capacity*

6.4.1. The load carrying capability of roads depends to a great extent on axle loading rather than total weight of the load being transported. The load carrying capability of the route has to be assessed in relation to the loadings that would be imposed by the total gross weight of the load plus transporter for each item to be transported. The factors to be considered are the axle and wheel pair loadings; the road crust; the effect of such loadings on bridges; underground services and speed. The tractor unit is normally considered as a separate unit in terms of imposed axle and wheel loadings. Indemnities are given to highway and bridge authorities for any damage caused, usually by the appointed haulage contractor.

6.4.2. Bridges in Great Britain were previously designed and constructed in accordance with the loading standard set down in British Standard BS 5400-2:2006 Steel, concrete and composite bridges. Although this standard is no longer current it is still referenced in some structural assessment data. In 2020 there were significant changes in standards for the management and assessment of structures as part of a review of the Design Manual for Roads and Bridges (DMRB) by the Department for Transport/National Highways. The DMRB is accessed from the Standards for Highways website, but in a new format for accessing the DMRB documents as of March 2020. Many of the latest revisions were needed to bring DMRB documents up to date with the new document reference codes and titles. Examples of documents where assessment codes have changed as relevant to AILs are detailed below.

- CS 458 The assessment of highway bridges and structures for the effects of special type general order (STGO) and special order (SO) vehicles
- CS 470 Management of sub-standard highway structures

6.4.3. Previous standards were for two types of loading: Type HA and Type HB. Older bridges may not have necessarily been designed to these standards but that does not prevent them from being assessed for abnormal load carrying capability. Type HA is the normal design loading in Great Britain suitable for normal vehicles permitted under the Construction and Use Regulations rather than for those used for the carriage of abnormal loads.

6.4.4. Type HB loading is suitable for exceptional industrial loads likely to use the roads in the area. It takes account of the loading that would be imposed on to the highway by a "standard" 4 axle, 16 wheeled HB vehicle, conforming to the dimensions set down in the Standard.

6.4.5. The HB Vehicle is a theoretical vehicle that represents an abnormal vehicle and consists of a group of sixteen identical wheel loads. A unit of HB loading corresponds to four axles and should be taken as equal to 10kN per axle; each axle has four equally loaded wheels. The overall length of the HB vehicle is taken as 10, 15, 20, 25 and 30 metres corresponding to inner axle spacing of 6, 11, 16, 21 and 26 m respectively. The effects of the most severe of these cases must be adopted. The overall vehicle width is taken as 3.5 m. In all cases, the longitudinal axis of the HB vehicle is taken as parallel to the lane markings.

6.4.6. Unless the axle configuration of the transporter matches that of the "standard" exactly, it is not possible to say directly whether passage of a particular abnormal load would be permissible. It is known that if a road meets a particular HB loading standard, it is necessary to assess routes with respect to individual loads. However, if bridges have been designed to meet a known standard this greatly assists the assessment process.

6.4.7. In general terms the UK motorway and trunk road network is nominally designed to be able to accommodate 45HB units. Depending on the class of roads, and the age of a structure, county roads are often lower rated at 37.5HB/30HB etc. For example, 45 units of HB therefore correspond to a 180 tonne vehicle on four axles at the worst case spacing of those given above and with the vehicle fully aligned with the structure. None of this is precisely duplicated within any of the transport configurations or in the track geometry during transit of structures, hence the variations indicated.

6.4.8. The new codes referenced above in document CS 458 The assessment of highway bridges and structures for the effects of special type general order (STGO) and special order (SO) vehicles now refer to SOV Vehicles of carrying load arrangements from 80te to 196te for STGO loads and from SOV 250 to SOV 600 for Special Order loads. These are now used in new assessments and compared against former HB ratings and to ascertain whether AILs are able to safely use the structures on a prescribed route.

6.4.9. Road crust, which is the pavement layer above the substructure strength is important, but with the spread of load obtained with modern multi-wheeled transporters, it is not normally a problem, providing the road is maintained to a reasonable standard.

6.4.10. Damage of the road crust especially at the fringes of un-kerbed roads can become prevalent during the construction phase of projects within remote areas. This effect can have a damaging effect on the available track width for abnormal loads due to the risk of wheels becoming sunken into damaged road edges or soft verges. Prior to the delivery phase it would be advisable to inspect the road surface especially at pinch points to ensure its compatibility to the abnormal load transport configurations.

6.4.11. Underground Services also need to be considered in terms of road capacity. When assessing the effect of weight on underground services, such as water pipes, sewers and service ducts, the loading imposed by individual wheels is normally considered. The weight that can be safely borne by underground services varies depending on their age and condition; the depth to which they are buried; and the strength of the road crust covering. All these factors have to be considered when assessing the suitability of a road for the

passage of abnormal loads and assessment is usually carried out by the relevant authority or undertaker concerned.

6.4.12. Risk to services can be considered in relation to the weight to which they could be exposed by the passage of normal vehicles permitted by the C&U Regulations. This can then be compared with that which would be imposed by the passage of the proposed abnormal load movements, and with the pressure to which they may have been subjected by previous movements of abnormal loads. Experience gained by the heavy haulage industry generally is that underground services are not damaged providing that road crust strength is to a reasonable standard and that the depth of cover and condition of services are normal. In any event, the haulage contractor would be required to provide indemnities against possible damage to the public highway as a result of the movements by the terms of the Special Orders.

6.4.13. In terms of private site access roads, haulage contractors would expect the end client to be able to confirm that access roads are designed to accommodate proposed loadings. If this is not possible then additional geotechnical investigations may be necessary.

6.4.14. The structural status of the proposed routes are detailed within Section 8.

6.4.15. A slow moving abnormal load generally imposes less impact loading than a relatively fast moving vehicle permitted under the C&U Regulations. This helps to mitigate the effect of the additional wheel loading imposed by the abnormal load.

7. The Width of Highways, Fences and Verges, Overrun and Over-Sail

7.1. *Width of Highway*

7.1.1. Orlick (1993) states that in general there will not be documentary evidence of the width of a highway and, if there is, it may well not be conclusive. *"What matters more is what exists on the ground."* If the Highway Authority has maintained land at the side of the road, as well as the metalled road itself, that is strong evidence that the land is part of the highway.

7.1.2. The rights of public passage and the consequential restrictions on the powers of owners to deal with their land as they see fit have meant that there have been plenty of disputes as to the width of particular highways. As well as maintenance by Highway Authorities, the existence of statutory undertakers' apparatus such as telephone cables, electric cables and gas mains can indicate extent of highway.

Library Photograph 3

The services markers are a clear indicator that the wall forms the edge of the highway. Similarly, manhole covers in the verge probably shows that the verge forms part of the highway.

7.1.3. If the undertakers have obtained wayleave consents from adjoining owners to place their apparatus in, say, a verge at the side of the road, that suggests that the verge is not part of the highway. If, on the other hand, they have not obtained any wayleaves, then this suggests that they are using their statutory powers and the Public Utilities Streetworks Code to lay services in the highway without the need to obtain consents of any private party.

7.2. *Fences and Verges*

7.2.1. The existence of a metalled road may be a good indication of the extent of the highway when such a road crosses unenclosed land such as a heath or common. It is no indication of the extent of the highway in other cases for example where there are fences or ditches on both sides of the highway the public right of passage will be taken to be the extent of the whole space between the fences or ditches even through the width of the highway may be varying and unequal and even though there may be a substantial amount of land lying between the metalled road and the fence. However, it should be noted that the presumption that the fences mark the highway boundary can often be rebutted and confirmation of the highway boundary, where there exists ambiguity should be confirmed with the relevant highway authority.

7.3. *Over-sail*

7.3.1. Over-sail is a common occurrence when moving large components. The law that needs to be considered is the law of trespass which is defined as the unauthorised interference with the possession of someone's home, garden or other land interests.

7.3.2. The boundary of a property may be indicated by a physical marker such as a river, a wall, or a fence. The actual boundary may fall on either side of the boundary feature or fall along the median line through the boundary feature itself or bear no resemblance to the physical boundary feature. The starting point for establishing a boundary is the title deeds. Theoretically speaking, it is an established legal principle that a vertical boundary also extends from the subsoil beneath the boundary to the centre of the earth and also extends to the sky above. This means that ownership of property includes the airspace above it and also the ground beneath it.

7.3.3. There is established protocol for over-sail in the construction sector where an over-sail licence is issued as this is often an issue if, for example, a large crane is being used. An over-sail licence is an agreement which provides a landowner (and developer) with the legal right to pass through another's air space. If a crane is used in a construction project the jib of the crane may well swing in and out of neighbouring airspace. Without an over-sail licence this could constitute a trespass and the landowner could be faced with an injunction.

7.3.4. Guidance states that the licence should cover issues such as time of day (and night) that the item of plant may over-sail neighbouring land, the heights of the over-sail and the duration of the licence. An indemnity for any damage caused by the crane may also be included.

7.3.5. It is essential to try and negotiate an agreement for any financial compensation payable for the use of land which is either owned by another party or subject to rights in favour of a third party. As with any dispute, a reasonable approach can produce savings in terms of costs awards should the matter reach court even if the other party to the dispute refuses to negotiate with you.

8. Structural Route Information Special Order

8.1. The routes considered in the structural checks to the proposed substation from the Port of Harwich are shown below. The routes are also illustrated in map 1 sheet 2 appended to this report.

8.2. *Proposed Route 1*

Exit the Port of Harwich via one of the three possible exits onto A120 westbound
Continue A120 through Wix
Turn right Bentley Road (travelling A120 contraflow)
Turn left on to Haul Road that is to be constructed to site at approx. OS Grid Reference TM 10529 27470

8.2.1. There were 4 potential routes that were explored regarding the exit from the Port of Harwich to the A120. The Port exit routes are also illustrated in map 1 sheet 1 appended to this report and listed below:

8.3. *Option 1 via Parkeston Bypass*

Exit port of Harwich via AIL gates onto A136 Parkstone Bypass
Continue past supermarket
Turn right A120
Continue as route 1 above

8.3.1. The first exit from the Port of Harwich via Station Road, and Parkeston Bypass involves crossing the Dovercourt River Bridge on the A136 and Bathside Culvert on the A120 are owned by Essex County Council (ECC) who have advised them to be structurally acceptable for all trailers proposed via emails dated 24.06.24 and a meeting held 28.06.24.

8.4. *Option 2 via Phoenix Road*

Exit port of Harwich via new Pheonix Road eastern road
Turn right A120
Continue as route 1 above

8.4.1. The second exit is via the ports New East Access Road onto Phoenix Road and turning right onto the A120, this route was initially rejected structurally on the Phoenix Road Bridge on all abnormal load vehicles by ECC. Following recent discussions with ECC as to the rejection and the blanket restriction that has been set on the Phoenix Road Bridge, ECC have confirmed during a phone conversation on 05.07.24 the restriction has been lifted to allow AILs as the bridge has a 45HB rating and as such is now an acceptable route option.

8.5. *Option 3 via Station Road*

Exit port of Harwich via Station Road and West Dock Road
Turn left Station Road
Turn right A120
Continue as route 1 above
Note. There is another exit via West Dock Road that avoids the security gateposts on Station Road exit that can also be considered.

8.5.1. The third option exiting the Port via Station Road as per the first exit and continuing onto West Dock Road although the road layout from this point was altered, with the historic roundabout removed and replaced by a new junction between 2000 and 2005. A grass island with street furniture and underground services separates West Dock Road from continuing straight to join Station Road. A 180° turn using Foster Road is not negotiable for the trailers considered here. The depth and status of the underground services would need to be confirmed in order to cross over the island. Any temporary access route would need to be considerate of underground services and would be subject to further engineering studies as well as confirmation that any proposal for temporary access were acceptable to ECC as the highway authority.

8.5.2. The fourth option encounters the same issue from West Dock Road although approaching from the Western exit from the Port using the access road adjacent to the rail line. A return to the previous alignment would benefit heavy AIL access if the structures on the other routes needed to be avoided.

8.6. *All Routes West of Harwich*

8.6.1. Once out of the port of Harwich and on the A120 responsibility for the highway lies with National Highways (NH) East Region. A formal response is still outstanding from NH East Region regarding the structural capacity of the route, which they have sent for assessment with their consulting engineers, Atkins on 30.05.24 and can take up to 10 weeks for an assessment report to be issued, Wynns will continue to chase for a response from NH East Region.

8.6.2. It should be noted that there is a highway structure located immediately prior to the proposed site access point. The structural status of this needs to be confirmed and there are no records of the structure on the NH ESDAL system. It is however a small structure and if necessary temporary plating could be installed to enable AIL access although the exact requirements will need to be confirmed with ECC as the highway authority. However, following construction of the new haul road to the proposed site the structure would not be of concern.

8.7. No specific issues have been identified by the police although a police escort would be required for movement the with private escort arrangements also in place and it is recommended that further discussions are undertaken with respect to confirming escort requirements prior to deliveries with the relevant police forces. Very careful consideration on escort requirements will be needed and where traffic must be halted, consultation with

the police is necessary as only police escorts can manage the movement. Private escorts are not allowed to direct traffic.

9. Route Negotiability Information Transformers at Special Order

9.1. *Route 1 via Parkeston Bypass from the Port of Harwich*

Photograph 12
Port of Harwich AIL gate onto Parkstone Bypass. Vehicle travels towards the camera following exit from the 'Wide Load Gate' shown below. Negotiable.

Photograph 13
'Wide Load Gate' exiting the Port of Harwich.

Photograph 14
View from the 'Wide Load Gate' looking at the exit of the Port of Harwich. Negotiable.

Photograph 15
Vehicle travels away from the camera crossing the Dovercourt Dock River Bridge (All vehicles accepted by Essex CC).

Photograph 16
Vehicle travels away from the camera on A136 Parkeston Bypass approaching the Morrisons roundabout, centre island street furniture removal would be required to negotiate.

Photograph 17
Vehicle travels away from the camera approaching St Nicholas Roundabout to take second exit joining A120. Centre island furniture removal would be required.

Photograph 18
Vehicle travels away from the camera on St Nicholas Roundabout approaching exit onto A120.

Photograph 19
Vehicle travels away from the camera A120 approaching Parkeston Road crossing Bathside Culvert (All vehicles advised as accepted by Essex CC).

Photograph 20
Bathside Culvert.

Photograph 21
Alternative view of Bathside Culvert.

Photograph 22
Vehicle travels away from the camera on Parkeston Roundabout, negotiable.

Photograph 23
Vehicle travels away from the camera continuing on A120, negotiable.

9.1.1. It is understood that there are plans for a new housing estate on this section of the A120 that will involve the construction of a new roundabout. Wynns are of the view following a dimensional check of the proposed new roundabout as shown in Persimmon Homes Drawing Number 830_010_WLD_XX_XX_DR_CH_0001 (A07). General Arrangement that it would be negotiable for the trailers considered with the appropriate street furniture removal. There should be no protrusions above ground level positioned in the swept area, or should street furniture be installed as shown, it should be easily de-mountable. Oversail on the outside of the turn approaching the island and oversail on the inside on the centre island would be necessary and it is expected that some further oversail on the outside of the turn would be needed as the vehicle exits the island. See A120 General Arrangement Check Appendix 5. These observations are high level and would need to be confirmed by checking the final design drawings in AutoCAD format.

Photograph 24
Vehicle travels away from the camera on A120 road narrows but remains negotiable approaching B1352 roundabout.

Photograph 25
Vehicle travels away from the camera A120 approaching B1352 roundabout, street furniture removal required to negotiable roundabout.

Photograph 26
Vehicle travels away from the camera approaching B1352 roundabout, street furniture removal would be required.

Photograph 27
Vehicle travels away from the camera on B1352 roundabout

Photograph 28
Vehicle travels away from the camera exiting roundabout onto A120 Tinker Street, street furniture removal required in order to negotiate.

Note: roundabout could be negotiated in contraflow with less street furniture removal.

Photograph 29
Vehicle travels away from the camera on A120 Tinker Street, full occupation of carriageway required. Traffic management and escort requirements will need to be agreed with Essex Police by the appointed haulage contractor prior to movement.

Photograph 30
Vehicle travels away from the camera continuing A120 Harwich Road, full occupation of carriageway required.

Photograph 31
Vehicle travels away from the camera continuing A120 Harwich Road, full occupation of carriageway required, and tree pruning may be required depending on time of movement.

Photograph 32
Vehicle travels away from the camera on A120 Wix Bypass crossing Bradfield Road Bridge (awaiting formal response from NH East Region in terms of suitability for all AILs)

Photograph 33
View of A120 Bradfield Road Bridge from Bradfield Road.

Photograph 34
Vehicle travels away from the camera on A120 possible rest area at approx. OS Grid Reference TM 13823 27766.

Photograph 35
Vehicle travels away from the camera approaching B1035 Horsely Cross roundabout, SPA Drawing Number 24-1232SPA02 refers. Street furniture removal required.

Photograph 36
Vehicle travels away from the camera crossing B1035 roundabout Drawing Number 24-1232SPA02 refers. Street furniture removal required.

Photograph 37
Vehicle travels away from the camera exiting the B1035 roundabout. Street furniture removal required.

Photograph 38
Vehicle travels away from the camera on A120, full occupation of carriageway required.

Photograph 39
Vehicle travels away from the camera on A120 towards Bentley Road.

Note: vehicle to contraflow and turn right onto Bentley Road.

Photograph 40

Vehicle travels away from the camera in contraflow on A120 turning right onto Bentley Road, Drawing Number 24-1232SPA01 details negotiability for the 28-axle girder frame trailer based on the new RWE road layout, street furniture removal would be required, including the electricity pole to the right hand side of the entrance to Bentley Road. Based on where the pole is and expected oversail, it would require removal and it is understood that RWE are in discussions with Essex CC and UK Power Networks on this matter.

9.1.2. To travel A120 conventionally the central reservation would need to be removed to carry out right turn onto Bentley Road which is advised by RWE to not to be an option due to wider concerns with road safety.

Photograph 41

Vehicle travels towards the camera on A120 in contraflow turning right onto Bentley Road, Drawing Number 24-1232SPA01 details the negotiability for 28-axle trailer on the new RWE proposed road layout, street furniture removal required.

Photograph 42
View from Bentley Road of A120, vehicle travels towards the camera. Drawing Number 24-1232SPA01 refers.

Photograph 43
Vehicle travels towards the camera following right turn from A120 in contraflow. Drawing Number 24-1232SPA01 refers.

Photograph 44
View of Benley Road from the central reservation on A120. Showing street furniture, electrical pole, centre island and fencing and hedges to the left.

9.1.3. A number of overhead wires (telecom and electricity) are encountered from this point to the proposed site access, If a flattop trailer was to be used, BT Openreach would need to

carry out a survey to check the route and determine how many man hours are required to lift the wires. The survey would be charged, and full costs would be established after the survey. Haulage contractor to arrange with BT Openreach.

9.1.4. None of the wires were observed as being of low height and as such no major issues are expected for transport on girder frame trailers although confirmation of heights before movement would be advisable by the appointed haulage contractor to ensure there is no conflict. If necessary temporary lifting can be facilitated with the relevant asset owners.

Photograph 45
Environmental weight restriction sign upon turn into Bentley Road.

Photograph 46
Vehicle travels away from the camera on Bentley Road, tree pruning may be required depending on time of movement. North Falls are proposing road widening of Bentley Road from the A120 to the site access point to 6.5m wide and the final section of route will therefore be negotiable when these improvements have been implemented.

Photograph 47

Vehicle travels away from the camera continuing on Bentley Road, tree pruning may be required depending on time of movement. Full occupation of highway required.

Photograph 48

Vehicle travels away from the camera continuing on Bentley Road, tree pruning may be required North Falls are proposing road widening of Bentley Road from the A120 to the site access point to 6.5m wide and the final section of route will therefore be negotiable when these improvements have been implemented.

Photograph 49

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

Photograph 50

Vehicle travels away from the camera continuing on Bentley Road, tree pruning may be required depending on time of movement. Example of location where overhead wires may need to be lifted.

Photograph 51

Vehicle travels away from the camera continuing on Bentley Road, tree pruning may be required depending on time of movement. The road bends to the right. North Falls are proposing road widening of Bentley Road from the A120 to the site access point to 6.5m wide and the final section of route will therefore be negotiable when these improvements have been implemented.

Photograph 52

Vehicle travels away from the camera on Bentley Road, approximate location for haul road to the proposed site that is to be constructed ahead at approx. OS Grid Reference TM 10529 27470

Photograph 53
Approximate location for haul road to the proposed site that is to be constructed from this point approx. OS Grid Reference TM 10529 27470.

It should be noted that there is a highway structure located immediately prior to the proposed site access point. The structural status of this would need to be confirmed. It is however a small structure and if necessary temporary plating could be installed to enable AIL access, however, following construction of the new haul road to the proposed site the structure would not be of concern.

Photograph 54
View of highway culvert.

9.2. *Option 2 via Phoenix Road*

Photograph 55

Vehicle travels towards the camera following exit from the new East Port of Harwich access Road. Barrier fencing and centre island furniture would require removal to negotiate. Approximately 3.2m width from the centre island to the kerb edge. Kerb would need to be levelled due to height to enable trailer overrun. The gate measures approximately 8m wide.

Photograph 56

Vehicle travels away from the camera on Phoenix Road following barrier exit from the east access road of the Port of Harwich, road bends to the right and crossing roundabout, negotiable.

Photograph 57
Vehicle travels away from the camera continuing on Phoenix Road, negotiable.

Photograph 58
Vehicle travels away from the camera approaching roundabout to join A120.

Photograph 59
Vehicle travels away from the camera joining A120 roundabout.

Photograph 60
Vehicle travels away from the camera exiting roundabout onto A120.

Photograph 61
Vehicle travels away from the camera on A120 crossing Phoenix Road Bridge (now approved by Essex CC on all vehicles proposed)

Photograph 62
Vehicle travels away from the camera on A120 towards St Nicholas Roundabout, centre island street furniture removal required.

Photograph 63
Vehicle travels away from the camera over St Nicholas Roundabout to continue as route 1.

9.3. *Option 3 via Station Road*

9.3.1. The previous road layout continued straight onto Station Road although this has since been grassed over and services laid underground and therefore may not be suitable for AILs without major remedial works. As access via the Parkstone Bypass has been structurally approved by Essex CC it is not recommended that this access is considered further. However, the following notes and photographs detail the current road layout for information.

Photograph 64
Vehicle travels away from the camera following exit of the Port of Harwich via West Dock Road, road bends 90°.

Photograph 65
Reverse view of above, looking back at West Dock Road showing services in grass island between West Dock Road and Station Road. Any temporary access route would need to be considerate of underground services.

Photograph 66

Vehicle travels away from the camera on West Dock Road, right turn onto Foster Road not negotiable, SPA required to confirm amount of overrun onto grass island and amount of street furniture removal required. Plating and packing would be required to cross grass island and any design to be considerate of underground services.

Photograph 67

Reverse view of above, vehicle travels towards the camera onto Station Road.

Photograph 68

Vehicle travels away from the camera on Station Road, full occupation on carriageway required, tree pruning may be required depending on time of movement.

Photograph 69
Vehicle travels away from the camera approaching Parkeston Roundabout, centre island and additional street furniture removal would be required, SPA required to confirm.

Photograph 70
Vehicle travels away from the camera on Parkeston Roundabout. Street furniture removal required.

Photograph 71
Vehicle travels away from the camera exiting Parkeston Roundabout onto A120, negotiable.

10. Structural Route Information Reactors at STGO

10.1. *STGO Reactor Route 1*

10.1.1. As previously highlighted, STGO loads are not restricted to the nearest port. It is reasonable to assume that the reactors would be shipped to a suitable east coast port such as Hull or Immingham which are well served by European ferry services for heavy haulage, from where established AIL routes to the M25 would be used. Therefore, consultation on the route from the M25 to the site has been undertaken. This would be initially expected to be directly via the A12 to the A120 north east of Colchester.

10.1.2. East Anglian Ports such as Ipswich, Kings Lynn, Lowestoft, Felixstowe and Harwich itself are not regularly served by ferry traffic for AILs and are unlikely to be used for STGO loads unless specific route restrictions mean that the charter of heavy lift shipping to such a port would be needed. In the event of such a requirement, then the most suitable port would be Harwich, although as stated, this is not a legislative requirement under STGO regulations.

10.1.3. The STGO route as listed below was suggested by NH East Region following the rejection of the initial proposed route along the A12 due to a 110te weight limit on Orchard Railway Bridge between junctions 27 and 28 at approximate OS Grid Reference TL 97196 26416. The 110te weight limit is a significant concern and it is understood that Essex CC are highlighting this to NH East Region as any diversion has a significant impact on them.

10.1.4. It was suggested to exit at junction 27 and continue through Colchester and rejoin the A12 at junction 28 to avoid the structure, which was initially thought not to be an option due to a low bridge on the A134, LTN1/207 North Station Road listed as 4.6m in height. Following the route survey, detailed in Section 11, it was measured to be in fact 4.9m height at the lowest point, therefore negotiable for the proposed 5 bed 5 axle draw bar trailer proposed. When surveying the route it was found, an additional SPA would be required for the right turn onto Mill Road, therefore an alternative route was surveyed as listed below which avoids the need for the SPA on the right turn onto Mill Road as it continues A134 onto Turner Road providing a more direct route to junction 28. No structural issues have been advised by Essex CC on this route.

10.1.5. No further structural issues have been advised following the ESDAL notification submission.

Exit M25 junction 28 via A12
Exit A12 junction 27 via A133 Cymbeline Way
Turn left A134
Continue A134 Turner Road
Continue A134 Northern Approach Road
Continue A134 Via Urbis Romanae
Continue as STGO Reactor route 1

10.1.6. In the event loads did exceed the 4.9m low bridge clearance height and a suitable diversion to avoid the 110te weight limit could not be secured, then it would be possible to ship the reactors to Harwich and transport via road on the route detailed for heavier transformers. Therefore, although there are issues with access for reactors, they can be avoided.

11. Route Negotiability Information Reactors at STGO

11.1. *STGO Reactor Route 1*

Photograph 72
Vehicle travels away from the camera exiting A12 junction 27.

Photograph 73
Vehicle travels away from the camera towards Spring Lane Roundabout, 2nd exit onto A133 Cymbeline Way, negotiable.

Photograph 74
Vehicle travels away from the camera exiting Spring Lane Roundabout onto A133 Cymbeline Way.

Photograph 75
Vehicle travels away from the camera on A133 Cymbeline Way, tree pruning may be required depending on time of movement.

Photograph 76
Vehicle travels away from the camera approaching Colne Bank Roundabout, negotiable.

Photograph 77
Vehicle travels away from the camera exiting Colne Bank Roundabout onto A134.

Photograph 78
Vehicle travels away from the camera approaching Essex Hall Roundabout, negotiable.

Photograph 79
Vehicle travels away from the camera exiting Essex Hall Roundabout to continue A134, negotiable.

Photograph 80
Vehicle travels away from the camera on A134 approaching Station Road Bridge.

Photograph 81

Station Road low bridge is signed at 4.6m height and Essex CC advised the safe clearance height of 4.53m, however, when surveyed the bridge measured 4.9m from front beam, 5.18m from the centre beam and 5.02m from the rear beam, sufficient height for the 5 bed 5 trailer proposed (4.850m running height, reducible to 4.650m).

Photograph 82

Vehicle travels towards the camera following passing under Station Road Bridge.

Photograph 83

Vehicle travels away from the camera on A134 to join Turner Road, negotiable.

Photograph 84
Alternative view of continuing A134 passing through the N Station Roundabout.

Photograph 85
Vehicle travels away from the camera A134 approaching left bend A134 Turner Road, negotiable.

Photograph 86
Vehicle travels away from the camera A134 Turner Road, negotiable.

Photograph 87
Vehicle travels away from the camera A134 Turner Road, continuing to Northern Approach Road, negotiable.

Photograph 88
Vehicle travels towards the camera A134 Northern Approach Road, negotiable.

Photograph 89
Vehicle travels towards the camera continuing on A134 Via Urbis Romanae, negotiable.

Photograph 90
Vehicle travels towards the camera on A134 Via Urbis Romanae, negotiable.

Photograph 91
Vehicle travels towards the camera on A134 Via Urbis Romanae approaching roundabout, negotiable.

Photograph 92
Vehicle travels away from the camera exiting the roundabout to continue on Via Urbis Romanae, negotiable.

Photograph 93
Vehicle travels away from the camera approaching roundabout prior to crossing over the A12, negotiable.

Photograph 94
Vehicle travels away from the camera exiting the roundabout crossing over the A12, negotiable.

Photograph 95
Vehicle travels away from the camera on Via Urbis Romanae crossing A12 'Cuckoo Farm Gateway' Road Bridge (NH East Region) and approaching roundabout, negotiable.

Photograph 96
Vehicle travels away from the camera exiting the roundabout, rejoining the A12, negotiable.

12. Summary and Conclusions

12.1. The NH Abnormal Loads Team, who authorise Special Order permissions has provided an Agreement in Principle (AIP) for the new substation to be facilitated from the Port of Harwich in line with the Department for Transport's Water Preferred Policy which requires Special Order AILs to be transported from the nearest suitable port.

12.2. The Port of Harwich can be considered for marine delivery of the heavy AILs. Various marine delivery options are available at the port.

12.3. Essex CC have advised that that Route 1 from the Port of Harwich via the East Dock Road and crossing the Dovercourt Dock River Bridge and Bathside structures is structurally acceptable for the 270te Transformer on all trailers proposed. Essex CC have recently advised that all vehicles are now acceptable via the second potential port exit which crosses the Phoenix Road as the abnormal load restriction has now been lifted..

12.4. It should be noted that there is a highway structure located immediately prior to the proposed haul road that is to be constructed from Bentley Road. The structural status of this needs to be confirmed and there are no records of the structure on the NH ESDAL system. It is however a small structure and if necessary temporary plating could be installed to enable AIL access although the exact requirements will need to be confirmed with ECC as the highway authority. However, following construction of the new haul road to the proposed site the structure would not be of concern.

12.5. There are several structures on the A120 trunk road and a response to enquiries remains outstanding from National Highways East Region in terms of their suitability for the proposed loads. The most significant structure would appear to be Bradfield Road (ID 13511) at Wix. Wynns will continue to seek clarification on the status of the A120 and update the report in due course.

12.6. A SPA of the turn from the A120 onto Bentley Road has been carried out for the 28-axle girder frame trailer based off of the new RWE proposed road layout. Remedial works will be required, and RWE are in discussions with Essex CC as to the permanent improvement works at this junction to enable not only AILs but wider site construction traffic.

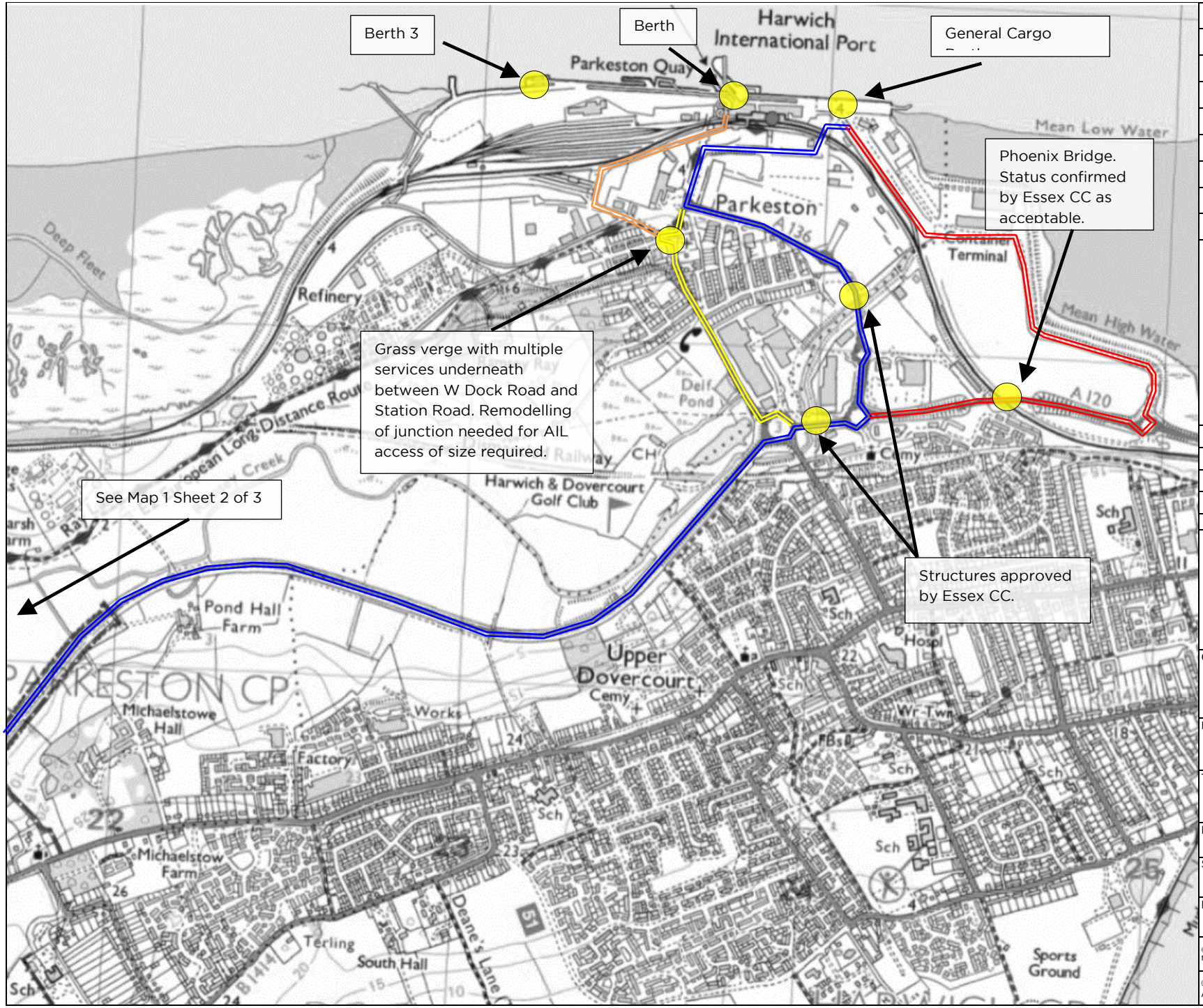
12.7. North Falls are proposing road widening of Bentley Road from the A120 to the site access point to 6.5m wide and the final section of route will therefore be negotiable when these improvements have been implemented.

12.8. Pending responses from National Highways East region, at this time, it has not been possible to confirm that the route from Harwich via the A120 is available for transformer transport in terms of structural clearance.

12.9. The proposed reactor will be delivered within Special Types General Order regulations (STGO) Category 3, where the gross load of the loaded trailer arrangement will be below 150te gross the move will not require a Special Order from National Highways. Due to a 110te weight limit near Colchester, it has been necessary to divert via Colchester town centre. This route involves traveling under a low bridge with a 4.6m signed headroom. Site measurements do indicate additional clearance is available and depending on the final height of the reactors and associated road transport vehicles it is expected that the route will be available., However, this will need to be reconfirmed once the reactor transport dimensions are known.

Appendix 1

Maps



Key

	Route 1 via Parkstone Bypass
	Route 2 via new East access road
	Route 3 via Station Road
	Alternative Route to Station Road
	Approximate Cable Route
	Point of Interest
	Proposed Substation Site
	SPAs Required

Rev	Date	Amendments:
B	16.07.24	Third Issue
A	12.07.24	Second Issue
0	12.04.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Consultants.

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Client: North Falls Offshore Wind Farm

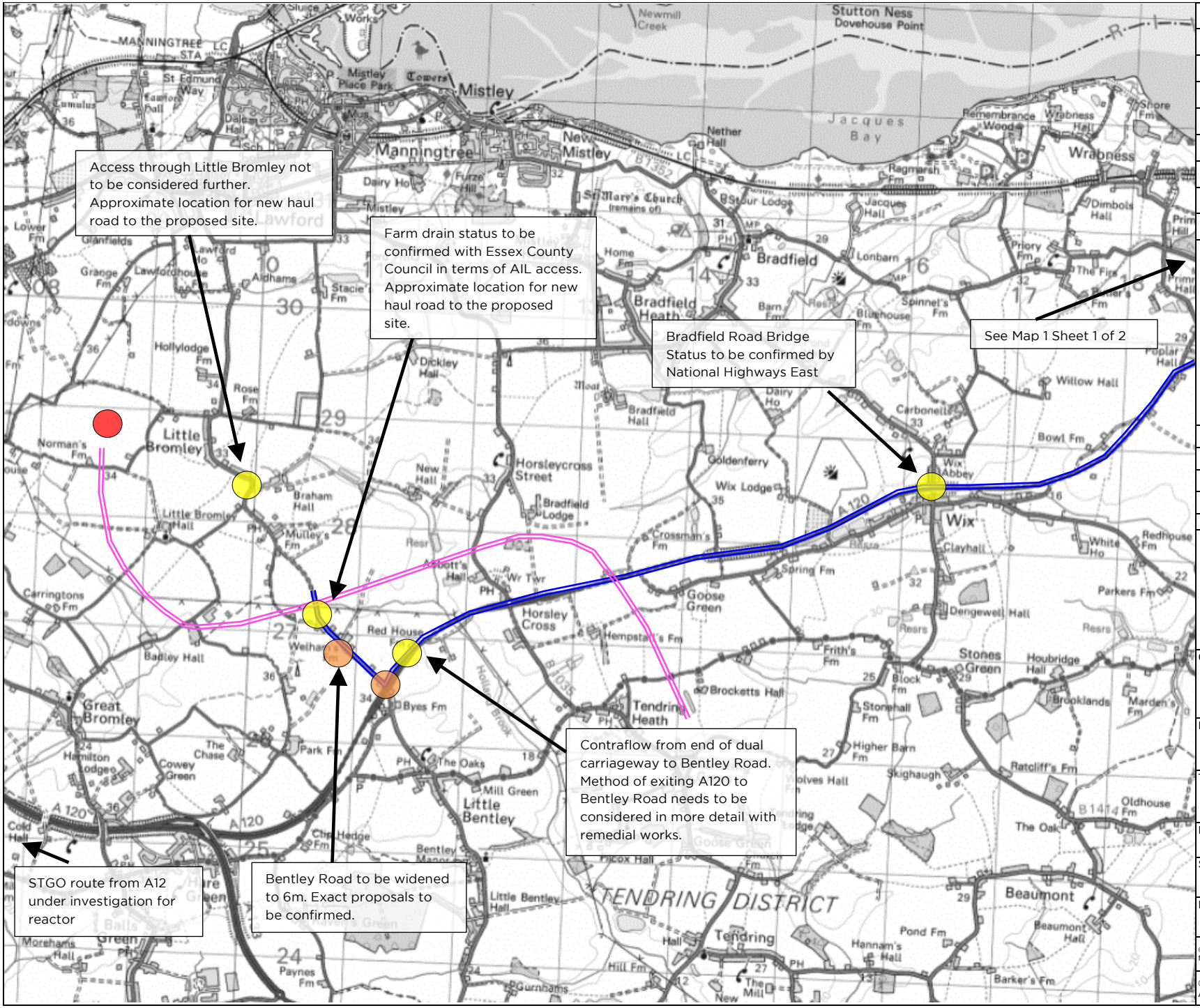
Project: North Falls Proposed On-shore Substation Site

Title: Map 1 – Routes from Harwich Port proposed North Falls Substation Site

Drawing Status: Final Report

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

Ref No.:	Sheet:	Rev.:
24-1232 Map1	1 of 2	2



Key

	Route 1
	Route 2
	Route 3
	Alternative Route to Station Road
	Approximate Cable Route
	Point of Interest
	Proposed Substation Site
	SPAs Required

Rev	Date	Amendments:
B		
A	12.07.24	Second Issue
0	12.04.24	First Issue

Revisions

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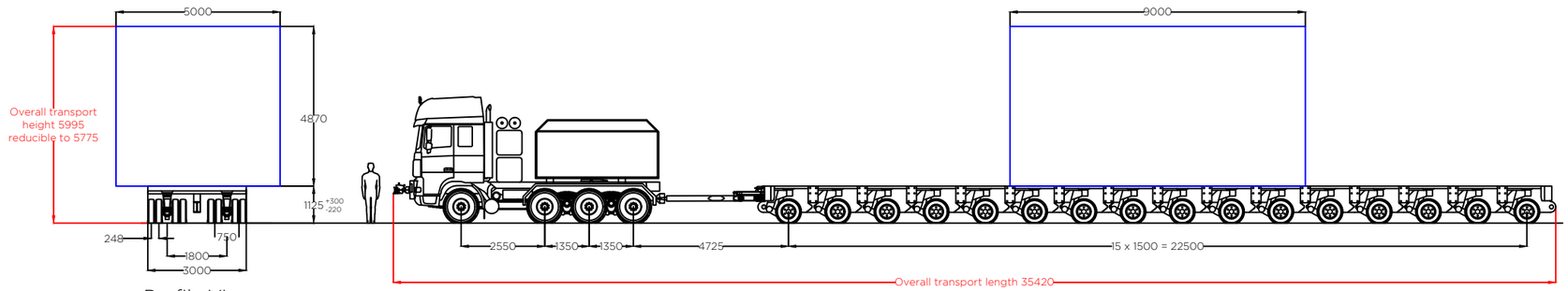
NTS	BD	ARP

Ref No.:	Sheet:	Rev.:
24-1232 Map1	2 of 2	1

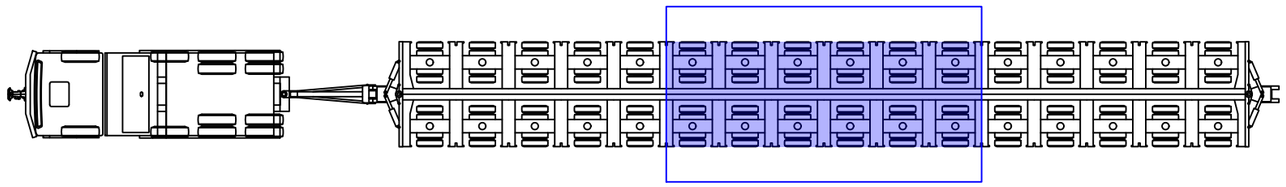
Appendix 2

Drawings

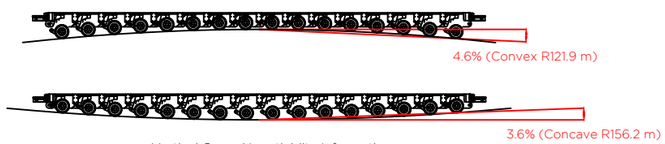


Profile View
Scale 1:175

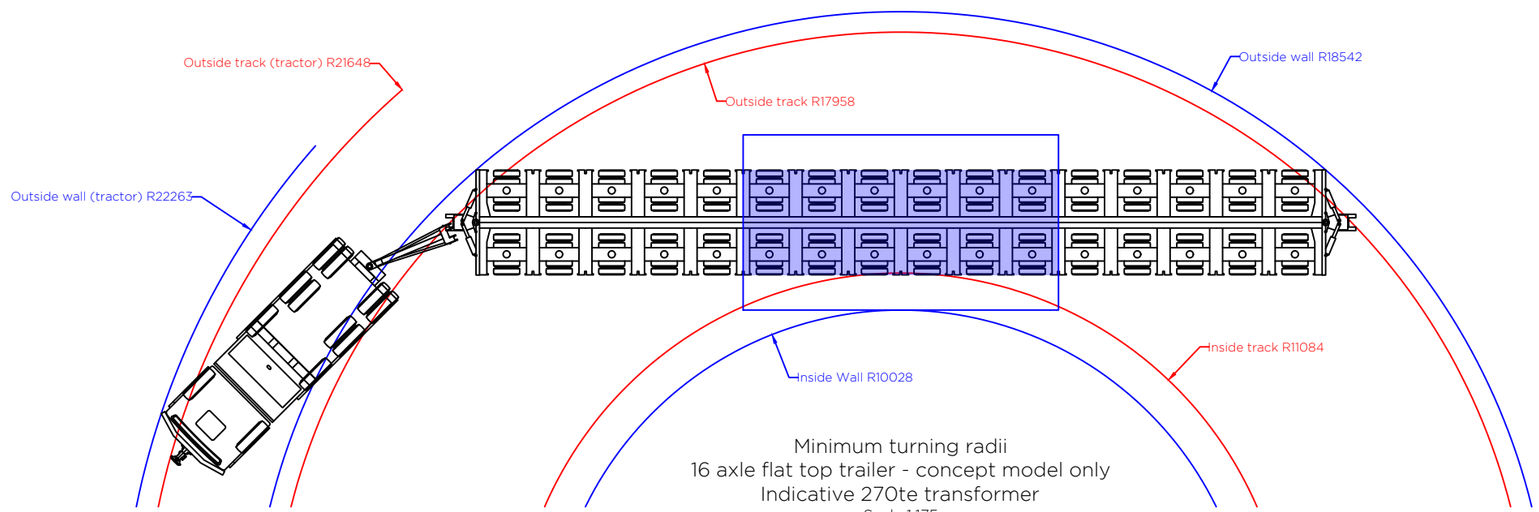
Elevation View - 16 axle flat top trailer - concept model only
Indicative 270te transformer
Scale 1:175



Plan View - 16 axle flat top trailer - concept model only
Indicative 270te transformer
Scale 1:175



Vertical Curve Negotiabilty Information
based on manufacturers literature
Scale: 1:350



Minimum turning radii
16 axle flat top trailer - concept model only
Indicative 270te transformer
Scale 1:175

Load Table

16 axle flat top trailer	
Self weight of load	270.0 te
Self weight of trailer	56.0 te
Total combined weight	326.0 te
Load per axle line	20.38 te
Load per axle	10.186 te
Load per wheel (4 per axle)	2.55 te
Overall ground bearing pressure	4.83 te/m²

Tractor (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:

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

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

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

[4] Consideration to be given to transformer COG. Assumed to be central to trailer, exact positioning to be confirmed.

[5] Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	25.03.24	Issued for comment

Revisions

Prepared By:

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

Independent Transportation Engineers

Client:

NORTH FALLS
Offshore Wind Farm

Project:

North Falls Offshore Wind Farm

Title:

Indicative Transport Configuration of
270 te transformer carried on 16 axle flat top trailer
showing minimum turning radii

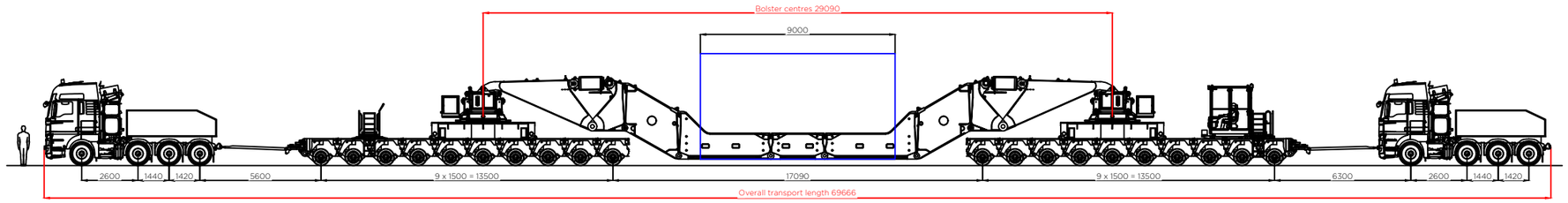
Drawing Status:

Final report

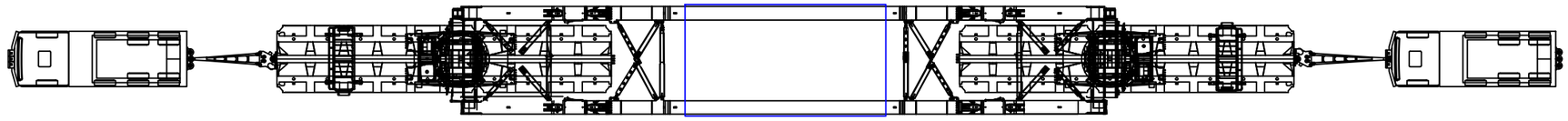
Scale (A3):	Drawn By:	Checked By:
As shown	JMB	PW

DWG. No:	Sheet:	Rev:
24-1232.TC04	1 of 1	1

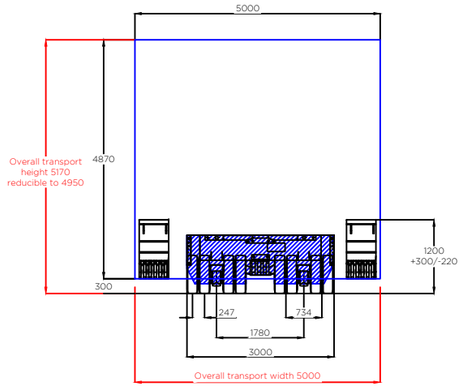
P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Transport Configuration\24-1232.TC04 North Falls Offshore Wind Farm 270te transformer 16 axle flattop.R0.dwg



Elevation view - 20 axle girder frame trailer - concept model only
Indicative 270 te transformer
Scale 1:250



Plan view - 20 axle girder frame trailer - concept model only
Indicative 270 te transformer
Scale 1:250

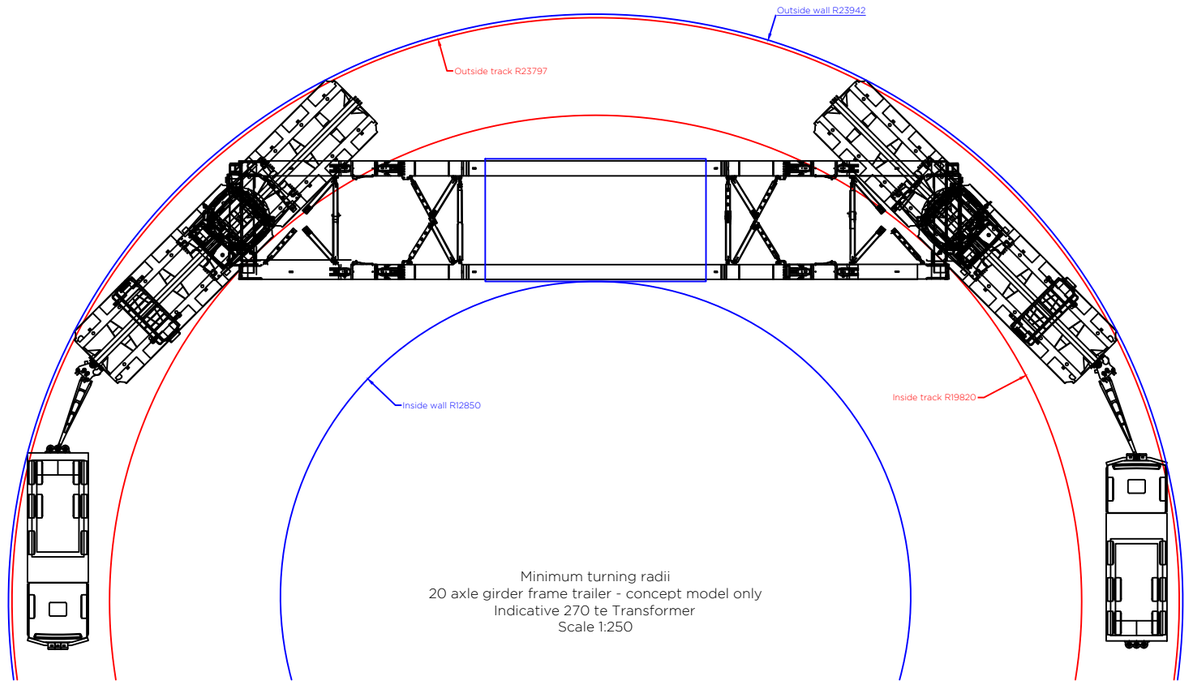


Profile view
Scale 1:125

Note: Exact Carrying Height and Packing Method to be Confirmed by Appointed Haulier

CoG is assumed to be central to trailer, exact positioning to be confirmed.

Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.



Minimum turning radii
20 axle girder frame trailer - concept model only
Indicative 270 te Transformer
Scale 1:250

Load table	
20 axle girder frame trailer	
Self weight of transformer	270.0 te
Self weight of trailer	134.0 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	404.0 te
Load per trailer	202.0 te
Load per axle line	20.2 te
Load per axle	10.1 te
Load per wheel (4 per axle)	2.53 te
Overall ground bearing pressure	4.99 te/m²
Tractor(s) (42 te)	
Front axle	7.0 te
Second steer	8.0 te
Rear axle	13.5 te
Rear axle	13.5 te

Notes:

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

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

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

[4] Consideration to be given to transformer COG. Assumed to be central to trailer, exact positioning to be confirmed.

[5] Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	25.03.24	Issued for comment

Revisions

Prepared by:

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

Independent Transportation Engineers

Client:

NORTH FALLS
Offshore Wind Farm

Project:

North Falls Offshore Wind Farm

Title:

Indicative transport configuration
Conceptual 270 te transformer carried within 20 axle girder frame trailer showing minimum turning radii

Drawing status:

Final report

Scale (A3):	Drawn By:	Checked By:
As shown	JMB	AP

Dwg. no:	Sheet:	Rev:
24-1232.TC01	1 of 1	1

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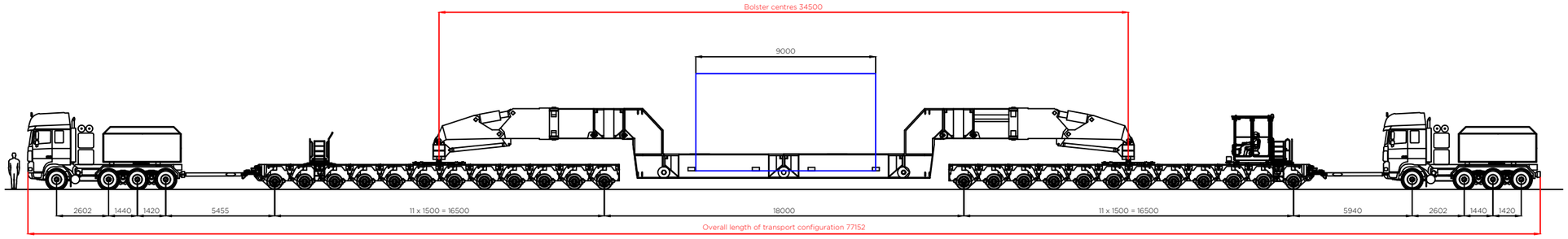
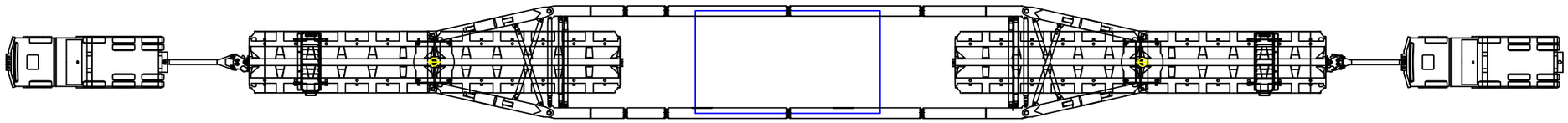
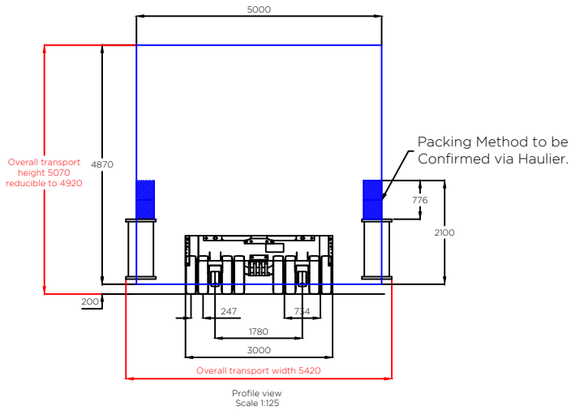


Side Elevation - 24 axle girder frame trailer - concept model only
270 te transformer



Plan View - 24 axle girder frame trailer - concept model only
270 te transformer

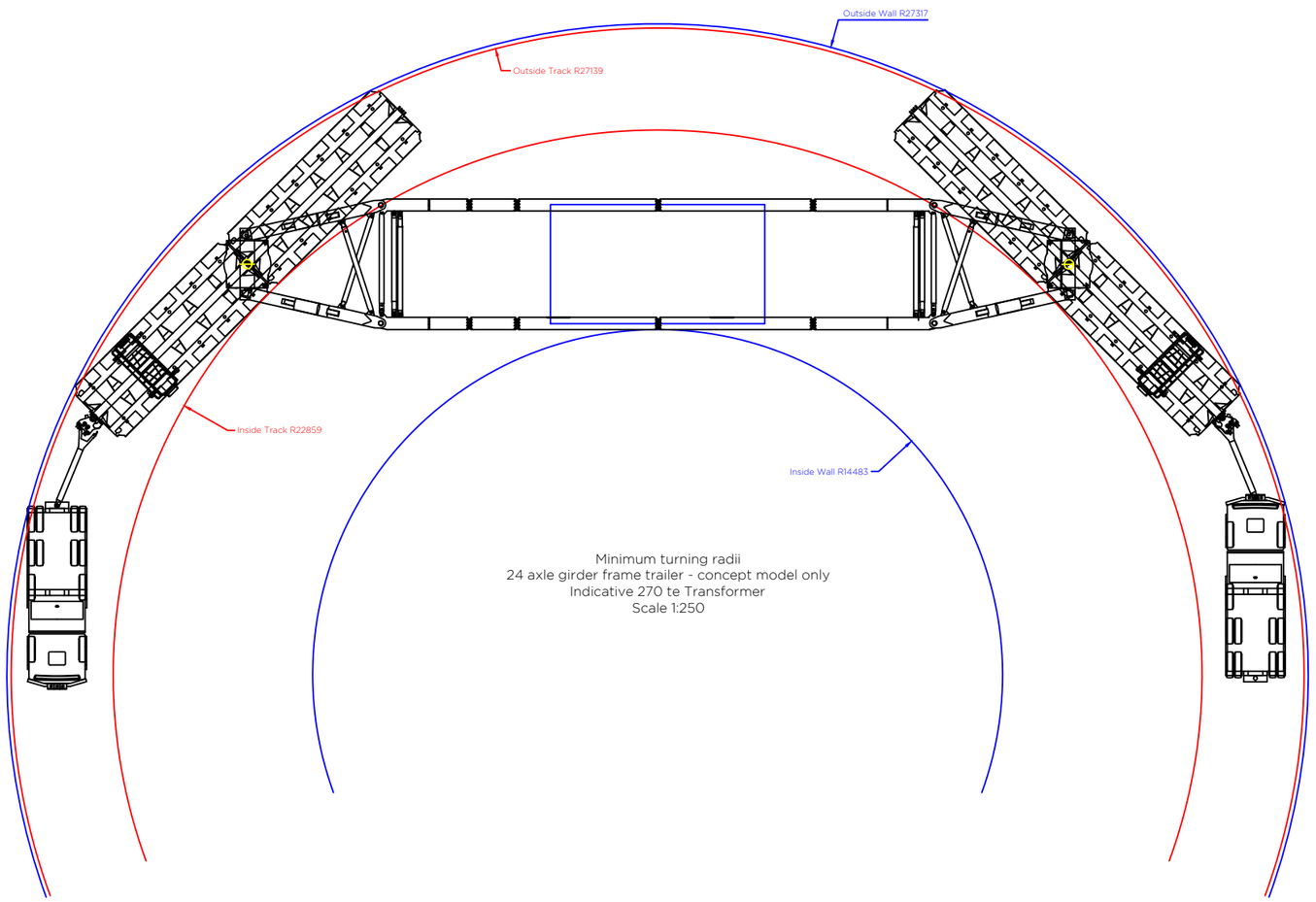


Profile view
Scale 1:125

Note: Exact Carrying Height and Packing Method to be Confirmed by Appointed Haulier

CoG is assumed to be central to trailer, exact positioning to be confirmed.

Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.



Minimum turning radii
24 axle girder frame trailer - concept model only
Indicative 270 te Transformer
Scale 1:250

Load Table	
24 axle girder frame trailer	
Self weight of transformer	270.0 te
Self weight of trailer	153.42 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	423.42 te
Load per trailer	211.71 te
Load per axle line	17.65 te
Load per axle	8.83 te
Load per wheel (4 per axle)	2.21 te
Overall ground bearing pressure	4.28 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:

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

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

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

[4] Consideration to be given to transformer COG. Assumed to be central to trailer, exact positioning to be confirmed.

[5] Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	25.03.24	Issued for comment

Revisions

Prepared By:

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

Independent Transportation Engineers

Client:

NORTH FALLS
Offshore Wind Farm

Project:

North Falls Offshore Wind Farm

Title:

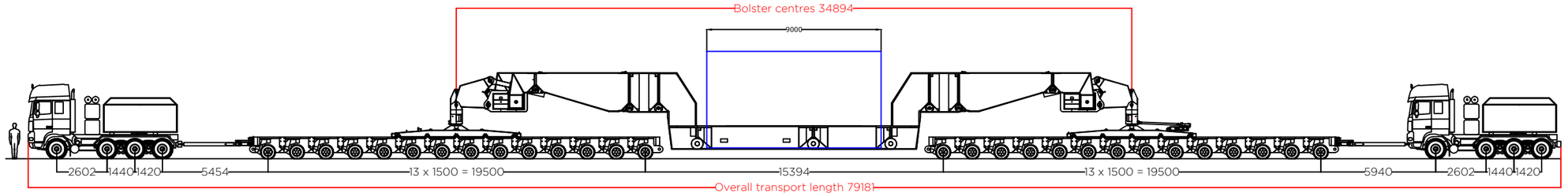
Indicative Transport Configuration
Conceptual 270 te transformer carried within
24 axle girder frame trailer
showing minimum turning radii

Drawing Status:

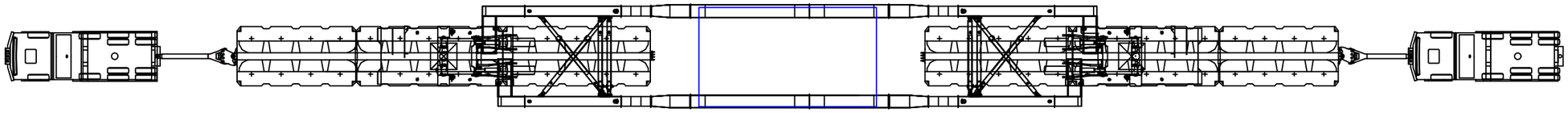
Final Report

Scale (A3):	Drawn By:	Checked By:
As shown	JMB	AP
DWG. No:	Sheet:	Rev:
24-1232.TC02	1 of 1	1

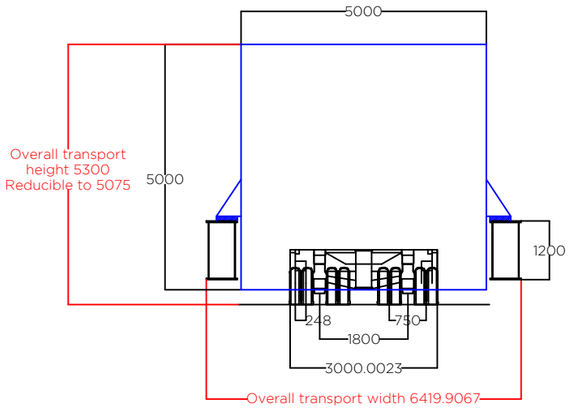
P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Transport Configuration\24-1232.TC02 North Falls Offshore Wind Farm 270 te transformer 24 axle girder frame trailer.R0.dwg



Side Elevation - 28 axle girder frame trailer - concept model only
270 te transformer
(Scale 1:250)



Plan View - 28 axle girder frame trailer - concept model only
270 te transformer
(Scale 1:250)

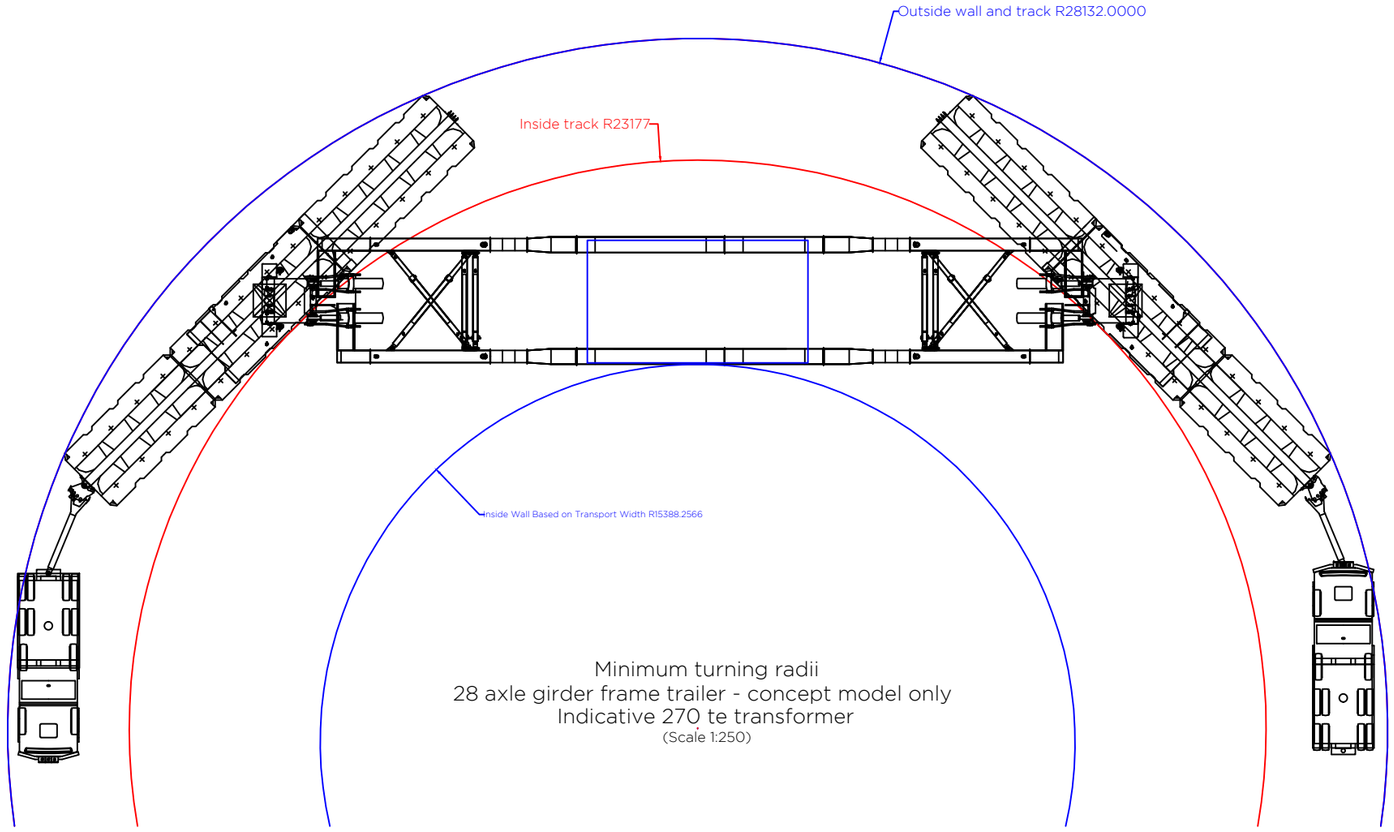


Profile view
(Scale 1:125)

Note: Exact Carrying Height and Packing Method to be Confirmed by Appointed Haulier

CoG is assumed to be central to trailer, exact positioning to be confirmed.

Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.



Minimum turning radii
28 axle girder frame trailer - concept model only
Indicative 270 te transformer
(Scale 1:250)

Load Table	
28 axle girder frame trailer	
Self weight of transformer	270.0 te
Self weight of trailer	213.0 te
Self weight of aux. steelwork (for L&S)	5.4 te
Total combined weight	488.4 te
Load per trailer	244.2 te
Load per axle line	17.44 te
Load per axle	8.73 te
Load per wheel (4 per axle)	2.18 te
Overall ground bearing pressure	4.17 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:

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

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

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

[4] Consideration to be given to transformer COG. Assumed to be central to trailer, exact positioning to be confirmed.

[5] Lifting/Transport Lug locations are subject to design of the transformer and will need to be confirmed.

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	17.04.24	Issued for comment

Revisions

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

Client:
NORTH FALLS
Offshore Wind Farm

Project:
North Falls Offshore Wind Farm

Title:
Indicative Transport Configuration
Conceptual 270 te transformer carried within
28 axle girder frame trailer
showing minimum turning radii

Drawing Status:
Final Report

Scale (A3):	Drawn By:	Checked By:
As shown	JMB	AP
DWG. No:	Sheet:	Rev:
24-1232.TC03	1 of 1	1

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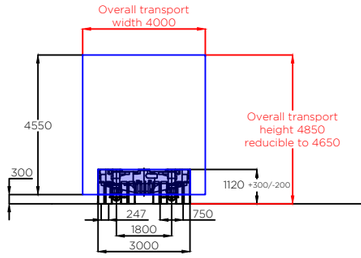
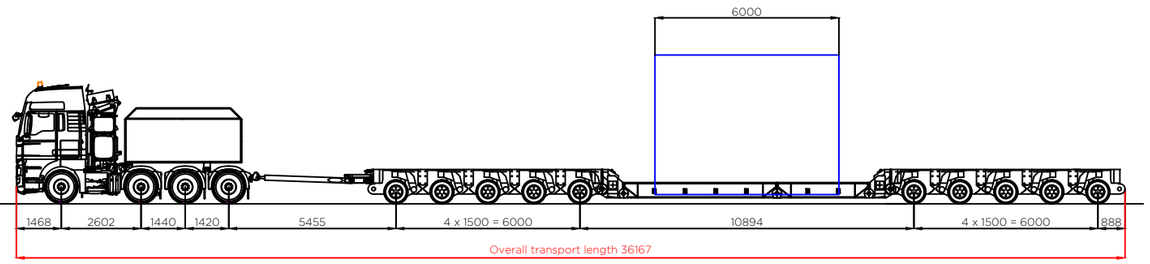
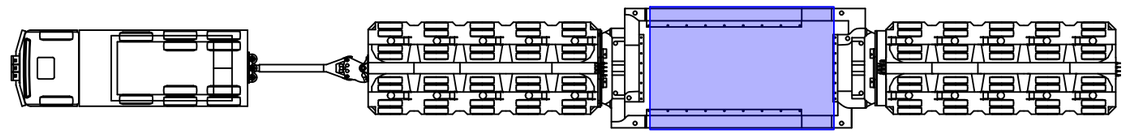


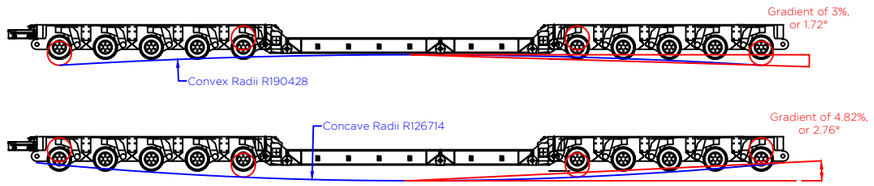
Profile view
Scale 1:200



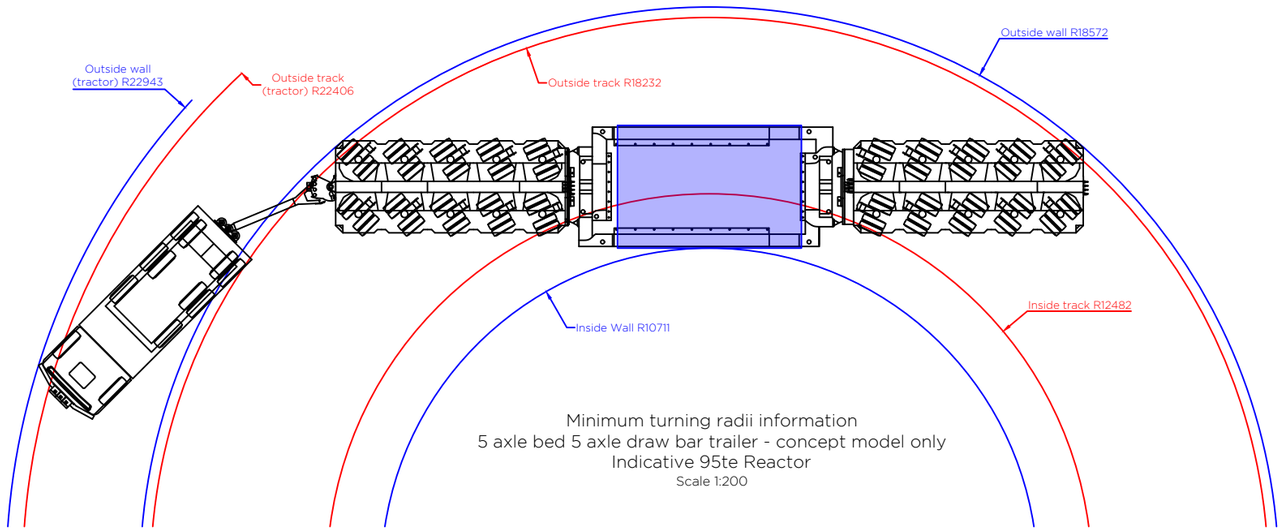
Elevation view - 5 axle bed 5 axle draw bar trailer - concept model only
Indicative 95te Reactor
Scale 1:200



Plan view - 5 axle bed 5 axle draw bar trailer - concept model only
Indicative 95te Reactor
Scale 1:200



Vertical curve negotiability information
Confirmation to be given by Hauliers
Scale 1:200



Minimum turning radii information
5 axle bed 5 axle draw bar trailer - concept model only
Indicative 95te Reactor
Scale 1:200

Load table

5 axle bed 5 axle draw bar trailer	
Self weight of reactor	95.0 te
Self weight of trailer	Say 46.0 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	141.0 te
Load per axle line	14.1 te
Load per axle	7.05 te
Load per wheel (4 per axle)	1.76 te
Overall ground bearing pressure	3.91 te/m²

Tractor (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

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

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

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

[4] Indicative reactor shown only, final dimensions to be confirmed.

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	02.05.24	Issued for comment

Revisions

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

Client:
NORTH FALLS
Offshore Wind Farm

Project:
North Falls Offshore Wind Farm

Title:
Indicative transport configuration
Conceptual 95te reactor carried within
5-axle bed 5-axle trailer
showing minimum turning radii

Drawing status:
Final report

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

Dwg. no:	Sheet:	Rev:
24-1232.TC05	1 of 1	1

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Appendix 3

Port of Harwich Information

Andy Pearce

From: Hume, Steve [redacted]
Sent: 26 April 2024 09:41
To: Andy Pearce
Cc: Brad Dyke
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs
Attachments: S-24-03-01.pdf; Port GA.dwg

Hi Andy,

Please find attached drawings as promised.

Working on the quay structural / loading information and will get back to you ASAP.

B.Rgds
Steve

From: Hume, Steve
Sent: Tuesday, April 23, 2024 10:19 AM
To: 'Andy Pearce' [redacted]
Cc: Brad Dyke [redacted]
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hi Andy,

The promised drawings should be with you soon.

With regards to the ground loadings, it's rather complicated.

The quay structure is of different ages and designs, current limits based to some degree on estimates and surveys taking this into account.

Basically, there is probably quite a lot of information that builds up into this, which I will have to try and pull together. Will get back to you as soon as I can.

B.Rgds
Steve

Steven Hume
Commercial Manager
Commercial Department

Harwich International
T (+44) [redacted]
[redacted]

From: Andy Pearce [redacted]
Sent: Thursday, April 18, 2024 4:49 PM
To: Hume, Steve [redacted]
Cc: Brad Dyke [redacted]
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hi Steve,

No rush on the below but we met the client this week and they have asked if it would be possible to get from the port additional information on quay strength. RWE would like to do their own checks to confirm the structural status if possible. Do you have drawings available confirming ground strength, design of quay etc. I know you said you could get a plan for us but this is a bit more detail that they are asking for ref where the 4/te/m2 comes from I think.

Happy to discuss and could arrange meeting with RWE if needed?

Kind Regards

Andy

From: Hume, Steve [redacted]
Sent: Friday, April 12, 2024 3:07 PM
To: Andy Pearce [redacted]
Cc: Brad Dyke [redacted]
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hi Andy,

You are both very welcome.

I will pull the information together for you, but I'm afraid that due to absences within our Engineering Department, this is unlikely to be early w/c 22nd April.

Have a great weekend.

B.Rgds
Steve

Steven Hume
Commercial Manager

Commercial Department

Harwich International
T (+44) [redacted]
[redacted]

Please consider the environment before printing this email

From: Andy Pearce <[redacted]
Sent: Friday, April 12, 2024 10:54 AM
To: Hume, Steve <[redacted]
Cc: Brad Dyke [redacted]
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hi Steve,

Thank you very much for your time and assistance yesterday. It was good to meet you.

If you are able to provide a .dwg/cad drawing of the port areas and overall plan for reference in our reporting that would be very helpful.

Also any pictures of any previous loads, cable drums, geared vessels offloading etc that would be great.

Kind Regards

Andy Pearce

From: Hume, Steve <[redacted]
Sent: Wednesday, April 10, 2024 3:19 PM
To: Andy Pearce [redacted]
Cc: Brad Dyke <[redacted]
Subject: RE: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hi Andy,

Apologies for the late response on this. Please find our answers below.

Look forward to seeing you tomorrow.

B.Rgds
Steve

From: Andy Pearce [redacted]
Sent: Thursday, April 4, 2024 10:50 AM
To: Hume, Steve [redacted]
Cc: Brad Dyke <[redacted]
Subject: North Falls Offshore Wind Farm - Onshore Substation Transformer AILs

Hello Steve,

Good to talk to you again and I look forward to meeting you at Harwich next Thursday. I will be accompanied by my colleague Brad Dyke and we will have PPE and photo ID. In the meantime please see below some background to the project and questions I would like to confirm in respect to the current status of the port of Harwich for possible future heavy load requirements at the proposed North Falls Offshore Wind Farm - Onshore Substation Transformer AILs. Further information on the project is here.
https://www.northfallsoffshore.com/

Wynns Ltd. have been appointed by RWE, to undertake a review of the access for Abnormal Indivisible Loads associated with the transformers required for the substation. These could be in the region of up to 270te nett weight. Expected delivery is 2029/2030 (exact date TBC). Therefore, would you be able to confirm the following some of which is based on our discussions back in 2021.

1. Port of Harwich would be willing and able to take delivery of components. Please confirm at which berth this would be feasible.
   This is likely to be on either Berth 1, or the General Cargo Berth.
2. There is a 4te/m2 limit on the quay.
   Correct.
3. My file data indicates that vessels of up to 9.5m draft can be accommodated subject to tidal ranges. There is a 4m rise and fall that may need to be considered depending on how offloaded.
   9.0m at Chart Datum.
4. The length of berth available is advised as 300m.
   Yes, but with some current restrictions limiting vessels to approx. 200m LOA. 300m will be the case during the timeframe of your requirements.
5. Can we confirm if the port is available for ro-ro, geared vessels and also for delivery via coaster cranes and discharge via mobile cranes. By roro I mean using specialist barges rather than the ferry roro ramps.

Potentially, dependent upon specific vessel and operation. This has been handled before at the port.

- Is there any standoff distance from the quay edge is required?
  For jack-ups, usually 10m. For all other craft, just the distance required for suitable fendering.
- Storage is available either short term on the project quay or longer term.

- There are two routes available to exit the port complex to the public highway, either via Phoenix Road to the east that would require the load to cross the A120 Railway Bridge and out via the roundabout or via Parkstone Bypass next to Morrisons supermarket that would require crossing of the level crossing in the port.
  Yes.
- The wind turbines years ago were about 225te on SPMTs.
  Yes.

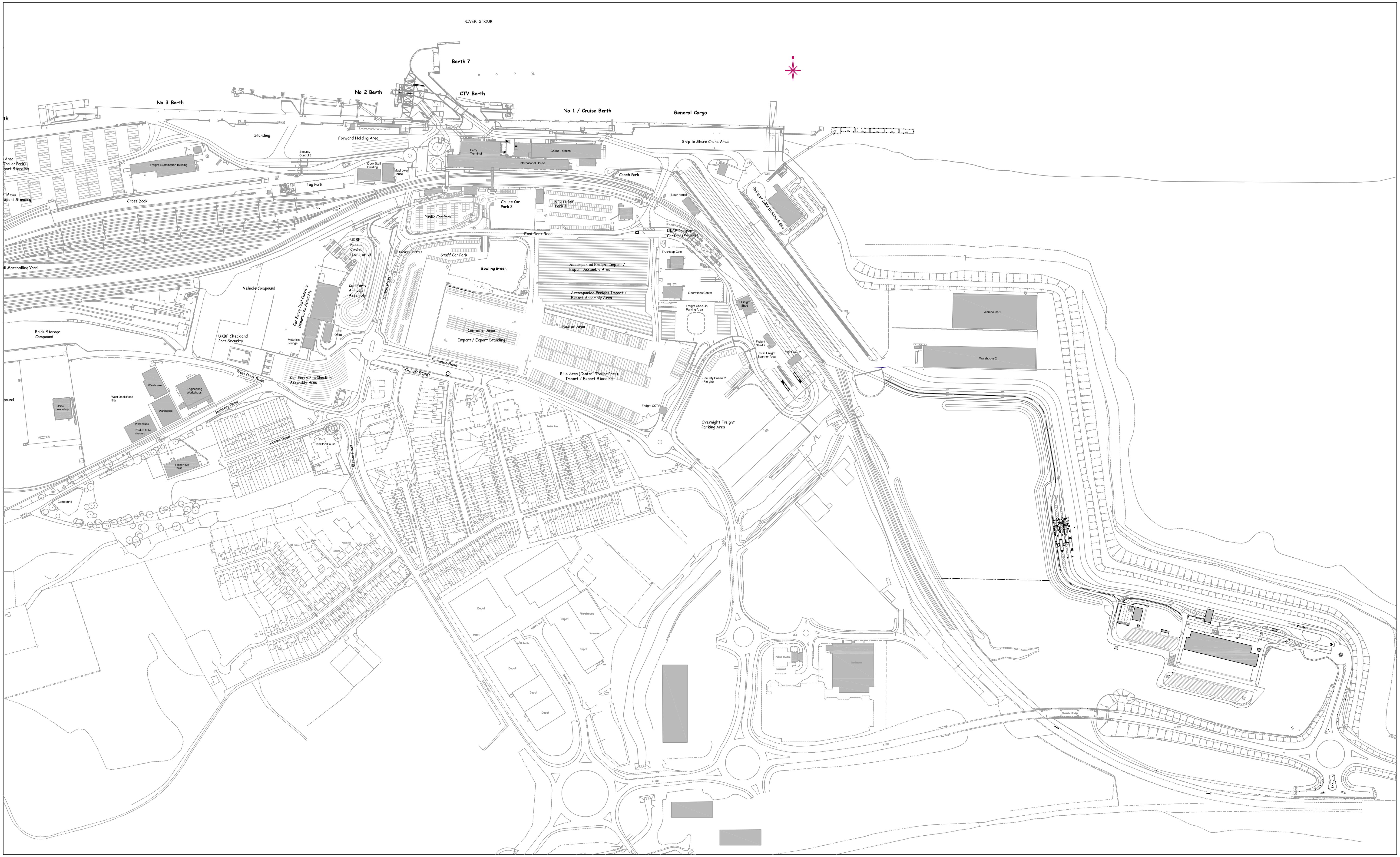
Please note that this enquiry should remain confidential at this time as it is a preliminary review of possible options only. I trust that the above make sense and look forward to seeing you next week but if you need any further information please do not hesitate to contact me.

Kind Regards

Andy Pearce
General Manager (IOSH)

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

Shaftesbury House, 2 High Street, Eccleshall, Staffordshire, ST21 6BZ
Registered in England & Wales No. 3162297


RIVER STOUR
Berth 7
No 3 Berth
No 2 Berth
CTV Berth
No 1 / Cruise Berth
General Cargo
Ship to Shore Crane Area
Standing
Forward Holding Area
Freight Examination Building
Tug Park
Cross Dock
Coach Park
Public Car Park
Cruise Car Park 2
Cruise Car Park 1
East Dock Road
UKBF Passport Control (Freight)
Staff Car Park
Bowling Green
Accompanied Freight Import / Export Assembly Area
Vehicle Compound
Car Ferry Post Check-in Departures Assembly
Car Ferry Arrivals Assembly
Operations Centre
Freight Check-in Parking Area
Reefer Area
Container Area
Import / Export Standing
Brick Storage Compound
UKBF Check and Port Security
Entrance Road
COLLIER ROAD
West Dock Road
Car Ferry Pre Check-in Assembly Area
Blue Area (Central Trailer Park) Import / Export Standing
Railway Road
Station Road
Overnight Freight Parking Area
Warehouse 1
Warehouse 2
Depot

HUTCHISON PORTS HARWICH INTERNATIONAL	Notes	Paper Scale. 50mm at A 3 (0 – 50)	LET	REVISION	PROJECT	TITLE	DO NOT SCALE Original A 3

Harwich International Port Limited.
Engineering Department, Parkeston, Harwich, Essex. CO12, 4SR.
Tel. 01255 252111. Fax. 01255 252182. email. tatumd@harwich.co.uk. www.harwich.co.uk

PROJECT: Port Plans

TITLE: No 3 Berth to Freight Exit Road

SCALE	1/500	CHECKED	DT
DATE	20-09-23	APPROVED	
PREP'D	SA	ASSET No.	
STATUS	Sketch	REV'N	
DWG No.	S-23-14-01		

Appendix 4

Correspondence

Andy Pearce

From: Emmanuel Anum [redacted]
Sent: 29 May 2024 16:46
To: Andy Pearce
Subject: FW: WYNL/130 Harwich to North Falls
Attachments: FW: Special Order Proposal (WYNL/130/S1); RE: WYNL/130/S1 - Harwich Port to Manningtree (430 te)

Andy,

Please see email attached and below FYI.

Kind Regards
Emmanuel Anum

Emmanuel Anum, Senior Engineer
Abnormal Loads (Structures)
Operations (East) | National Highways
Woodlands | Manton Lane | Bedford | MK41 7LW
Mob: [redacted] | www.nationalhighways.co.uk

From: Emmanuel Anum [redacted]
Sent: Tuesday, May 21, 2024 9:17 PM
To: Brad Dyke [redacted]
Cc: Alidan, Zakariya [redacted]
Subject: RE: WYNL/130 Harwich to North Falls

Hi Brad,

Atkins are working on the Special Order WYNL/130 Harwich to North Falls.

There is no major update for now. I will get back to you once I hear from Atkins.

Thank you for your understanding and cooperation.

Kind Regards
Emmanuel Anum

Emmanuel Anum, Senior Engineer
Abnormal Loads (Structures)
Operations (East) | National Highways
Woodlands | Manton Lane | Bedford | MK41 7LW
Mob: [redacted] | www.nationalhighways.co.uk

From: Brad Dyke [redacted]
Sent: Tuesday, May 21, 2024 11:44 AM
To: Emmanuel Anum <[redacted]
Subject: WYNL/130 Harwich to North Falls

Good morning Emmanuel,

Following our recent phone call, is there any update you can provide on the above Special Order application.

Brad Dyke

From: David Byrne [redacted]
Sent: 24 June 2024 09:07
To: Brad Dyke
Subject: RE: Special Order Application: WYNL/130 - Harwich to North Falls Sub Bromley

Hi Brad,

Essex CC have responded saying the below:

Bridge no 716/43134 Phoenix on the A120 has had an abnormal load ban on it since 2018

They would most likely expect the application to be revised to avoid the bridge before they send an official acceptance.

Kind regards,

David Byrne
Senior Route Planner |Abnormal Loads Team|Operations Customer Services Division
National Highways |The Cube |199 Wharfside Street | Birmingham | B1 1RN
Work - [redacted]
Web: www.nationalhighways.co.uk

From: Brad Dyke <brad.dyke@wynnslimited.com>
Sent: Tuesday, June 18, 2024 4:19 PM
To: David Byrne <David.Byrne@nationalhighways.co.uk>
Subject: RE: Special Order Application: WYNL/130 - Harwich to North Falls Sub Bromley

Understood, that's great news, thanks David.

If when you speak with Essex CC they could confirm that in writing that the other route out of Harwich which crosses Dovercourt Dock River Bridge and Bathside are acceptable on all vehicles, again for our records that would be most helpful.

Much appreciated.

Regards,

Brad Dyke
Transport Planner

Tel: + 44 (0)[redacted]
[redacted]
Email: [redacted]

Shaftesbury House, 2 High Street, Eccleshall, Staffordshire, ST21 6BZ
Registered in England & Wales No. 3162297

From: David Byrne [redacted]
Sent: Tuesday, June 18, 2024 4:07 PM
To: Brad Dyke [redacted]
Subject: RE: Special Order Application: WYNL/130 - Harwich to North Falls Sub Bromley

Hi Brad,

Although they have not referenced them I believe they have no issues with those structures being used. Usually they would reference all structures that have failed.

> Dear Sirs
>
> SPECIAL ORDER - PROVISIONAL ROUTE REF - WYNL/130/S1
> UNACCEPTABLE MOVEMENT NOTIFICATION - RESUBMISSION REQUIRED
>
> I acknowledge receipt of your PROVISIONAL Special Order application as detailed above.
>
> I am sorry, but unfortunately due to new structural data received, it has not been possible to register your notificatic
>
> Bridge no 716/43134 Phoenix on the A120 about 1.15 miles SW of Harwich and about 0.61 miles SW of Parkestor
> (1.265114°E 51.940085°N) - ALL Vehicles

All vehicles on the proposal have failed on the Phoenix bridge.

Kind regards,

David Byrne
Senior Route Planner |Abnormal Loads Team|Operations Customer Services Division
National Highways |The Cube |199 Wharfside Street | Birmingham | B1 1RN
Work - [redacted]
Web: www.nationalhighways.co.uk

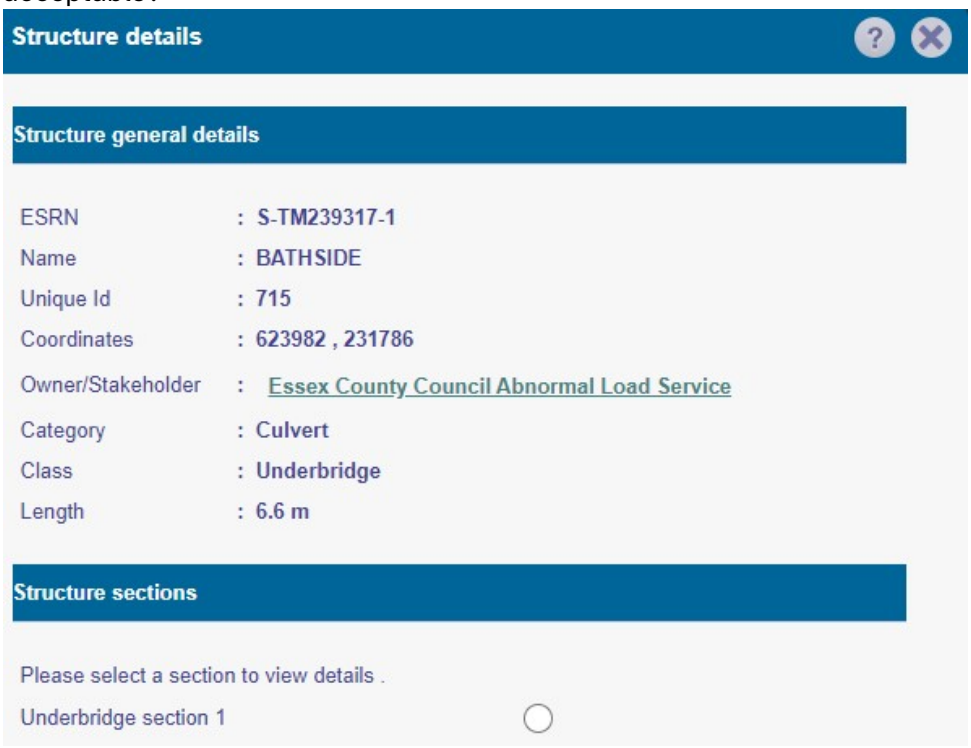
From: Brad Dyke <brad.dyke@wynnslimited.com>
Sent: Tuesday, June 18, 2024 4:04 PM

To: David Byrne <[redacted]
Subject: RE: Special Order Application: WYNL/130 - Harwich to North Falls Sub Bromley

Thank you David, that would be helpful.

Just to confirm is the Dovercourt Dock River Bridge which is crossed over on the other exit of the Port of Harwich via the Parkeston Bypass therefore accepted by Essex CC structurally acceptable?

The routes proposed also cross one final structure Essex CC owned 'Bathside' could you advise if this is also acceptable?



Structure details

Structure general details

ESRN	: S-TM239317-1
Name	: BATHSIDE
Unique Id	: 715
Coordinates	: 623982 , 231786
Owner/Stakeholder	: Essex County Council Abnormal Load Service
Category	: Culvert
Class	: Underbridge
Length	: 6.6 m

Structure sections

Please select a section to view details .

Underbridge section 1

Would you also be able to confirm which of the trailers submitted pass/fail please?

Thank you again.

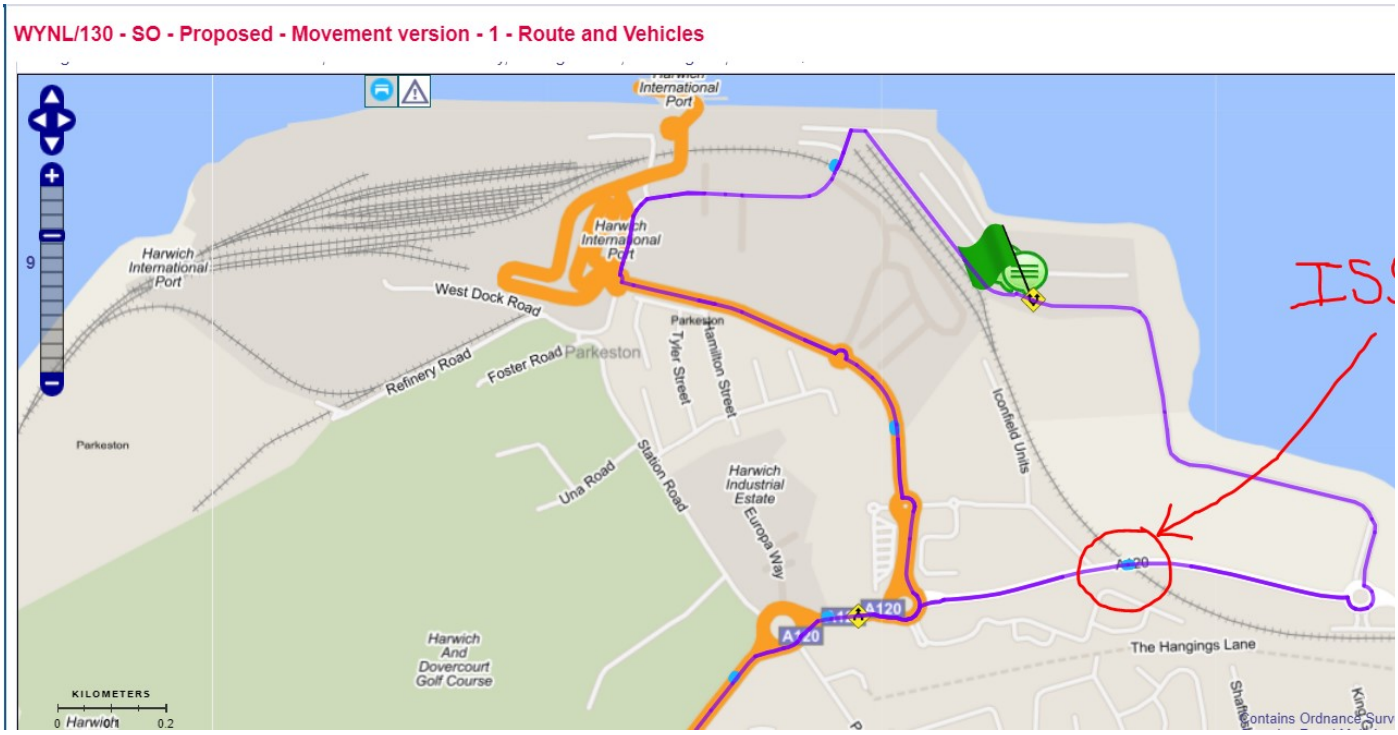
Regards,

Brad Dyke
Transport Planner

Tel: + 44 (0)[redacted]
Mobile: + 44 (0)[redacted]
Email: [redacted]

Find out more visit wynnslimited.com

Shaftesbury House, 2 High Street, Eccleshall, Staffordshire, ST21 6BZ
Registered in England & Wales No. 3162297



We haven't been given any more information on the failure (and how much it fails by) but before I engage further with Essex CC I wondered what your thoughts were on this recent rejection of the route, and how you would like to take it forward?

At this stage, the options would be to go with the route out of the docks via East Dock Road and discount the Phoenix Road route, or get some further assessments carried out as a further alternative path does not look achievable with the roads available in that area.

Happy to take instruction on the next phase of this application.

Best regards

Simon Blakeman
Senior Strategy and Customer Manager
Abnormal Indivisible Loads Team
Operations Customer Services Division
National Highways | The Cube | 199 Wharfside Street | Birmingham | B1 1RN
Tel: +44 (0) [redacted]
Mobile: TBC
Web: http://www.nationalhighways.co.uk
Team Tel: [redacted]

Brad Dyke

From: Emmanuel Anum [redacted]
Sent: 10 April 2024 08:14
To: Brad Dyke
Cc: HEEabnormalload@ringway.co.uk; East Region Abnormal Loads; Lee Cornwell; PATEL Nilesh
Subject: Collaboration note on movement WYNL/131/1#1
Attachments: FW: Movement notification alert (WYNL/131/1#1)

Hi Jodi,

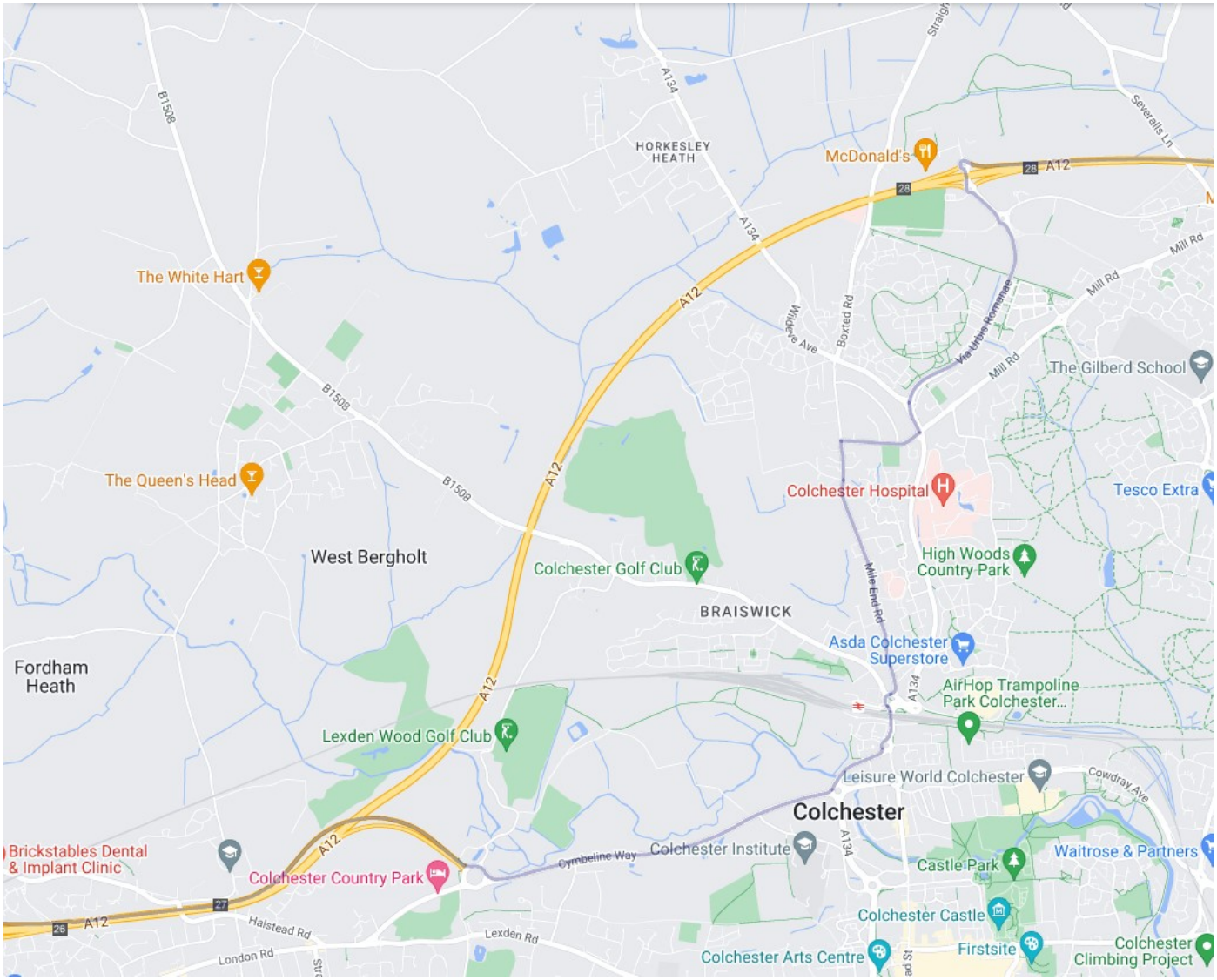
We are in receipt of your proposed notification with reference WYNL/131/1#1.

Unfortunately, your proposal exceeds the 110 tonnes weight restriction of the carrying capacity of Orchard Railway Bridge on A12. Please click on the link below to take you to the location of the bridge.

(110 tonne limit; A12 Colchester 05860 A12/75.20// Orchard Railway 597199E 226419N both directions)

Available Options

Propose a reroute through Colchester by exiting A12 junction 27 and re-joining the A12 probably at junction 28 (for northbound direction) thus avoiding Orchard Railway Bridge. See map below.



Alternatively, you can use a different route convenient to you.

Could you please amend your proposed notification and resubmit for consideration and acceptance? Thanks.

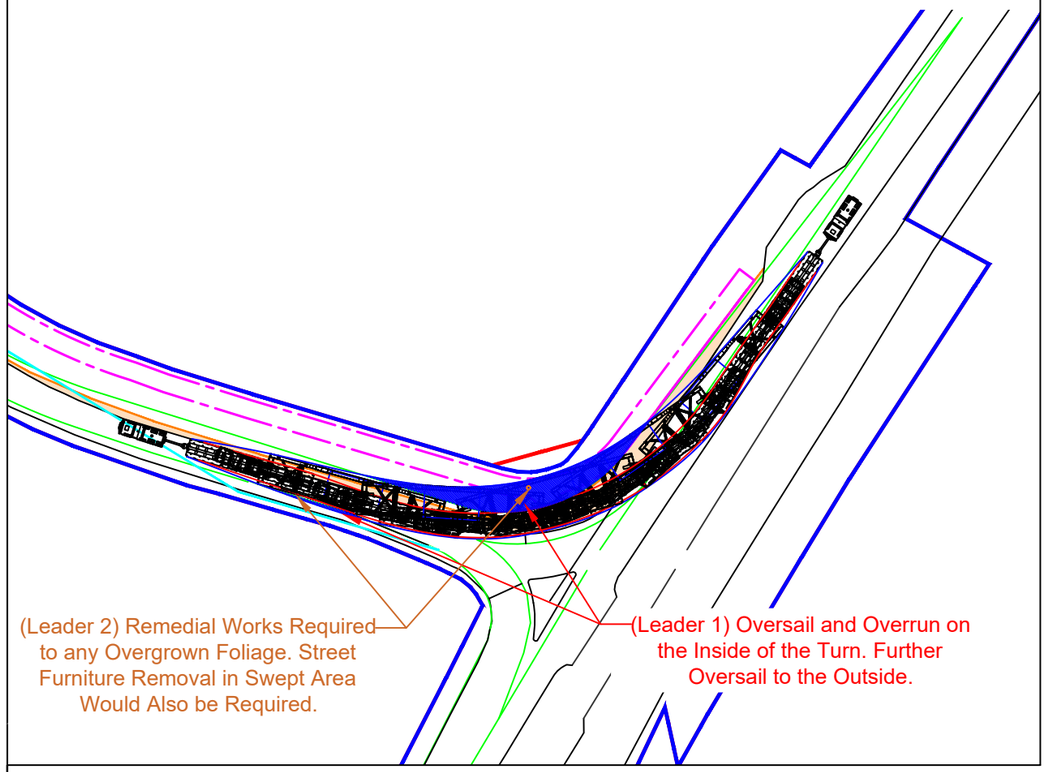
Kind Regards
Emmanuel Anum

Emmanuel Anum, Senior Engineer
Abnormal Loads (Structures)
Operations (East) | National Highways
Woodlands | Manton Lane | Bedford | MK41 7LW
Mob: [redacted] | www.nationalhighways.co.uk

Appendix 5

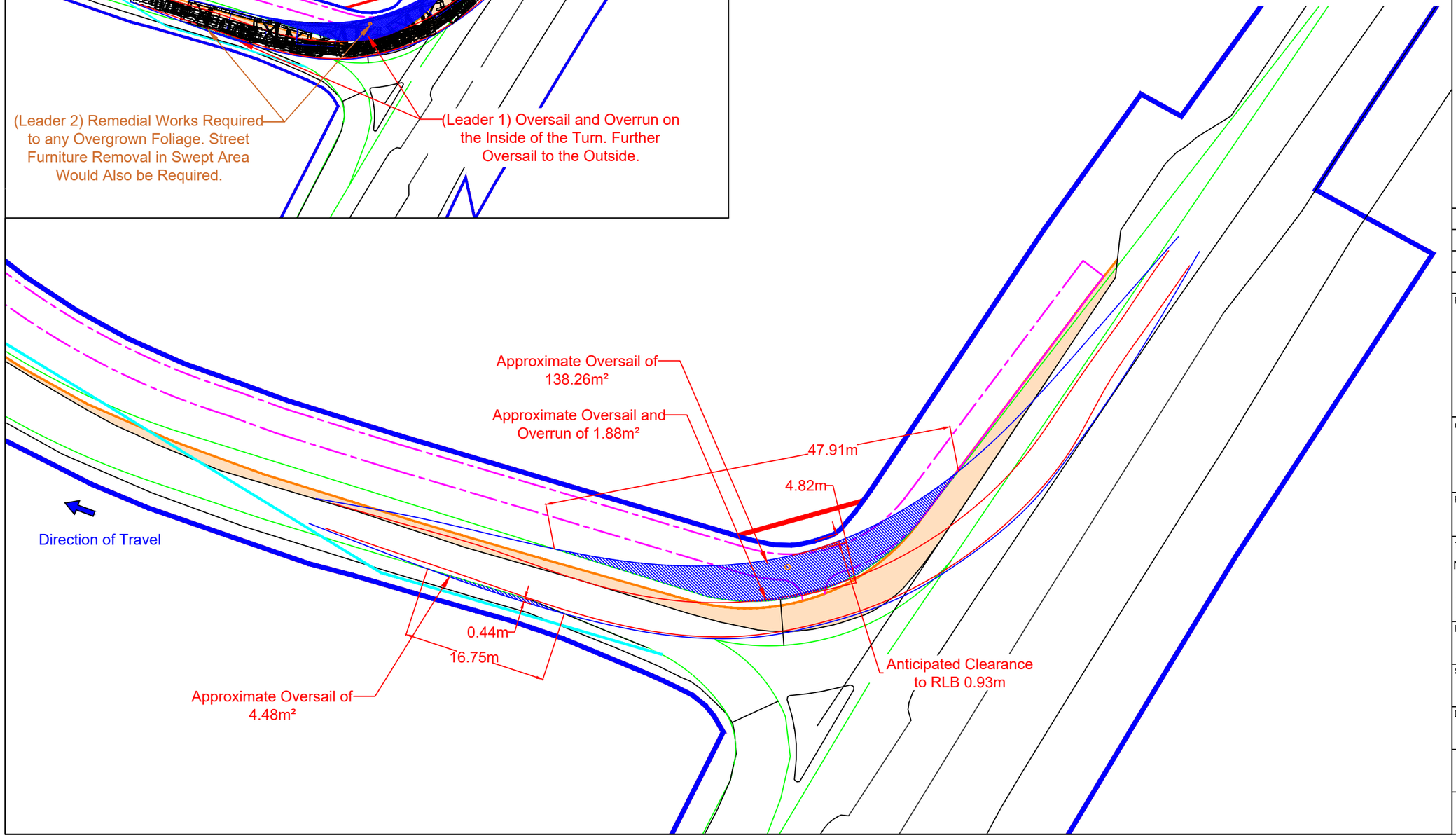
Swept Path Assessments

Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from Client Supplied Design Data
Scale 1:1000



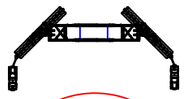
Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from Client Supplied Design Data
Scale 1:500

The delivery vehicle can be seen turning right from A120 onto Bentley Road, at approximate OS grid reference: TM 11293 26572.
The configuration is recommended to take the turn in contraflow. The configuration is anticipated to oversail and minimal overrun on the inside of the turn, as well as further oversail on the outside of the turn (Leader 1). Where overrun occurs, plating and packing of any present kerbs/pavements/verges must be carried out to facilitate. Any overgrown foliage into the roadway may need trimming depending on growth at the time of movement. Additionally, Street furniture within the swept area will need to be removed, this would include the telecoms pole and street signs (Leader 2).
Based on carrying out the proposed remedials, section is considered to be negotiable.

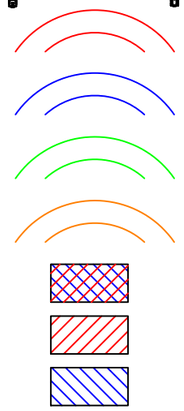


Location Plan

Legend:



28 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1232.TC03



Extent of Tractor Track

Extent of Oversail

Proposed Road Bboundary

Proposed Road Widening

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	21.06.24	Issued for comment

Revisions

Prepared by:

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

Independent Transportation Engineers

Client:

NORTH FALLS
Offshore Wind Farm

Project:

North Falls

Title:

Swept Path Assessment
Negotiability of turning right from A120 onto Bentley Road, at approximate OS grid reference: TM 11293 26572, considerate of indicative te transformer transported on 28 axle girder frame trailer.

Drawing status:

Final Report

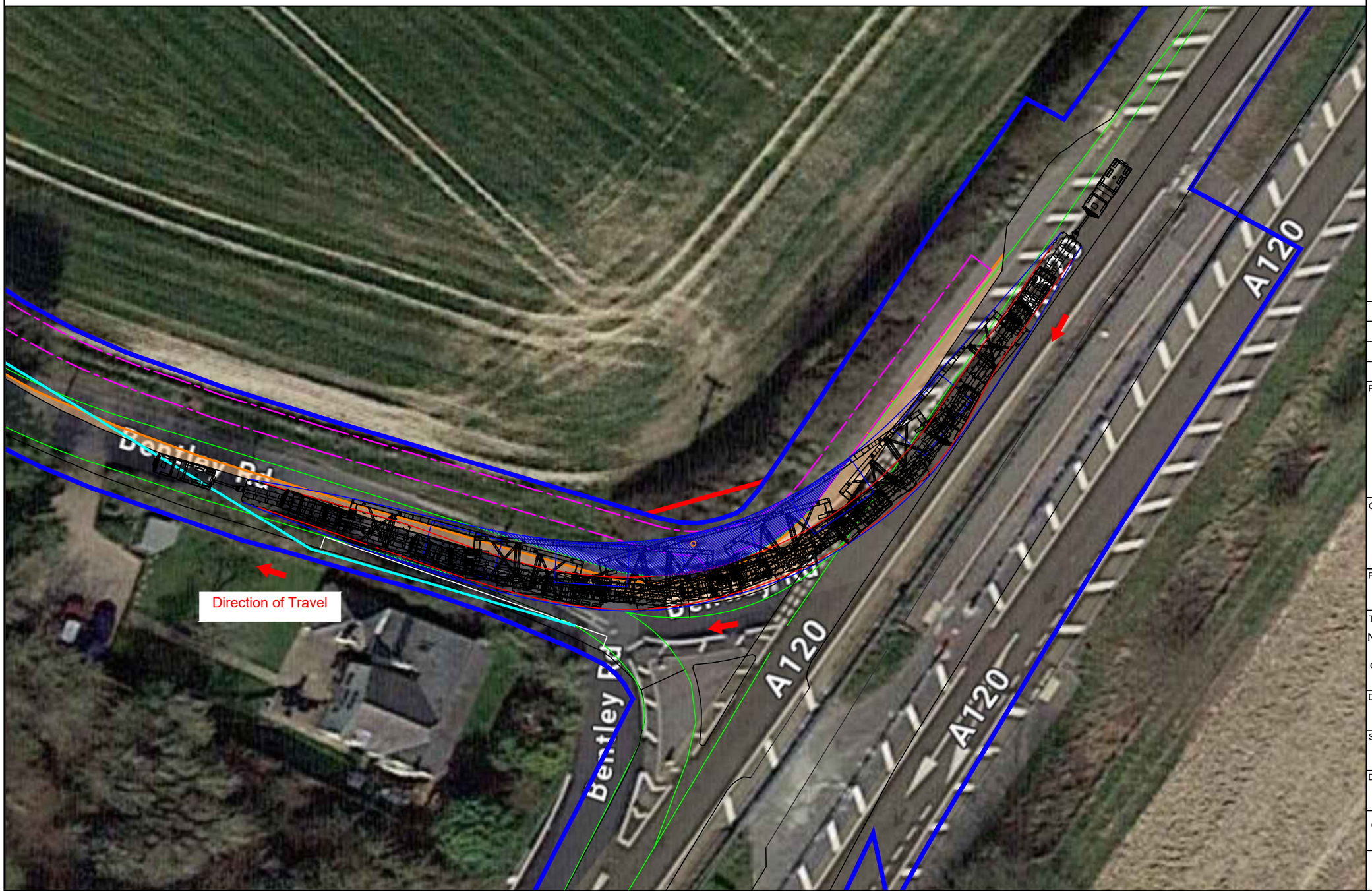
Scale (A3):	Drawn by:	Checked by:
As shown	MTO	ARP
Dwg. no:	**Sheet:**	**Rev:**
24-1232.SPA01	1 of 2	1

P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Swept Path Assessments

N

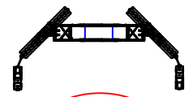
Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from Client Supplied Design Data
Scale 1:1000

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



Location Plan

Legend:



28 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1232.TC03

Extent of Tractor Track

Extent of Oversail

Proposed Road Bboundary

Proposed Road Widening

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	21.06.24	Issued for comment

Revisions

Prepared by:

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

Independent Transportation Engineers

Client: North Falls Offshore Wind Farms

Project: North Falls

Title: Swept Path Assessment
Negotiability of turning right from A120 onto Bentley Road, at approximate OS grid reference: TM 11293 26572, considerate of indicative te transformer transported on 28 axle girder frame trailer.

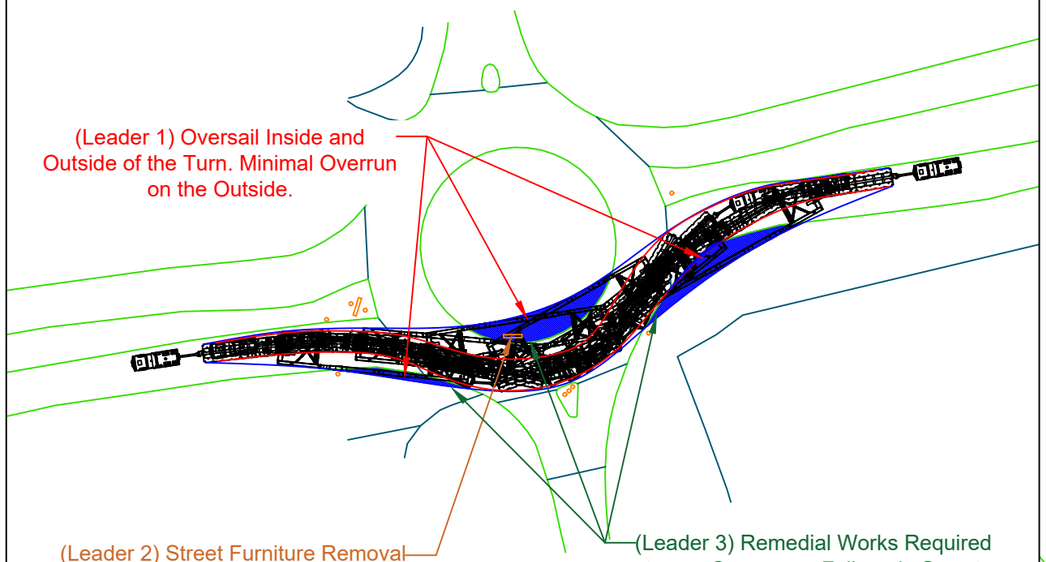
Drawing status: Final Report

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

Dwg. no:	Sheet:	Rev:
24-1232.SPA01	2 of 2	1

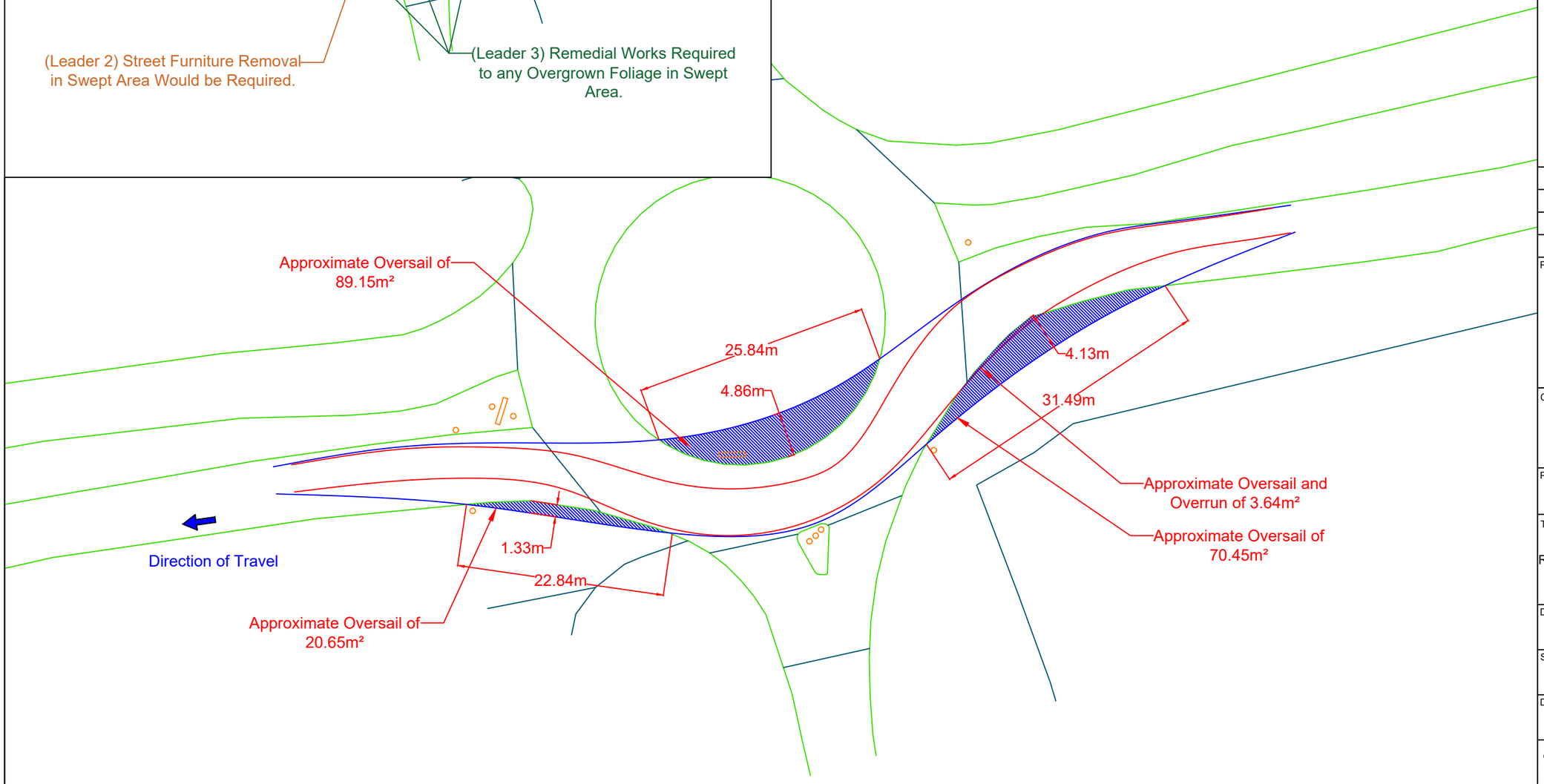
P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Swept Path Assessments

Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from OS mastermap Data
Scale 1:1000

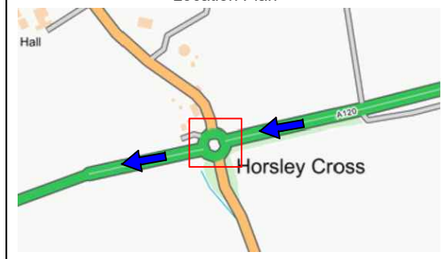


Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from OS mastermap Data
Scale 1:500

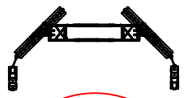
The delivery vehicle can be seen continuing along A120, moving straight over at Horsley Cross Roundabout continuing along A120, at approximate OS grid reference: TM 12398 27340.
The configuration is expected to oversail on the inside and outside of the turn, as well as minimal overrun on the outside of the turn (Leader 1). Where overrun occurs, appropriate plating and packing to any present kerbs/pavements/verges will be required to facilitate. Oversail on the inside of the of the turn anticipates conflicts with street furniture on the island, this would require the removal of the street sign to facilitate (Leader 2). Depending on growth at time of movement, trimming to foliage may be required to prevent conflict with the transport configuration on the inside and outside of the turn (Leader 3).
Based on carrying out the recommended remedials, section is considered to be negotiable.



Location Plan



Legend:



28 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1232.TC03

Extent of Tractor Track

Extent of Oversail

Proposed Road Bboundary

Proposed Road Widening

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	21.06.24	Issued for comment

Revisions

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

Client: NORTH FALLS Offshore Wind Farms

Project: North Falls

Title: Swept Path Assessment
Negotiability of continuing along A120 Horsley Cross Roundabout, at approximate OS grid reference: TM 12398 27340, considerate of indicative te transformer transported on 28 axle girder frame trailer.

Drawing status: Final Report

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

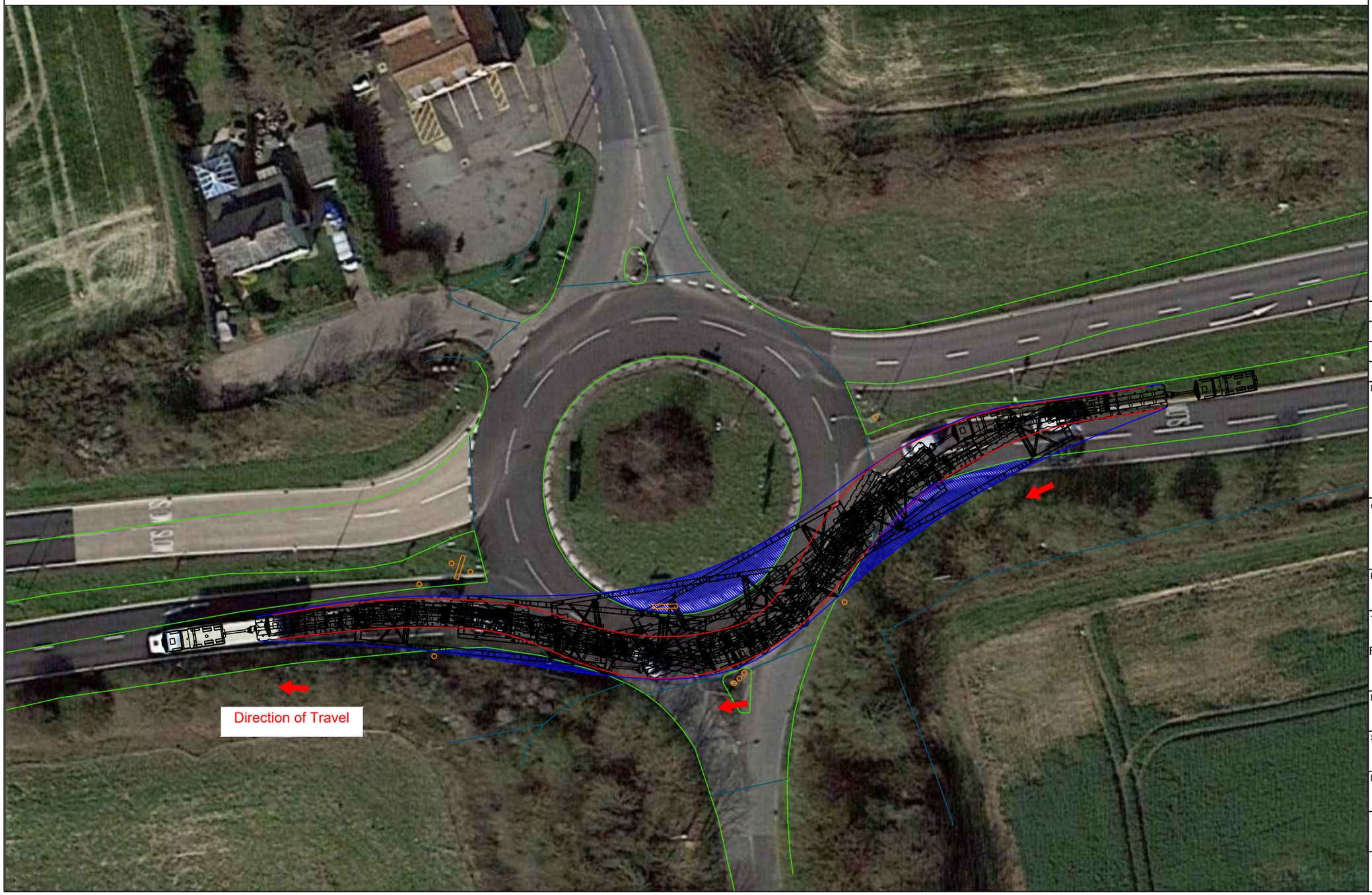
Dwg. no:	Sheet:	Rev:
24-1232.SPA02	1 of 2	1

P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Swept Path Assessments

N

Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from Client Supplied Design Data
Scale 1:500

NOTE: Overlay onto aerial image is not representative of the configuration relative to the environment. This is for illustrative purposes only, and should only be taken as such.



Location Plan

Legend:

28 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1232.TC03

Extent of Tractor Track

Extent of Oversail

Proposed Road Bboundary

Proposed Road Widening

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1	12.07.24	Client Logo Updated
0	21.06.24	Issued for comment

Revisions

Prepared by:

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

Independent Transportation Engineers

Client: North Falls

Project: North Falls

Title: Swept Path Assessment
Negotiability of continuing along A120 Horsley Cross Roundabout, at approximate OS grid reference: TM 12398 27340, considerate of indicative te transformer transported on 28 axle girder frame trailer.

Drawing status: Final Report

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

Dwg. no:	Sheet:	Rev:
24-1232.SPA02	2 of 2	1

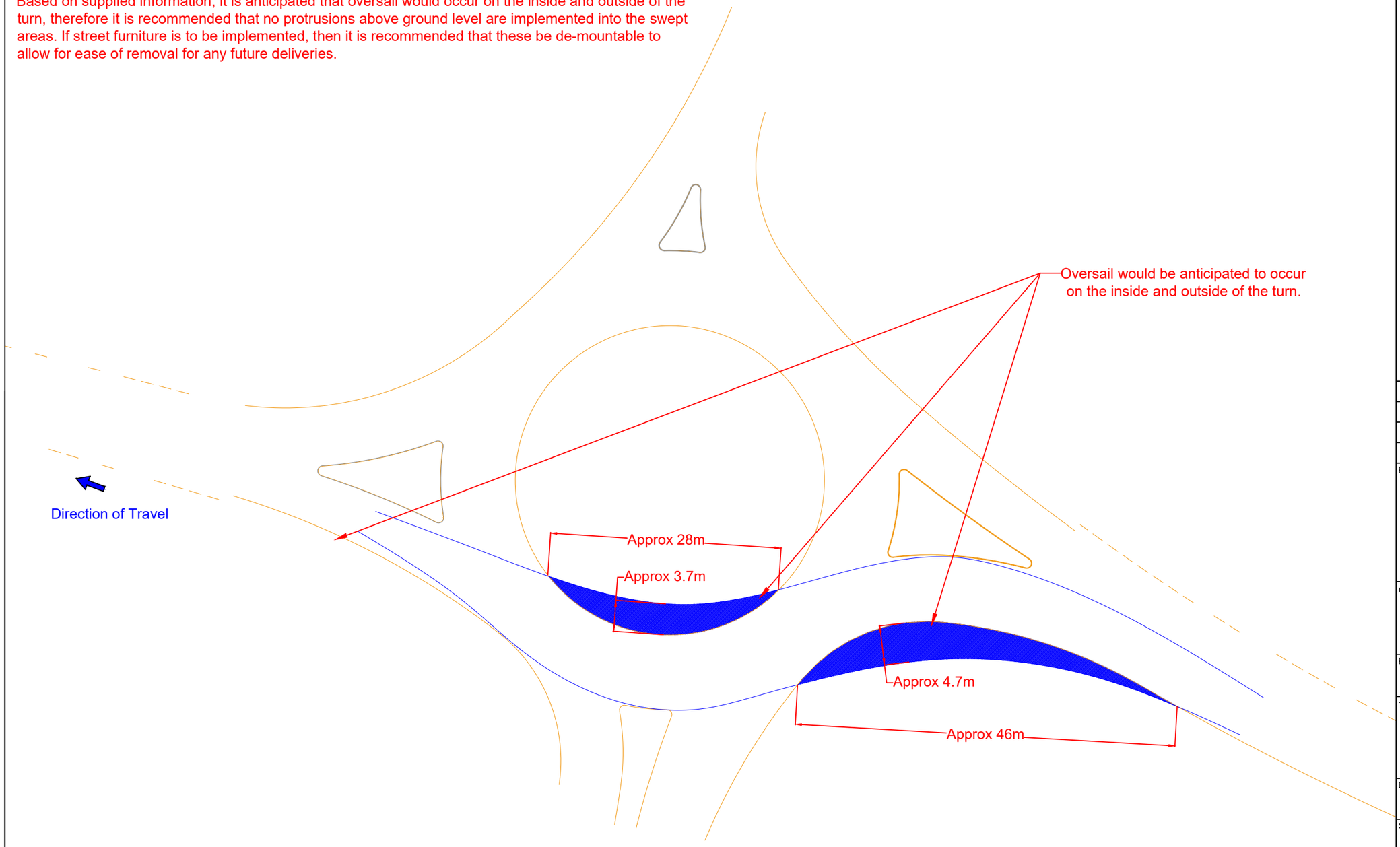
P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Swept Path Assessments

N

Swept Path Assessment
Indicative of 28 Axle Girder Frame Trailer
Constructed from Client Supplied Design Data (PDF)
Not to Scale

Indicative assessment/review of proposed design of new roundabout along A120.
It should be cautioned that the assessment has been based on client supplied data in PDF format, and therefore, the full extent of anticipated remedials and impacts that the proposed AIL will have on the environment cannot be confirmed.

Based on supplied information, it is anticipated that oversail would occur on the inside and outside of the turn, therefore it is recommended that no protrusions above ground level are implemented into the swept areas. If street furniture is to be implemented, then it is recommended that these be de-mountable to allow for ease of removal for any future deliveries.



Location Plan

Legend:

28 axle girder frame trailer minimum turning arrangements Drawing ref. 24-1232.TC03

Extent of Tractor Track

Extent of Oversail

Proposed Road Bboundary

Proposed Road Widening

Overrun and oversail beyond kerb

Overrun beyond kerb

Oversail beyond kerb

Rev.	Date	Amendments
1		
0	11.07.24	Issued for comment

Revisions

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

Client: North Falls Offshore Wind Farms

Project: North Falls

Title: Swept Path Assessment
Initial Assessment of A120 Roundabout, considerate of indicative te transformer transported on 28 axle girder frame trailer.

Drawing status: Indicative Review

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

Dwg. no:	Sheet:	Rev:
24-1232 Design Check	1 of 1	0

P:\Clients\Existing Clients\RWE\24-1232 North Falls Offshore Wind Farm\Swept Path Assessments

NORTH FALLS

Offshore Wind Farm

HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

To contact please email contact@northfallsoffshore.com