MOTT MACDONALD

Western Isles HVDC Link

Abnormal Load Route Access Study
Arnish Moor Site

October 2024

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1 Introduction

This report documents the findings of an abnormal load access study undertaken by Mott MacDonald in support of the proposed Western Isles HVDC Link project.

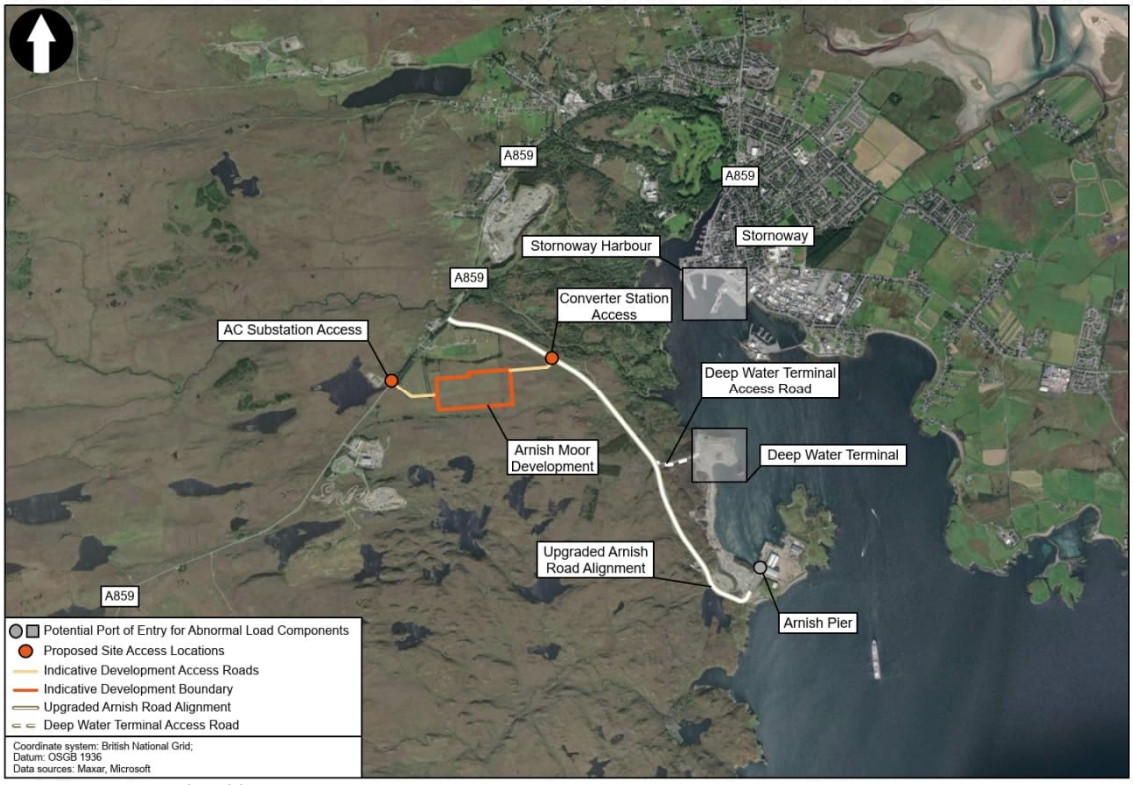
1.1 Project Background

Mott MacDonald Ltd. ('Mott MacDonald') have been commissioned by SSE to complete an access study for the delivery of abnormal loads to the proposed 1800MW Converter Station and 400 / 132kV AC Substation to be constructed on the Isle of Lewis, as part of the Western Isles HVDC Link project.

The proposed Western Isles HVDC Link project will introduce a HVDC connection between the Isle of Lewis and the Scottish mainland to reinforce the existing Lewis network and provide a national grid connector for future renewable generators.

Following a site selection process, SSE have selected the Arnish Moor site to locate the Converter Station and AC Substation ('Development'). The site is located to the east of the A859, approximately 2km west of Stornoway (see Figure 1.1).

Figure 1.1: Site Location Plan



Source: Mott Macdonald & SSEN

1.2 General

This study has focussed principally on the appraisal of potential abnormal load access routes between Stornoway Port and the proposed Development site to facilitate the delivery of the transformer units. The transformer units are deemed to be the largest and heaviest abnormal load components required at the Development site.

Three routes have been considered which are associated with the differing berths in which components could be received at Stornoway Port:

- Route 1: Arnish Pier at Arnish Point to Site (via The Upgraded Arnish Road).
- Route 2: Deep Water Terminal to Site (via The Upgraded Arnish Road).
- Route 3: Main Stornoway Port (via Stornoway town centre).

This report documents a summary of the findings of this access study, and is intended to highlight matters of significance, to help define the forward approach for further detailed assessment.

1.3 Development and Site Access

The Development is formed of two distinct parts: a Converter Station and an AC Substation. The Converter Station will be located on the east side of the Development with a dedicated access extending from the Arnish Road to the east side of the site boundary. The AC Substation will be located on the west side of the Development with a dedicated access extending from the A859 to the west side of the site boundary. Limited vehicular movements will be permitted between the two parts of the site. It is noted that both parts of the site will require delivery of abnormal loads which will approach from each dedicated access road.

As illustrated on Figure 1.1, access to the AC Substation will require delivery vehicles to pass the access to the Converter Station site. This study has therefore focused on the longer abnormal load delivery route, which captures the assessment required to access both parts of the site.

1.4 Structure of the Report

The report is sub-divided into the following sections:

- Section 2 provides an overview of the study methodology.
- Section 3 provides an overview of the consultation with Stornoway Ports Authority.
- Section 4 provides an overview of the potential abnormal load access routes.
- Section 5 documents the initial findings of the route assessment.
- Section 6 considers the movement of general construction traffic.
- Section 7 provides a summary of the study findings and recommendations.

The report appendices provide further relevant information:

- Appendix A: Stornoway Harbour Consultation.
- Appendix B: Swept Path Analysis Drawings.

Bold text formatting is used to identify key findings or recommendations.

2 Study Methodology

2.1 Desk Study

A desk study has been undertaken to identify potential constraints and risks to access along each of the anticipated delivery routes. This comprised an initial appraisal of the access route using online mapping and imagery sources, as well as previous study reports / drawings provided by SSE.

This initial appraisal identified a list of potential constraint locations on each route. Constraints were identified at locations which have the potential to restrict the movement of abnormal load components (transformer units) to the site. Professional judgement was utilised to assist in the identification of potentially significant route constraints and to appraise the likely magnitude and feasibility of infrastructure accommodation works which could be required. Refer to Section 5 for the route assessment summary.

2.2 Swept Path Analysis (SPA)

SPA was undertaken along the entire abnormal load route and focussed on key constraint locations. SPA simulated the transportation of a specialist vehicle carrying transformer components which are deemed to be the most onerous transporter loading configurations.

Transformer unit components vary in size and weight, however for the purpose of this assessment, and as agreed with SSE, the following transformer unit and transport configurations have been considered:

- 1-phase 400kV transformer weighing approximately 260 tonnes measuring 8.7m long, 4.4m wide and 4.8m high.[1]
- Specialist 16 axle flat top trailer and single tractor unit with an approximate overall transport length of 35.5m laden with transformer.[2]
- Specialist 18 axle flat top trailer and two tractor units with an approximate overall transport length of 55m laden with transformer.[3]

The appraisal is based upon the laden vehicular specification and identified any junctions or bends where the turning circle appears inadequate, bridges that may require strengthening or challenging topography.

The route constraint assessment is based on the larger vehicle type noted above. This reflects the most onerous vehicle specification, which has the potential for greater associated impact due to vehicle oversail and/or overrun beyond the road edge.

It should be noted that the actual vehicle and load configuration adopted could vary from those assessed and documented in this report. Accordingly, the arrangement should be verified with the appointed haulier and the SPA checks updated per the actual specification and configuration. It is recommended that the SPA should be verified through an in-situ trial run.

[1] Transformer transportation dimensions per drawing ref: 1-Phase Transformer by ABB Power Transformers, Drawing Number – Xz250365C5268. Provided by SSE.

[2] Vehicle specification per drawing ref: Indicative Transport Configuration by Wynns, Drawing Number – 22-1122.TC02. Provided by SSE.

[3] Vehicle specification per drawing ref: Indicative Transport Configuration by Wynns, Drawing Number – 22-1122.TC03. Provided by SSE.

2.3 Consultation

Mott MacDonald consulted with Stornoway Port Authority to determine the most appropriate location for the delivery of abnormal loads into Stornoway Port.

Consultation was undertaken via email and a virtual meeting held on the 17th of November 2023. A summary of the findings of this consultation are detailed in **Section 3**.

Consultation with Stornoway Port Authority was undertaken as part of a previous iteration of this project associated with the construction of the Development on an adjacent site at Creed North. The findings of this consultation are relevant to this current study and have therefore been included.

Mott MacDonald consulted via email with the Western Isles Council in November 2024, to verify the structural adequacy of any bridges and culverts along the proposed abnormal load access routes. A summary of the findings of this consultation are detailed in **Section 4**.

Consultation has also been undertaken with the design team associated with the Upgraded Arnish Road project. Consultation was undertaken via email in December 2024. A summary of the findings of this consultation are detailed in **Section 4**.

3 Stornoway Port Infrastructure Works

3.1 Overview

Stornoway Port is the expected port of entry for all abnormal load components for the proposed development.

Stornoway Port is the primary port for the Outer Hebrides and a key hub of economic activity in the region, catering for a wide variety of sectors such as oil and gas, renewables, fishing vessels and cruise ships. Stornoway Port operates 24 hours a day and 365 days per year, subject to weather conditions.

A virtual meeting was held with representatives from Stornoway Port Authority on the 17th of November 2023 to ascertain the extents of the Port's infrastructure and capabilities for managing abnormal load deliveries. A summary of the key findings of this consultation are provided below. Detailed meeting notes are contained within Appendix A.

3.2 Port Facilities

Stornoway Port consists of several piers and quay facilities capable of accommodating a diverse range of industries and types of vessels. The main part of the Port is located immediately south of Stornoway town which includes the ferry terminal (Pier 3). The Newton Basin / Goat Island is located to the south of the main part of the Port and is connected to the mainland via a causeway. Further south, the Stornoway Port Authority are also responsible for the operation of the Arnish Pier, located at Arnish Point.

In addition to the existing facilities noted above, Stornoway Port Authority have recently commenced operation of a new Deep Water port, north of Arnish Point and to the south of the River Creed. This new facility, known as the Deep Water Terminal, provides a new multi-purpose facility which will provide a berth for vessels up to 360m long with a water depth of 10m below Chart Datum, a ferry berth, and 6.5 hectares of land for unloading, storage and industrial uses. This new site started operations in summer 2024.

Driven by the construction of the Deep Water Terminal, and the increased operations at Arnish Pier, Stornoway Port Authority are seeking planning consent to upgrade and realign The Arnish Road to form a continuous two way road between the A859 and the Deep Water Terminal / Arnish Pier (see Figure 1.1). This road upgrade is envisaged to be completed in 2026.

It is assumed the upgrade works to Arnish Road (hereafter known as 'Upgraded Arnish Road') will be complete before the delivery of all abnormal load components and as such, this study considers the upgraded road alignment only.

3.3 Consultation

Regarding the movement of abnormal loads, Mott MacDonald were advised of the following key information during the virtual meeting:

- Delivery of the transformers and other comparable abnormal loads would be to either the Arnish Pier or the Deep Water Terminal. **The main Stornoway Port infrastructure would not be suitable to accommodate a load of this size / weight.**
- Sufficient space is available at the Arnish Pier for unloading / loading and manoeuvring of long vehicles. Similarly, greater space for undertaking these movements will be available at the Deep Water Terminal.

- There will be no installed cranes or dedicated lifting equipment at the Deep Water Terminal and this equipment will need to be brought to site. This also applies to the current Arnish Pier.
- The Port has managed the delivery of large and heavy abnormal loads historically but has not recently managed a load of this scale. Delivery of lighter, but longer, abnormal loads (piles etc) have been undertaken recently. All recent abnormal loads or long / heavy lifts have been undertaken at Arnish Pier.
- The Ferry Terminal (Pier 3) is likely to be the only suitable pier for any other large loads within the main part of the Port. All other piers have further restrictions imposed and would not be suitable for lifting of large loads.
- General construction plant and equipment will need to be delivered to Stornoway to facilitate construction of the development. The majority of this will be standard construction traffic however, lighter abnormal loads will be required namely, 28m long columns / beams for construction of the buildings on site. Stornoway Port Authority indicated that these would be expected to arrive via the Arnish Pier or the Deep Water Terminal.

It is recommended to maintain liaison with Stornoway Port Authority to fully understand the capabilities of the Amish Pier and Deep Water Terminal and associated upgrade of The Arnish Road. Furthermore, it is recommended that the suitability of the quay/berth is reviewed by the abnormal load component supplier and haulier.

4 Overview of Potential Abnormal Delivery Routes

4.1 Overview

Three routes have been considered which are associated with the differing berths in which components could be received at Stornoway Port:

- Route 1: Arnish Pier at Arnish Point to Site (via The Arnish Road).
- Route 2: Deep Water Terminal (currently under construction) to Site (via The Arnish Road).
- Route 3: Main Stornoway Port (via Stornoway town centre).

Following consultation with Stornoway Port Authority it is noted that there is no suitable berth within the main part of the Port to accommodate an abnormal load of this scale. As such, Route 3 (Main Stornoway Port to Site via Stornoway town centre) has been discounted and is not subject to further assessment as part of this study.

The two routes which have been considered for further abnormal load route assessment are illustrated below in Figure 4.1: Route 1 and Route 2.:

Figure 4.1: Overview Plan of Potential Abnormal Delivery Routes

Source: Mott MacDonald / SSE

4.2 Road Network

Access Route 1 and Route 2 broadly use the same road network to access the Development.

4.2.1 Upgraded Arnish Road

Route 1 and Route 2 both traverse the proposed Upgraded Arnish Road and the A859 between the development site and the Arnish Pier and Deep Water Terminal respectively.

As noted in Section 3 The Arnish Road is subject to future upgrades to create a continuous two-way road between the A859 and Arnish Pier. The current proposals indicate this road upgrade will create a 6.6m wide road with adjacent 2.7-3.2m wide hard verges. The road will be significantly realigned to remove the tight horizontal bends currently observed on the existing road. Several Autodesk AutoCAD files have been made available by SSE which illustrates the current design of the road upgrade[4].

It is understood that the existing Arnish Road is a private road which is currently managed by the Highlands and Islands Enterprise (HIE). It is noted that on completion of the road upgrade works the new alignment will be adopted by the Comhairle nan Eilean Siar (formerly Western Isles Council)[5]. It is assumed that unrestricted access over this road is attainable for the movement of abnormal loads. It is recommended that consultation is undertaken with HIE / Comhairle nan Eilean Siar (CnES) to establish the extents of ownership and to confirm if there are any approval requirements with regards to general traffic movements as well as any road modifications or structural assessments (if required).

Through consultation undertaken with the Upgraded Arnish Road design team in December 2024, Mott MacDonald were advised of the following key information associated with the current design proposals:

- There are 11 no. culverts of varying diameters (0.3m to 0.9m) to be located along the new road alignment. Culverts will be constructed to the appropriate highway specification.
- All new culverts and structures shall be designed to support abnormal axle loads. It is noted that the design of the culverts may be subject to change dependant on SEPA's response to the CAR license application which is ongoing as of December 2024.
- Regarding the proposed road construction, it is noted that plate bearing tests have been undertaken on similarly constructed carriageways for abnormal load activities and typical results were 1mm deflection under a load of 250kN/m² (25 tonnes/m²). The carriageway design should therefore be adequate to support abnormal loads (Note: CBR and plate bearing tests shall be undertaken on the completed road formation as part of the works).
- The verge adjacent to the proposed road shall be a 'hard' verge of similar construction to the carriageway but will be unsurfaced. The verge construction will be adequate to support vehicle overrun.

It is recommended to maintain liaison with the designers and/or project sponsor of The Arnish Road upgrade works to keep up to date with this ongoing development.

4.2.2 A859

The A859 is an 'A' class road which forms the predominant north-south link across Lewis and Harris, extending between Stornoway and Rodel. It is maintained by Comhairle nan Eilean Siar

[4] File ref: '51 to 62 Planning B Draft Cross Sections 08_07_24.dwg'. Provided by SSE for Arnish Moor Site

[5] Arnish Road Upgrade Planning Statement: Planning-Statement.pdf (cne-siar.gov.uk)

(CnES). The A859 within vicinity of the development is in the form of a 6.0-6.5m wide single carriageway road and is subject to a speed limit of 40mph.

4.2.3 Deep Water Terminal Access Road

The Deep Water Terminal is accessed from a new 8.0m wide access road which extends eastwards from a junction with the existing Arnish Road. This junction will be upgraded to accommodate the Upgraded Arnish Road alignment.

4.3 Route 1

Route 1 is illustrated below in Figure 4.2.

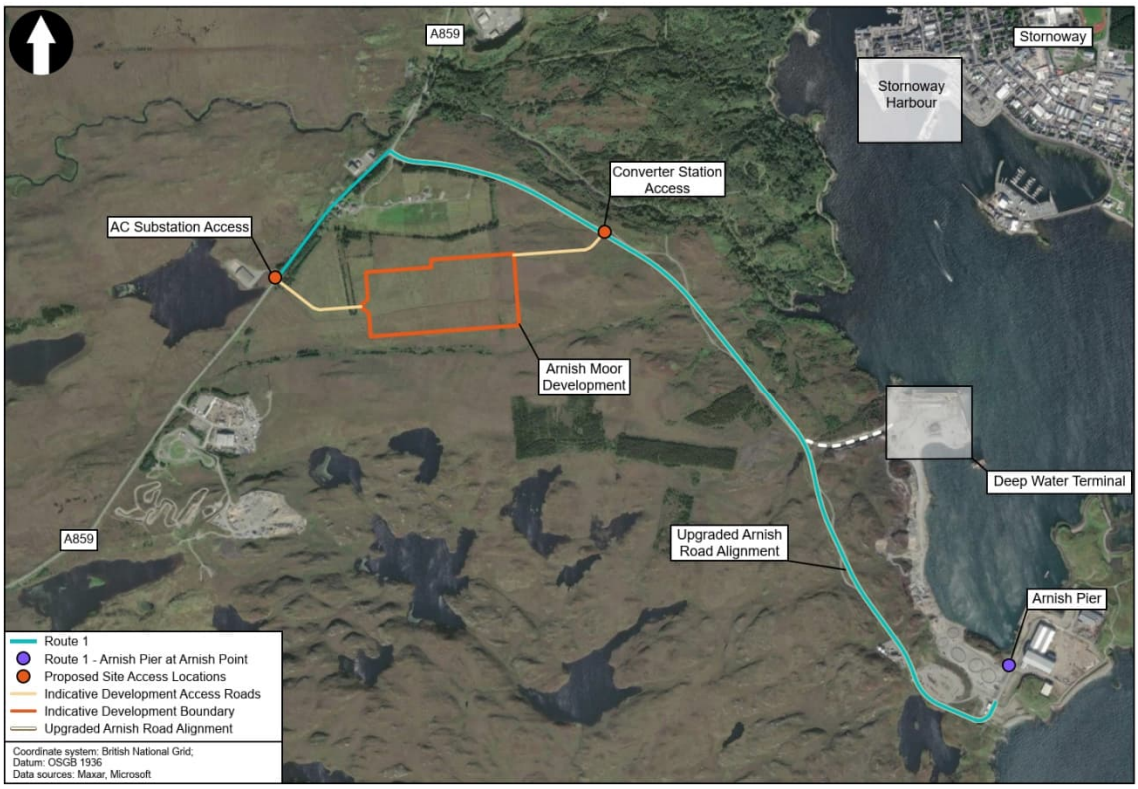
Access to Converter Station Site:

From Arnish Pier the delivery vehicle would travel north-west on the Upgraded Arnish Road for approximately 2.5km to reach the new access to the Converter Station site.

Access to AC Substation Site:

From Arnish Pier the delivery vehicle would travel north-west on the Upgraded Arnish Road for approximately 3.4km to reach the A859. At the junction with the A859, the delivery vehicle would turn left to join this road and travel south-west for approximately 650m to reach the new access to the AC Substation site.

Figure 4.2: Route 1 Overview



Source: Mott MacDonald / SSEN

4.4 Route 2

Route 2 is illustrated below in Figure 4.3.

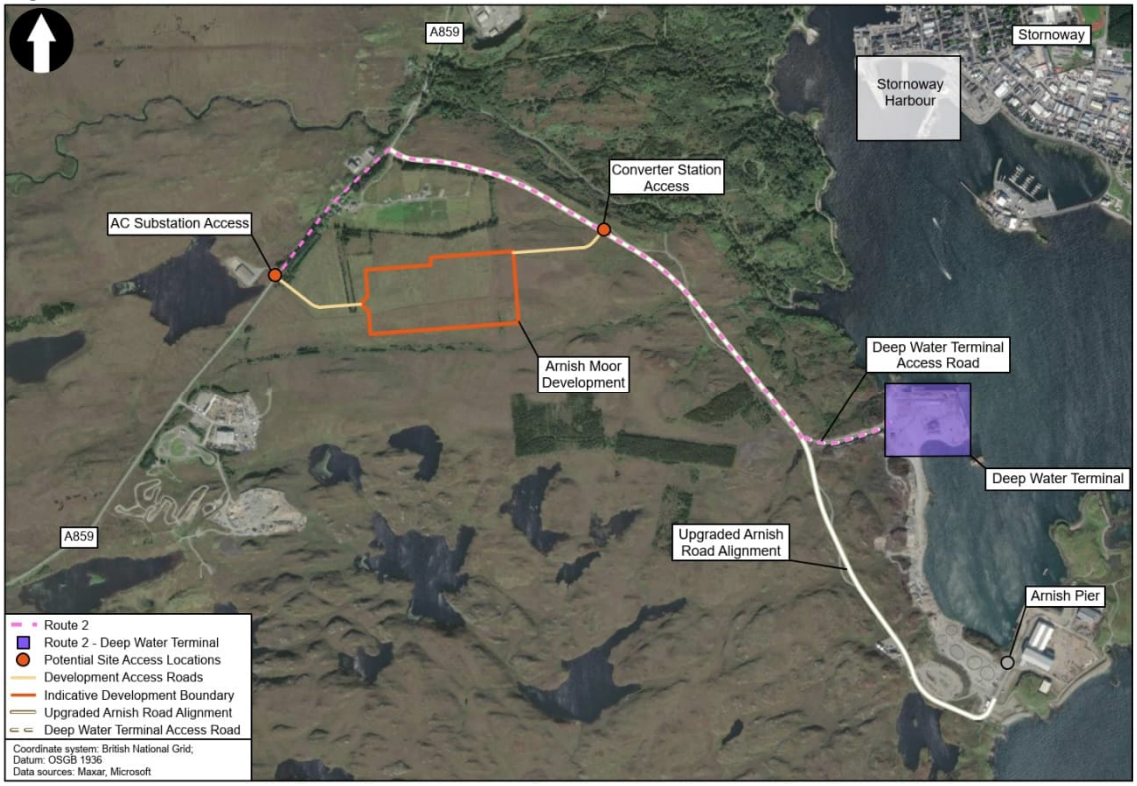
Access to Converter Station Site:

From the Deep Water Terminal, the delivery vehicle would travel west for approximately 400m on the Deep Water Terminal access road to reach to Upgraded Arnish Road. The delivery vehicle would then turn right to join the Upgraded Arnish Road (per Route 1) and travel north-west approximately 1.2km to reach the new access to the Converter Station site.

Access to AC Substation Site:

From the Deep Water Terminal, the delivery vehicle would travel west for approximately 400m on the Deep Water Terminal access road to reach to Upgraded Arnish Road. The delivery vehicle would then turn right to join the Upgraded Arnish Road (per Route 1) and travel north-west approximately 2km to reach the A859. At the junction with the A859, the delivery vehicle would turn left to join this road and travel south-west for approximately 650m to reach the new access to the AC Substation site.

Figure 4.3: Route 2 Overview



Source: Mott MacDonald / SSEN

5 Route Assessment

5.1 Constraint Assessment

A summary of the potential constraints identified on the abnormal load delivery routes is provided below. Each constraint site has been appraised to identify if any horizontal constraints are perceived on the abnormal load access route e.g. risk of vehicle overrun and/or oversail beyond the road edge.

The requirement for potential infrastructure accommodation works was informed by SPA undertaken at each constraint location; SPA was based upon OS digital mapping and information received for the current Upgraded Arnish Road design. SPA plan drawings of the full abnormal load delivery route are provided in Appendix B.

A brief description of the anticipated issue at each constraint site is provided and a category has been assigned, dependant on the anticipated impact of vehicle overrun and/or overhang beyond the carriageway edge. Categorisation of each constraint site has been used to help identify those sites which are deemed to be significant and require further assessment to determine potential impacts.

Table 5.1: Constraint Categorisation

Category	Definition
Low (A)	Oversail of delivery vehicle and/or load expected onto opposing traffic lane or beyond the road edge.
Medium (B)	Oversail of delivery vehicle and/or load expected beyond road edge. Conflict with existing street furniture (road sign, lighting column etc) or vegetation is expected.
High (C)	Delivery vehicle overrun beyond the road edge expected. Road widening, or provision of a temporary load bearing surface, will be required to accommodate the delivery vehicle movement. The vertical alignment of the carriageway may prohibit the delivery vehicle from passing safely due to the constrained vertical alignment.

Source: Mott MacDonald

This constraint assessment has principally focussed on the horizontal constraints noted along each access route. Vertical constraints have been identified where the vertical alignment of the carriageway may prohibit the delivery vehicle passing safely due to a risk of grounding or axles lifting from the carriageway. It is recommended that topographical survey information (or similar) should be assessed to ensure adequate ground clearance is available throughout the route.

The movement of the delivery vehicle at the quay / berth has not been considered as part of this assessment. It is recommended that the suitability of the quay/berth is reviewed by the abnormal haulier to ensure sufficient space to manoeuvre and safely accept the transformer units.

5.2 Constraint Summary

5.2.1 Route 1

Table 5.2 provides a summary of the potential constraints identified on the abnormal load delivery Route 1 and includes a description of recommended residual actions.

Table 5.2: Constraint Summary for Route 1

Ref.	Drawing Ref.	Constraint	Comment and Recommendations	Cat.
1.1	109647-MMD-ARNI-00-XX-DR-TP-1001 to 1008	Use of Full Road Width	The delivery vehicle would be required to use the entire road width when negotiating the Arnish Road and the A859 due to the wide abnormal load (4.4m). General traffic movements should be suspended during abnormal load movements to remove any conflict with opposing traffic throughout the route. **Recommended actions:** • Specific requirements for abnormal load delivery will be identified and agreed with CnES and approvals obtained in line with statutory requirements.	**A**
1.2	109647-MMD-ARNI-00-XX-DR-TP-1007	Left turn at junction between Upgraded Arnish Road and A859	Delivery vehicle to turn left from the Upgraded Arnish Road to the A859. Delivery vehicle would be required to use the entire road width when negotiating this junction however, the vehicle is retained within the extents of the A859. General traffic movements should be suspended during abnormal load movements to remove any conflict with opposing traffic throughout the route. **Recommended actions:** • Specific requirements for abnormal load delivery will be identified and agreed with CnES and approvals obtained in line with statutory requirements.	**A**
1.3	-	Left turn into new site accesses: Converter Station and AC Substation.	Delivery vehicle to turn left into the site access from the Arnish Road and A859 to reach the Converter Station and AC Substation respectively. Junction geometry and corner radii to be sufficient to accommodate abnormal load delivery. Consider temporary overrun area on inside of bend to accommodate movement if required. New street furniture (if required) to be	**A**

			kept out of envelope of vehicle / load oversail. **Recommended actions:** • Site access to be designed and constructed to accommodate abnormal load movements. • Access design to be discussed and agreed with relevant road authority / owner (CnES / Stornoway Port Authority / HIE).	
1.4	109647-MMD-ARNI-00-XX-DR-TP-1007 and 1008	Potential Vertical Constraint	Undulating vertical profile on the A859 between the AC Substation access and Arnish Road junction. **Recommended actions:** • Assess the existing road vertical profile through this section through topographical survey information (or similar) or via a trial run to ensure adequate ground clearance is available.	**C**

Source: Mott MacDonald

5.2.2 Route 2

Table 5.3 provides a summary of the potential constraints identified on the abnormal load delivery Route 2 and includes a description of recommended residual actions.

Table 5.3: Constraint Summary for Route 2

Ref.	Drawing Ref.	Constraint	Comment and Recommendations	Cat.
2.1	109647-MMD-ARNI-00-XX-DR-TP-1001 to 1008	Use of Full Road Width	The delivery vehicle would be required to use the entire road width when negotiating the Deep Water Terminal access road, Arnish Road and the A859 due to the wide abnormal load (4.4m). General traffic movements should be suspended during abnormal load movements to remove any conflict with opposing traffic throughout the route. **Recommended actions:** • Specific requirements for abnormal load delivery will be identified and agreed with CnES and approvals obtained in line with statutory requirements.	**A**
2.2	109647-MMD-ARNI-00-XX-DR-TP-1009	Right turn at junction between Upgraded Arnish Road and Deep	Constrained right hand turn. Overrun of the verge on the inside of the bend required to accommodate the vehicle movement as the vehicle exits the junction. Road widening or provision of a temporary load bearing surface required to accommodate the vehicle	**C**

		Water Terminal access road	movement (Note: Hard verge may be capable of vehicle overrun in line with consultation feedback from Upgraded Arnish Road design team). **Recommended actions:** ● Discuss proposed accommodation works with relevant road authority / owner (CnES / Stornoway Port Authority / HIE).	
2.3	109647-MMD-ARNI-00-XX-DR-TP-1007	Left turn at junction between Upgraded Arnish Road and A859	Delivery vehicle to turn left from the Upgraded Arnish Road to the A859. Delivery vehicle would be required to use the entire road width when negotiating this junction however, the vehicle is retained within the extents of the A859. General traffic movements should be suspended during abnormal load movements to remove any conflict with opposing traffic throughout the route. **Recommended actions:** ● Specific requirements for abnormal load delivery will be identified and agreed with CnES and approvals obtained in line with statutory requirements.	**A**
2.4	-	Left turn into new site accesses: Converter Station and AC Substation.	Delivery vehicle to turn left into the site access from the Arnish Road and A859 to reach the Converter Station and AC Substation respectively. Junction geometry and corner radii to be sufficient to accommodate abnormal load delivery. Consider temporary overrun area on inside of bend to accommodate movement if required. New street furniture (if required) to be kept out of envelope of vehicle / load oversail. **Recommended actions:** ● Site access to be designed and constructed to accommodate abnormal load movements. ● Access design to be discussed and agreed with relevant road authority / owner (CnES / Stornoway Port Authority / HIE).	**A**
2.5	109647-MMD-ARNI-00-XX-DR-TP-1007 and 1008	Potential Vertical Constraint	Undulating vertical profile on the A859 between the AC Substation access and Arnish Road junction. **Recommended actions:**	**C**

			• Assess the existing road vertical profile through this section through topographical survey information (or similar) or via a trial run to ensure adequate ground clearance is available.	

Source: Mott MacDonald

5.3 Route Assessment Summary

One key horizontal constraint has been identified on Route 2 which is in relation to the right turn when exiting the Deep Water Terminal access road and turning onto the Upgraded Arnish Road. Road widening or provision of a temporary load bearing surface required to accommodate the vehicle movement. The proposed hard verge construction, which is to be installed as part of the Upgraded Arnish Road project, may be capable of accommodating vehicle overrun at this location.

A potential vertical constraint has been identified on the A859 to the south of the Arnish Road due to the undulating vertical profile. Further assessment is required to determine if this poses a constraint to access for the AC Substation.

The vertical alignment of the Upgraded Arnish Road has not been assessed as part of this study. Further assessment is required to confirm the proposed alignment does not pose any constraint to access for the proposed abnormal load delivery vehicle.

5.4 Structures

11 no. culverts have been noted on the Upgraded Arnish Road[6] which need to be crossed to access the Development site. Other structures may be present along the access route which were not identified during the desk study or may be subject to change as the Upgraded Arnish Road design is finalised.

The desk study did not identify any structures on the A859 between the Arnish Road and AC Substation site access. Consultation was undertaken with CnES in December 2024 to confirm the findings of the desk study. CnES indicated that they have no known structures of any significant size between the Arnish road /A859 junction and the proposed site access on the A859.

It is recommended that continued consultation is undertaken with the designers and/or project sponsor of The Arnish Road upgrade works to establish the extents of any new structures on this road. Consultation should seek to confirm any new structures have sufficient loading capacity, including an appropriate safety margin, for the anticipated abnormal load deliveries as they design of these structures is finalised.

5.5 Overhead Constraints

Two overhead power lines (grid reference 140124, 932182) have been observed crossing the abnormal load route on the A859, adjacent to residential cottages cited between the Arnish Road junction with and the proposed AC Substation site access. Other power and communication lines may be present on the abnormal load route which were not identified during the desk study.

[6] Consultation with Upgraded Arnish Road design team, December 2024.

It is recommended that the appointed haulier ensure, through consultation with the relevant utility provider(s), that there is sufficient vertical clearance including an appropriate safety margin.

6 General Construction Traffic

6.1 Overview

In addition to the abnormal load deliveries, notable HGV activity will be generated during construction of the Development. This will consist of both general works traffic as well as the delivery of materials and plant to and from the site. Initial consideration has been given to construction traffic access to the proposed site.

It is envisaged that general construction will consist of movements which originate on the Isle of Lewis and Harris, as well as traffic which will arrive at Stornoway Port from the Scottish Mainland. General construction traffic accessing the site which originate from the Isle of Lewis / Harris are not deemed to be of concern as they will use the A859 to approach the site access.

6.2 Stornoway Port to Site

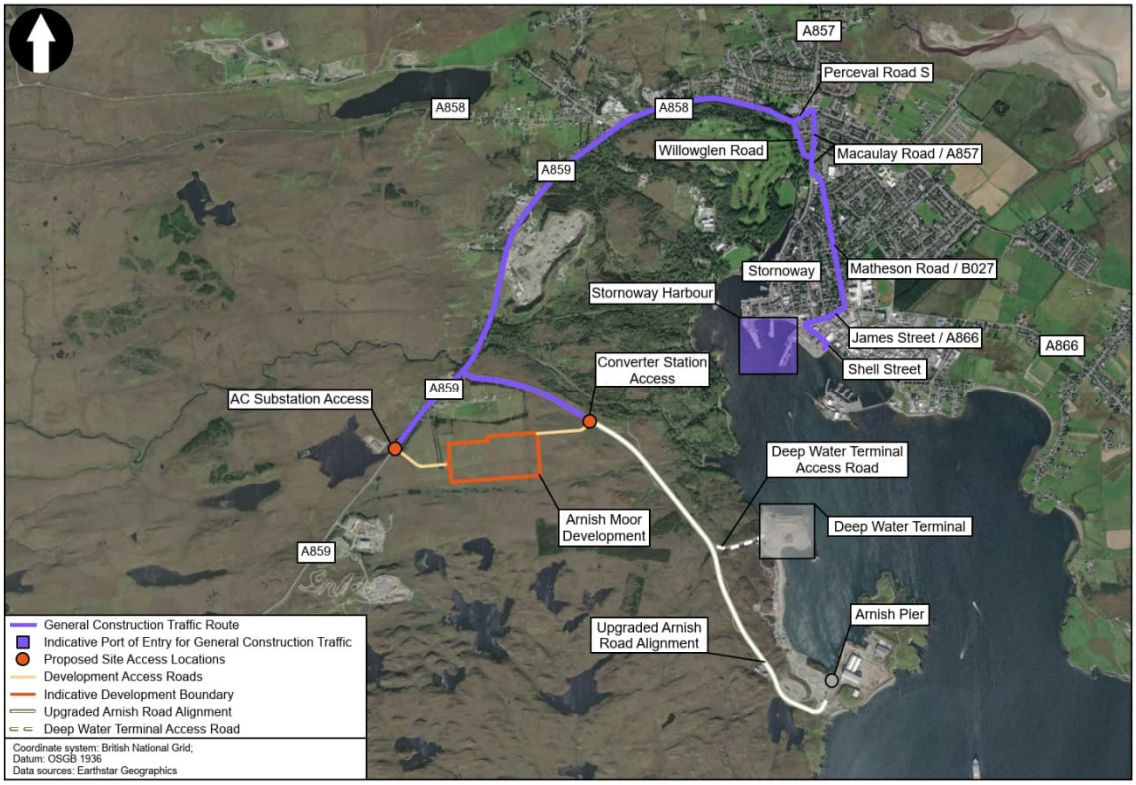
General construction traffic arriving via Stornoway Port will travel through Stornoway to access the A859 for onward journeys to the site access, as described below.

General construction traffic will egress the Port into Stornoway via the Shell Street / Newton Street / Ferry Road roundabout. It is expected that construction traffic would then follow the signed route towards the A859 as follows (see Figure 6.1):

- On exit of the ferry terminal construction traffic would turn left on to Shell Street. Following Shell Street for approximately 160m to reach a roundabout, vehicles would take the second exit onto the A866 (James Street).
- Continuing on James Street for approximately 250m to reach a further roundabout, vehicles would take the first exit onto B8027 (Matheson Road).
- Continuing on Matheson Road for approximately 850m to reach a further roundabout, vehicles would take the second exit onto the A857 (Macaulay Road).
- After approximately 80m vehicles would turn left onto Willowglen Road and continue on this road for approximately 260m to reach the A858 Willowglen Road / Perceval Road S junction. Vehicles would then turn left to join the A858. An alternate route exists to reach this junction whereby vehicles could continue on the A857 to reach to the A857 / Perceval Road S roundabout before taking the first exist onto the A858. This left turn at the roundabout would require HGVs to make a tight turn and there is a risk that vehicles would impinge on opposing lanes on Perceval Road S to complete this turn. As such, the route via Willowglen Road is deemed to be preferred at this stage.
- From the A858 vehicles would continue westwards for approximately 1.1km where the A858 becomes the A859 opposite the Benadrove Road junction.
- Remaining on the A859 vehicles would continue for approximately 1.2km to reach the site access.

This route is expected to cater for HGV movements currently and no significant constraints to access have been identified along this route.

Figure 6.1: General Construction Traffic Route Plan from Stornoway Harbour



Source: Mott MacDonald

6.3 Arnish Pier / Deep Water Terminal to Site

General construction traffic arriving at Arnish Pier or the Deep Water Terminal would egress onto the Upgraded Arnish Road before joining the A859 to access the site. The Upgraded Arnish Road is expected to accommodate HGV movements due to the industrial land use at Arnish Point.

6.4 Construction Traffic Management Plan

A Construction Traffic Management Plan (CTMP) will be required to ensure construction traffic can safely access the site, and that the safe and efficient operation of the highway network will not be compromised. The CTMP will require to be developed in consultation with the local road's authority (CnES) and Police Scotland prior to construction commencement. The CTMP would require to be developed at least in outline form to discharge planning conditions and typically detail the following:

- The proposed route for construction traffic including Abnormal Loads; to identify the most appropriate route for large construction vehicles to access the site. Any narrow road widths, hazard identification such as weight/height restrictions, overhanging branches, tight corners, and sharp changes in gradient should be outlined.
- The necessary agreements and timing restrictions for construction traffic.
- Escort arrangements for Abnormal Loads.
- Route signing.
- Details of advanced notification to the public, warning of large component transport movements.

- Arrangements for regular road maintenance and cleaning, e.g., road sweeping in the vicinity of the site access point as necessary, wheel cleaning / dirt control arrangements.
- Contractor speed limits.
- Community and emergency services liaison details.

The process to minimise the impacts of the construction traffic relating to the Development will be an ongoing one and the CTMP can accordingly be considered a 'live document.' A monitoring strategy will be established between SSE and the relevant roads authority. The main purpose of the strategy will be to ensure that each contractor involved in the construction phase complies with the CTMP, and that this compliance is monitored adequately.

7 Summary and Forward Approach

7.1 Overview

This report summarises the initial findings of an access route assessment undertaken by Mott MacDonald in support of the proposed Western Isles HVDC Link project.

This access study has focussed on the analysis of two potential abnormal load routes from Stornoway Port to the proposed Development site access, located to the west of the A859 approximately 2km west of Stornoway.

The routes which have been considered for abnormal loads are associated with the differing berths in which components could be received at Stornoway Port:

- Route 1: Arnish Pier at Arnish Point to Site.
- Route 2: Deep Water Terminal to Site.

The Development is formed of a Converter Station and an AC Substation, with dedicated access to each part of the Development. Access to the Converter Station is via a new access extending from the Arnish Road whilst access to the AC Substation is via a new access extending from the A859. Access to the AC Substation will require delivery vehicles to pass the access to the Converter Station site therefore, this study has focused on the longer abnormal load delivery route.

7.2 Stornoway Port

Consultation was undertaken with Stornoway Port Authority to ascertain the adequacy of the Port infrastructure to accommodate the delivery of the anticipated abnormal loads. At this present time, Arnish Pier and the Deep Water Terminal are expected to be sufficient for the delivery and offloading of the proposed components. It is recommended to maintain liaison with Stornoway Port Authority regarding the movement of abnormal loads. Furthermore, it is recommended that the suitability of the quay/berth is reviewed by the component supplier and haulier.

Following consultation with Stornoway Port Authority it is noted that there is no suitable berth within the section of Port immediately south of Stornoway town to accommodate an abnormal load of this scale. As such, an abnormal load access route extending from Stornoway Port to the Development was discounted and was not subject to further assessment as part of this study.

7.3 Abnormal Load Access Route

An appraisal of Route 1 and Route 2 was undertaken and identified a number of constraints on these routes which could impact the movement of the abnormal load delivery vehicle. These locations have been appraised through a detailed desk study and swept path analysis to establish the form of constraint and potential risk to access imposed by these sites.

No significant horizontal constraints were identified on Route 1 however, one potential vertical constraint was identified on the A859 due to the undulating vertical profile of the road.

One horizontal constraint was identified on Route 2 at the Deep Water Terminal / Upgraded Arnish Road junction where accommodation works may be required to accommodate the right turn of the delivery vehicle at this location. Per Route 1, a potential vertical constraint was identified on the A859.

It is recommended that both Route 1 and Route 2 are taken forward for further consideration given the corresponding route alignments and proximity of the points of delivery. Both routes largely traverse the same roads albeit Route 2 does not use the full length of Arnish Road.

7.4 Forward Approach

Below is a list of recommended tasks that should be considered in order to progress this study. Please note this list may not be exhaustive however, it should provide a sufficient overview of the key requirements to progress this study. Further activities may be required as the scheme progresses:

- A site walkover should be undertaken to confirm the findings of the desk study and to verify the initial findings of the SPA.
- Where deemed necessary, topographical survey information should be sought for key constraint locations to verify the findings of the SPA. Additionally, topographical survey information (or similar) should be assessed to ensure adequate ground clearance is available throughout the route.
- To formally verify the results of SPA it will be essential to commission a trial run, to simulate abnormal load delivery vehicle in real conditions, this should be undertaken by a suitably experienced abnormal load haulage contractor.
- Discuss potential accommodation works requirements, associated implications and the aligned approvals process with Comhairle nan Eilean Siar.
- Ascertain responsibility of the Upgraded Arnish Road with regards to approvals for road modifications and ascertain potential requirement(s) for structural assessments of existing / proposed structures / culverts (if required).
- Maintain liaison with Stornoway Port Authority regarding the ongoing development of the Deep Water Terminal.
- Ensure suitability of the quay/berth at Arnish Pier and the Deep Water Terminal is reviewed by the component supplier and haulier.
- Maintain liaison with the designers and/or project sponsor of The Arnish Road upgrade works to keep up to date with this ongoing development.
- Ensure the appointed haulier ensures, through consultation with utility providers, that there is sufficient vertical clearance below any overhead lines including an appropriate safety margin.

Appendices

A. Stornoway Harbour Consultation

B. Swept Path Analysis Drawings

A. Stornoway Harbour Consultation Summary

MOTT MACDONALD

Record of meeting

Project title	LT14 Western Isles HVDC

Subject	Access and Transport – Stornoway Port to Site	
Location	MS Teams Meeting	
Date/time of meeting	Friday 17th November, 11:15-12:00	
Project number	100109647	
Attendees	Sally Reynolds (SR)	Stornoway Port Authority
	Alasdair Smith (AS)	Stornoway Port Authority
	Stephen MacDonald (SM)	Stornoway Port Authority
	Euan Reilly (ER)	SSE
	Harry Shrive (HS)	Mott MacDonald
	Iain Millar (IM)	Mott MacDonald
Apologies	None	
Recorded by	Mott MacDonald	
Distribution	All attendees	

Item	Text	Action
1.0	**Project Background** ER provided an overview of the project background and current project programme / key milestones: ● 2026-2030 – Construction and implementation of scheme. ● Spring 2026 – commencement of enabling works. ● 2027-2028 – Transformer delivery. ER acknowledged the forthcoming Deep Water Terminal being constructed to the north of Arnish Point / Pier. An upgrade of the existing single track road which serves Arnish Pier is currently at planning stage which will create a formal two way road between the A859 and Arnish Pier, as well as the forthcoming Deep Water Ferry Terminal. ER has been liaising with Stornoway Port Authority regarding this proposed access road and the potential to align the cable routing between Arnish Point and the HVDC site with this new access road. SR noted that the Wester Isles Council website has been subject to a recent cyber-attack which has impacted the planning portal. It is not clear if this will impact the timing of any decision associated with the proposed road upgrade.	

Item	Text	Action

AS / SM noted that the Deep Water Terminal is due to be operational in 2024, whilst the access road upgrade is currently envisaged to be completed in 2026 (pending planning approval). No works to the existing single lane access track are proposed in advance of the main access road upgrade.

2.0 Proposed Access and Transport Arrangements

IM provided an overview of the indicative transformer and delivery vehicle to be used as part of this project, per below:

- Transformer: 8.7m Long, 4.4m wide, 4.8m long, transported weight approx. 260T (excl. Vehicle).
- Delivery vehicle: 18 axle flat top trailer with two accompanying tractor units. Overall transport length approx. 55m.

IM described the current routes under consideration for the movement of the transformer from port to site including from:

- Main Stornoway Port.
- Arnish Pier at Arnish Point site.
- Forthcoming Deep Water Terminal.

3.0 Stornoway Ports Facilities

AS / SM confirmed that the delivery of the transformers would be to either the Arnish Pier or forthcoming Deep Water Terminal. The main Stornoway Port facilitates would not be suitable to accommodate a load of this size / weight.

AS / SM noted that there is sufficient space at the Arnish Pier for unloading / loading and manoeuvring long vehicles. Similarly, greater space for undertaking these movements will be available at the Deep Water Terminal.

SM advised that No. 3 Pier (Ferry Terminal) is likely to be the only suitable pier for any other large loads with a loading capacity on the pier of 25kN/m^2. All other piers have further restrictions imposed and would not be suitable for lifting of large loads.

ER queried the type of lifting infrastructure which will be present at the Deep Water Terminal. AS confirmed that there will be no installed cranes and any lifting equipment will need to be brought to site.

AS enquired what the current proposals are for lifting the transformer at the Port and if this would be via a ship with heavy lift capacity or via a crane brought to the port. ER confirmed that this is not known at this stage and is subject to further consideration as the project progresses.

IM enquired if any big lifts had been undertaken recently and if any lessons learned could be applied to this project. SM noted that the Port hadn't had any recent deliveries of this nature but have managed these historically. Delivery of long loads (piles etc) have been undertaken recently. All recent abnormal loads or long / heavy lifts have been undertaken at Arnish Pier.

Item	Text	Action
	HS noted that there will be a need for general construction plant and equipment to be delivered to facilitate construction of the development. The majority of this will be standard construction traffic however, lighter abnormal loads will be required namely, 28m long columns / beams for construction of the buildings on site. AS / SM noted that these would be expected to arrive via the Arnish Pier or the Deep Water Terminal however, 33.5m long piles have been successfully delivered to the No. 3 Pier historically. **Post meeting note:** Grateful if any details of the delivery of the above 33.5m long piles could be shared including the delivery vehicle used and route from the port through Stornoway if available.	

END

Iain Millar (22/11/2023)

B. Swept Path Analysis Drawings

SPA ROUTE OVERVIEW PLAN
(SCALE 1:5000 at A1)

1:5000 0 250m 500m

Notes

1. All dimensions are in metres unless noted otherwise.
2. The information on this drawing is based on:
   2.1. Topographical survey information & proposed access road layouts from Arnish Pier and Deep Water Terminal provided by SSEN (Drawing Numbers 23/139/11 to 23/139/15 (revision A issued 25/13/24)) ;
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3. The swept path analysis represents a typical 18 axles flat top trailer delivery vehicle with front and rear tractor units. Vehicle specification provided by SSEN per drawing ref: Indicative Transport Configuration by Wynns, Drawing Number: 22-1122.TC03. Vehicle configuration is subject to confirmation with haulier.
4. Swept paths reflect manual steering.
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6. The AIL vehicle would be required to use the entire road width when negotiating the Arnish Road and the A859 due to the wide AIL (4.4m). General traffic movements should be suspended during AIL delivery vehicle movements to remove any conflict with opposing traffic throughout the area.
7. Potential conflict with buried utility apparatus below areas of road widening / route. Hardstanding to be determined through utility search, and appropriate remedial works implemented as required.

Key to Symbols

- Abnormal Load Delivery Route
- AC Substation & HVDC Converter Station Site Boundary (Arnish Moor)
- Proposed Site Access Roads

References

Rev	Date	Drawn	Description	Ch'k'd	App'd
P01	16/10/24	EF	Prelminary issue to client for comment	IM	DH

Status Stamp: FOR COMMENT

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

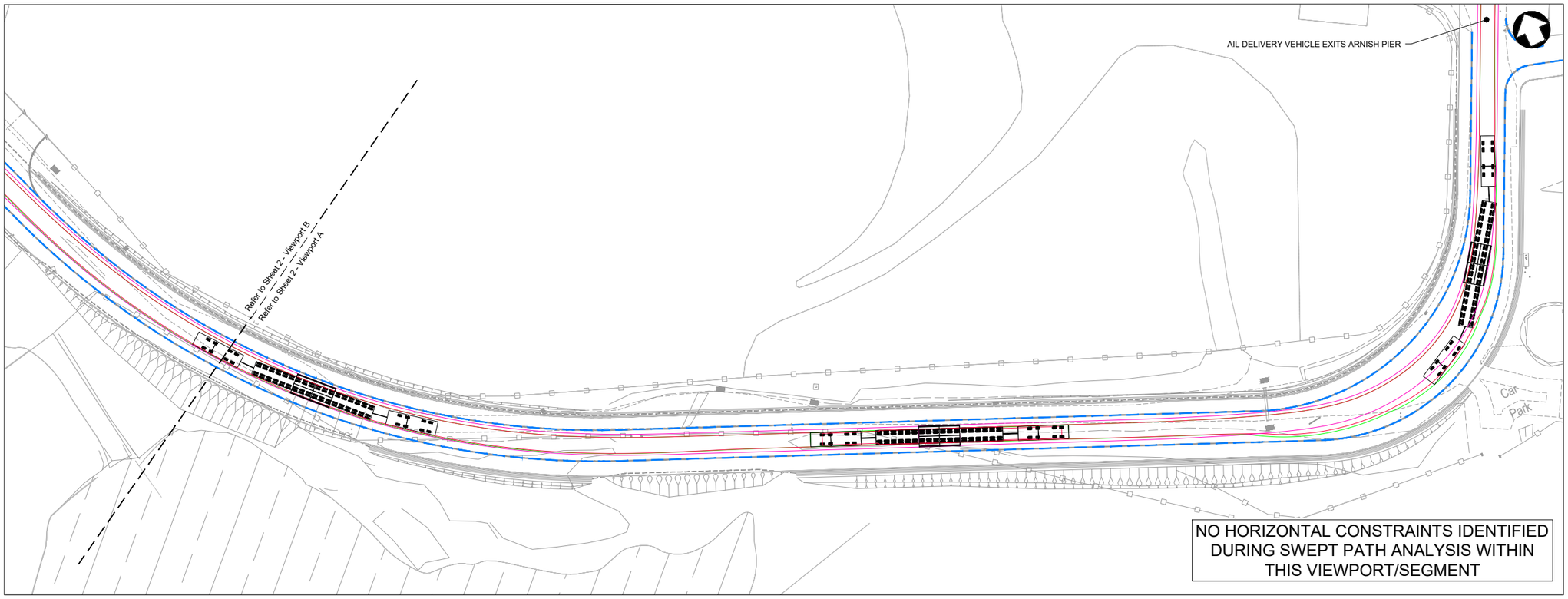
Sheet 01 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

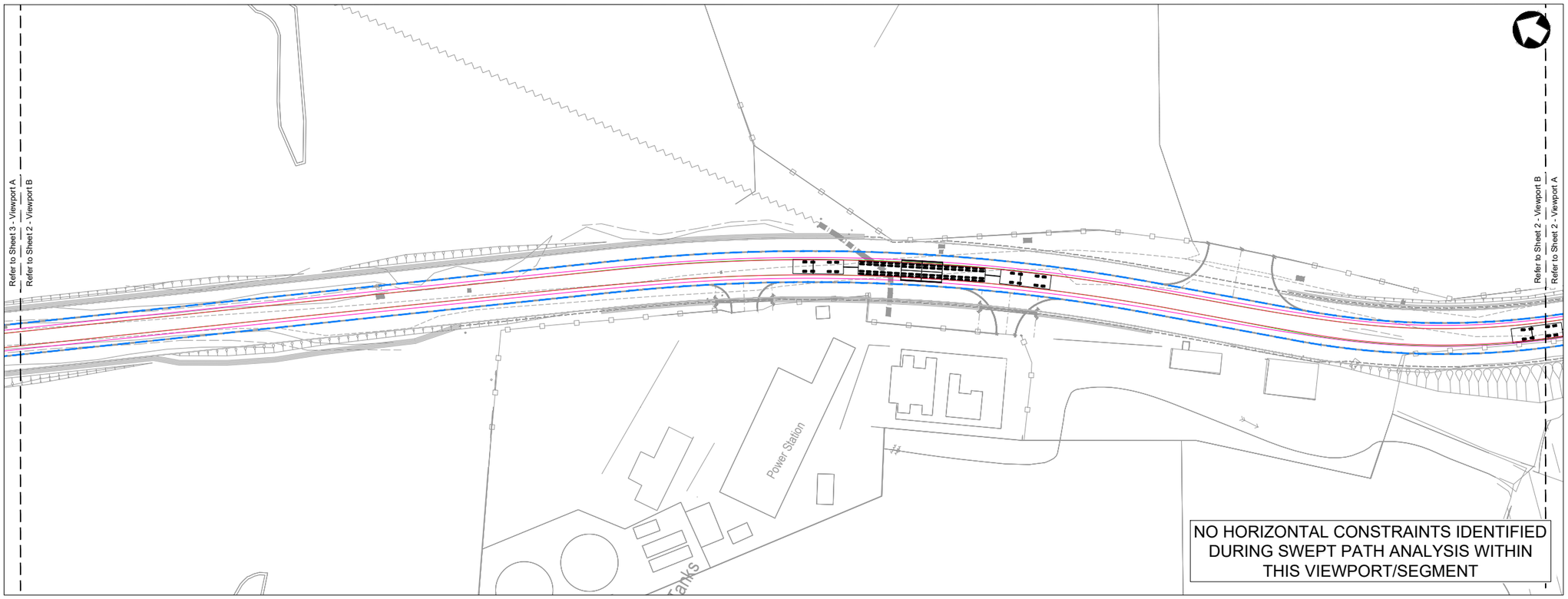
MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number: 109647-MMD-ARNI-00-XX-DR-TP-1001
Revision: P01

SSEN Drawing Number: -



SHEET 02 - VIEWPORT A
(SCALE 1:500 at A1)



SHEET 02 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

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2. The information on this drawing is based on:
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7. Potential conflict with buried utility apparatus below areas of road widening / route. Hardstanding to be determined through utility search, and appropriate remedial works implemented as required.

Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

References

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

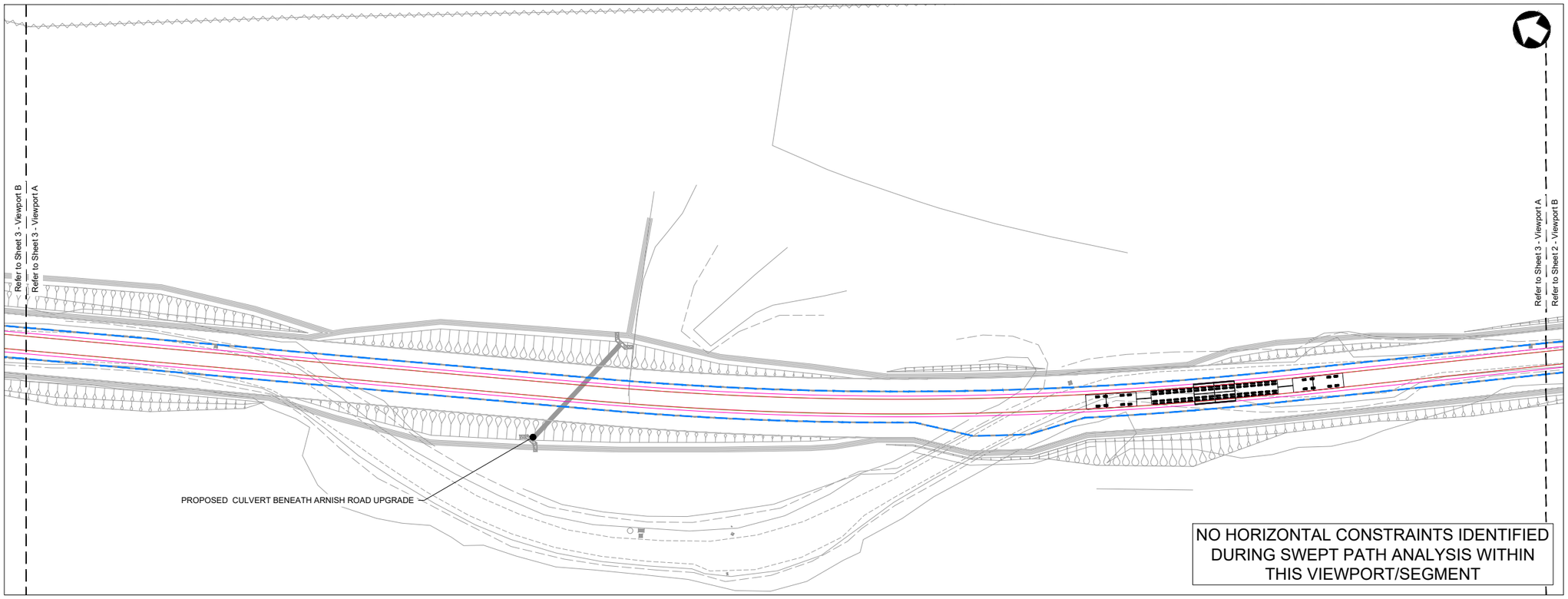
Sheet 02 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

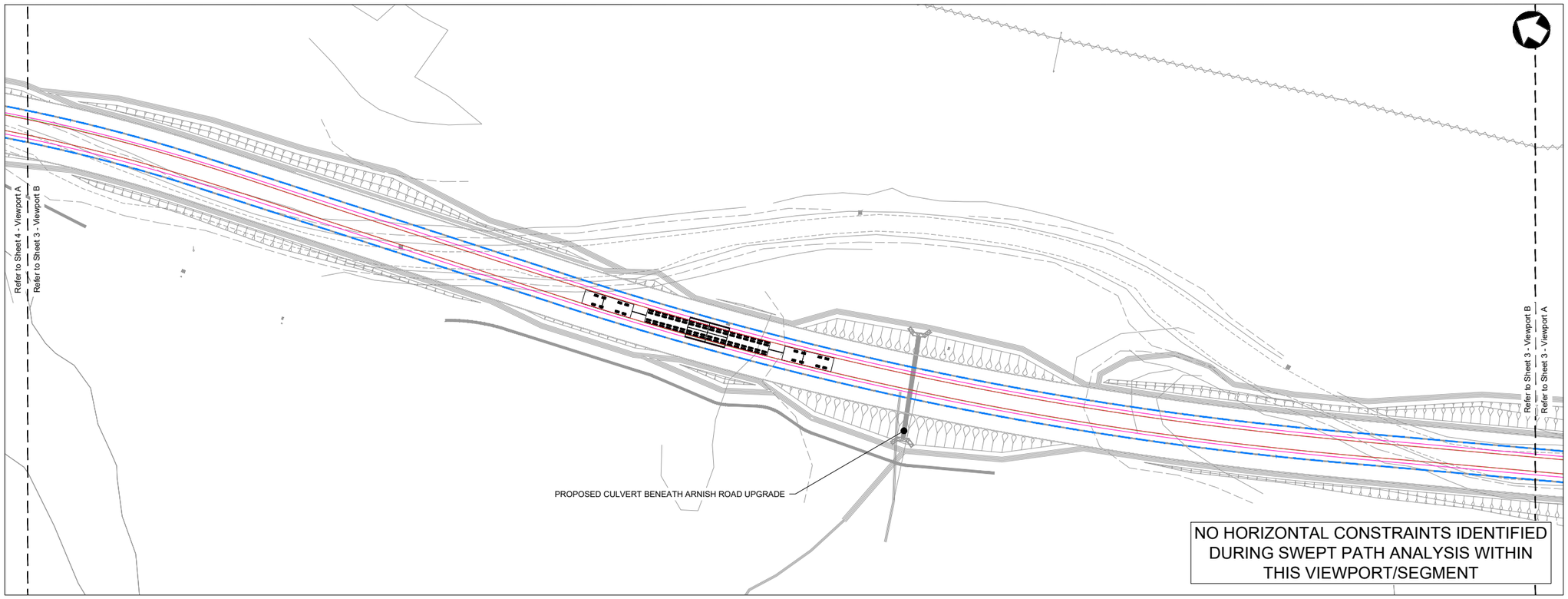
MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number	Revision
109647-MMD-ARNI-00-XX-DR-TP-1002	P01

SSEN Drawing Number: -



SHEET 03 - VIEWPORT A
(SCALE 1:500 at A1)



SHEET 03 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

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2. The information on this drawing is based on:
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Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

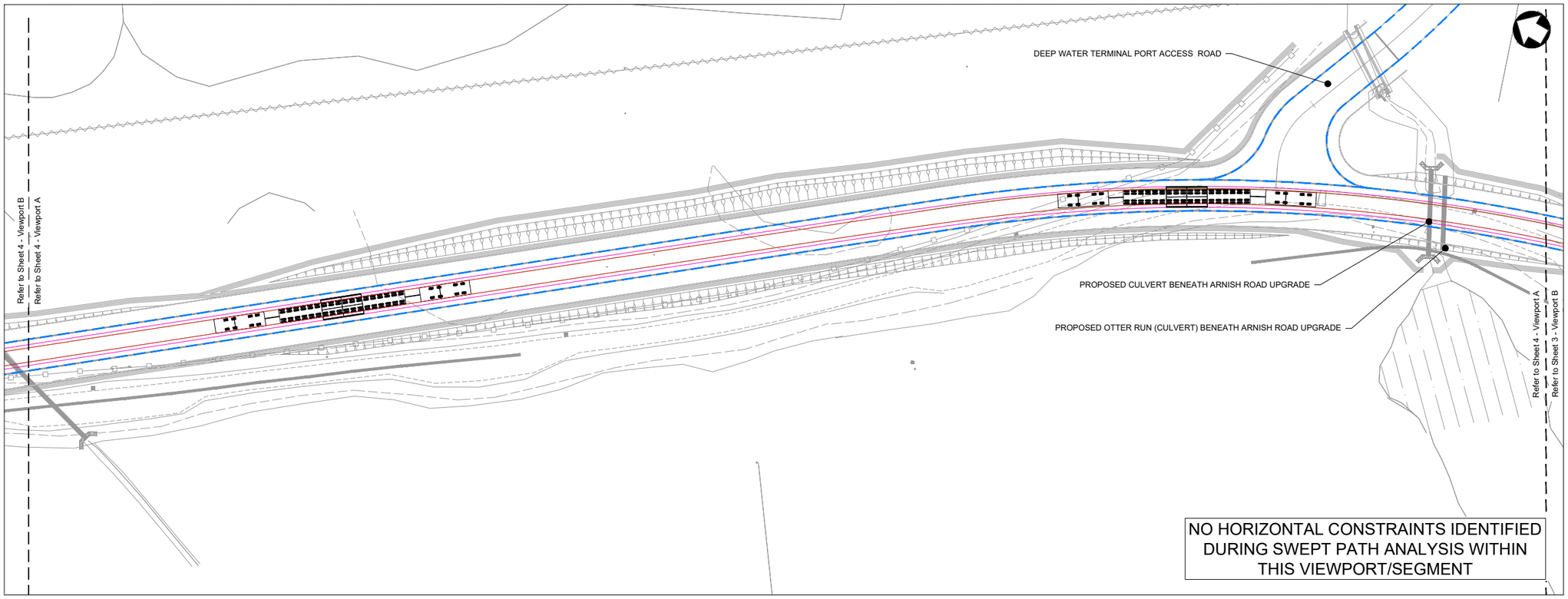
Sheet 03 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number	Revision
109647-MMD-ARNI-00-XX-DR-TP-1003	P01

SSEN Drawing Number: -



SHEET 04 - VIEWPORT A
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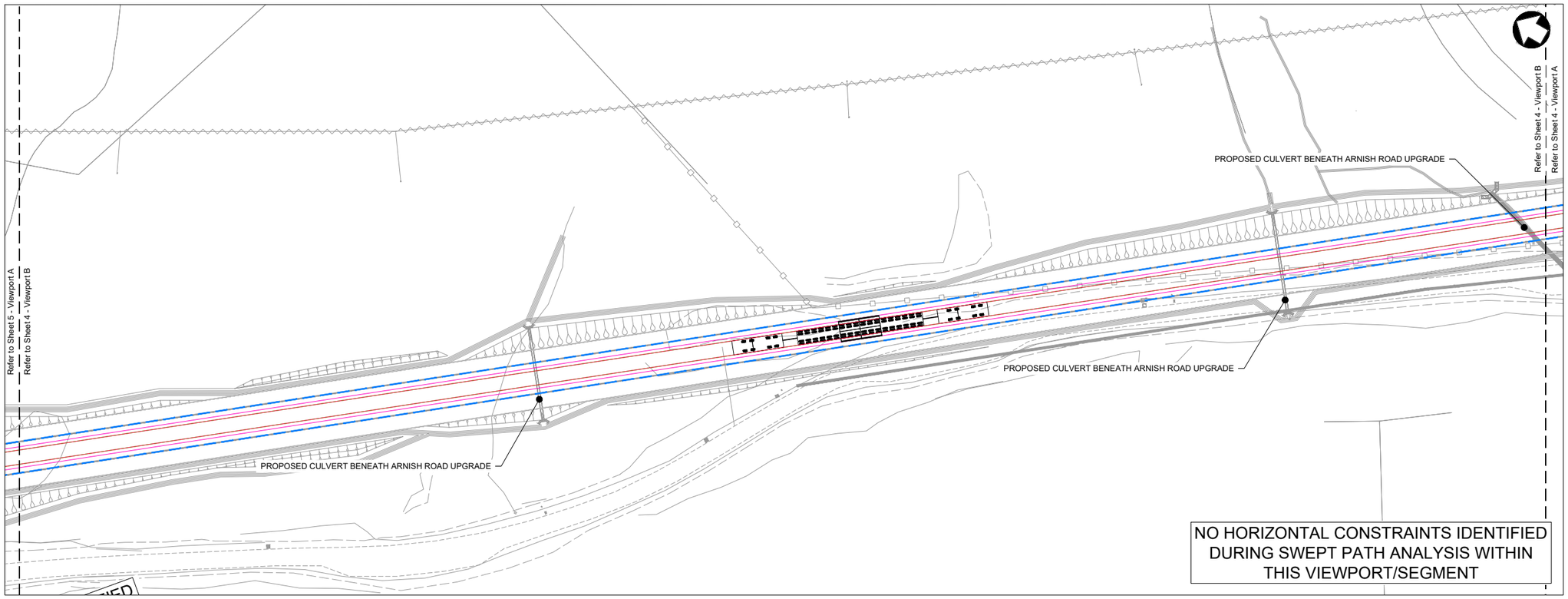

SHEET 04 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

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Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

References

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

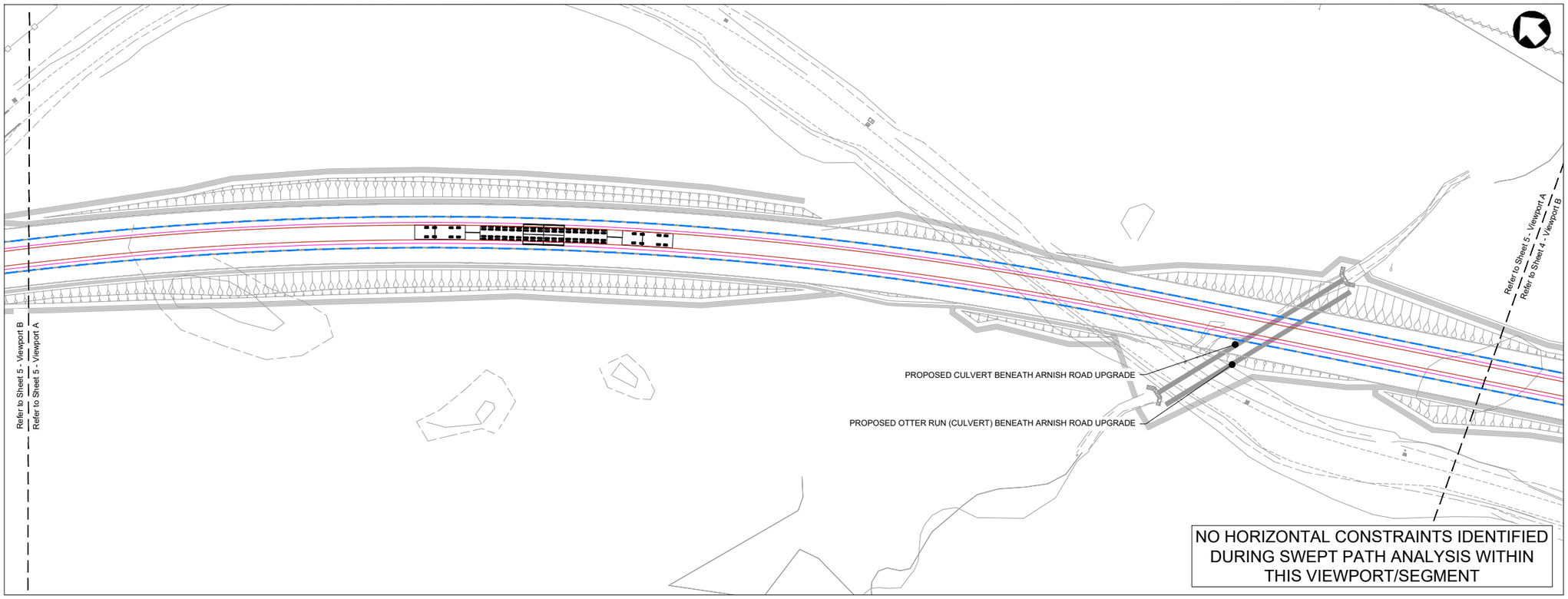
Sheet 04 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

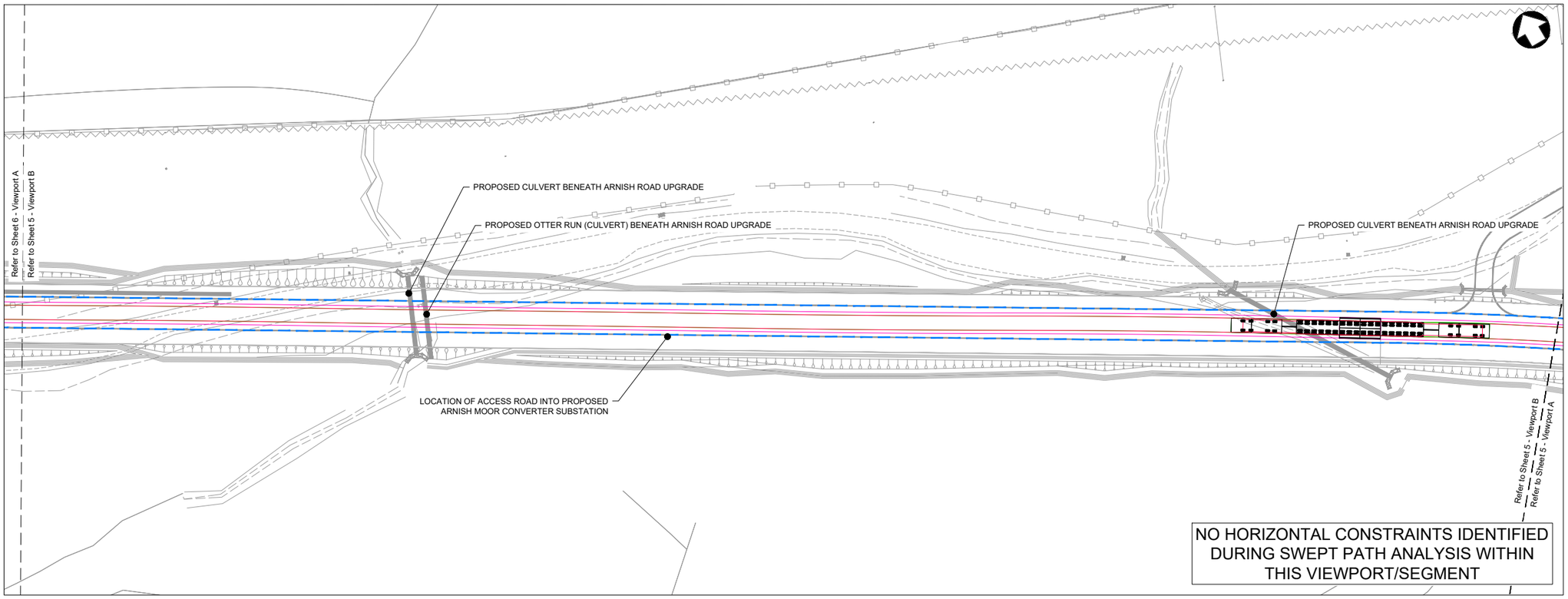
MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number	Revision
109647-MMD-ARNI-00-XX-DR-TP-1004	P01

SSEN Drawing Number: -



SHEET 05 - VIEWPORT A
(SCALE 1:500 at A1)



SHEET 05 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

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Key to Symbols

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- Path of vehicle axles / wheels
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- Vehicle load extents

Overview plan key

- Edge of road

References

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

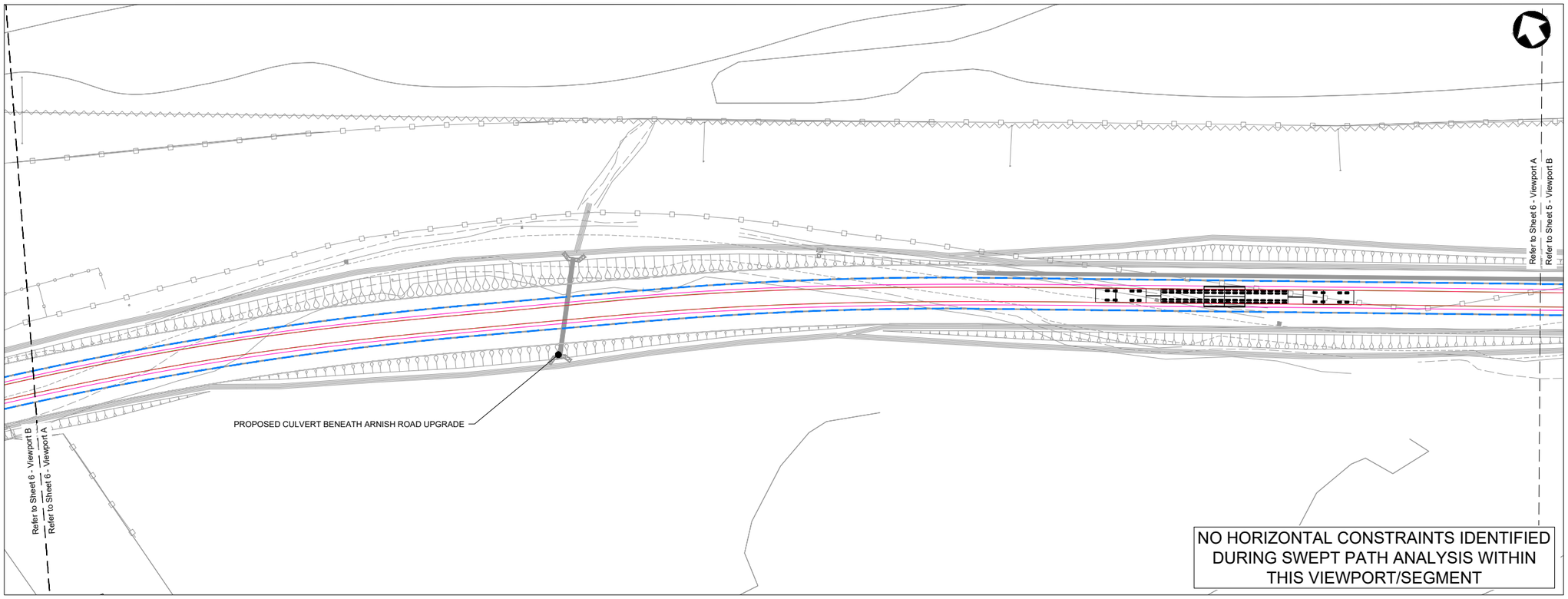
Sheet 05 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number: 109647-MMD-ARNI-00-XX-DR-TP-1005
Revision: P01

SSEN Drawing Number: -



SHEET 06 - VIEWPORT A
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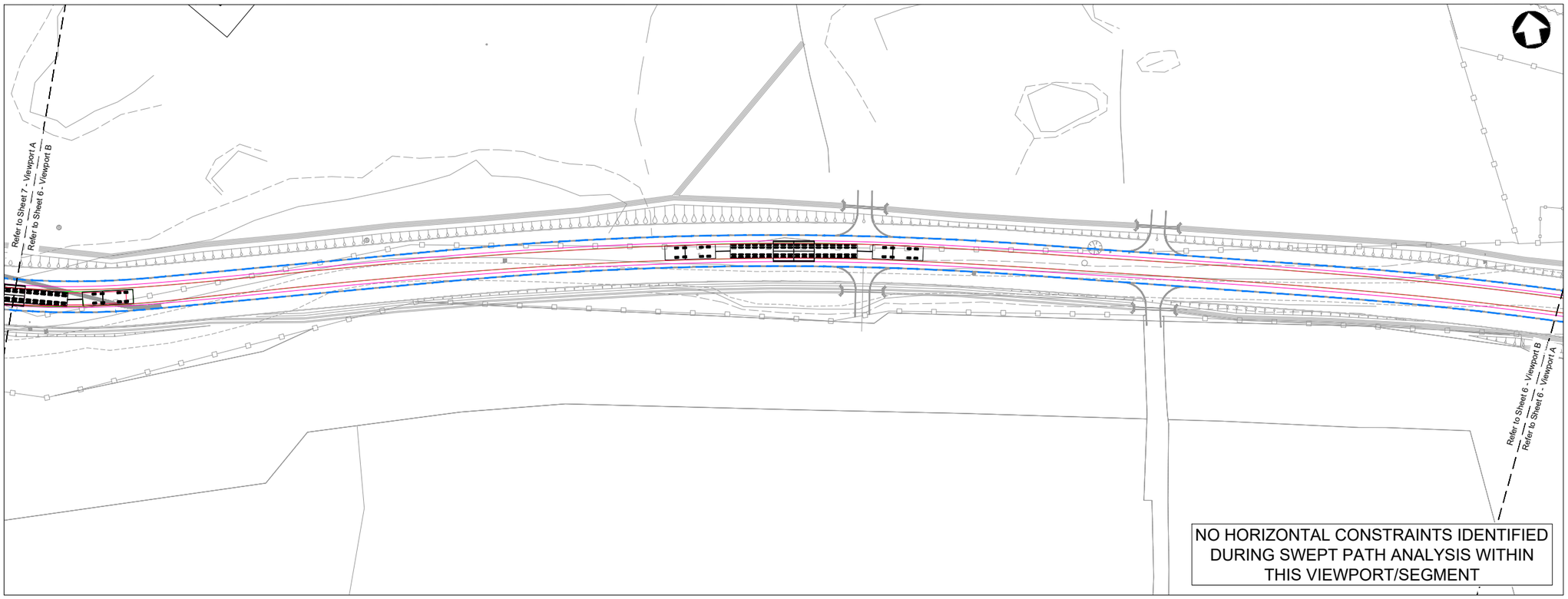

SHEET 06 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

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   - 2.1. Topographical survey information & proposed access road layouts from Arnish Pier and Deep Water Terminal provided by SSEN (Drawing Numbers 23/139/11 to 23/139/15 (revision A issued 25/13/24)) ;
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   - 2.3. Satellite imagery © Microsoft Corporation © Maxar © CNES (2024) Distribution Airbus DS.
3. The swept path analysis represents a typical 18 axles flat top trailer delivery vehicle with front and rear tractor units. Vehicle specification provided by SSEN per drawing ref: Indicative Transport Configuration by Wynns, Drawing Number: 22-1122.TC03. Vehicle configuration is subject to confirmation with haulier.
4. Swept paths reflect manual steering.
5. Swept path analysis (SPA) is representative of a typical AIL vehicle configuration associated with transporting a transformer component. However, it is recommended that the SPA is verified through in-situ trial run.
6. The AIL vehicle would be required to use the entire road width when negotiating the Arnish Road and the A859 due to the wide AIL (4.4m). General traffic movements should be suspended during AIL delivery vehicle movements to remove any conflict with opposing traffic throughout the area.
7. Potential conflict with buried utility apparatus below areas of road widening / route. Hardstanding to be determined through utility search, and appropriate remedial works implemented as required.

Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

References

Rev	Date	Drawn	Description	Ch'k'd	App'd
P01	16/10/24	EF	Prelminary issue to client for comment	IM	DH

Status Stamp: FOR COMMENT

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

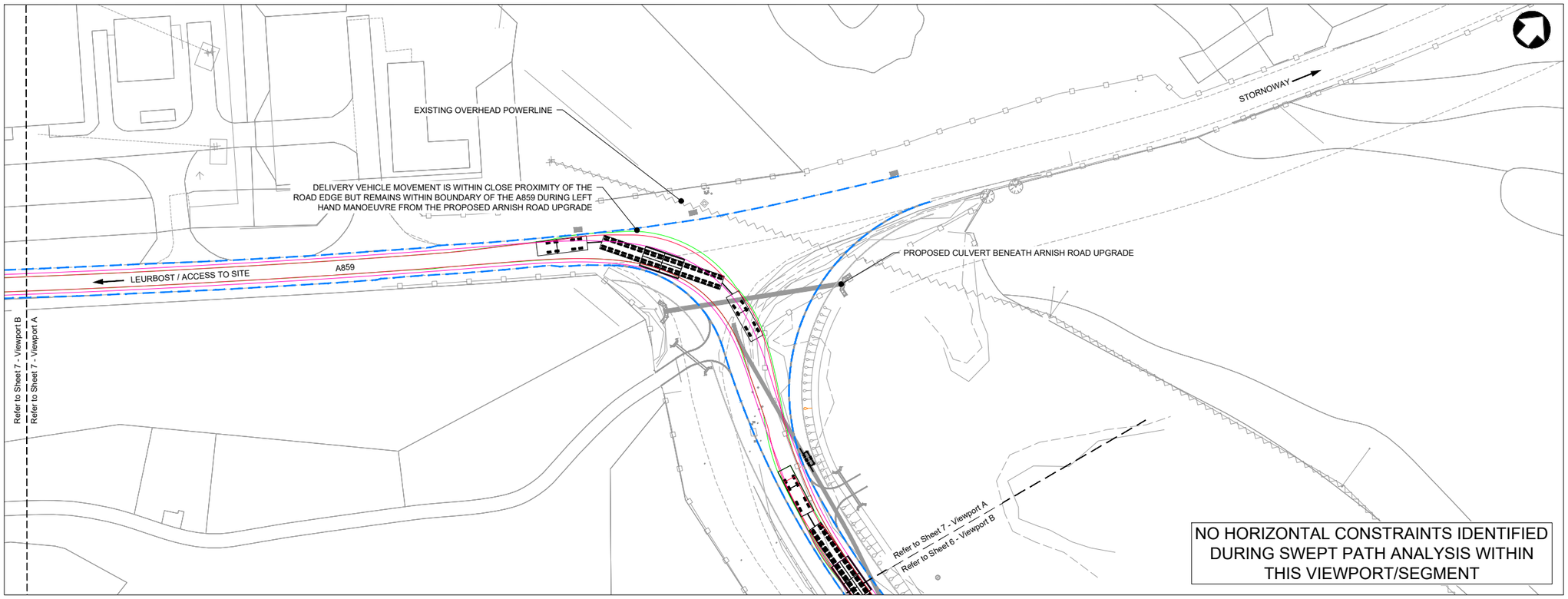
Sheet 06 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
Drawn	E. Fatahiany	EF	Coordination	H. Shrive	HS
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

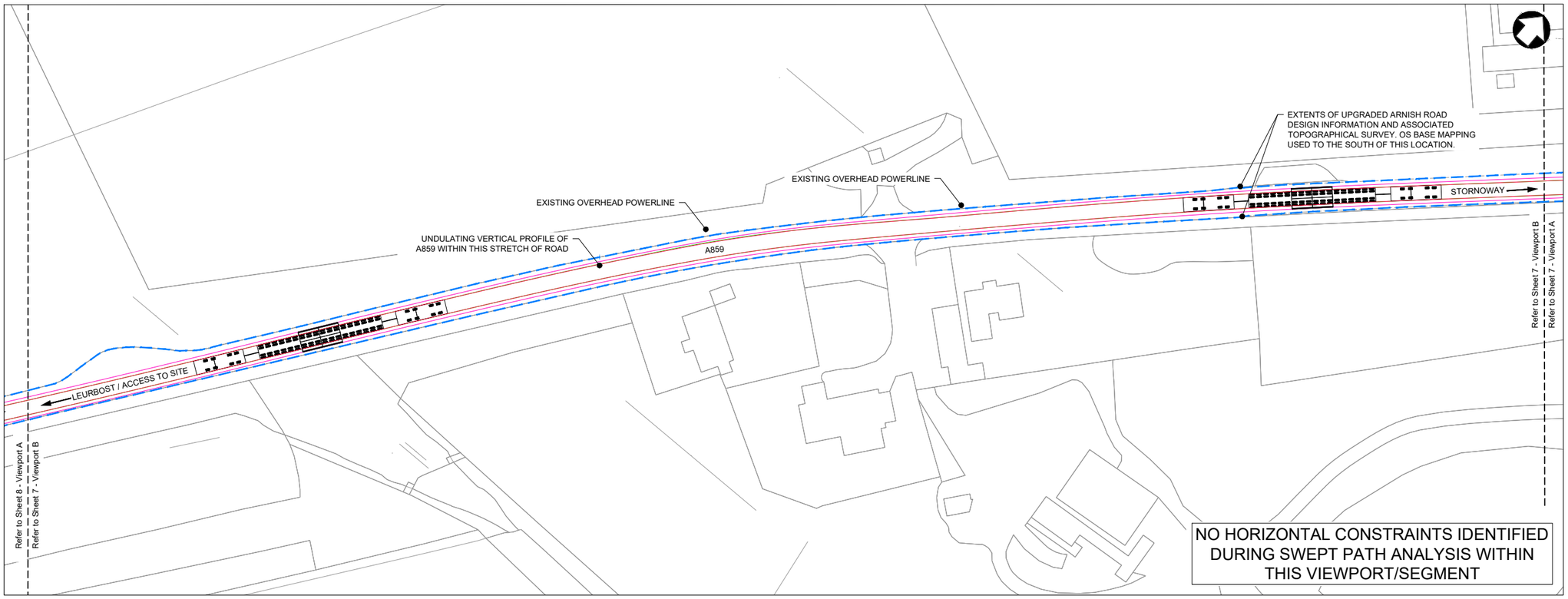
MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number: 109647-MMD-ARNI-00-XX-DR-TP-1006
Revision: P01

SSEN Drawing Number: -



SHEET 07 - VIEWPORT A
(SCALE 1:500 at A1)



SHEET 07 - VIEWPORT B
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

1. All dimensions are in metres unless noted otherwise.
2. The information on this drawing is based on:
   - 2.1. Topographical survey information & proposed access road layouts from Arnish Pier and Deep Water Terminal provided by SSEN (Drawing Numbers 23/139/11 to 23/139/15 (revision A issued 25/13/24)) ;
   - 2.2. Background mapping information has been reproduced from The Ordnance Survey by permission of Ordnance Survey of the controller of His Majesty's Stationery Office. © Crown Copyright Ordnance Survey. Bluesky International Ltd ©. SSE - 0100022432; &
   - 2.3. Satellite imagery © Microsoft Corporation © Maxar © CNES (2024) Distribution Airbus DS.
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7. Potential conflict with buried utility apparatus below areas of road widening / route. Hardstanding to be determined through utility search, and appropriate remedial works implemented as required.

Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

References

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

Sheet 07 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
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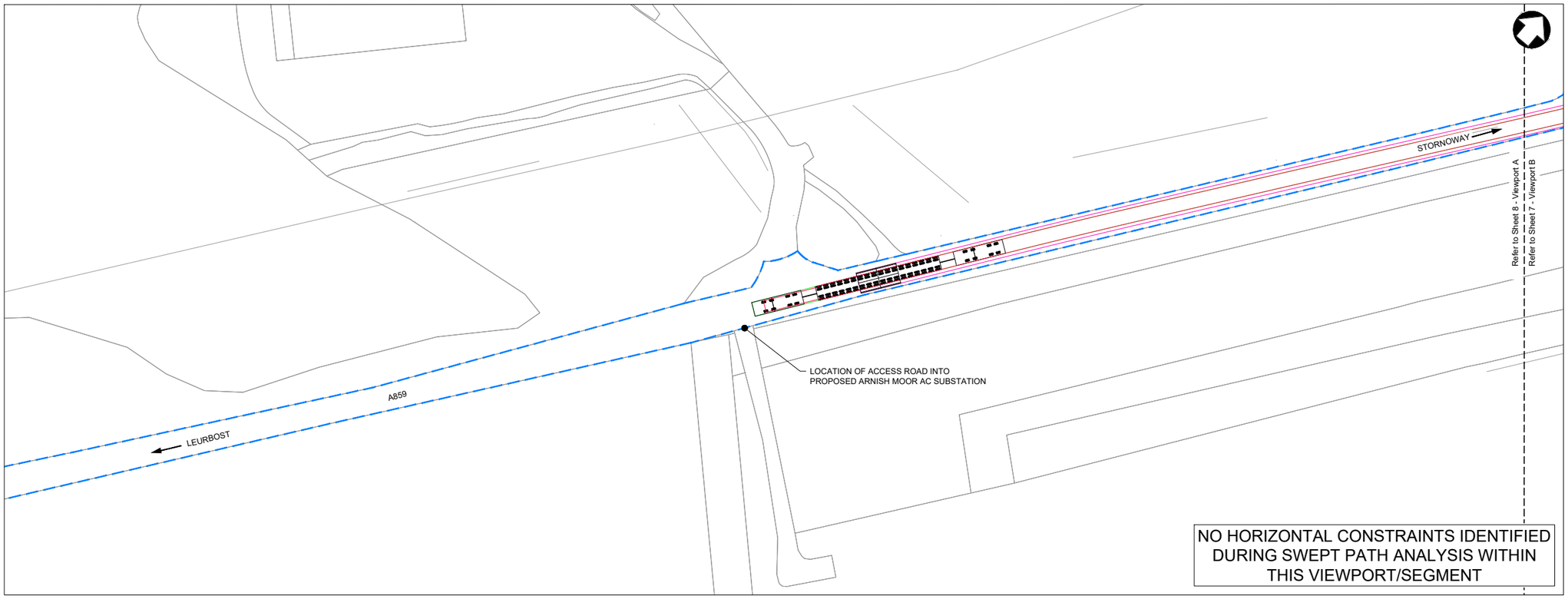
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number: 109647-MMD-ARNI-00-XX-DR-TP-1007
Revision: P01

SSEN Drawing Number: -



SHEET 08 - VIEWPORT A
(SCALE 1:500 at A1)

[BLANK SPACE]

1:500 0 25m 50m

Notes

1. All dimensions are in metres unless noted otherwise.
2. The information on this drawing is based on:
   2.1. Topographical survey information & proposed access road layouts from Arnish Pier and Deep Water Terminal provided by SSEN (Drawing Numbers 23/139/11 to 23/139/15 (revision A issued 25/13/24)) ;
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7. Potential conflict with buried utility apparatus below areas of road widening / route. Hardstanding to be determined through utility search, and appropriate remedial works implemented as required.

Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road

References

Rev	Date	Drawn	Description	Ch'k'd	App'd
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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

Sheet 08 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
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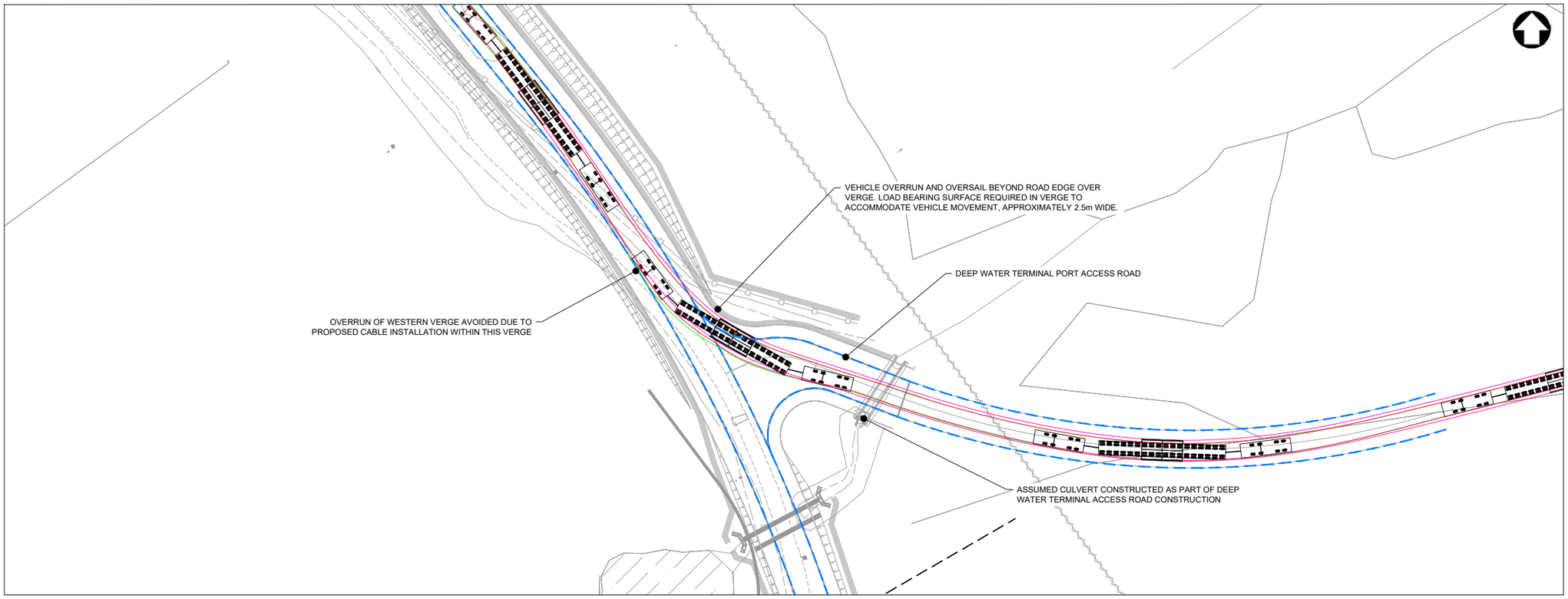
Dwg check	I. Millar	IM	Approved	D. Hughes	DH

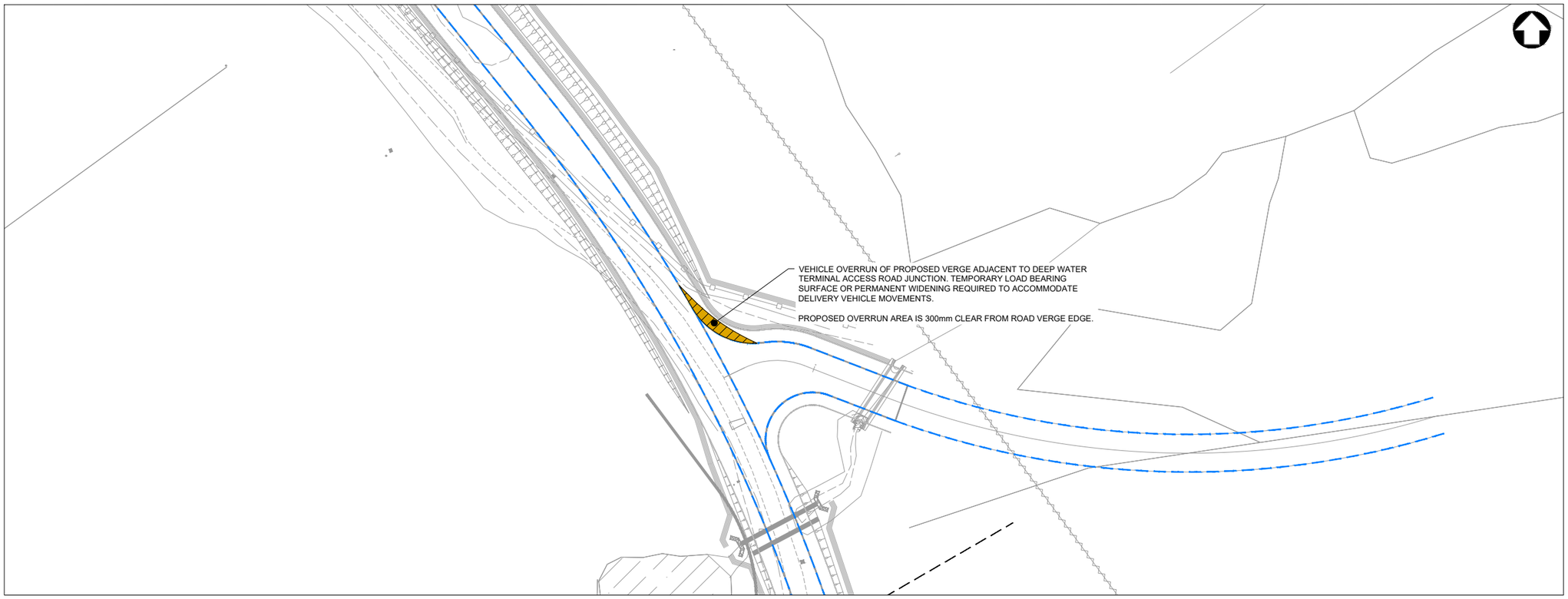
MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number	Revision
109647-MMD-ARNI-00-XX-DR-TP-1008	P01

SSEN Drawing Number: -



SHEET 09 - VIEWPORT A - SWEPT PATH ANALYSIS
(SCALE 1:500 at A1)



SHEET 09 - VIEWPORT B - OVERRUN AREA
(SCALE 1:500 at A1)

1:500 0 25m 50m

Notes

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2. The information on this drawing is based on:
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Key to Symbols

Swept path key

- Path of vehicle axles / wheels
- Vehicle body extents (cab/trailer)
- Vehicle load extents

Overview plan key

- Edge of road
- Vehicle overrun beyond road edge. Indicative extents of temporary / permanent road widening. Additional 750mm strip of road widening shown beyond path of vehicle axles in areas of road widening

References

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Site Name: Arnish Moor

Title: LT14 Western Isles HVDC
Swept Path Analysis
Arnish Road

Sheet 09 of 09

Designed	E. Fatahiany	EF	Eng check	I. Millar	IM
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Dwg check	I. Millar	IM	Approved	D. Hughes	DH

MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number	Revision
109647-MMD-ARNI-00-XX-DR-TP-1009	P01

SSEN Drawing Number: -