FEARNA STORAGE

Fearna Pumped Storage Hydro Scheme
EIA Report

Appendix 15.1.1 - Abnormal Load Route Survey Report

February 2025

Quality Information

Prepared by	Checked by	Approved by
Pell Frischmann	Chris Pasteur	Fraser Allison

Revision History

Revision	Revision Date	Details	Authorised
01	February 2025	Issue to ECU	Fraser Allison
02	March 2025	Issue to ECU	Fraser Allison

Pell Frischmann

Fearna Pumped Storage Hydro Scheme

Annex B: Abnormal Indivisible Load Route Survey

March 2025

10109554

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1		Gilkes comments	19/02/25	S Weston	S Cochrane	G Buchan
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Contents

Figures

Tables

Appendices

1 Introduction

1.1 Purpose of the Report

Pell Frischmann Consultants Ltd (PF) has been commissioned by Fearna PSH Ltd (the Applicant) to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for the 100 tonne (te) transformer loads associated with the construction and development of the proposed Fearna Pumped Storage Hydro (PSH) Project (The Proposed Development) located to the northwest of Kingie Lodge, Invergarry in The Highland Council (THC) administrative area.

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

The route survey examines the issues associated with transport along the whole of the access route from the port to the site access junction.

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

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

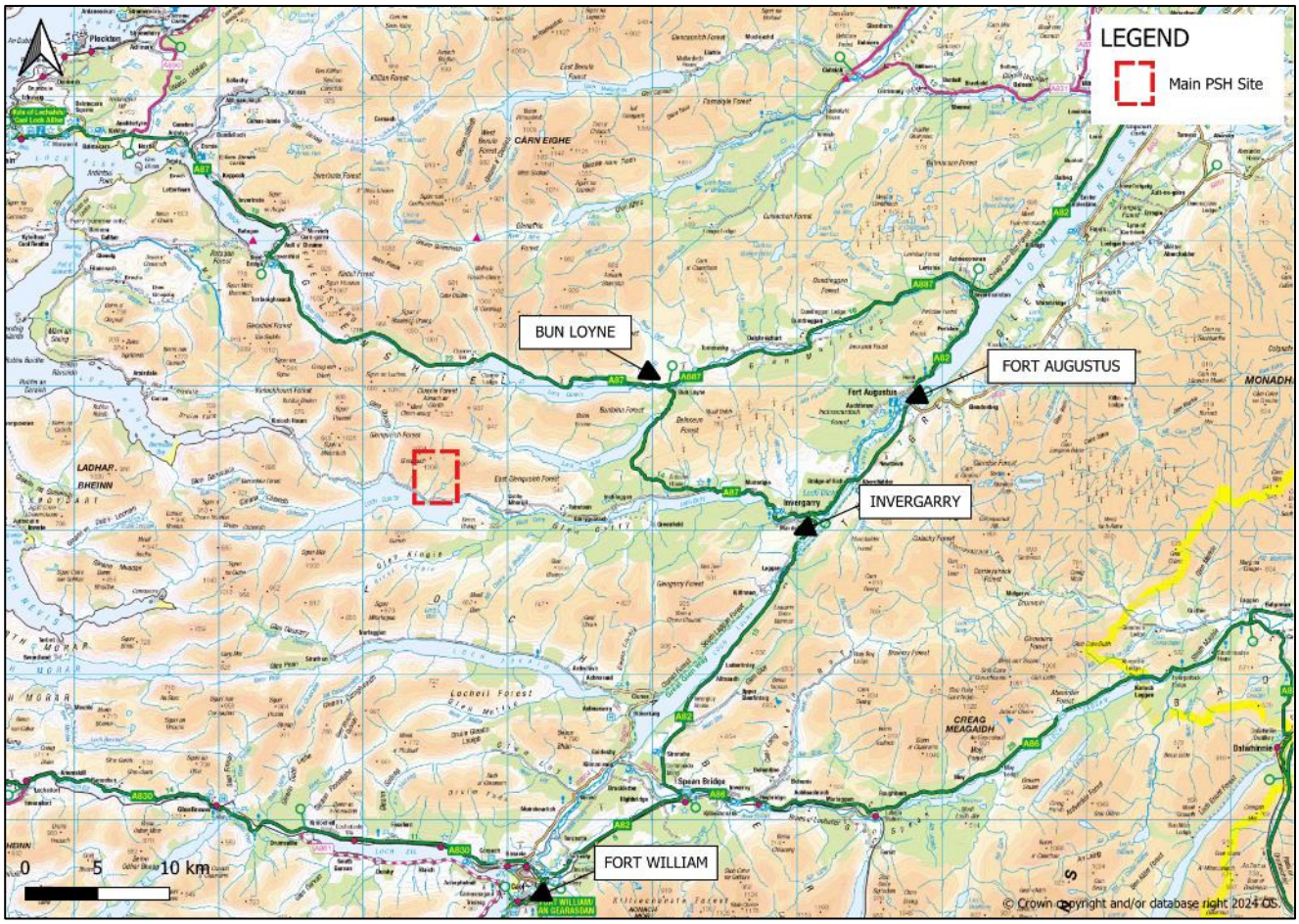
It is the responsibility of the transformer supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction (depending upon contract). The supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health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

2 Site Background

2.1 Site Location

The main PSH site, comprising the upper and lower reservoir works is located approximately 18 kilometres (km) along the C1144 minor public road, between the A87 trunk road and Kinloch Hourn, to the northwest of Kingie Lodge, Invergarry in THC administrative area. The general location of the site is shown in **Figure 2-1**.

Figure 2-1: Site Location Plan



2.2 Candidate Transformer

For the purposes of this assessment, the Applicant has indicated that they wish to consider a 100 te transformer for the route assessment and to undertake the necessary swept path assessments. The details of the transformer have been provided by the Applicant and are detailed below in **Table 2-1**. These dimensions have been used for the subsequent assessment of the proposed loads along the access route.

Table 2-1: Transformer Dimensions

Component	Length [m]	Width [m]	Height [m]	Weight [te]
Transformer	8.25	2.9	4.2	100.0

Note: - these are indicative component dimensions at this time and are subject to change.

The final selection and specification of the transformers will be subject to a commercial procurement process and confirmation of equipment required by the Proposed Development following consent of the application. The assumed dimensions may therefore vary from those assumed as part of this assessment and it is proposed to undertake a revised assessment, if deemed necessary, at the appropriate time following confirmation of the transformer specifications.

2.3 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route it is proposed that the 100 te transformer be delivered on a 10-axle flat top trailer. The 10-axle flat top trailer would be classified as Special Types General Order (STGO) Category 3 and would require a private escort.

Figure 2-2 illustrates an example of the proposed delivery equipment likely to be used for the Proposed Development. These configurations are subject to confirmation by the chosen haulier at the time of their commissioning.

Figure 2-2: Flat Top Trailer

3 Access Route Review

3.1 Port of Entry

Corpach Harbour has been considered Port of Entry (PoE) for the Proposed Development at this time, and all routes assessed within this report originate here. Loads can be offloaded by geared vessel or onshore mobile cranes and this port has been used for the delivery of components for a number of electricity generation and transmission sites previously and is, therefore, well-proven as being capable of dealing with AILs of the size considered in this RSR. As the load is classified as STGO Cat. 3, alternative POEs can be considered, however, Corpach Harbour has been used for this RSR due its proximity to the Proposed Development. Should the Applicant consider delivery from an alternative POE a separate RSR can be undertaken post consent with the requirement for this secured through an appropriately worded planning condition.

3.2 Proposed Access Route

The proposed access route to the Proposed Development access junction is as follows:

- Loads would depart Corpach Harbour through the west gate and turn right onto A830 proceeding eastbound;
- Loads would turn left at the A830 / A82 roundabout proceeding towards Spean Bridge and Invergarry;
- Loads would turn left onto the A87 at Invergarry proceeding westbound; and
- Loads would turn left at the proposed new site access junction off the A87 and then proceed to site via the Southern Access Route.

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

Figure 3-1: Access Route

3.3 Route Constraints

The constraints noted during the review are provided in **Table 3-1** below. These cover all constraints from the port access gate through to the site access junction.

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

Table 3-1: Route Constraint Points and Details

POI	Key Constraint	Details
1	**Corpach exit / A830 right-hand turn** 	Loads will exit Corpach Harbour via the BSW access gate and turn right onto A830 eastbound. A swept path assessment has been undertaken and indicates that no mitigation measures are required. Swept path drawing SK01 is included in **Appendix B**. Loads will cross a level crossing and contact with Network Rail will be required during deliveries to ensure that the convoy does not pass the level crossing when rail services (passenger and freight) are timed to cross the road.
2	**A830 overhead utilities** 	A review of overhead utility lines should be undertaken from the Corpach Harbour / A830 junction to the A830 / A82 roundabout due to the 5.32 metre (m) overall running height of the 100 te transformer delivery vehicle. Engagement with the utility providers should be undertaken to identify any low hanging overhead lines that will require modification to allow loads to pass under them.
3	**A830 20 Banavie Swing Bridge** 	Loads will cross structure no. A830 20 Banavie Swing Bridge continuing eastbound. BEAR NW are yet to respond on the structural feasibility of the bridge considerate of the 100 te transformer delivery vehicle. Contact with Scottish Canals will be required during deliveries to ensure that the convoy does not pass the swing bridge when canal traffic movements are planned.

POI	Key Constraint	Details
4	**A830 Blar Mhor Roundabout** 	Loads will travel straight on at Blar Mhor Roundabout continuing on the A830 eastbound. A swept path assessment has been undertaken and indicates that no mitigation measures are required. Swept path drawing SK02 is included in **Appendix B**.
5	**A830 / A82 roundabout** 	Loads will turn left at the roundabout from the A830 onto A82 northbound. A swept path assessment has been undertaken and indicates that no mitigation measures are required. Swept path drawing SK03 is included in **Appendix B**.
6	**A82 overhead utilities** 	A review of overhead utility lines should be undertaken from the A830 / A82 roundabout to the junction with the A87 in Invergarry due to the 5.32 m overall running height of the 100 te transformer delivery vehicle. Engagement with the utility providers should be undertaken to identify any low hanging overhead lines that will require modification to allow loads to pass under them.

POI	Key Constraint	Details
7	**A82 tree canopy** 	The tree canopy on the A82 should be trimmed to ensure a 5.8 m clear height throughout the route. Trimming works can be subject to ecological and seasonal restrictions and early engagement with Transport Scotland is recommended.
8	**A82 Spean Bridge left-hand bend** 	Loads will continue northbound on A82 over structure no. A82 1040 Spean Bridge around a left-hand bend. A swept path assessment has been undertaken and indicates that no mitigation measures are required. BEAR NW are yet to respond on the structural feasibility of A82 1040 Spean Bridge considerate of the 100 te transformer delivery vehicle. Swept path drawing SK04 is included in **Appendix B**.
9	**A82 gradient** 	Loads will continue northbound on A82 along sections of steep gradient. Additional tractor unit(s) required to provide necessary tractive and braking effort.

POI	Key Constraint	Details
10	**A82 1190 Laggan Swing Bridge** 	Loads will cross structure no. A82 1190 Laggan Swing Bridge continuing eastbound. BEAR NW are yet to respond on the structural feasibility of the bridge considerate of the 100 te transformer delivery vehicle. Contact with Scottish Canals will be required during deliveries to ensure that the convoy does not pass the swing bridge when canal traffic movements are planned.
11	**A82 / A87 left-hand turn** 	Loads will turn left from A82 onto A87 at Invergarry proceeding westbound. A swept path assessment has been undertaken and indicates that loads will overrun and oversail beyond the kerb to the outside of the turn throughout. Load bearing surface and timber kerb protection to be laid. BEAR NW are yet to respond on the structural feasibility of A82 1200 Invergarry considerate of the 100 te transformer delivery vehicle. Swept path drawing SK05 is included in **Appendix B**.
12	**A87 tree canopy** 	The tree canopy on the A87 should be trimmed to ensure a 5.8 m clear height throughout the route. Trimming works can be subject to ecological and seasonal restrictions and early engagement with Transport Scotland is recommended.

POI	Key Constraint	Details
13	**A87 overhead utilities** 	A review of overhead utility lines should be undertaken from the A82 / A87 junction to the junction with the site access track due to the 5.32 m overall running height of the 100 te transformer delivery vehicle. Engagement with the utility providers should be undertaken to identify any low hanging overhead lines that will require modification to allow loads to pass under them.
14	**A87 / site access track left-hand turn** 	Loads will turn left from A87 onto the upgraded access junction, that is being constructed as part of the consented Coire Glas pumped storage hydro scheme, before travelling through to the main site area on a combination of new and upgraded access tracks. A swept path assessment has been undertaken and indicates that no mitigation measures are required. Swept path drawing SK06 is included in **Appendix B**.
All roads must adhere to the transformer manufacturers specifications. Any deviation from these guidelines must be agreed with the manufacturer and their appointed haulage contractor. **All running channels must be clear of vegetation / obstructions, in line with the manufacturers guidelines, for the selected transformer model.** **A review of height clearances with utility providers and the transport agencies along the route should be undertaken to ensure that there is sufficient space to allow for loads plus sufficient flashover protection (to electrical installations).** **A review of axle loading on structures along the entire access route with the various road agencies / stakeholders is undertaken immediately prior to the loads being transported in case of last minute changes to structures.** **Pell Frischmann would recommend that a trial run is undertaken for the entire access route to confirm the above works.**		

3.4 Swept Path Assessment Results and Summary

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

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

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

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

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

The need to widen public roads will require engagement with the relevant road authority(s) and may constitute permanent or temporary surfacing.

3.5 Third-Party Land & Land Ownership

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

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

In rural areas, the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established field boundary lines or a maximum 3 m from the road edge. This can vary between area and location.

3.6 Weight Review

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

All of the relevant road authorities are noted in **Table 3-2**, and all have been contacted to ascertain if there are any relevant constraints that should be noted. Where comments are received, these are provided in **Appendix C**.

Table 3-2: ESDAL Contacts

Organisation	Email Address
BEAR Scotland North West	NWAbnormalload@bearscotland.co.uk
Network Rail	abnormalloadsenquiries@networkrail.co.uk
Police Scotland	OSDAbnormalLoadsScotland@scotland.police.uk
Transport Scotland	AbnormalLoads@transport.gov.scot

3.7 Summary Issues

It is strongly suggested that, following a review of the RSR, the Applicant should undertake the following prior to the delivery of the first abnormal loads, to ensure load and road user safety:

- A review of axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last-minute changes to structures;
- A review of clear heights with utility providers and the transport agencies along the route to ensure that there is sufficient space to allow for loads plus sufficient flashover protection (to electrical installations);
- That any verge vegetation and tree canopies that may foul loads is trimmed prior to loads moving;
- That a review of potential roadworks and or closures is undertaken once the delivery schedule is established in draft form;
- That a trial run is completed to confirm the route and review any vertical clearance issues; and
- That a condition survey is undertaken to ascertain the extents of road defects prior to load deliveries commencing in order to protect the developer from spurious damage claims.

4 Summary

4.1 Summary of Access Review

Pell Frischmann Consultants Ltd has been commissioned by Fearna PSH Ltd (the Applicant) to prepare a Route Survey Report to examine the issues associated with the transport of 100 te transformer loads associated with the construction and development of the proposed Pumped Storage Hydro Project located to the northwest of Kingie Lodge, Invergarry in The Highland Council administrative area.

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

The access review has been based upon the 100 te transformer loaded onto 10-axle flat top trailer. The 10-axle flat top trailer would be classified as Special Types General Order Category 3 and would require a private escort.

Corpach Harbour has been considered as the Port of Entry for the Proposed Development at this time, and all routes assessed within this report originate here. Loads can be offloaded by geared vessel or onshore mobile cranes and this port has been used for the delivery of components for a number of electricity generation and transmission sites previously and is, therefore, well-proven as being capable of dealing with AILs of the size considered in this RSR.

The route from Corpach Harbour to the A87 site access track junction is considered negotiable for the 100 te transformer on 10-axle flat top trailer with overhead utility surveys, tree canopy pruning, Temporary Traffic Regulation Orders (TTRO); and private escort. TTROs can take 12-weeks plus to process and should be planned for accordingly. Tree trimming works can be subject to ecological and seasonal restrictions and early engagement with Transport Scotland is recommended.

The report is presented to the Applicant for consideration. Various interventions are required to successfully access the A87 / site access track junction. If these are assessed, approved and undertaken, access is considered feasible.

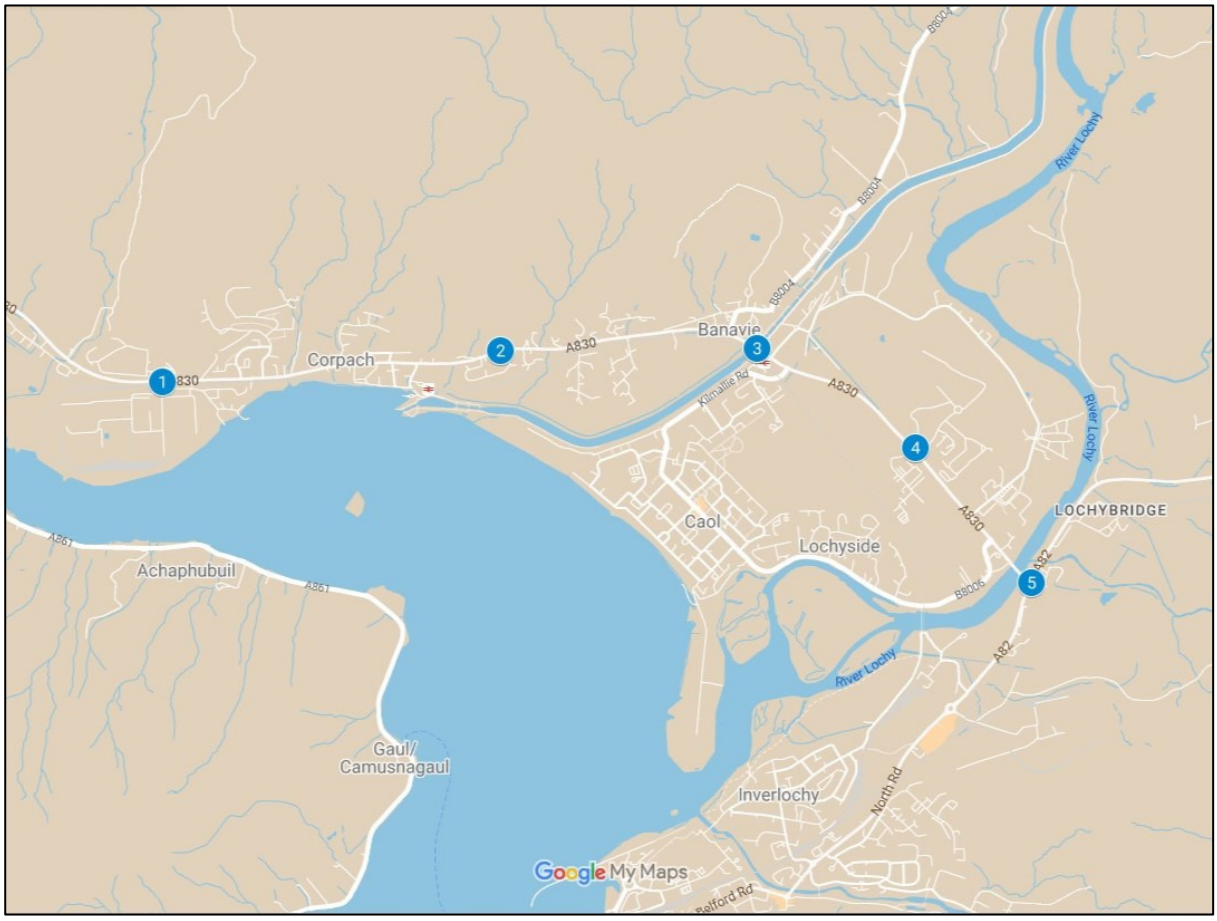
4.2 Further Actions

The following actions are recommended to pursue the transport and access issues further:

- Prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- Undertake discussion with the affected utility providers and roads agencies;
- Obtain necessary land options (if required);
- Obtain the necessary statutory licences to enable the mitigation measures; and
- Develop a detailed operational Abnormal Load Transport Management Plan to assist in transporting the proposed loads. Further details in this regard are included in **Chapter 15: Traffic and Access** of EIA Report Volume 1 and **Technical Appendix 15.1 Transport Assessment**.

Appendix A Points of Interest

An electronic version of the POI plan can be found here:
https://www.google.com/maps/d/edit?mid=1o-RSD7t7QFRvLSIPJERkUAESpFOCm6o&usp=sharing




A82
A82
Kilmonivaig
A82
Spean Bridge
A86
A86
9
8
A82
River Spean
River Spean
River Spean
Spean Bridge
A82
A82
Allt Garbh
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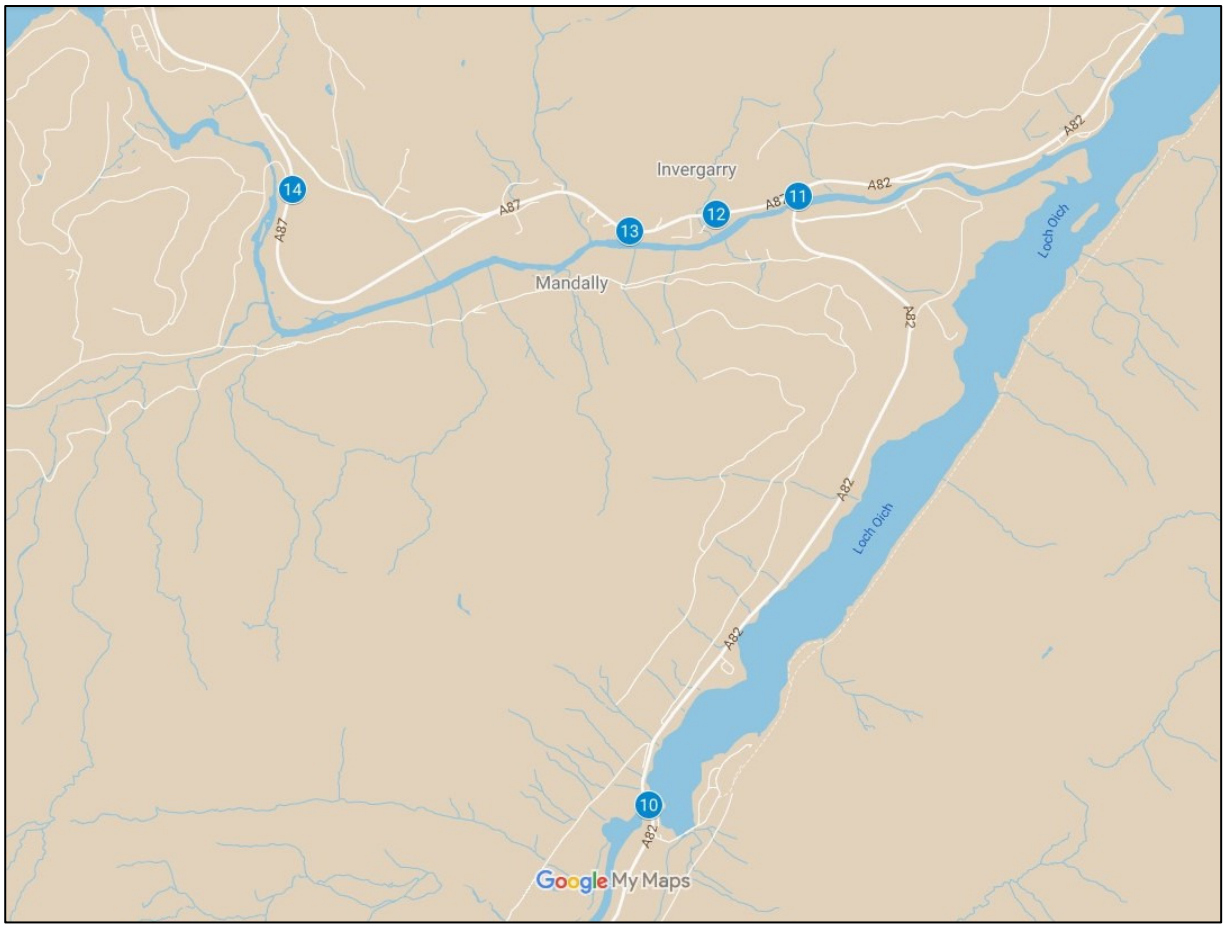
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A82
A82
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Mandally
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A82
Loch Oich
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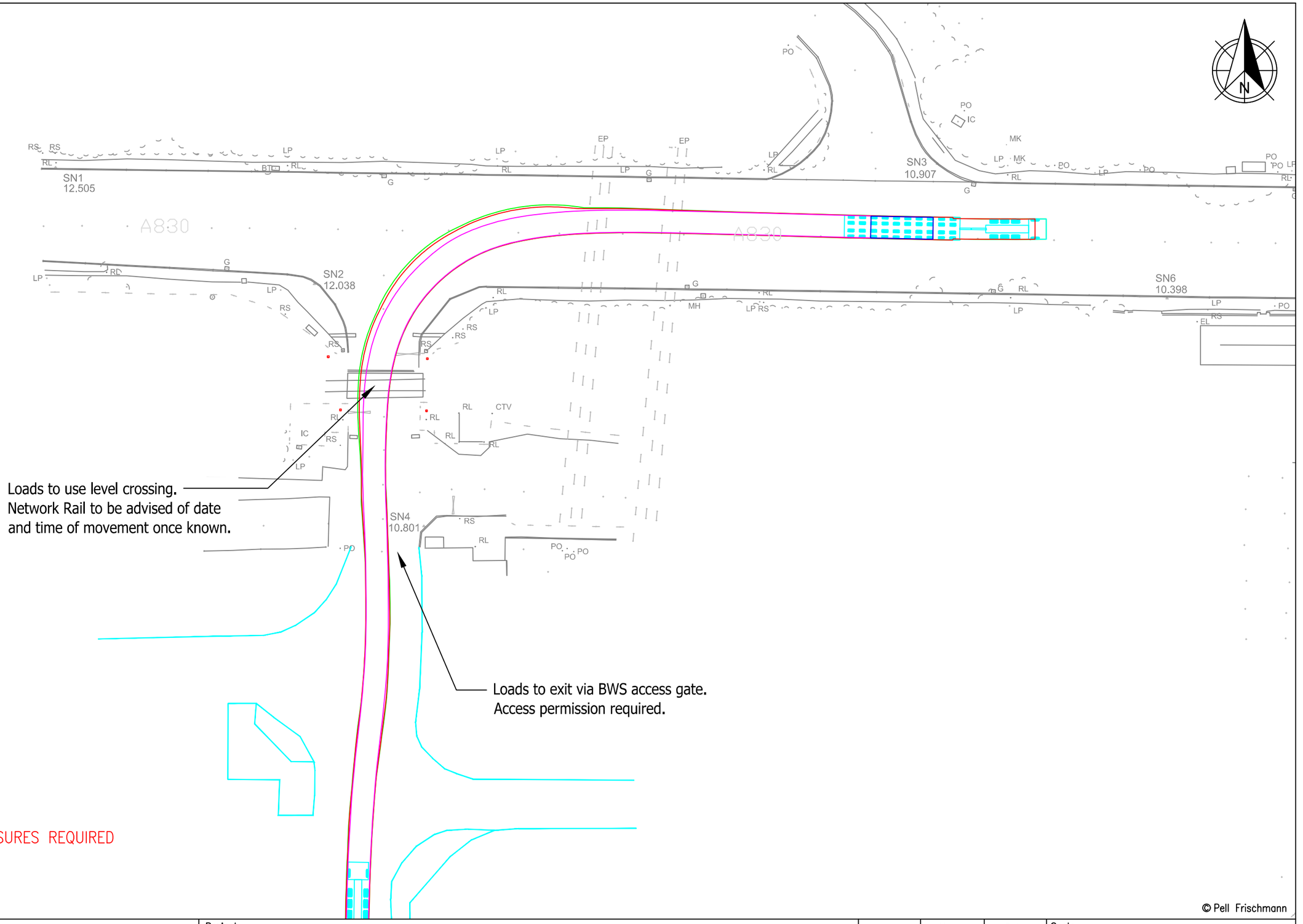
Google My Maps

Appendix B Swept Path Assessments

10-axle flat top



NO MITIGATION MEASURES REQUIRED

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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10-axle Flat Top Trailer

SPA Location: Corpach exit / A830 RH turn

	Name	Date
Drawn	SJW	12/02/2025
Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		1

Scale: 1:500 @ A3

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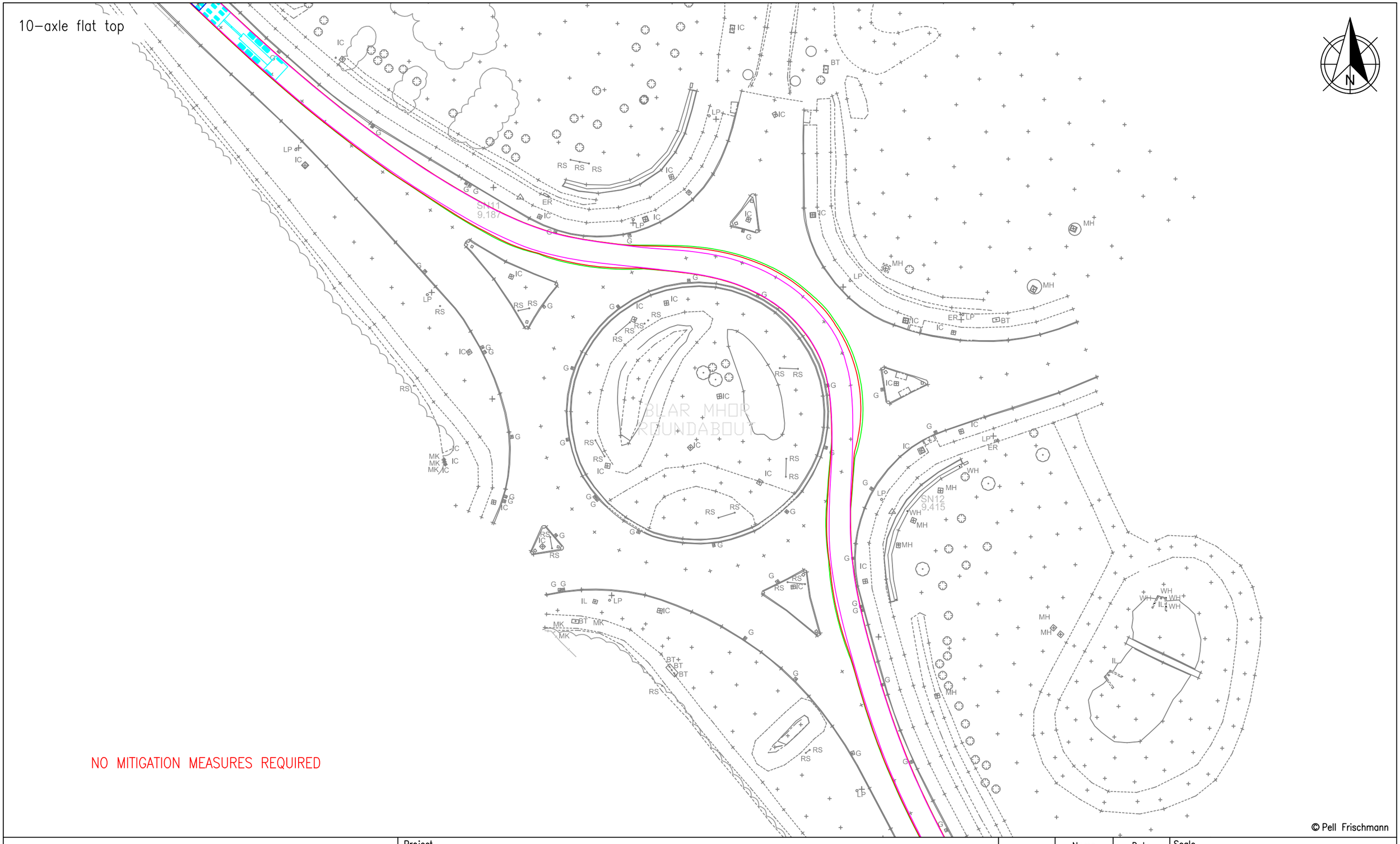
Drawing Status: Draft

Drawing No.: SK01

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

Revision: 00

10–axle flat top



NO MITIGATION MEASURES REQUIRED

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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A830 Blar Mhor Roundabout

	Name	Date
Drawn	SJW	12/02/2025
Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		4

Scale: 1:500 @ A3

File No.: 250212 10109554 Fearna SPA.dwg

Drawing Status: Draft

Drawing No.: SK02

Notes:
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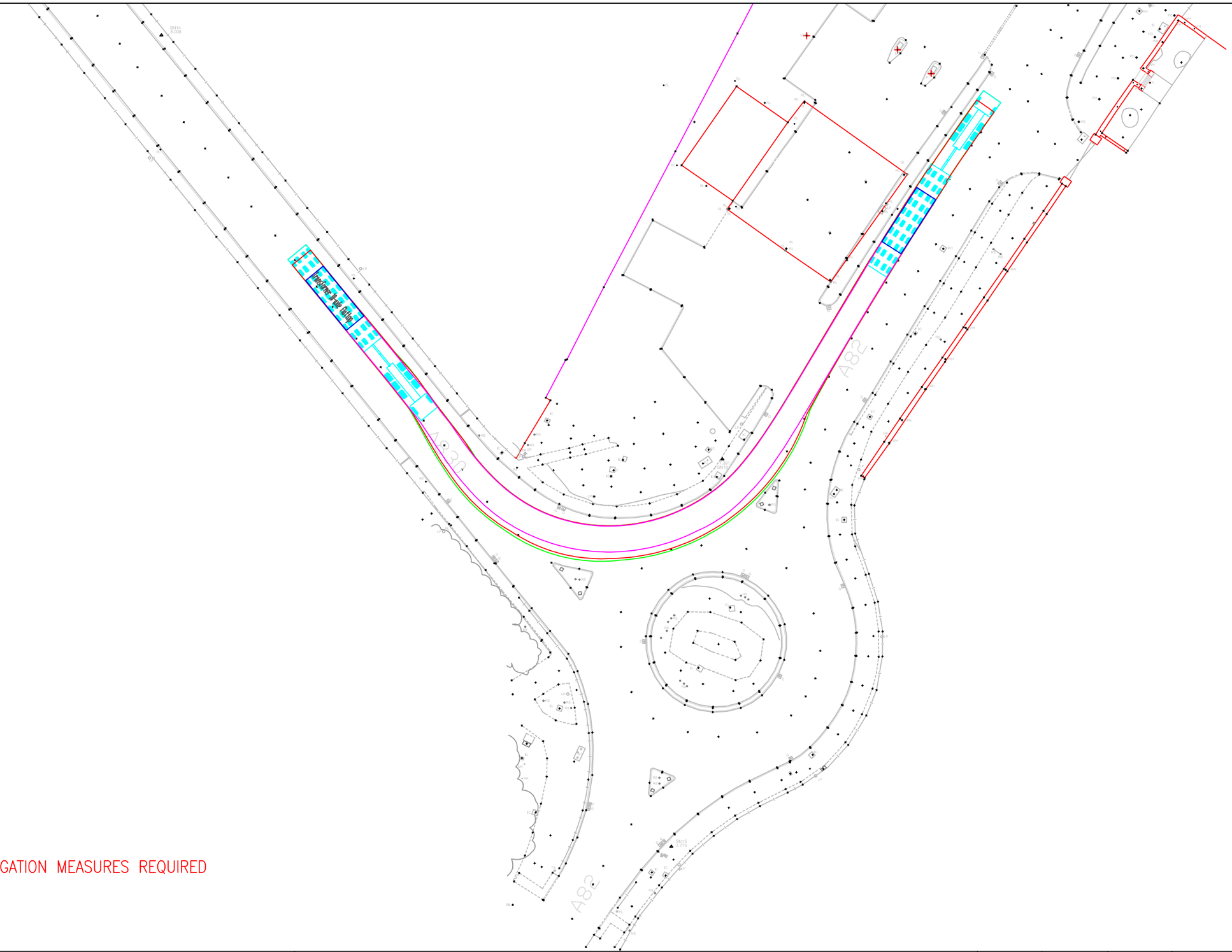

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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A830 / A82 roundabout

	Name	Date
Drawn	SJW	12/02/2025
Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		5

Scale: 1:500 @ A3

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Drawing No.: SK03

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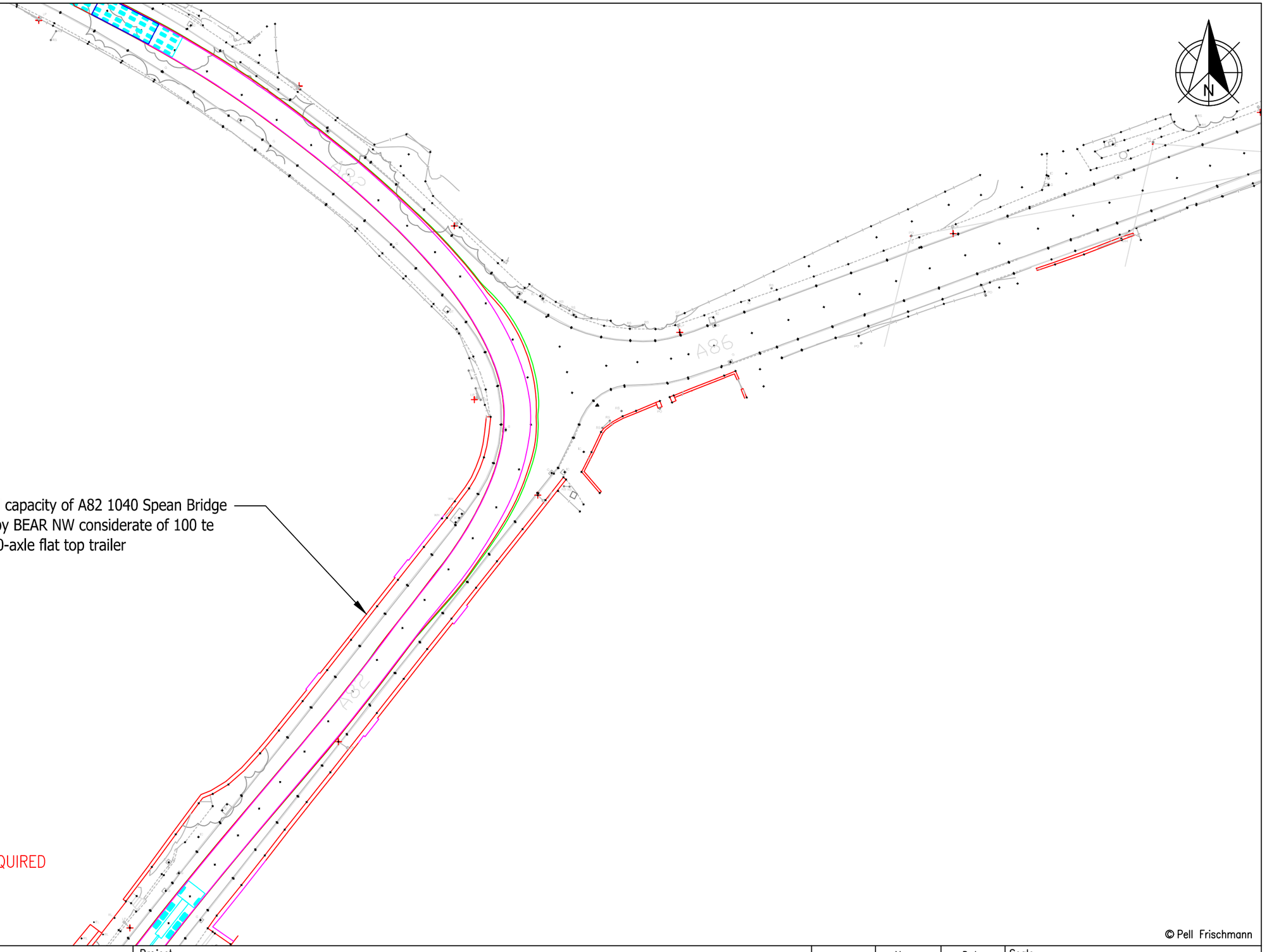

Current structural capacity of A82 1040 Spean Bridge to be confirmed by BEAR NW considerate of 100 te transformer on 10-axle flat top trailer

NO MITIGATION MEASURES REQUIRED

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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A82 Spean Bridge LH bend

	Name	Date
Drawn	SJW	12/02/2025
Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		8

Scale: 1:500 @ A3

File No.: 250212 10109554 Fearna SPA.dwg

Drawing Status: Draft

Drawing No.: SK04

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Revision: 00

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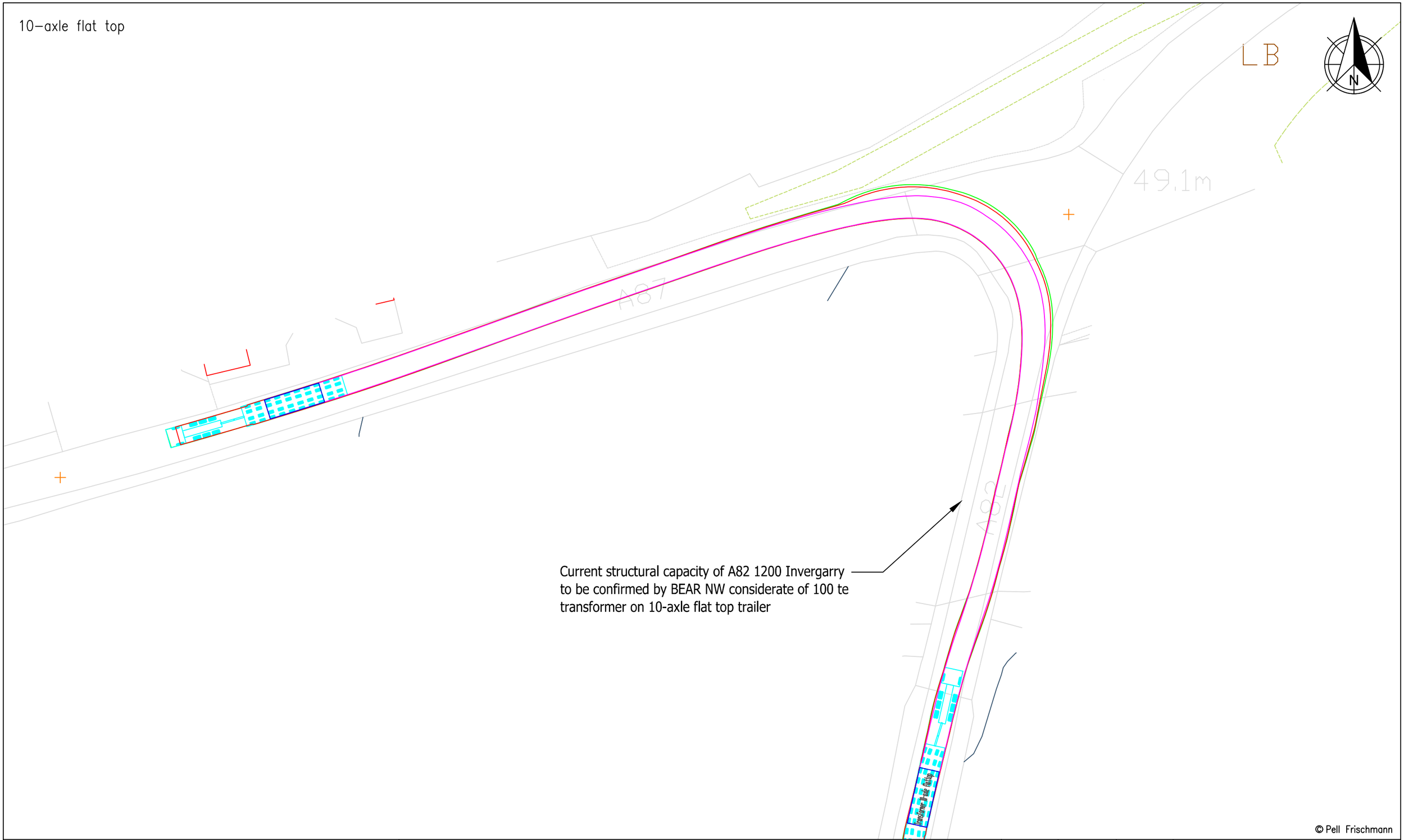

Current structural capacity of A82 1200 Invergarry to be confirmed by BEAR NW considerate of 100 te transformer on 10-axle flat top trailer

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Client: Fearna PSH Ltd

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Overrun; Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A82 / A87 LH turn

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Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		11

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Drawing Status: Draft

Drawing No.: SK05

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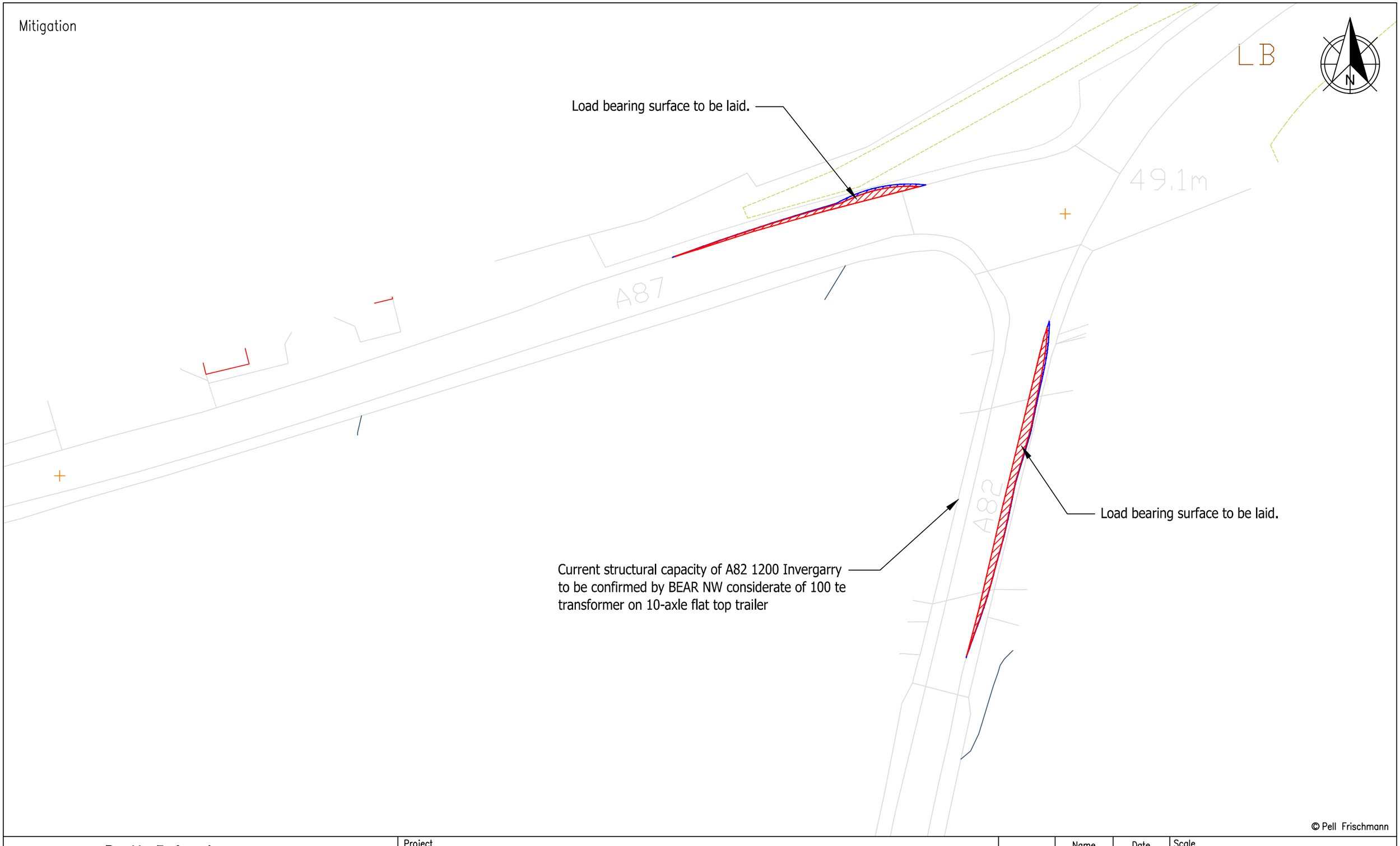
Revision: 00

Mitigation



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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A82 / A87 LH turn

	Name	Date
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Designed	SJW	12/02/2025
Checked	GB	13/02/2025
Point of Interest		11

Scale: 1:500 @ A3

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Drawing Status: Draft

Drawing No.: SK05A

Notes:
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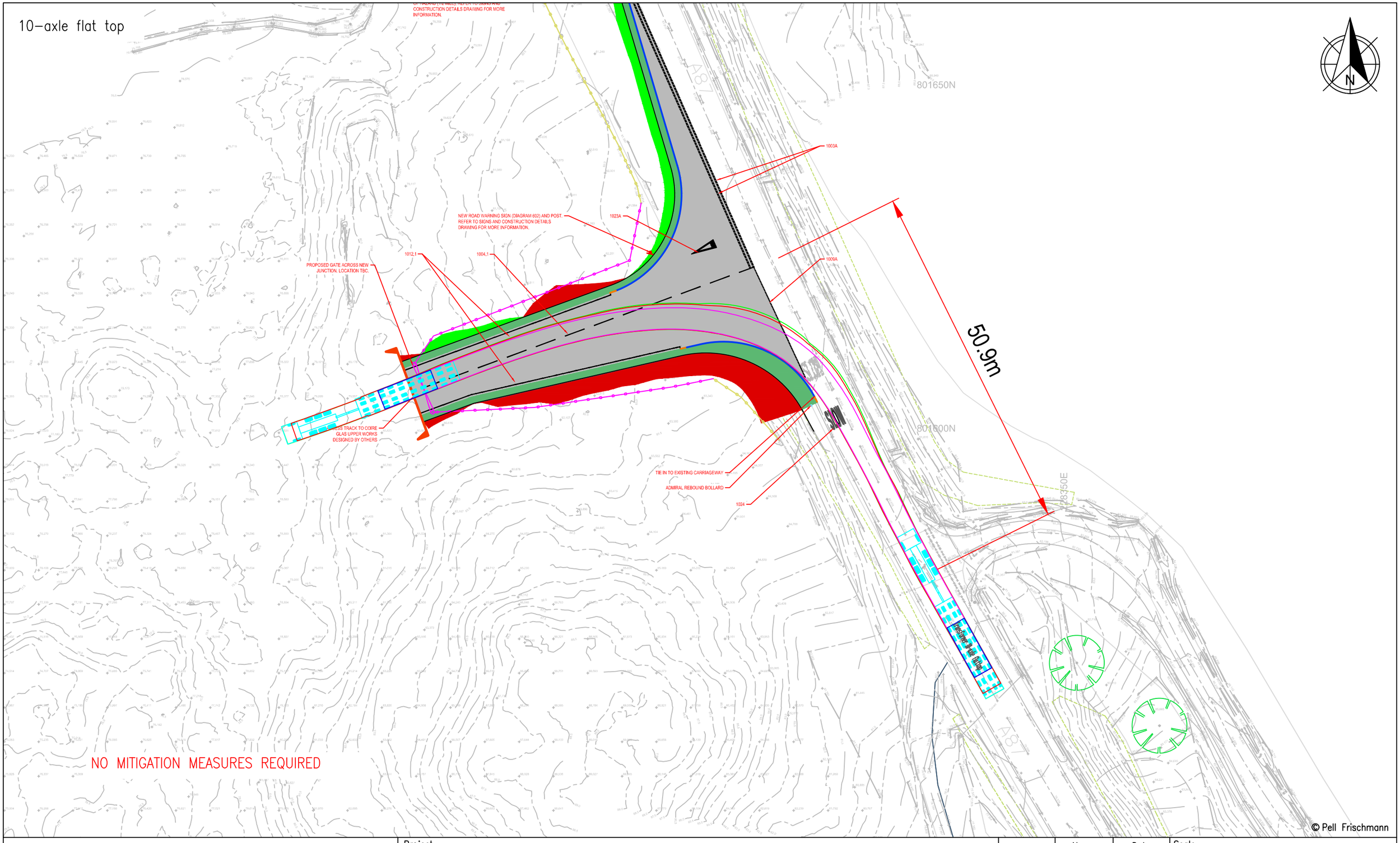
10–axle flat top



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Client: Fearna PSH Ltd

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: 10109554 Fearna Pumped Storage Hydro Scheme

Drawing Title: 100 te Transformer 10–axle Flat Top Trailer

SPA Location: A87 / site access road LH turn

	Name	Date
Drawn	SJW	19/02/2025
Designed	SJW	19/02/2025
Checked	GB	20/02/2025
Point of Interest		14

Scale: 1:500 @ A3

File No: 250219 10109554 Fearna SPA Rev 1.dwg

Drawing Status: Draft

Drawing No.: SK06

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

Revision: 1

Appendix C ESDAL Responses

Outlook

FW: 10109554 Corpach to Fearna 100 te transformers feasibility request

From Sally Weston <SWeston@pellfrischmann.com>
Date Mon 24/02/2025 12:14 PM
To Stephen Cochrane <SCochrane@pellfrischmann.com>

1 attachment (240 KB)
Fearna ALR Results.pdf;

Hi Stephen,

As discussed, please see attached structures result from BEAR.

Many thanks,

Sally

Sally Weston MRINA CEng
Associate
93 George Street
Edinburgh [redacted]
EH2 3ES [redacted]
Pell Frischmann
Excellence through innovation
www.pellfrischmann.com

From: Stephen Oakley <SOakley@bearscotland.co.uk>
Sent: 24 February 2025 11:52
To: Sally Weston <SWeston@pellfrischmann.com>
Cc: NW AbnormalLoad <NWAbnormalLoad@bearscotland.co.uk>
Subject: RE: 10109554 Corpach to Fearna 100 te[redacted] transformers feasibility request

Good morning,

I have checked the structures on the two routes with the ALR software available to BEAR. This software is not capable of assessing the more complex structures on the routes.

On the route between Corpach and Invergarry the structures that would require further assessment are Banavie Swing bridge on the A830 and Laggan Swing bridge and Invergarry on the A82. The other structures that cannot be assessed by ALR are shorter single span structures that at 45HB should not be a problem. We are content that the results exceeding 0.85 are satisfactory.

[redacted]

Regards

Stephen Oakley
Bridge Engineer | BEAR Scotland | North West Unit
Telephone:[redacted] **Visit us @ www.bearscot.com**

BEAR Scotland Think Safe Home Safe experience that delivers

From: Sally Weston <SWeston@pellfrischmann.com>
Sent: 24 February 2025 10:00
To: Stephen Oakley <SOakley@bearscotland.co.uk>; NW AbnormalLoad <NWAbnormalLoad@bearscotland.co.uk>
Subject: RE: 10109554 Corpach to Fearna 100 te[redacted] transformers feasibility request

Hi Stephen,

Don't suppose you've had chance to take a look at the feasibility request below please?

Many thanks,

Sally

Sally Weston MRINA CEng
Associate
93 George Street
Edinburgh [redacted]
EH2 3ES [redacted]

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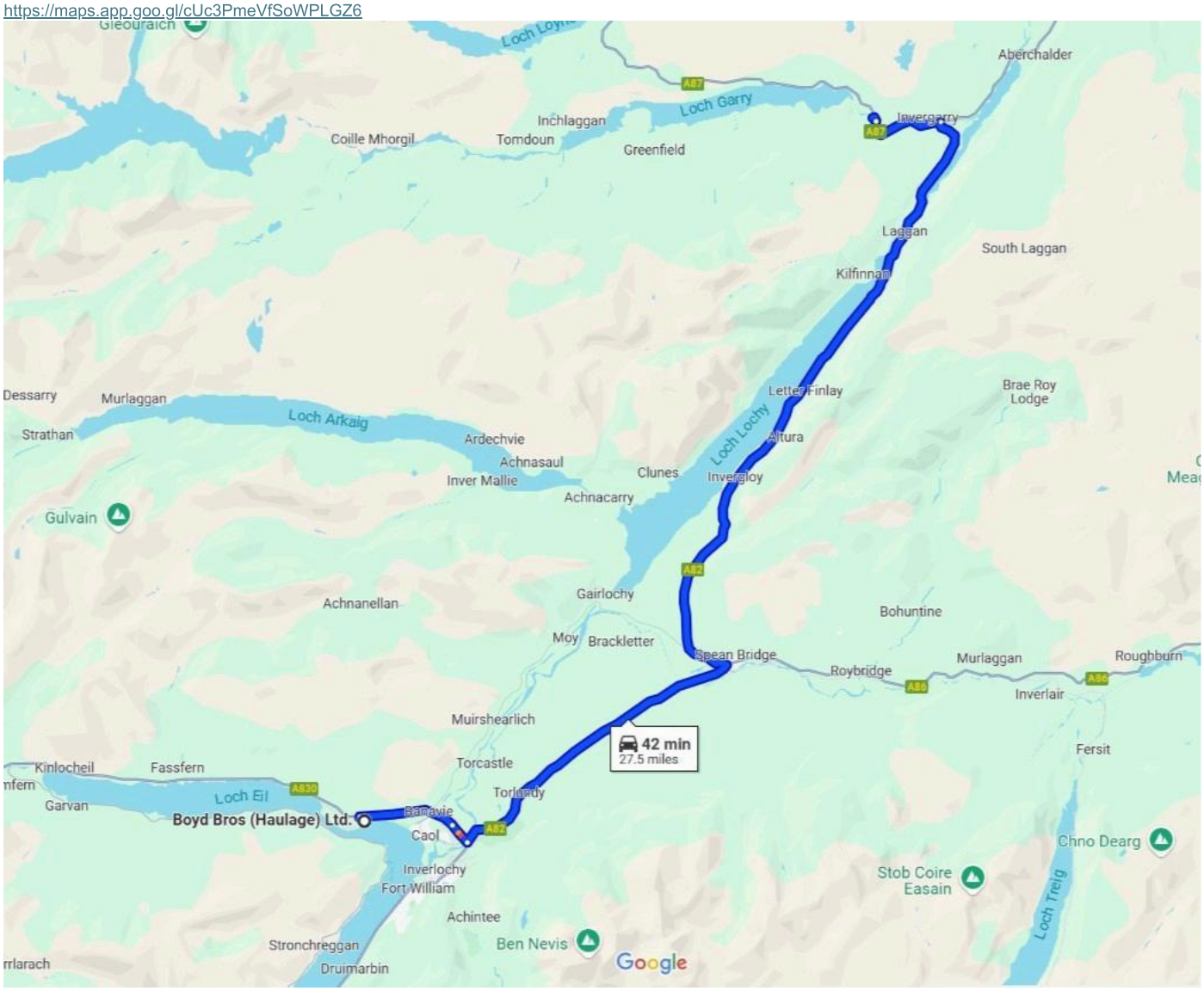
From: Sally Weston
Sent: 12 February 2025 15:23
To: Stephen Oakley <SOakley@bearscotland.co.uk>; NW AbnormalLoad <NWAbnormalLoad@bearscotland.co.uk>
Subject: 10109554 Corpach to Fearna 100 te [redacted] transformers feasibility request

Hi Stephen,

I've got another structural feasibility request for you.

We're looking at the delivery of 100 te [redacted] transformers from Corpach to a site off the A87 near Invergarry.

The route is below, and the transport configurations are attached.
https://maps.app.goo.gl/cUc3PmeVfSoWPLGZ6



Many thanks,

Sally

Sally Weston MRINA CEng
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93 George Street
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Route	Bridge Code	Bridge Name	Easting	Northing	Length Of Span (m)	Ha Design Loading	Hb Design Loading	Hb Assessed Capacity	Maximum Hb Capacity With Restrictions	Hb Assessment Year	Primary Deck Element	Primary Deck Element Material	HB Restriction Requirement	ALR Result 100T Transformer
	A830 20	BANAVIE SWING BR	211200	776800	11.58/24.46/11.2	FULL HA	45	24	35	1998	11 Slab - Solid	A Reinforced Concrete	No coexistent HA loading on the bridge.	Cannot be assessed by ALR
	A830 10	LOCHY RIVER NEW	212414	775741	12.65/15.7/17.2/15.7/12.65	FULL HA	45	45	_		04 Beam / Girder At Or Below Deck Surface	E Steel		35.88 1.25
	A82 1010	MHUILINN	212522	775781	5 x 2	FULL HA	45	45	_	1991	11 Slab - Solid	A Reinforced Concrete		29.66 1.52
	A82 1020	CAILLICH	214046	776485	4.6	FULL HA	45	45	_	1991	15 Culvert / Pipe / Subway - Portal / U Shaped	A Reinforced Concrete		Cannot be assessed by ALR
	A82 1030	LUNDY	214295	777010	9.1	FULL HA	45	45	_	1990	01 Arch - Solid Spandrel	A Reinforced Concrete		20.21 2.23
	A82 1040	SPEAN	222200	781700	6.1/15.2/9.1	FULL HA	45	45	_	1990	01 Arch - Solid Spandrel	L Masonry - Stone		35.84 1.26
	A82 1050	MAIRI	220745	783976	4.9	FULL HA	45	45	_	1991	15 Culvert / Pipe / Subway - Portal / U Shaped	A Reinforced Concrete		Cannot be assessed by ALR
	A82 1060	INVERGLOY	222500	788000	12.6	?	?	45	_	1990	01 Arch - Solid Spandrel	L Masonry - Stone		20.27 2.22
	A82 1070	ALTRUA	224389	790080	5.1	FULL HA	45	45	_	1993	11 Slab - Solid	A Reinforced Concrete		19.20 2.34
	A82 1080	LEITIRI	225029	791245	6.1	FULL HA	45	38	38	1993	11 Slab - Solid	A Reinforced Concrete	HB vehicle on centreline of bridge deck.	20.90 1.82
A830 / A82 Corpach to Invergarry	A82 1095	CORRIEGOUR LODGE NEW	226106	792638	4.6	FULL HA	45	0	_	0	14 Culvert / Pipe / Subway - Box	A Reinforced Concrete		17.35 2.59
	A82 1100	ATHA	228012	794864	6.8	FULL HA	N/A	39	39	1991	11 Slab - Solid	A Reinforced Concrete		22.48 1.73
	A82 1110	LEAGANN	228160	794968	3.7	FULL HA	45	39	39	1991	11 Slab - Solid	A Reinforced Concrete		17.10 2.28
	A82 1120	CHOILICH	228369	795300	8.2	FULL HA	45	38	45	1993	04 Beam / Girder At Or Below Deck Surface	A Reinforced Concrete	HB vehicle on centreline of bridge deck.	25.35 1.50
	A82 1130	CEANNSIDE SIX	228500	795500	7.3	FULL HA	45	24	38	1993	11 Slab - Solid	A Reinforced Concrete	HB vehicle on centreline of bridge deck.	23.37 1.03
	A82 1140	CEANNSIDE FOUR	228564	795612	6.6	FULL HA	45	44	44	1991	11 Slab - Solid	A Reinforced Concrete		22.06 1.99
	A82 1150	CEANNSIDE THREE	228609	795737	4	FULL HA	45	45	_	1991	11 Slab - Solid	A Reinforced Concrete		18.38 2.45
	A82 1160	CEANNSIDE 2	228639	795808	4.1	FULL HA	45	45	_	1991	11 Slab - Solid	A Reinforced Concrete		18.23 2.47
	A82 1170	SITHEINN	228975	796462	9.6	FULL HA	45	40	40	1991	11 Slab - Solid	A Reinforced Concrete		22.67 1.76
	A82 1180	LAGAIN	229500	797500	5.7	FULL HA	45	28	28.8	1993	11 Slab - Solid	A Reinforced Concrete	HB vehicle on centreline of bridge deck.	22.26 1.26
	A82 1190	LAGGAN SWING BR	229989	798322	12.7/22.7/12.8	?	?	37	_	1998	04 Beam / Girder At Or Below Deck Surface	E Steel		Cannot be assessed by ALR
	A82 1200	INVERGARRY	230800	801056	2.7/35.7/2.7	FULL HA	N/A	45	_	1990	01 Arch - Open Spandrel	A Reinforced Concrete		Cannot be assessed by ALR
A87	A87 10	ALDERNAIG	229721	801169	9.3	FULL HA	N/A	37.5	_	1990	04 Beam / Girder At Or Below Deck Surface	D Pre - Tensioned Concrete		26.49 1.42