Pell Frischmann

Kintore Hydrogen Plant

Appendix 9.2: Abnormal Indivisible Load Route Survey

September 2024

107505

Report Ref.		**240912 Kintore Rsr**				
File Path		**https://pellf.sharepoint.com/sites/EdinburghOfficeTeam/Shared Documents/General/Projects/107505 Statera Kintore/01 - WIP/Reports/RSR/240912 Kintore RSR.docx**				
Rev	**Suit**	**Description**	**Date**	**Originator**	**Checker**	**Approver**
01		Draft	03/03/2023	G Buchan	T Lockett	G Buchan
02		Final	11/09/2024	G Buchan	T Lockett	G Buchan
03		Final_v2	12/09/2024	G Buchan	S Cochrane	G Buchan
Ref. reference. Rev revision. Suit suitability.						

Prepared for

Statera Hydrogen Ltd.

4th Floor
80 Victoria Street
London
SW1E 5JL

Prepared by

Pell Frischmann

93 George Street
Edinburgh
EH2 3ES

Kintore Hydrogen
A STATERA COMPANY

Pell Frischmann

Contents

Figures

Tables

Appendices

1 Introduction

1.1 Purpose of the Report

Pell Frischmann Ltd. (PF) has been commissioned by Statera Energy Ltd. (Statera) on behalf of Kintore Hydrogen Ltd. (the Applicant), to undertake a route survey review of a potential delivery route for electrical transformer Abnormal Indivisible Loads (AIL) associated with the construction and development of the proposed hydrogen production plant (the Proposed Development). The Site is located next to the existing Kintore Substation, to the southwest of Kintore in the Aberdeenshire Council (AC) administrative area.

The Route Survey Report (RSR) has been prepared to help inform Statera on the likely issues associated with the development of the Site with regards to off-Site transport and access for AIL traffic from Aberdeen Harbour to Site. 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 assessment and subsequent designs of any remedial works are beyond the agreed scope of works between PF and Statera at this point in time.

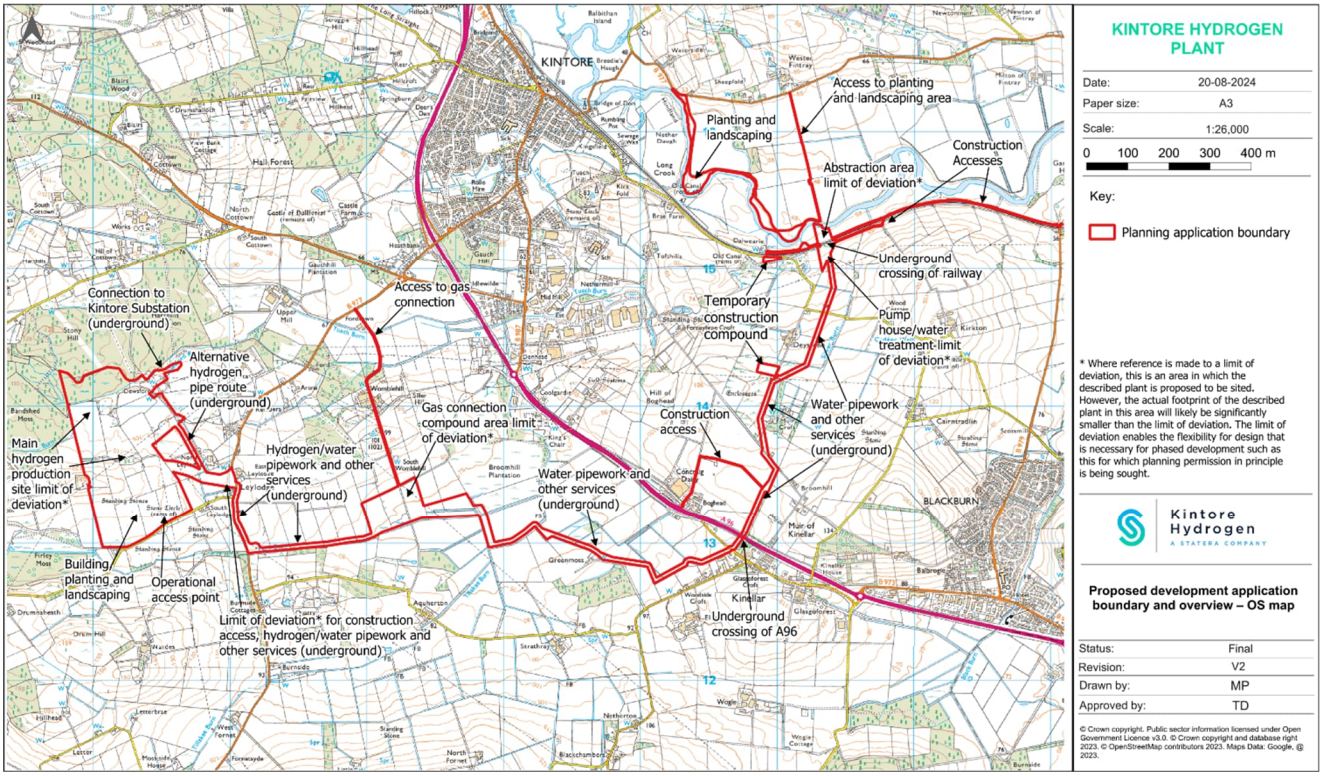
It is the responsibility of the developer to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction. The developer will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety provision for all road users and is in accordance with the relevant legislation at the time of delivery.

2 Site Background

2.1 Site Location

The Proposed Development Site is located on land to the west of the existing Kintore Substation, approximately 2.8 kilometres (km) to the southwest of Kintore, Aberdeenshire, 0.3 km northwest of Leylodge and 0.5 km to the west of the B977. Figure 2-1 illustrates the general Site location.

Figure 2-1: Site Location Plan



2.2 Candidate Transformer

Statera have indicated that they wish to consider access for a 360/60MVA transformer. Indicative transformer details and a similar transport solution were provided by Statera and PF has developed the assessment on these details. The indicative transformer details are provided in Table 2-1.

Table 2-1: Transformer Components Summary

Component	Length (m)	Width (m)	Height / Min Diameter (m)	Weight (t)
Transformer (excluding oil and in transport configuration)	10.000	3.400	4.500	150.000

2.3 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route, it has been assumed that the transformer would be carried in girder trailer supported by two eight axle bolsters at either end. A heavy load tractor unit would pull the trailer and a drogue unit may be required in areas with significant gradients.

Trailer details are provided in Appendix A based upon a trailer proposed for a Statera project in Exeter. An example of a similar style of transport is provided in Figure 2-2.

Figure 2-2: Example Transformer Transport

3 Access Route Review

3.1 Port of Entry

The proposed Port of Entry (POE) is the southern quay of Aberdeen Harbour. The port is the closest port to Site and as such is in line with the Government's "Water Preferred" policy towards AIL movements. The port has been used by heavy load and abnormal load deliveries in the past. The port has sufficient quay and storage space and is well located for the strategic trunk road network.

It is proposed that the transformer loads are discharged onto the southern quay at Torry Marine Base. This provides a more direct access for abnormal loads onto the trunk road network via Wellington Road.

The port has a quay length of 410m at this location and has maximum berthing depths of between 9.6 and 13.3m. Offloading would be via geared vessels or via shore-based cranes. Storage areas of up to 1.5 hectares are available.

3.2 Proposed Access Route

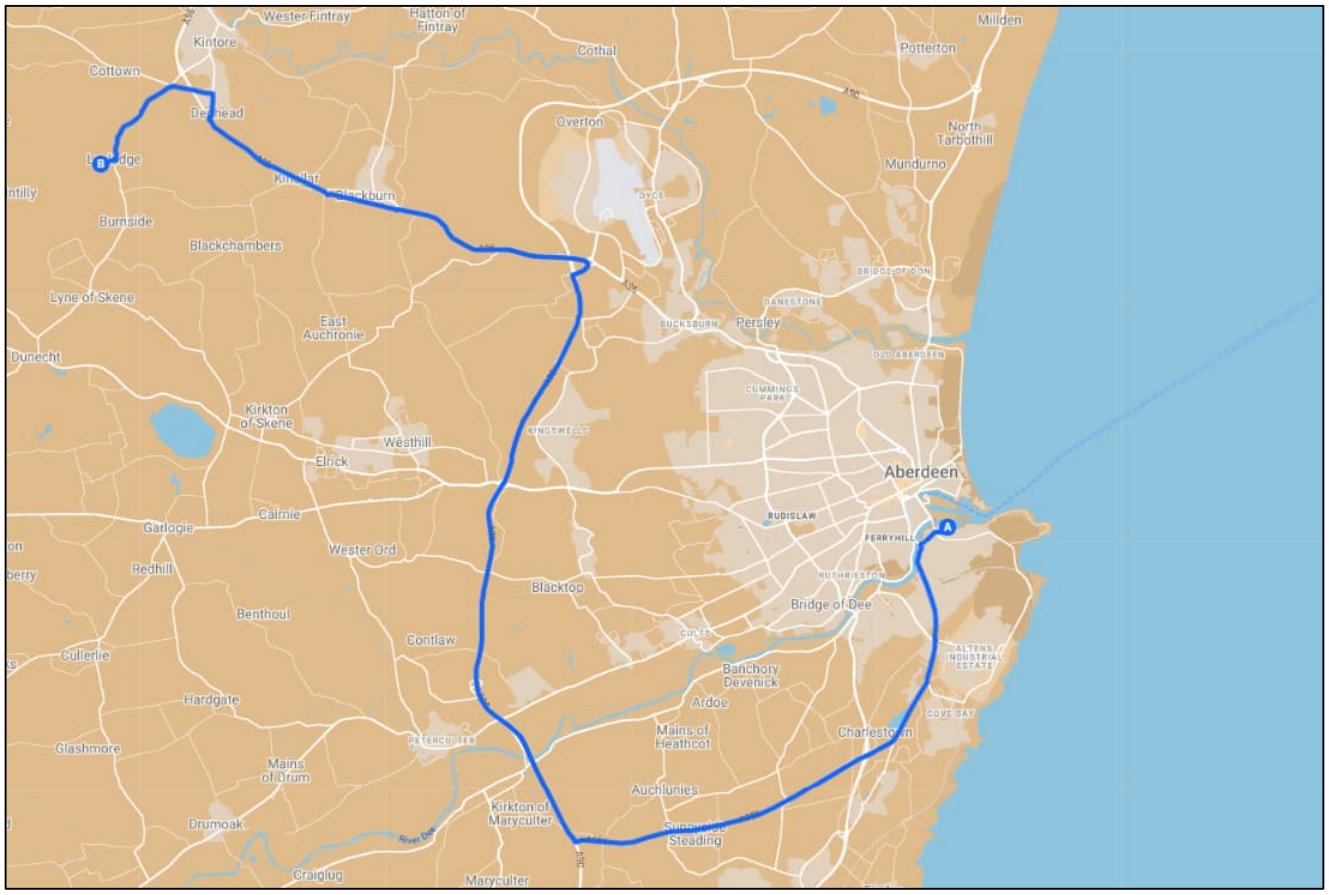
The proposed access route from the harbour to Site would be as follows:

- depart the southern harbour at South Esplanade East;
- undertake a contraflow movement along South Esplanade Way under Police escort;
- proceed south on Wellington Road / A956;
- join the Aberdeen Western Peripheral Road (AWPR) A956 and A90 and proceed northbound
- depart the AWPR A90 at Craigstone and join the A96;
- proceed westbound on the A96;
- depart A96 at Broomhill Roundabout and join the B987 northbound;
- turn left onto the B994 and proceed westbound;
- join the B977 at the roundabout and proceed southwest; and
- in the vicinity of Leylodge, turn right in to the Site via the newly constructed Site access junction.

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

The route has been reviewed during a Site visit and constraints were noted. The weather conditions during the Site visit were variable with frequent snow showers experienced. This has affected the images from the Site visit in certain sections.

Figure 3-1: Access Route



3.3 Route Constraints

The constraints noted on the Site visit are detailed in the table below. These cover all constraints from the port access gate through to the Site access junction. No consideration of the transport issues within the port or Proposed Development Site have been undertaken and this includes the design of the Site access junction.

Plans illustrating the location of the constraints are provided in Appendix B.

Table 3-1: Constraint Points and Details

POI	Key Constraint	Details
1	**Port Access Gate** 	Loads will depart the port and will enter South Esplanade East. This is a one-way street and as such, loads will need to proceed using a contraflow transit under police escort. Loads will continue to contraflow onto South Esplanade West. A swept path assessment has been undertaken and indicates that no physical mitigation work is required at this location.

POI	Key Constraint	Details
2	**South Esplanade West / Wellington Road Roundabout** 	Loads will proceed ahead at the junction, taking the second exit onto Wellington Road. A swept path assessment has been undertaken and indicates that the load will oversail the exit verge at the roundabout. No physical mitigation works are required at this location. The load will then oversail the central island of the roundabout where one bollard should be removed. When existing the junction, the load will oversail the verge. No works are required to accommodate the load.
3	**Wellington Road / Grampian Place Junction** 	Loads will continue ahead at this location. A swept path assessment has been undertaken and indicates that one bollard will need to be removed on the central island of the road and that a load bearing surface will also be required. Underground services where loads over-run will require protection.
4	**Rail Bridge Vertical Clearance** 	The suspension and load bed settings will need to be raised for this section to increase vertical clearance due to the raised nature of the road at the railway bridge. These settings should be restored following the crossing of the bridge.
5	**Wellington Road Gradient** 	A secondary tractor unit will be required to provide extra tractive effort at this location due to the gradient of the road.

POI	Key Constraint	Details
6	**Wellington Road / West Tullos Road Roundabout** 	Loads will proceed ahead at the junction, taking the second exit onto the A956 Wellington Road. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. No physical mitigation measures are required.
7	**Wellington Circle Roundabout** 	Loads will proceed ahead at the junction, taking the third exit onto the A956 Wellington Road. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. No physical mitigation measures are required. Loads will continue westbound on the A956, joining the Aberdeen Western Peripheral Road (AWPR) at Charleston.
8	**A956 / A90 Cleanhill Roundabout** 	Loads will turn right at the junction, taking the second exit onto the A90 AWPR. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. No physical mitigation measures are required. Loads will continue westbound on the A956, joining the Aberdeen Western Peripheral Road (AWPR) at Charleston.
9	**A90 Craibstone Interchange Diverge** 	Loads will depart the A90 at Craibstone Interchange. The escort vehicles must ensure that no trailing traffic attempts to overtake the loads on the off-slip road.

POI	Key Constraint	Details
10	**A90 Craibstone Interchange** 	Loads will turn right at the end of the diverge slip road. A swept path assessment has been undertaken and indicates that loads will require access to both lanes of the slip road and entry road. One road sign, one traffic signal and a section of pedestrian railing should be removed to improve clearances for loads.
11	**A90 / A96 Craibstone Roundabout** 	Loads will turn left at the junction, taking the first exit onto the A96. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. No physical mitigation measures are required. Loads will continue westbound on the A96.
12	**A96 Clinterty Roundabout** 	Loads will proceed ahead at the junction, taking the second exit onto the A96. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. Loads will oversail the edge of the central island of the roundabout, however no physical works are required. The suspension and load bed settings will need to be raised for this section allow a greater clearance to the roundabout island.
13	**A96 Kinellar Roundabout** 	Loads will proceed ahead at the junction, taking the second exit onto the A96. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles. Loads will oversail the edge of the central island of the roundabout, however no physical works are required. The suspension and load bed settings will need to be raised for this section allow a greater clearance to the roundabout island.

POI	Key Constraint	Details
14	**A96 Broomhill Roundabout** 	Loads turn right at the junction, taking the third exit onto the B987. A swept path assessment has been undertaken and indicates that loads will require access to both lanes on the approach to and the exit from the junction. Other traffic should be held back from the junction by the escort vehicles well in advance on the B987 arm of the junction as the load will straddle all lanes when departing the junction. Loads will oversail the edge of the central island of the roundabout, however no physical works are required. The suspension and load bed settings will need to be raised for this section allow a greater clearance to the roundabout island.
15	**B987 / Tumulus Way Roundabout** 	Loads will proceed ahead at the junction, taking the first exit onto the B9876. A swept path assessment has been undertaken and indicates that loads will oversail the entry verge of the junction. Loads will over-run the existing over-run surfacing surrounding the central island of the roundabout. No physical mitigation works are required.
16	**B987 / B994 Junction, Kintore** 	Loads will turn left at the junction onto the B994. A swept path assessment has been undertaken and indicates that loads will oversail the inside of the junction. No physical mitigation is required. Loads will require access to all lanes at the junction and oncoming traffic needs to be held back from other arms by the lead escort vehicles.
17	**B994 Central Island** 	Loads will proceed ahead, passing the crossing island. Loads will oversail the edge of the island, however no physical mitigation works are considered necessary.

POI	Key Constraint	Details
18	**B994 / B977 Roundabout** 	Loads will turn left at the junction, taking the first exit onto the B977. A swept path assessment has been undertaken and indicates that loads will oversail the entry verge of the junction, although no physical works are required. Loads will then oversail and over-run the central island of the junction. A temporary load bearing surface will be required.
19	**B977 Bend** 	Loads will continue ahead on the B977, heading southwest. A swept path assessment has been undertaken at this location and indicates that bollards on both sides of the road will need to be removed to accommodate oversail. A railing on the south-eastern verge will also need to be temporarily removed.
20	**Kintore Substation Bend** 	Loads will continue ahead on the B977, heading southwest. A swept path assessment has been undertaken at this location and indicates that loads will straddle both lanes of the road and the oncoming escorts should hold oncoming traffic back at POI 22. A minor oversail of the verge will occur on the south-eastern verge. No physical works are required.
21	**Overhead Utilities** 	Overhead utility lines at this location were noted as potentially being low. Early engagement with the utility providers to the southwest of the Kintore Substation junction should be undertaken to ensure a clear head height of at least 5m plus adequate flashover protection is available. Tree canopies over the road from this location onto the Site access should be trimmed to provide a clear 5m head height. A review of the canopy by an ecologist is recommended and consideration of the programming of these works should be made to suit breeding bird seasons.

POI	Key Constraint	Details
22	**B977 Access Junction** 	Loads will turn right into the Site via a newly constructed Site access junction. Overhead utility lines at this location were noted as potentially being low. Early engagement with the utility providers should be undertaken to ensure a clear head height of at least 5m plus adequate flashover protection is available. A swept path assessment has been undertaken at this location and is included in Appendix C. A temporary load bearing surface to accommodate the vehicle over-run should be provided on the northern side of the junction together with an over-sail area. In addition a minor area of load bearing surface should be provided on western verge of the B977 carriageway on approach to the junction, together with the removal of one road sign.

3.4 Swept Path Assessment Results and Summary

The detailed swept path drawings for the locations assessed are provided in Appendix C 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).

Where mitigation works are required, the extents of over-run and over-sail areas are illustrated on the swept path drawings.

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.

3.5 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 ESDAL contacts are noted in Table 3-2 and all have been contacted to ascertain if there are any relevant constraints that should be noted. The feedback from the consultees is provided in Appendix D.

Table 3-2: ESDAL Contacts

Organisation	Email Address
Aberdeen City Council	AbnormalLoads@aberdeencity.gov.uk
Aberdeenshire Council	abnormal.loads@aberdeenshire.gov.uk
AWPR A90 Team	abloads-awpr@balfourbeatty.com
Amey North East Trunk Road Unit	abnormal-loadne@amey.co.uk
Police Scotland	OSDAbnormalLoadsScotland@scotland.pnn.police.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
Historic Rail Estate	rsgbrb@jacobs.com
Transport Scotland	AbnormalLoads@transport.gov.scot

3.6 Land Ownership

The limits of road adoption can vary depending upon the location of the Site and the history of the road agencies involved. The adopted area is generally defined as land contained within a defined boundary where the road agency holds the maintenance rights for the land. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge. In rural areas the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established fence / hedge lines or a maximum 2m from the road edge. This can vary between areas and location.

3.7 Summary Issues

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

- that any necessary topographical surveys are undertaken, and the swept path results completed;
- 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 which 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 test 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 loads commencing to protect the developer from spurious damage claims.

4 Summary

4.1 Summary of Access Review

Pell Frischmann have been commissioned by Statera Energy Ltd. (Statera) on behalf of Kintore Hydrogen Ltd. (the Applicant), to prepare a Route Survey Report to examine the issues associated with the transport of transformer components associated with the construction and development of the proposed hydrogen production plant (the Proposed Development). The Site is located next to the existing Kintore Substation, to the southwest of Kintore in the Aberdeenshire 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 transformer components.

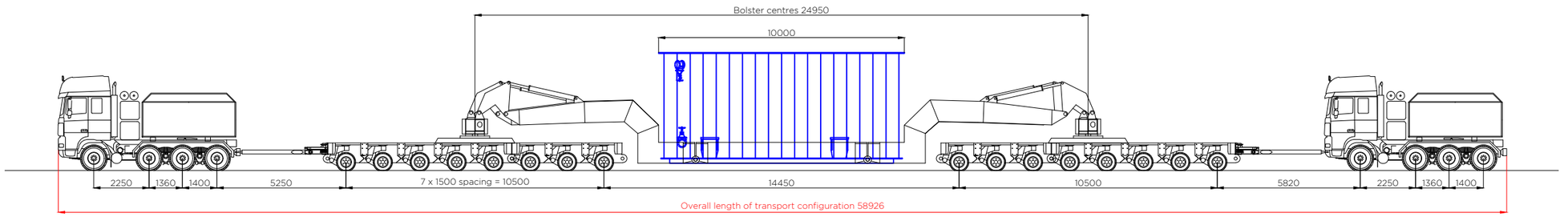
The report is presented for consideration to Statera. Various road modifications, structural reviews, and interventions are required to successfully access the Site. If these are undertaken, access to the Site is considered feasible.

4.2 Further Actions

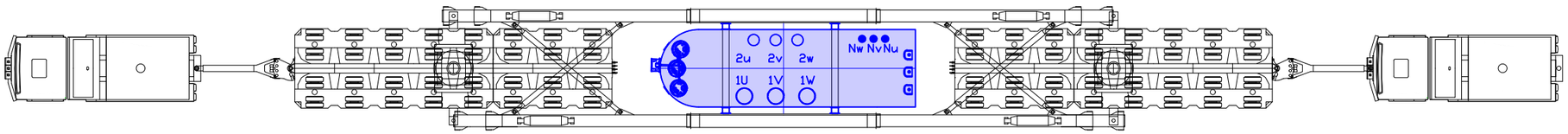
The following actions are recommended to pursue the transport and access issues further:

- prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- obtain the necessary land options;
- undertake discussion with the affected utility providers and roads agencies;
- obtain the necessary statutory licences to enable the mitigation measures; and
- develop a detailed operational Transport Management Plan to assist in transporting the proposed loads.

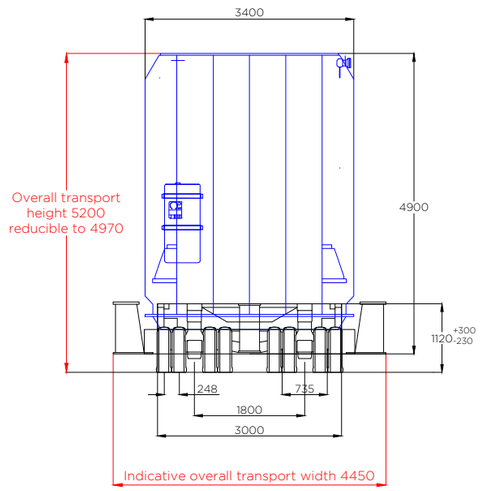
Appendix A Load Details



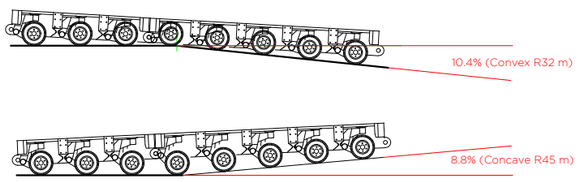
Elevation view - 16 axle girder frame trailer - concept model only
Indicative 150 te transformer
Scale 1:200



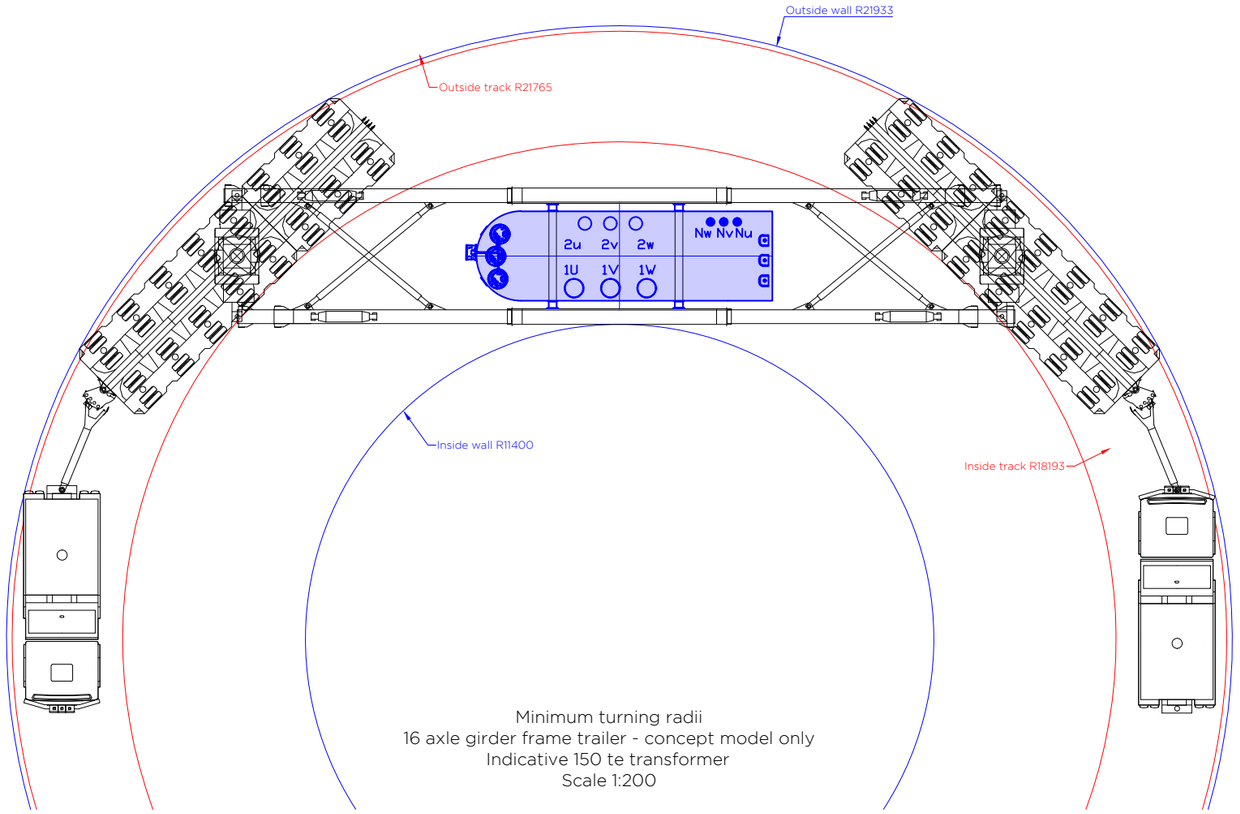
Plan view - 16 axle girder frame trailer - concept model only
Indicative 150 te transformer
Scale 1:200



Profile view
Scale 1:100



Vertical curve negotiability information
based on manufacturers literature
Scale 1:200



Minimum turning radii
16 axle girder frame trailer - concept model only
Indicative 150 te transformer
Scale 1:200

Load table	
16 axle girder frame trailer	
Self weight of transformer	150.0 te
Self weight of trailer	91.8 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	241.8 te
Load per trailer	120.9 te
Load per axle line	15.11 te
Load per axle	7.56 te
Load per wheel (4 per axle)	1.89 te
Overall ground bearing pressure	3.84 te/m²
Tractor(s) (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

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

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

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

[4] Indicative transformer shown only.

Rev.	Date	Amendments
1		
0	21.04.22	Issued for comment

Revisions

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

Client:
STATERA ENERGY

Project:
Sungrow Battery Farm, Exeter

Title:
Indicative transport configuration
Conceptual 150 te transformer carried within
16 axle girder frame trailer
showing minimum turning radii

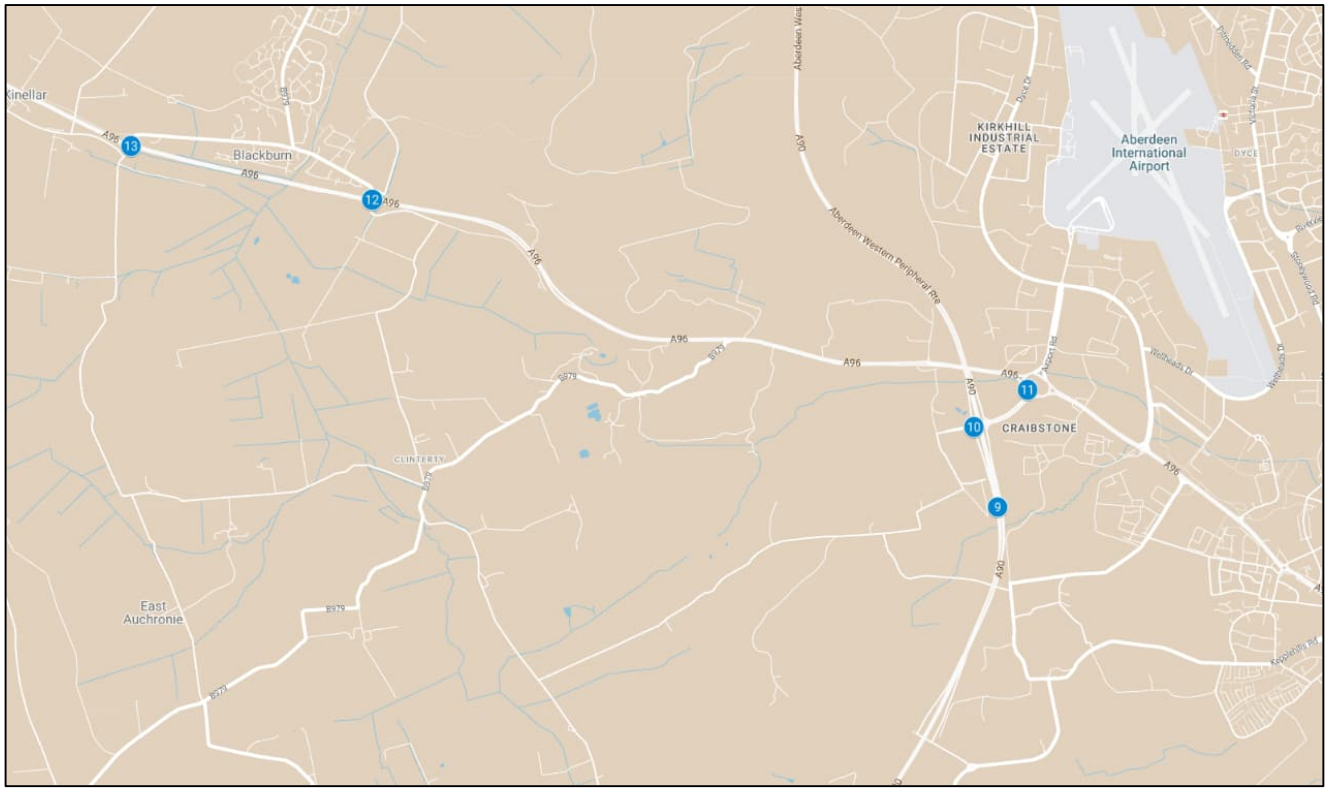
Drawing status:
Final report

Scale (A3):	Drawn By:	Checked By:
As shown	SJW	ARP
Dwg. no:	Sheet:	Rev:
22-1069.TC01	1 of 1	0

P:\Clients\Existing Clients\Statera Energy Limited\22-1069 Exeter Main\Transport configuration\22-1069.TC01 Exeter 150 te transformer 16 axle frame 1.5 m spacings R0.dwg

Appendix B Points of Interest

The following plans can be viewed electronically here:
https://www.google.com/maps/d/edit?mid=1zkarbeiDx_kTZW2rJnBlgoU_h2kCRe0&usp=sharing




B994
B977
18
A96
B994
17
B987
16
15
19
Tuach Burn
B977
B987
Dewsford Burn
Denhead
A96
14
B977
20
21
Sheriff Burn
A96
22
B977
Leylodge
Park Burn

Appendix C Swept Path Assessments

7.5

TORRY 6

TORRY 5

TORR

TORRY QUAY

TOR

SOUTH ESPLANADE EAST

CROMBIE PLACE

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: Port Access Gate

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		1

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

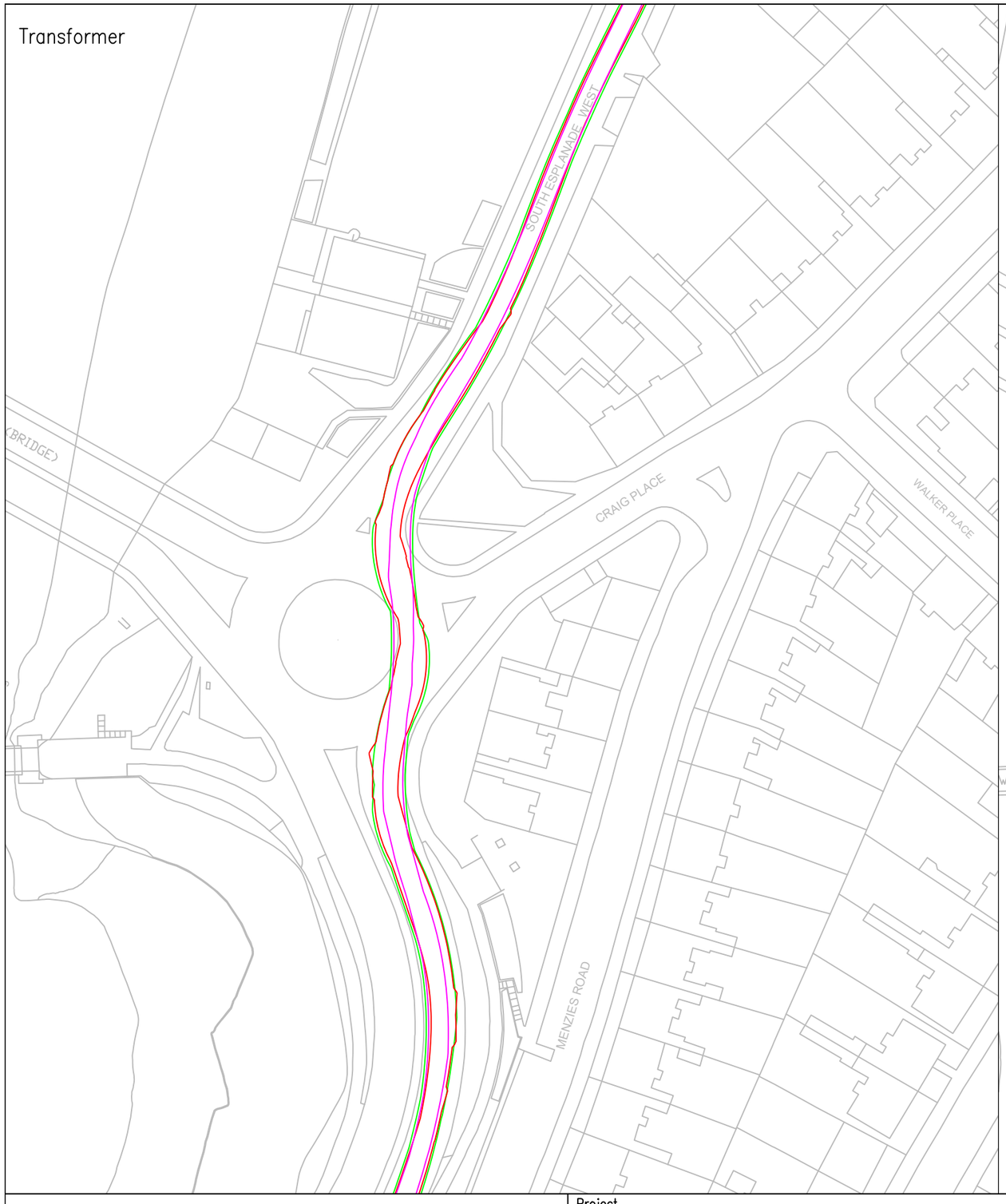
Drawing Status: Draft

Drawing No.: SK01

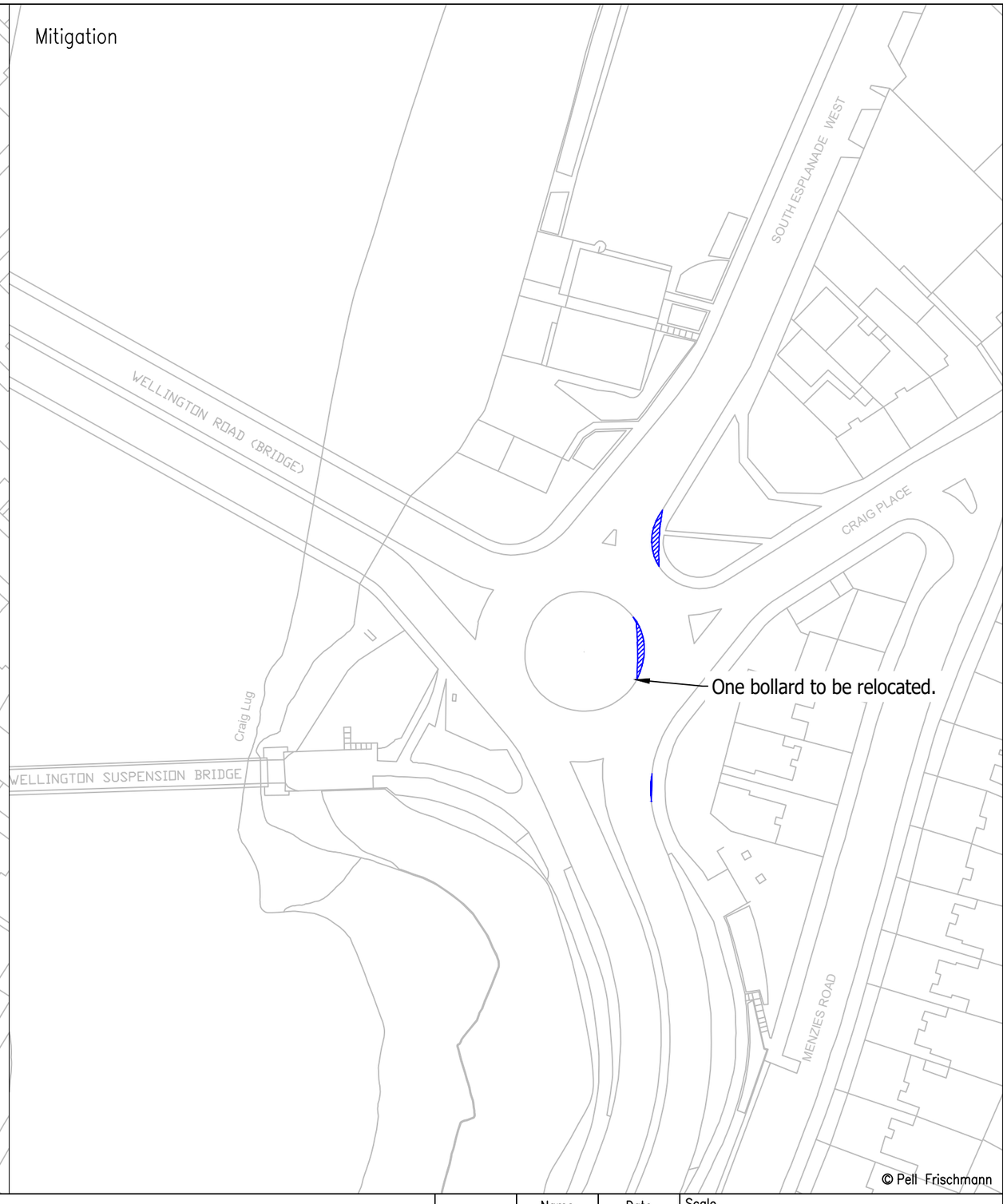
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: South Esplanade West ? Wellington Road Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		2

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

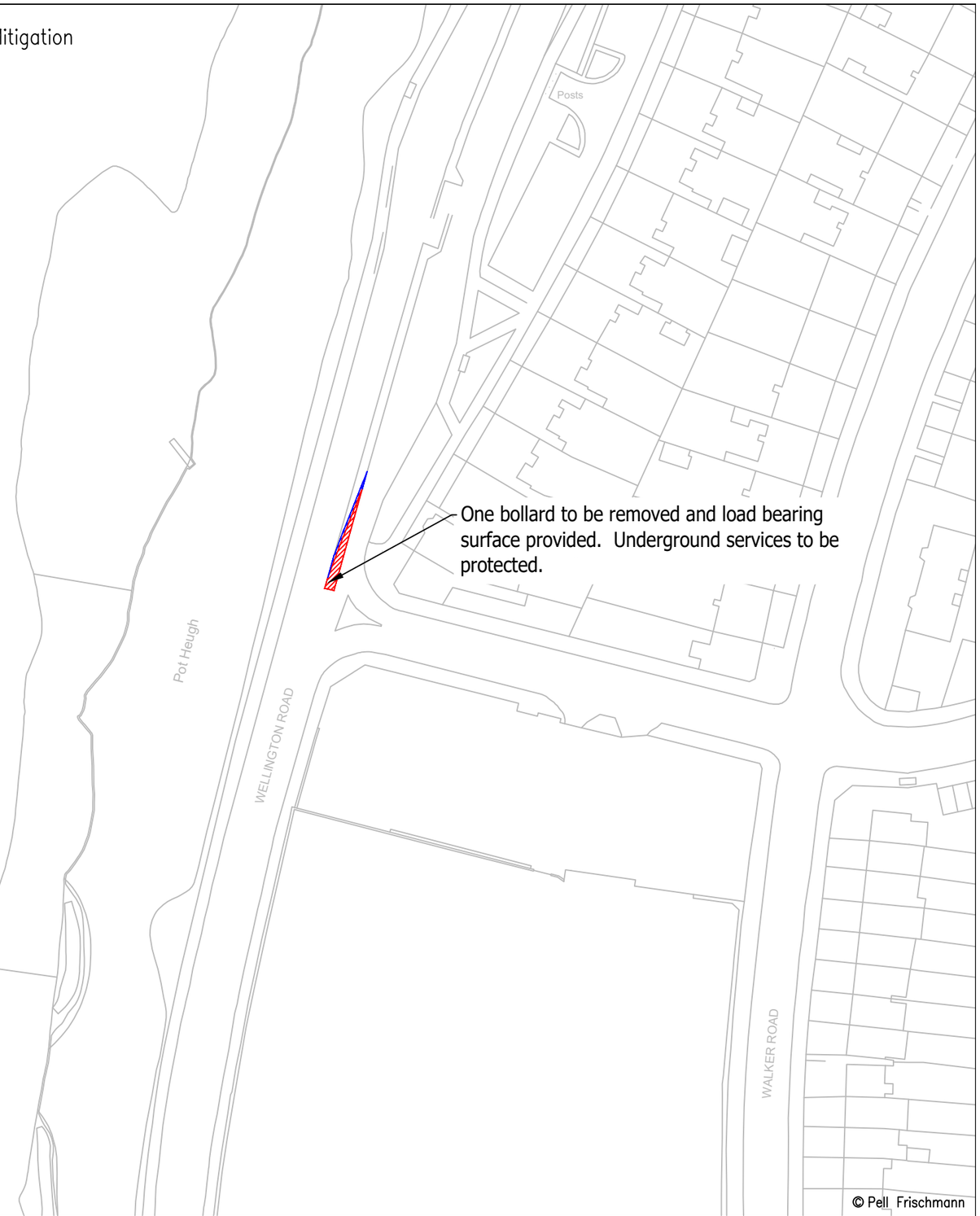
Drawing No.: SK02

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

Revision: 0

Transformer

Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: Wellington Road / Grampian Place Junction

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		3

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

Drawing No.: SK03

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

Revision: 0

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: Wellington Road / West Tullos Road Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		6

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

Drawing No.: SK04

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

Revision: 0

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: Wellington Circle Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		7

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

Drawing No.: SK05

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

Revision: 0

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A956 / A90 Cleanhill Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		8

Scale: 1:1000 @ A3

File No.: 240911 tracking.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.
3. Do not scale from this drawing

Revision: 0

Transformer

Mitigation

One road sign, one traffic signal and pedestrian railing to be removed to improve clearances.

Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A90 Craibstone Interchange

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		10

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

Drawing No.: SK07

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

Revision: 0

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A90 / A96 Craibstone Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		11

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

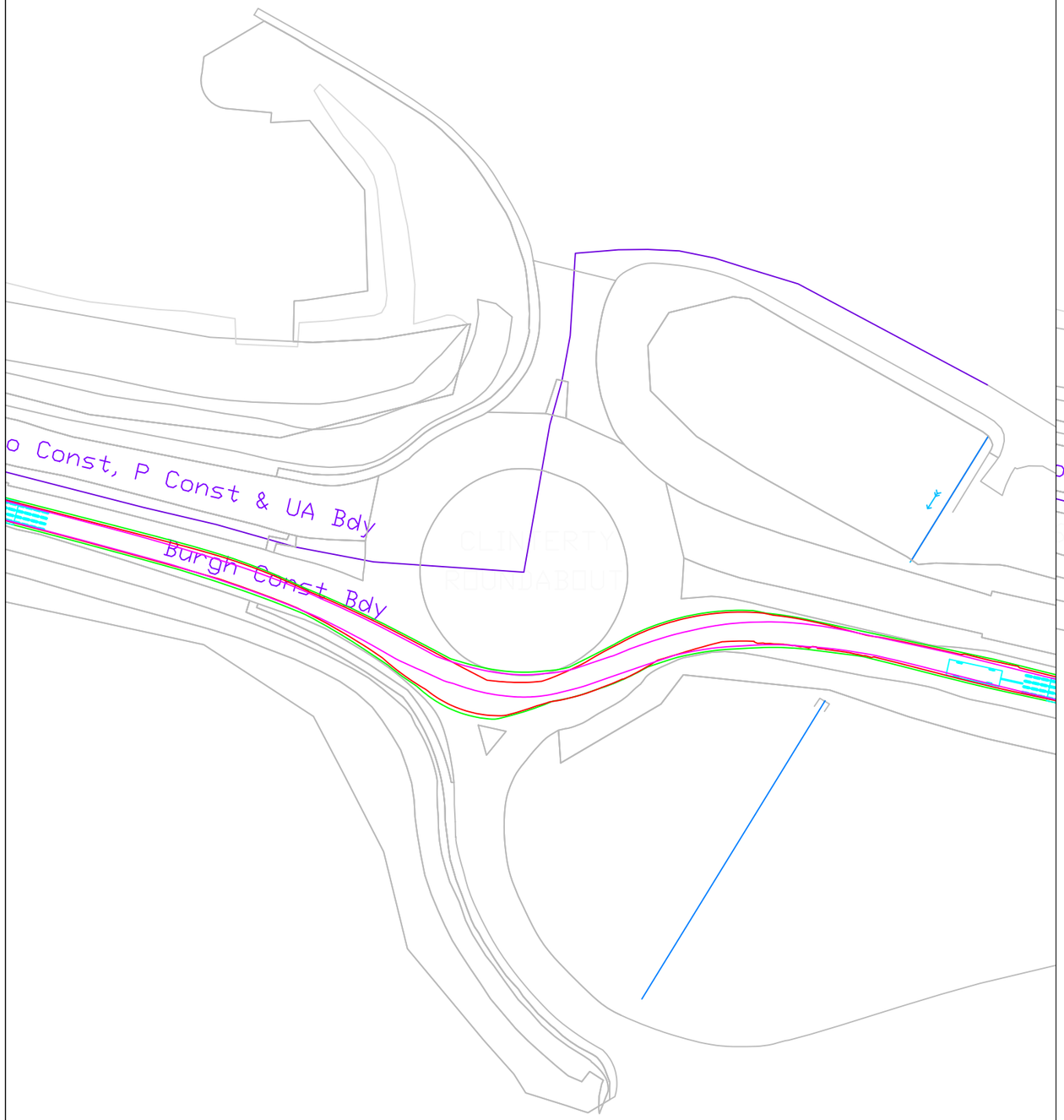
Drawing Status: Draft

Drawing No.: SK08

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

Revision: 0

Transformer



Mitigation

Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A96 Clinterty Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		12

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

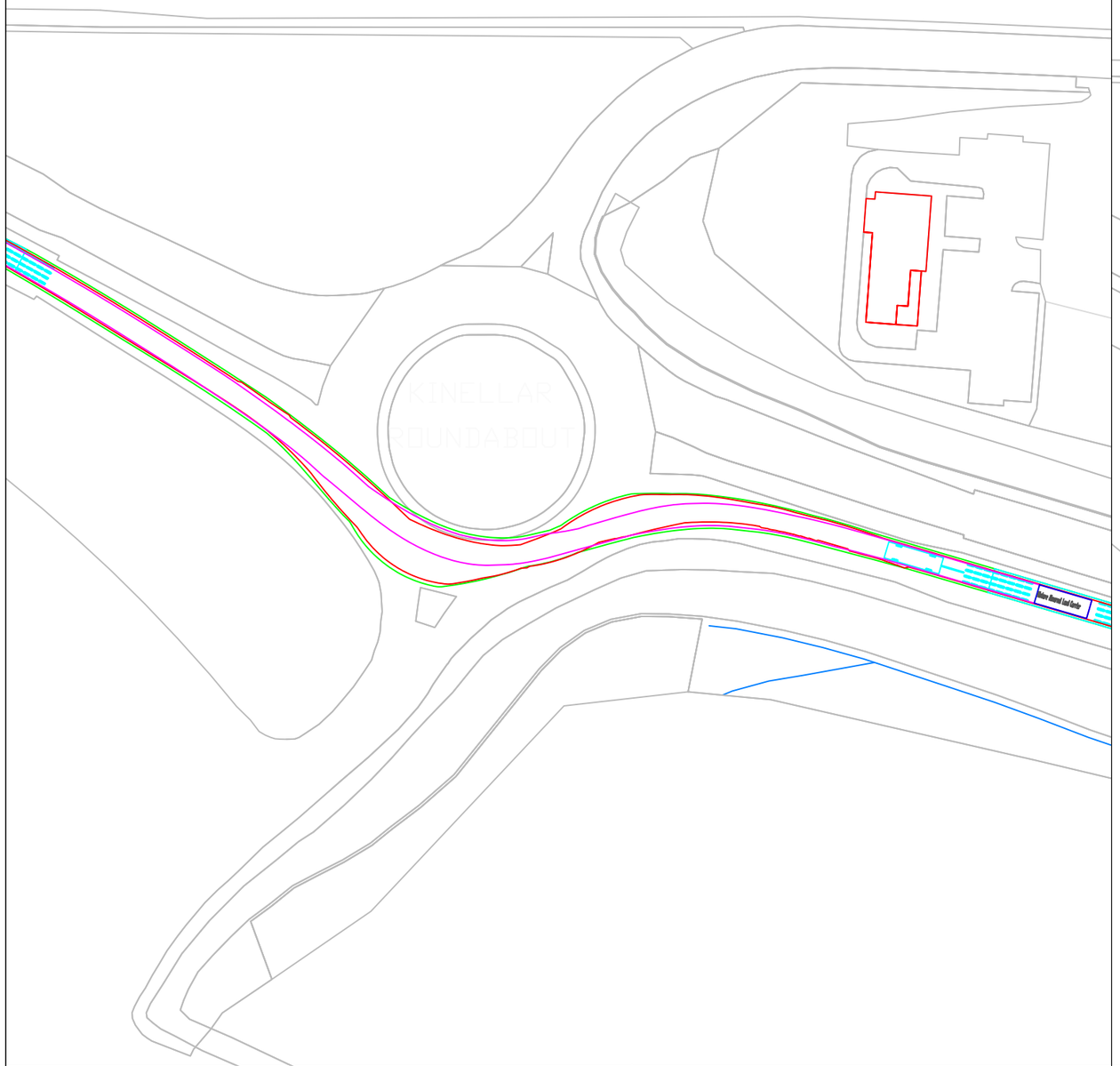
Drawing Status: Draft

Drawing No.: SK09

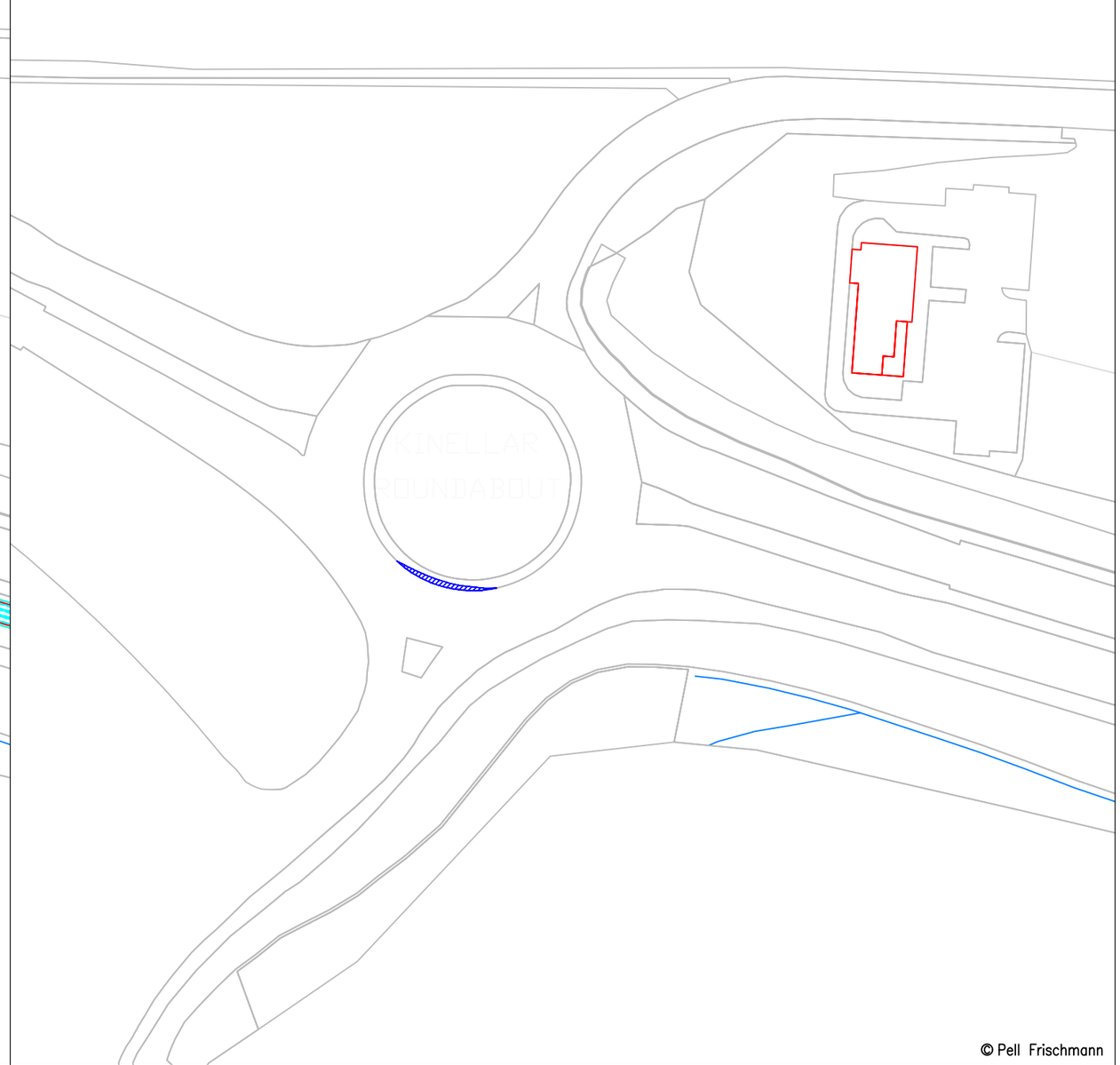
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A96 Kinellar Roundbaout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		13

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

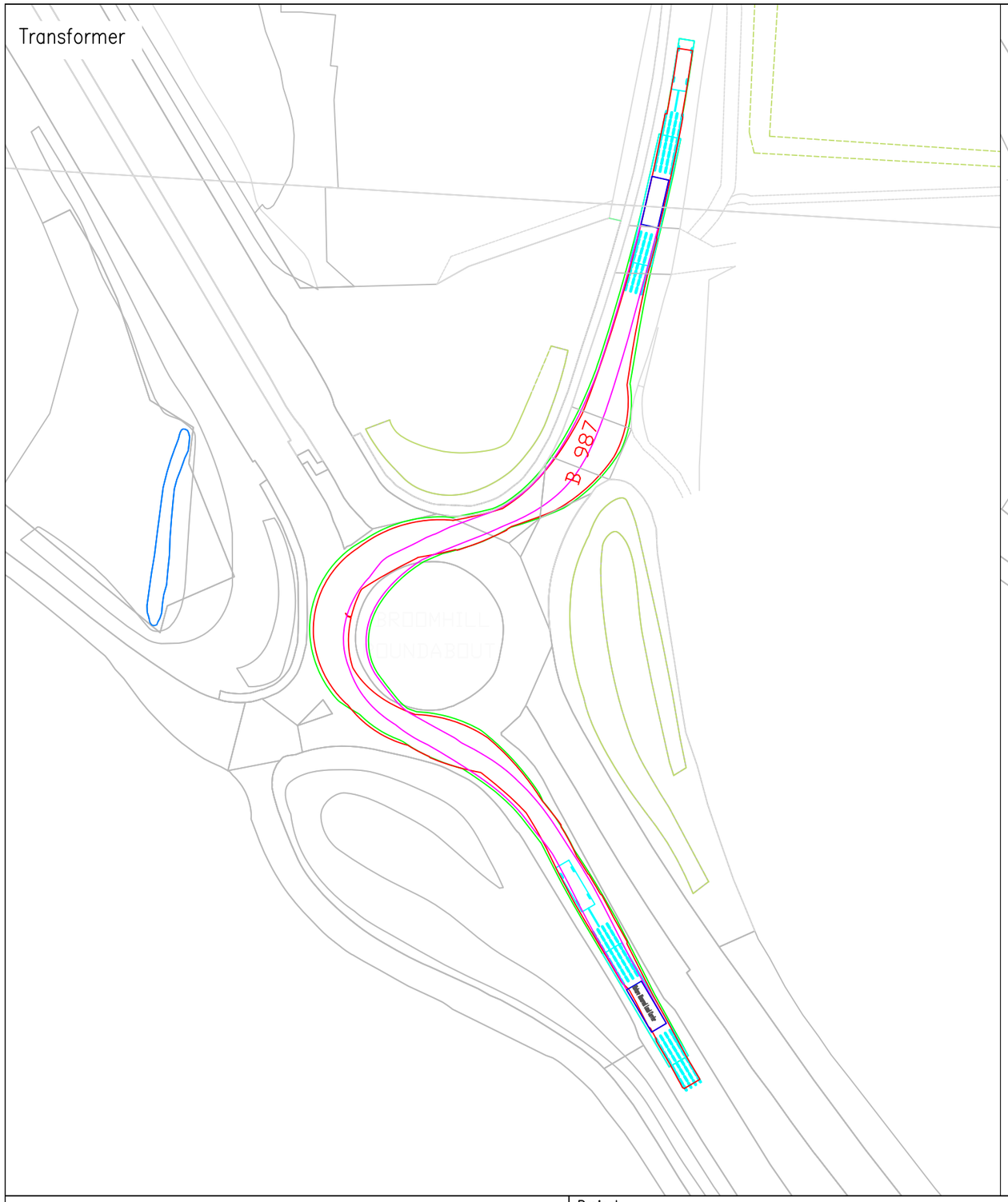
Drawing Status: Draft

Drawing No.: SK10

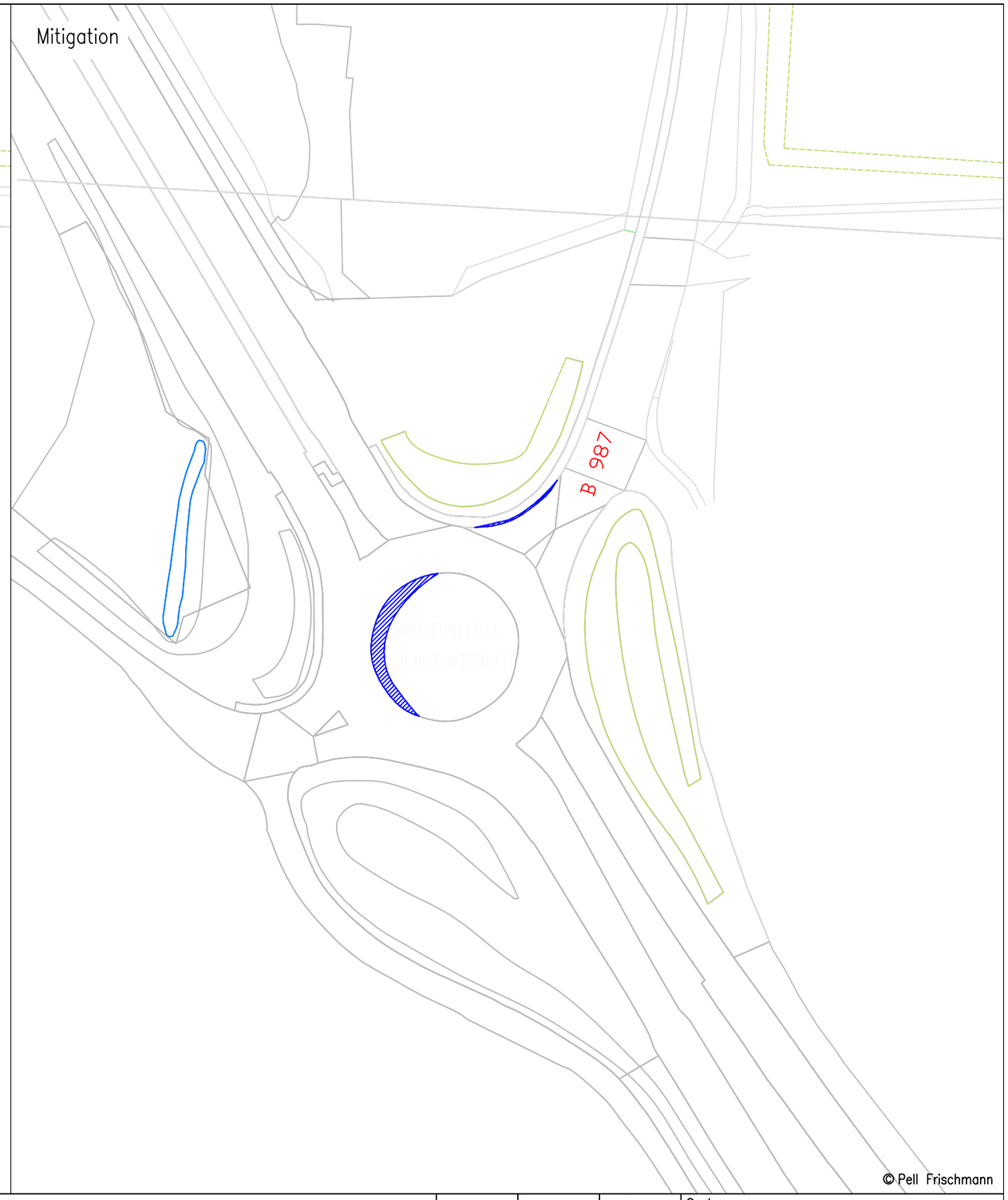
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: A96 Broomhill Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		14

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

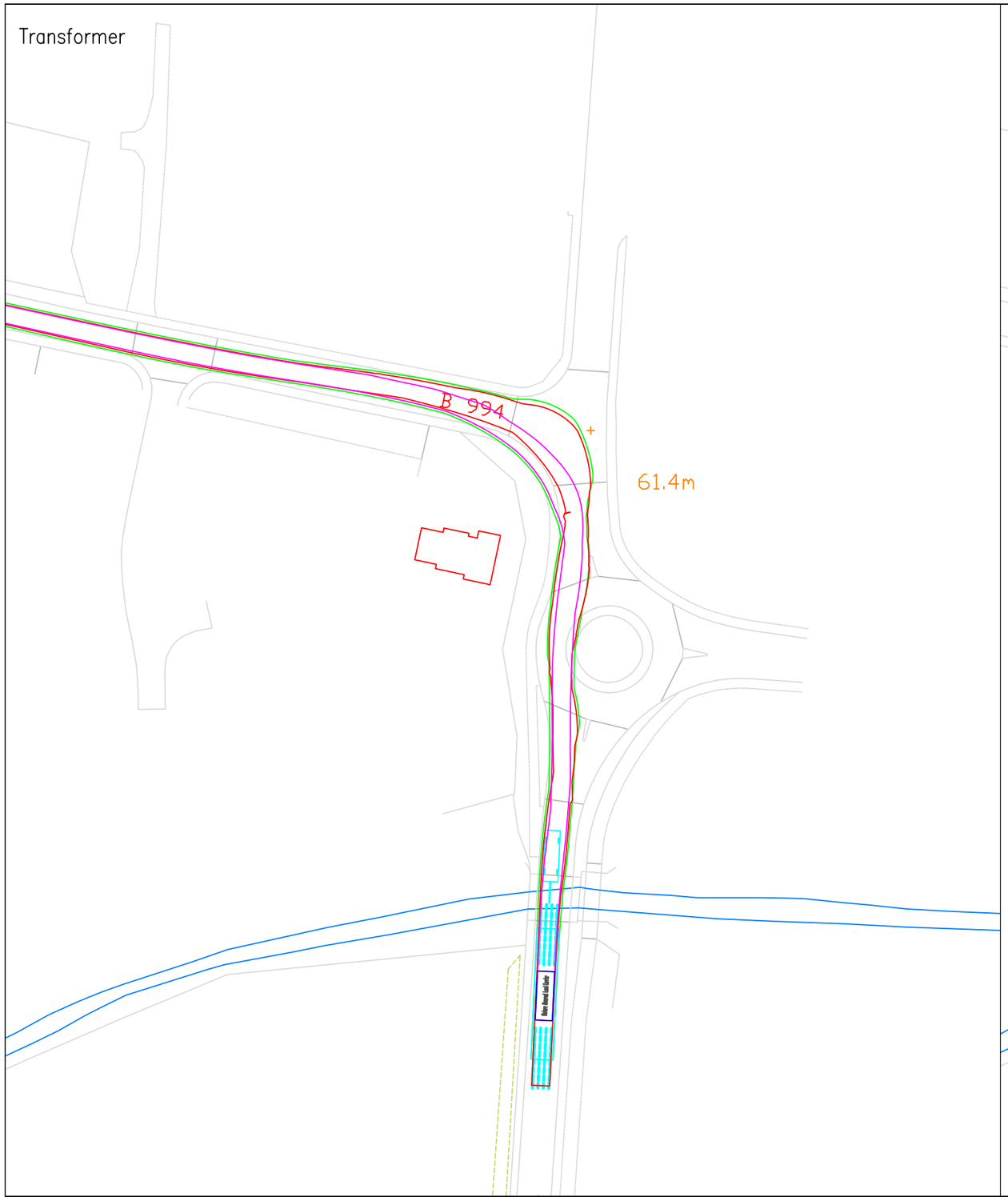
Drawing Status: Draft

Drawing No.: SK11

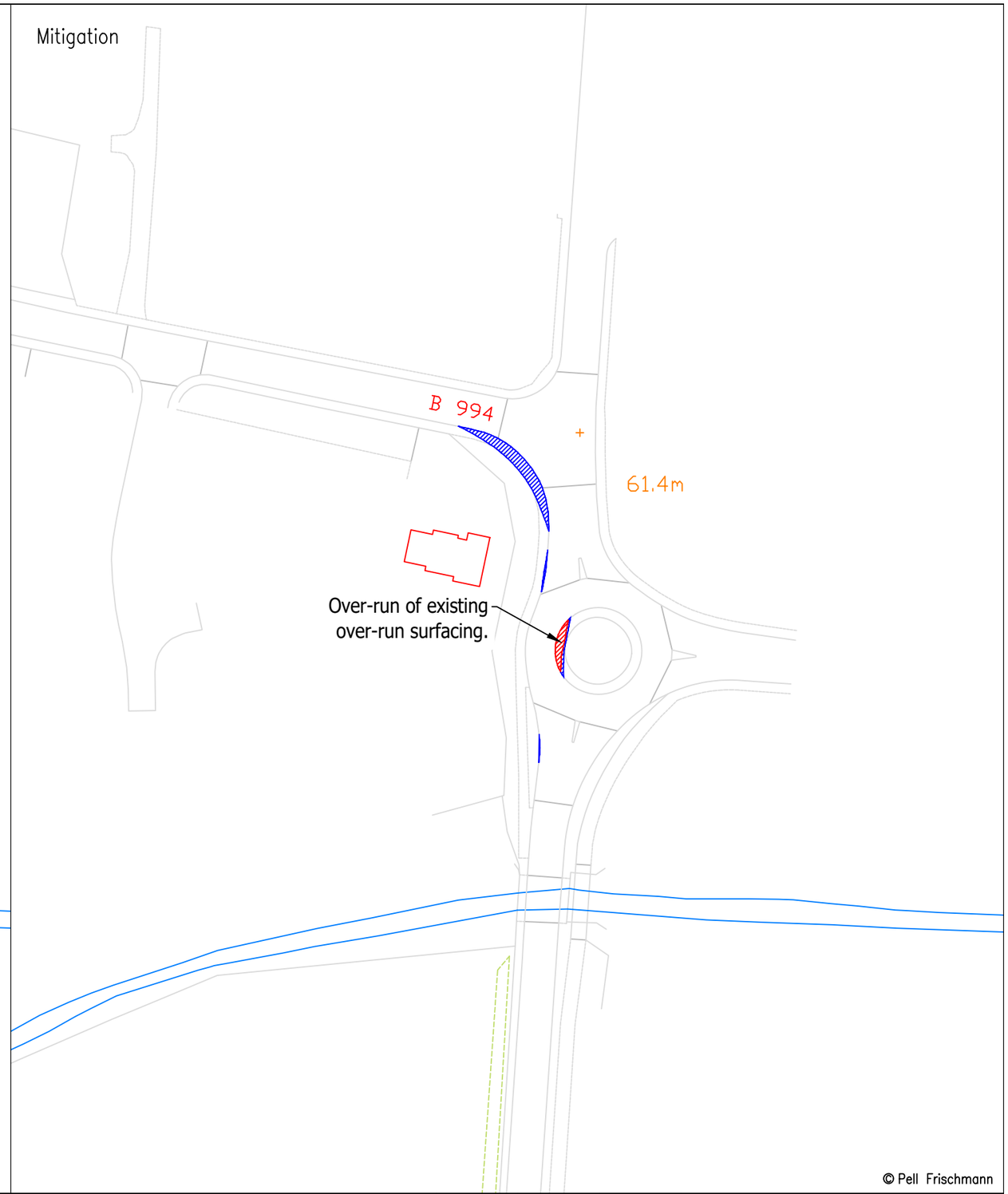
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: B987 Roundabout and B987 / B994 Junction, Kintore

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		15 & 16

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

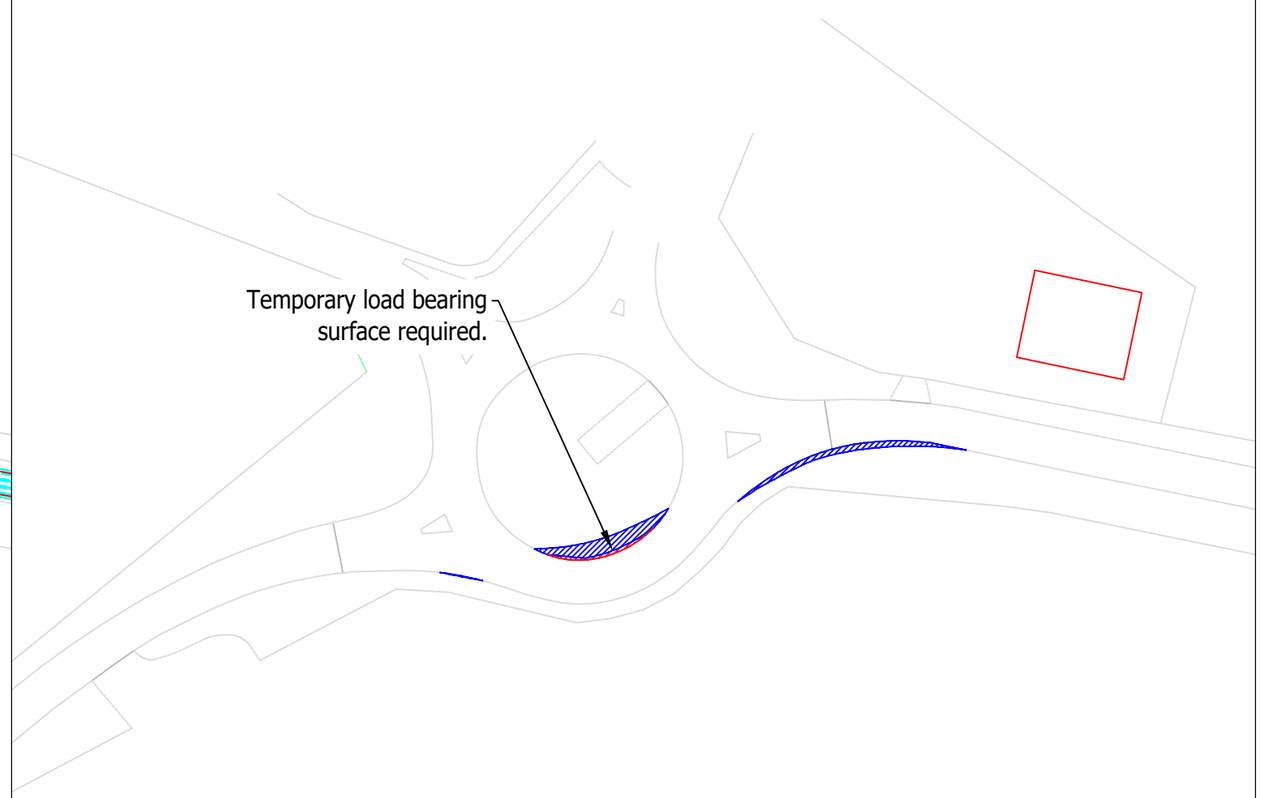
Drawing No.: SK12

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.
3. Do not scale from this drawing

Revision: 0

Transformer

Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: B994 / B977 Roundabout

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		18

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

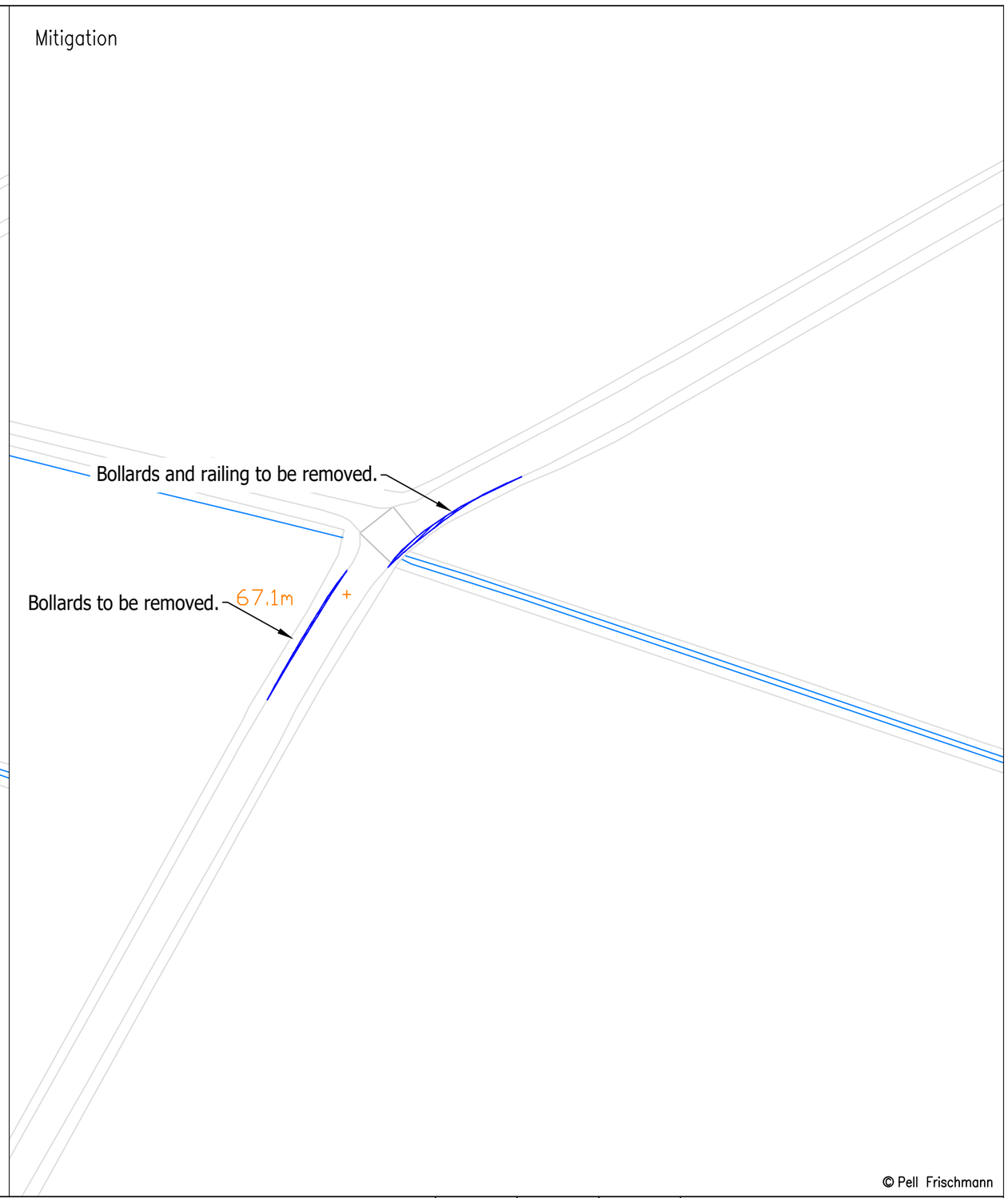
Drawing No.: SK13

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.
3. Do not scale from this drawing

Revision: 0

Transformer

Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: B977 Bend

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		19

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

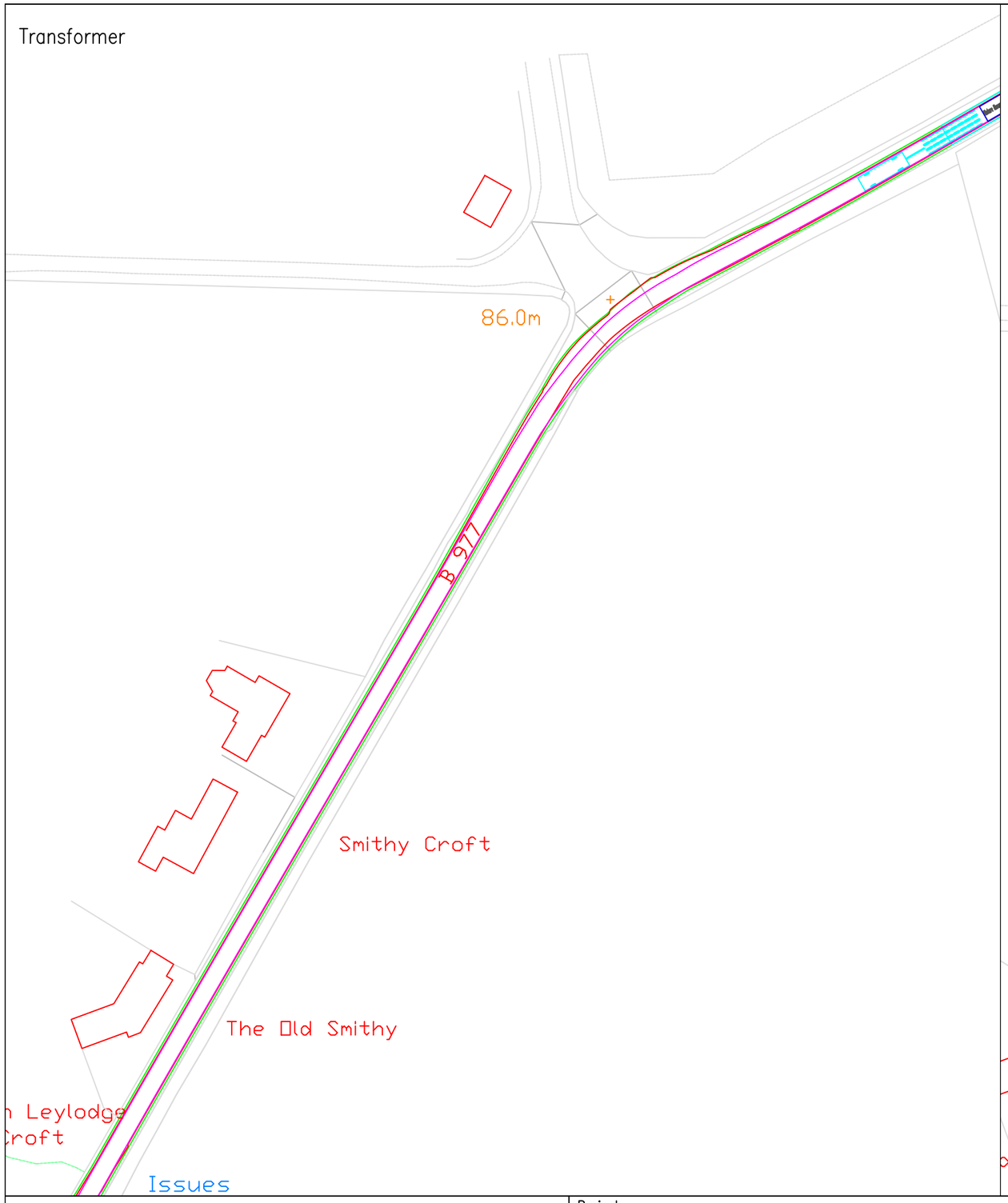
Drawing Status: Draft

Drawing No.: SK14

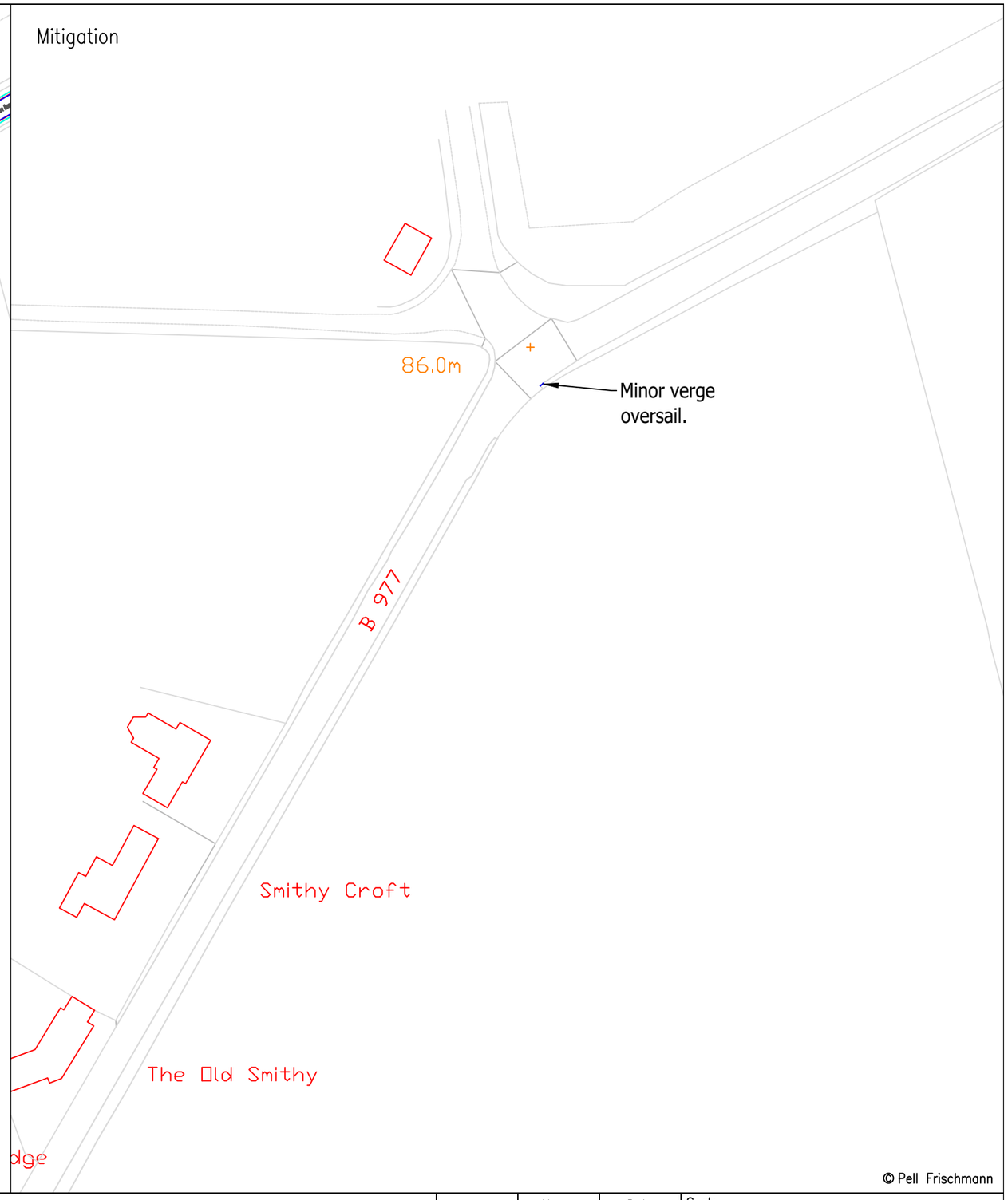
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Issues

Pell Frischmann
93 GEORGE STREET, EDINBURGH. EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: Kintore Substation Bend

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		20

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

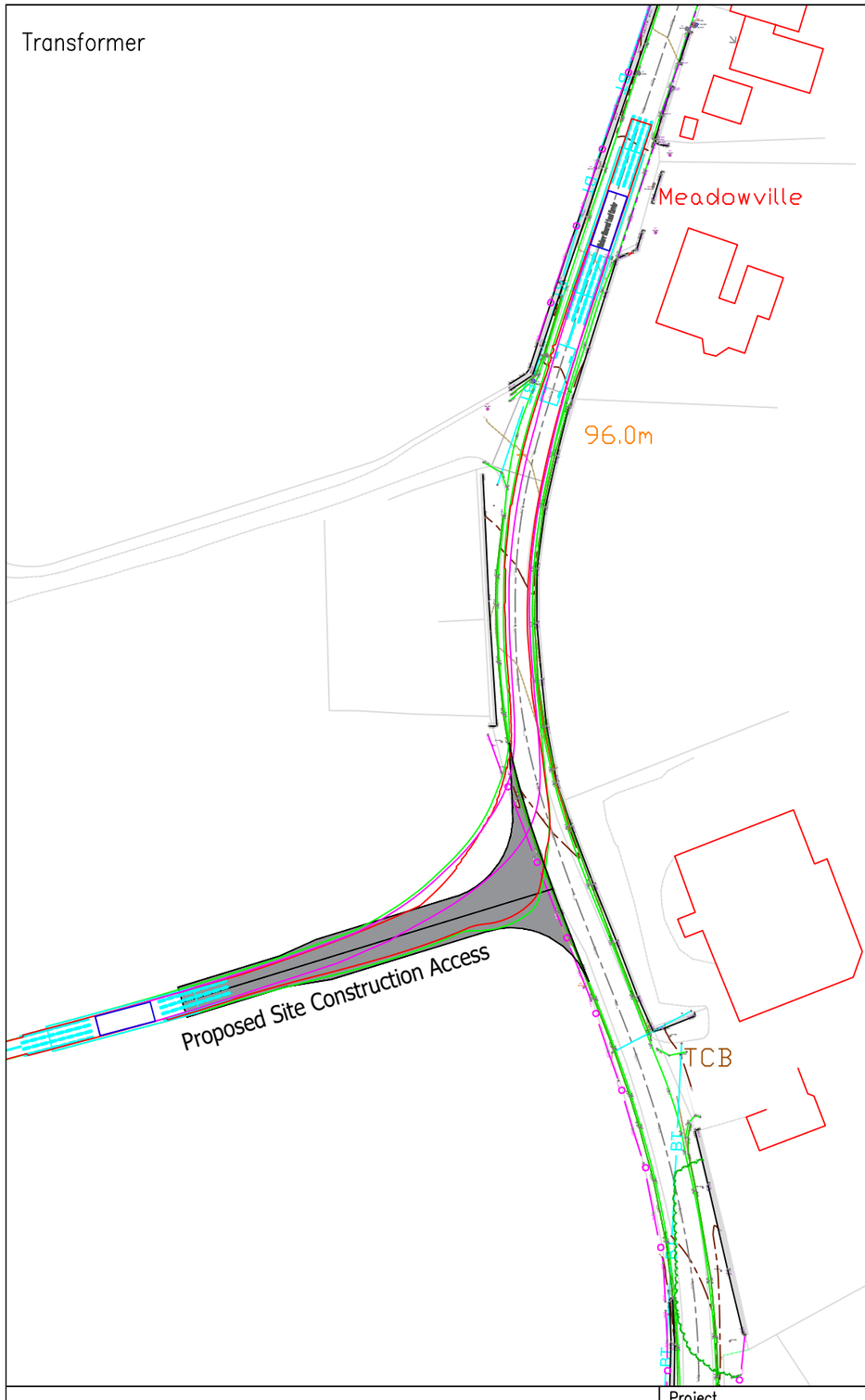
Drawing Status: Draft

Drawing No.: SK15

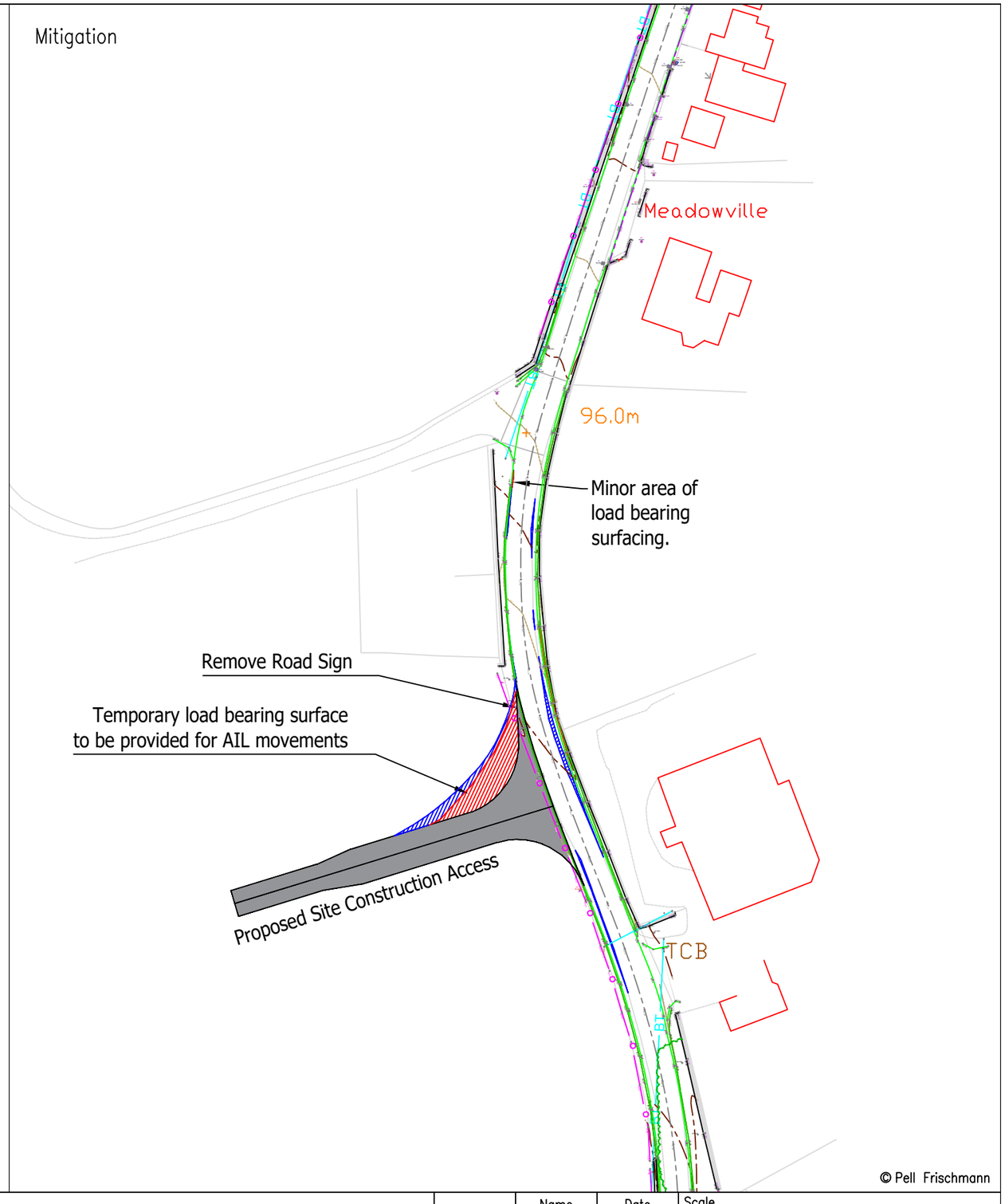
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing

Revision: 0

Transformer



Mitigation



Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Statera Energy Limited

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

Project: Statera Kintore

Drawing Title: 150t Transformer

SPA Location: B977 Access Junction

	Name	Date
Drawn	GB	11/09/2024
Designed	TL	11/09/2024
Checked	GB	10/03/2023
Point of Interest		22

Scale: 1:1000 @ A3

File No.: 240911 tracking.dwg

Drawing Status: Draft

Drawing No.: SK16

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.
3. Do not scale from this drawing

Revision: 0

Appendix D ESDAL Correspondence

From: AbnormalLoads <AbnormalLoads@aberdeencity.gov.uk>
Sent: 20 February 2023 10:29
To: Gordon Buchan <GBuchan@pellfrischmann.com>
Subject: RE: Transformer Load Movement to Kintore

Good Morning Gordon,

I've sent your email to the relevant teams for comment or not

Will advise if they have comments

Regards

Rachel McFarlane| Technical Officer

Aberdeen City Council | Structures, Flooding & Coastal Engineering

|Business Hub 11| Operations & Protective Services

|2nd Floor West|Marischal College|Broad St|Aberdeen|AB10 1AB Tel: [redacted] [redacted] ramcfarlane@aberdeencity.gov.uk

Direct Dial: [redacted]

www.aberdeencity.gov.uk | Twitter: @AberdeenCC | Facebook.com/AberdeenCC

From: Abnormal-loadNE <Abnormal-loadNE@amey.co.uk>
Sent: 06 March 2023 15:28
To: Gordon Buchan <GBuchan@pellfrischmann.com>
Subject: RE: Transformer Load Movement to Kintore

Please find attached the response to your movement order. This route has been accepted in principle, however, would require a formal notification should it go ahead. It should also be noted that Amey do not carry out swept path analysis as this is the hauliers responsibility.

Kind Regards,

James Bryce MEng

Graduate Engineer | Amey Consulting

[redacted] james.bryce1@amey.co.uk

Amey | 6 Redheughs Rigg | South Gyle | Edinburgh | EH12 9DQ

amey consulting

Personal pride in our public service | EMPOWER | ENGAGE | EXCEL

Pell Frischmann
Jordan Stirrat
93 George Street
Edinburgh
EH2 3ES

Amy Easson
NE NMC Abnormal Load
Routing Manager
Caledonian House
West Kinfauns
Perth
PH2 7XZ
Tel: [redacted]

Our reference: Feb-23 - 392

Your reference: Transformer Load Movement to Kintore

Monday, 06 March 2023

NE Trunk Road – Abnormal Load Movements

Dear Sirs,

The route you have proposed in notification reference: Transformer Load Movement to Kintore is accepted in principle. It will be required, however, for a formal notification to be submitted prior to the movement running.

The advice provided above is based on such records that the Operating Company possess, or to which they have access. Please note that neither the Operating Company nor the Scottish Ministers or Director assume responsibility of any kind in connection with the movement of the relevant abnormal indivisible load or abnormal vehicle, and the owner and the operator of the vehicle shall not be relieved of any obligations or liabilities under the relevant Legislation.

Hauliers are reminded that the movement of certain abnormal loads requires an escort. Hauliers are permitted to undertake self-escorting of abnormal indivisible loads and abnormal vehicles within certain limits. Hauliers undertaking the self-escorting of an abnormal indivisible load must ensure they comply with the guidance available from National Highways and Police Scotland. It is the haulier's responsibility to carry out assessment (including swept path analysis) on the proposed route, Amey have not assessed this route for widths, heights or lengths of vehicle.

Please note that at present there is no legislation covering the overall laden height of a vehicle but in order that the maximum possible use is made of the motorway and Trunk Road network, the overall laden height should not exceed 4.95m.

Yours faithfully

pp.

Amy Easson MEng (Hons) CEng MICE
NE NMC Abnormal Load Routing Manager
For and on behalf of Amey OW Limited

Mobile: [redacted]
Email: abnormal-loadNE@amey.co.uk

From: Claire Robertson <claire.robertson@aberdeenshire.gov.uk> **On Behalf Of** Abnormal Loads
Sent: 17 February 2023 14:13
To: Gordon Buchan <GBuchan@pellfrischmann.com>
Subject: RE: Transformer Load Movement to Kintore

Good Afternoon Gordon,

I have reviewed the information you sent and I am happy to agree to this route in principal.

We would need to look at the route in more detail once more information is available regarding the vehicle configurations.

Best Regards

Claire Robertson

Technical Officer

Structures Section

Roads & Infrastructure

Environment & Infrastructure

Aberdeenshire Council

[redacted]

claire.robertson@aberdeenshire.gov.uk

www.aberdeenshire.gov.uk

Tweeting from mountain to sea: http://twitter.com/Aberdeenshire

Find us on Facebook: www.facebook.com/aberdeenshire