Abnormal Indivisible Load Access to the Proposed Corriemollie Battery Energy Storage System Site – High Level Summary Document & Desktop Review

Prepared for Field Corriemollie Ltd

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DOCUMENT REVISIONS

Issue	Date	Details
0	14.06.24	Summary Report
1	22.10.24	Client Comment Added
2		

Site	Proposed New Field Energy Corriemollie Substation Site
Level of Difficulty for AIL Access **RED – Major issues expected that present risk to access** **AMBER – Issues expected but remedial can be undertaken to allow access** **GREEN – AIL Access proven and no major issues**	The structural status of the route has been confirmed for 88.4te loads.
Existing Substation or Potential New Site	Proposed Energy Battery Energy Storage (BESS) Site adjacent of the existing Corriemollie Substation.
Route Inspection and AIL Access Report Recently undertaken by Wynns?	Yes, route inspections undertaken between 7th – 10th May.
Has Agreement in Principle (AIP) been provided by National Highways in line with the Water Preferred Policy	No – Wynns are not aware of an existing AIP as the movements to the proposed substation are to be STGO Category 3 and will not require a Special Order, an AIP will therefore not be required. Appendix 2 includes the National Highways Aide Memoir which explains movement thresholds and permission requirements for AILs.
National Highways AIP Reference Number	NA
Proposed port/Marine access point of Delivery	As the AIL is within STGO it is not limited to the closest port. Therefore, any suitable east coast port can be expected to be utilised. The route proposed can be accessed from potential ports of delivery to the A9. The closest port used for AILs is Inverness, as used for the Special Order delivery (in excess of 150te gross weight) to Tomatin Substation as part of the transmission upgrade between the existing Knocknagael and Tomatin substation in 2018. Invergordon, although being marginally further has been used for the delivery of 50m wind turbine blades to the Corriemollie Wind Farm and used prior to that for the Lochluichart Wind Farm for 45m blades. Invergordon has also been used for substation transformers to various locations in the region. The delivery could be from as far as Immingham Docks which are regularly used

Site	Proposed New Field Energy Corriemollie Substation Site
	for STGO delivery into the UK from mainland Europe.
Transformer Transport Weight considered during the most recent report in line with future project requirements	Transformer of circa 88.4te nett
Typical trailer used in Route Clearance works	Flat top trailers or Goose Neck trailers would be expected to be considered in the first instance for the transformer of this weight at 88.4te and nett height of 3813mm which can be transported under the standard UK trunk road and motorway running height of 4950mm
Expected delivery date of next planned transformer if known	To be confirmed, though construction is anticipated in 2027.
Known Maximum Transformer Weight (according to available records)	N/A
Last Recorded Special Order Movement (according to available records)	45m Wind Turbine blades were delivered to Lochluichart Wind Farm adjacent to Corriemollie in 2012/13. Wynns carried out route surveys for 50m blades to Corriemollie Wind Farm from Invergordon in 2014.
Nearest Common Heavy Load Route	Invergordon via A9
Suggested route based on historical information	**Proposed route 1 from Immingham** Exit Immingham Docks via Humber Road Turn left A180 Continue M180 Exit M180 joining M18 Junction 5 Join M62 Junction 35 Join A1 Junction 41 Turn left A66 (Scotch Corner) Turn right joining M6 Junction 40 Continue A74 Turn right M73 Continue M80 Continue M9 Continue A9 Turn left at Tore Roundabout A835 Turn left A832 Turn right Corriemollie Substation access road **Route from Inverness** Exit offload area onto Longman Drive Continue onto Stadium Road Turn right onto A9 from Stadium Road Continue as Route 1 to site

Site	Proposed New Field Energy Corriemollie Substation Site
Is a map available of the proposed route(s)?	Yes – See attached.
Any Known Problems for AIL Access in terms of structures?	An STGO notification (WYNL/135) was submitted via ESDAL of the route from the Tore Roundabout joining the A835 and then A832 to the proposed site location on 16.05.24 and there were no structures raised by the affected authorities as causes for concern.
Any Known Problems for AIL Access in terms of Negotiability and other Route Comments?	No known problems, route from Tore Roundabout proven for much larger loads. Police Scotland have confirmed the load will require a full police escort and 2 clear days' notice would need to be provided when applied for.
Any Known Problems for AIL Access in terms of Onsite issues?	No review of site access has been undertaken within this report. Wynns were unable to survey further than the existing Corriemollie Substation gate as the site was locked. The status beyond the gate would need to be confirmed, however the right turn off of A832 into the existing site is negotiable and has had wind turbine blades delivered previously.
Do routing issues currently present a serious risk that access to the site may be restricted?	No

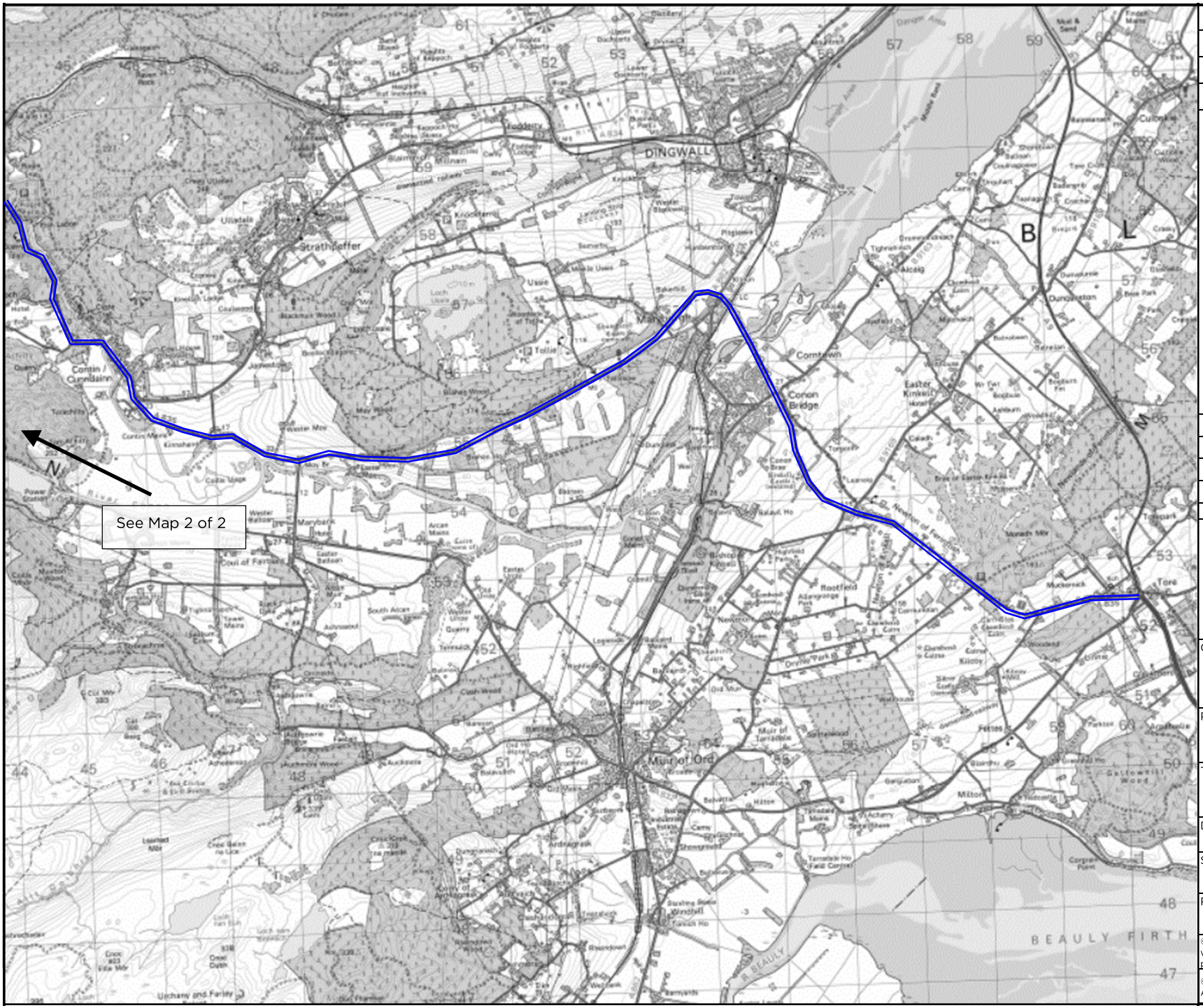
Any other Relevant Information and Notes:

Garve level crossing would be subject to the Network Rail Standard Caution for crossing a level crossing with an AIL is detailed below at for information.

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

Appendix 1

Maps



Key	
	Proposed Route from the A9
	Point of Interest
	Corriemollie proposed BESS

Rev	Date	Amendments
B		
A	22.10.24	Client Comments Added
0	20.05.24	Final Report

Revisions

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

Client:
FIELD
Virmati Energy Ltd
Fora Montacute Yards
Shoreditch High Street
London - E1 6HU
United Kingdom

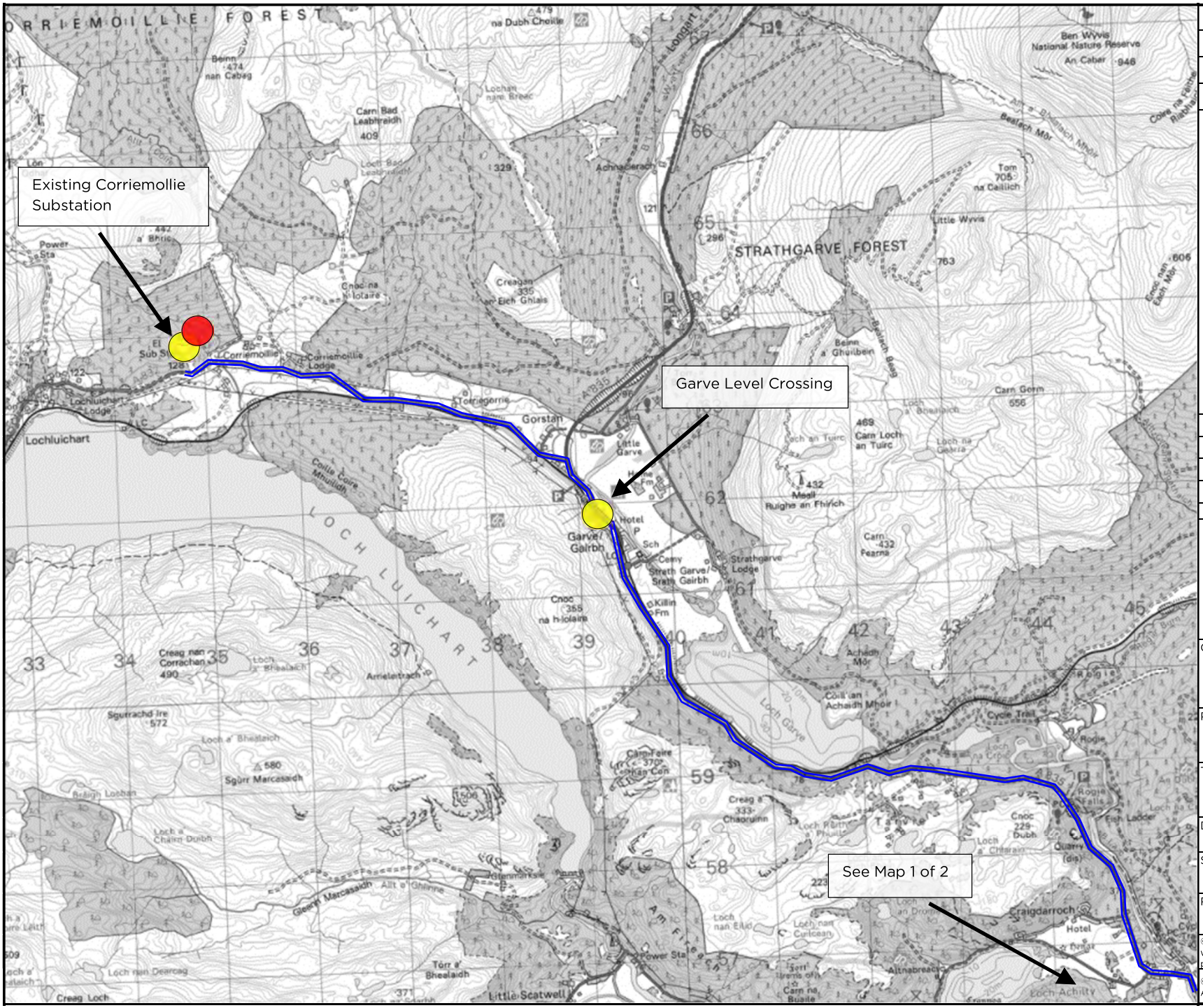
Project:
Field Proposed BESS AIL Access

Title:
Map 1 – Routes to proposed Corriemollie BESS

Drawing Status:
Final Report

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

Ref No.:	Sheet:	Rev.:
24-1236-Map1	1 of 2	1



Key	
	Proposed Route from the A9
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B		
A	22.10.24	Client Comments Added
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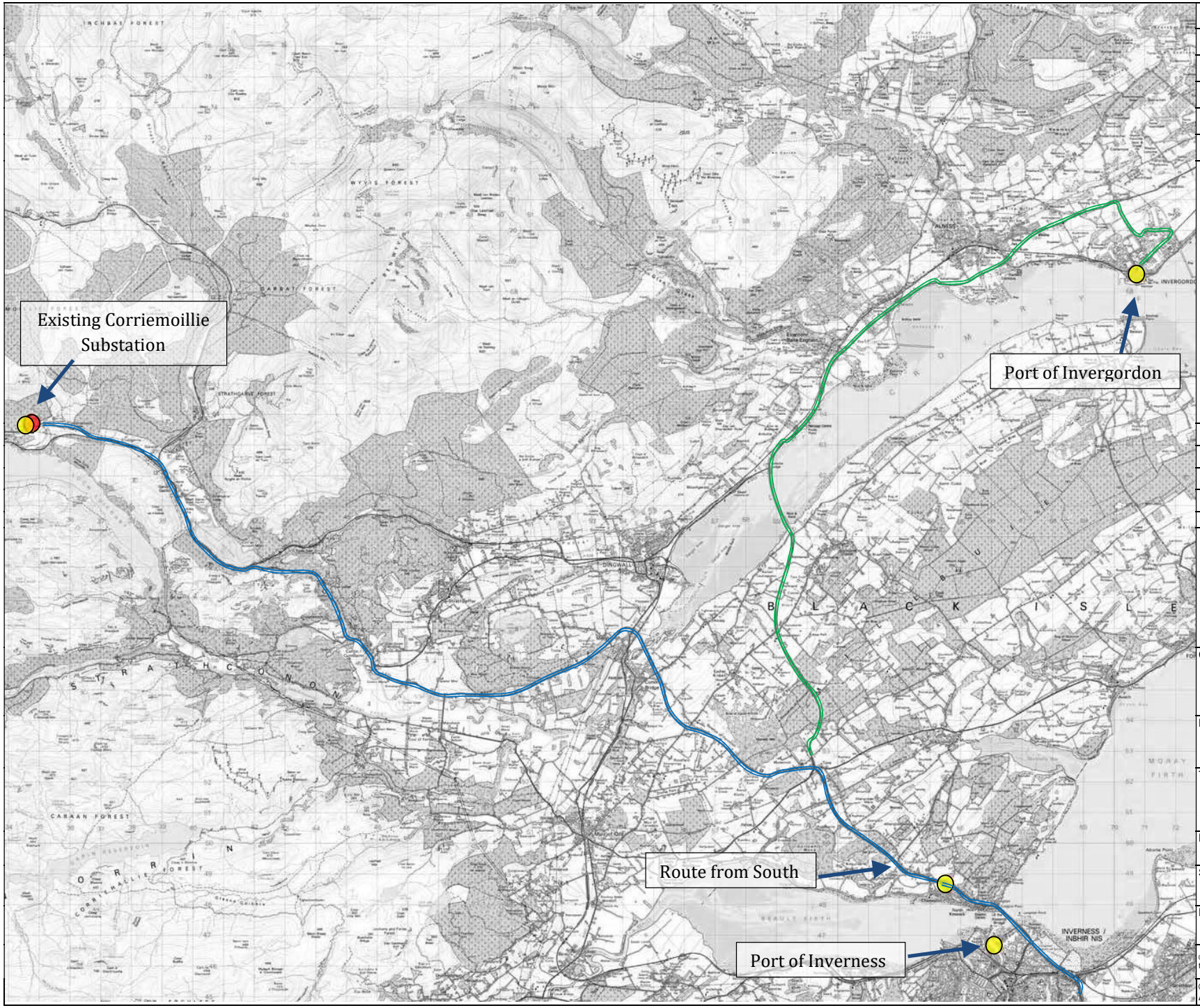
24-1236-Map1	2 of 2	1



Key

	Route 1 from A9 South, expected to be used for STGO loads.
	Route 2 from Invergordon, not expected to be used for STGO loads.
	Point of Interest
	Corriemollie proposed BESS

Rev	Date	Amendments:
B		
A		
0	22.10.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Engineers
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Client:

FIELD

Virmati Energy Ltd
Fora Montacute Yards
Shoreditch High Street
London - E1 6HU
United Kingdom

Project:

Field Proposed BESS AIL Access

Title:

Map 3 – Overview of Route to Proposed Corriemoillie BESS

Drawing Status:

Final Report

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

Ref No.:	Sheet:	Rev.:
24-1236-Map3	1 of 1	0

Appendix 2

National Highways Aide Memoir

national highways

Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles by road when not complying with The Road Vehicles (Construction and Use) Regulations 1986 (commonly known as C & U)

Weight

Gross weight of vehicle carrying the load exceeding C & U limits up to and including 80,000kgs (78.74 tons)	2 clear working days' notice with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 80,000kgs up to and including 150,000kgs (147.63 tons)	2 clear working days' notice to Police and 5 clear days' notice with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 150,000kgs (147.63 tons)	National Highways Special Order* plus 5 clear working days' notice to Police and 5 clear days' notice with indemnity to Road and Bridge Authorities
Gross axle weight carrying the load exceeding 16,500kgs (16.24 tons)	National Highways Special Order* plus 5 clear working days' notice to Police and 5 clear days' notice with indemnity to Road and Bridge Authorities

Width

C & U loads:- width exceeding 2.9m (9ft 6ins) up to and including 4.3m (14ft 1 ins) STGO loads:- width exceeding 3.0m (9ft 10ins) up to and including 5.0m (16ft 5ins)	2 clear working days' notice to Police
Width exceeding 5.0m (16ft 5ins) up to and including 6.1m (20ft)	National Highways form VR1** plus 2 clear working days' notice to Police
Width exceeding 6.1m (20ft)	National Highways Special Order* plus 5 clear working days' notice to Police and 5 clear days' notice with indemnity to Road and Bridge Authorities

Length

C&U loads:- length exceeding 18.65m (61ft 2in) up to and including 27.4m (90ft) - See C&U Regulations 1986 for definition of length STGO loads:- length exceeding 18.75m (61ft 6 ins) - See part 2, article 12 of the Road Vehicles (Authorisation of Special Types) (General) Order 2003 (Commonly known as STGO) for definition of length	2 clear working days' notice to Police
Overall length of a part 2 vehicle-combination exceeding 25.9m (85ft) and up to and including 30m (98ft 43ins).	2 clear working days' notice to Police
Maximum length exceeding 30.0m (98ft 43ins) – see STGO Schedule 1, part 4, paragraph 25 for definition of maximum length NB For some very light loads, such as yacht masts, that are moved on conventional motor vehicles not exceeding 12,000kgs gross weight or trailers not exceeding 10,000kgs gross weight, a National Highways' Special Order* will be required if the rigid length exceeds 27.4m (89ft 11ins)	National Highways Special Order* plus 5 clear working days' notice to Police and 5 clear days' notice with indemnity to Road and Bridge Authorities.

Overhanging Loads

Front & Rear Overhanging Loads Projections exceeding 3.05 metres (10ft 01ins) rearwards and/or forwards	2 clear working days' notice to Police (C&U Schedule 12, paragraph 1), Attendant required (C&U Schedule 12, paragraph 2), Marker boards required (C&U Schedule 12, paragraph 3. https://www.gov.uk/government/publications/overhanging-loads-on-vehicles/overhanging-loads
Side Overhanging Loads Over 0.305 metres (1ft) lateral projection on either side	2 clear working days' notice to Police (C&U schedule 12, paragraph 4), Marker boards front and rear (C&U Schedule 12, paragraph 3), Additional lights required during hours of darkness or poor visibility. https://www.gov.uk/government/publications/overhanging-loads-on-vehicles/overhanging-loads

NOTE 1 “Clear days’ Notice” excludes Saturdays, Sundays or a public holiday in any part of Great Britain in relation to movements authorised by the Special Types General Order only, there being no such exclusion in Special Orders unless specifically stated.

NOTE 2 There is no statutory limit governing the overall height of a load, however, when applying for a Special Order or VR1 it should, wherever possible, not exceed 4.95m (16ft 3ins) in order that the maximum use can be made of the motorway and trunk road network.

NOTE 3 The notification requirements for mobile cranes can be found in the Road Vehicles (Authorisation of Special Types) (General) Order 2003, statutory instrument number 1998 (Part 2 Articles 10 to 18), which is available on the OPSI website: http://www.legislation.gov.uk/uksi/2003/1998/contents/made

NOTE 4 Application to move Special Types or Special Purpose vehicles, such as very large agricultural vehicles, that may not be fully permitted by the Construction & Use (C&U) Regulations or fall outside the scope of the Special Types General Order should be made to the Vehicle Certification Agency (VCA). Their website is at https://www.vehicle-certification-agency.gov.uk/

*A Special Order application can be completed and submitted online at https://nationalhighways.co.uk/road-safety/abnormal-loads-and-the-esdal-system/. The Special Order application form BE16 can also be downloaded and e-mailed to the address below. Approval is not automatic and is at the discretion of the National Highways Abnormal Loads Team acting on behalf of the Secretary of State for Transport. To ensure that the necessary clearances can be obtained in good time from the Police, Highway and Bridge Authorities, you should request permission for the move by returning the completed form 10 weeks prior to the scheduled date of the move. In fact you cannot apply too early and we invite manufacturers or hauliers to contact us at pre tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

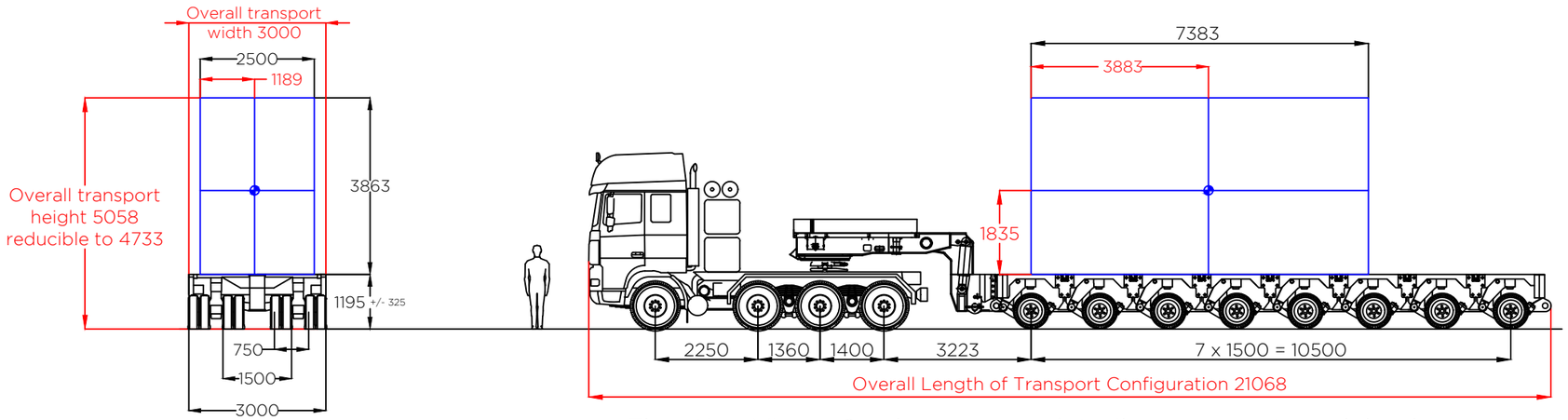
** A VR1 application can be completed and submitted online at https://nationalhighways.co.uk/road-safety/abnormal-loads-and-the-esdal-system/. The form can also be downloaded and e-mailed to the address below. Approval is not automatic and is at the discretion of the National Highways Abnormal Loads Team acting on behalf of The Secretary of State for Transport. To ensure that the necessary formalities can be completed in good time, you should request permission for the move by submitting the completed form 2 weeks prior to the date of the scheduled move. Again, you cannot apply too early and we invite manufacturers or hauliers to contact us at pre-tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

Forms and enquiries to:
National Highways
Abnormal Loads Team
9th Floor, The Cube
199 Wharfside Street
Birmingham
B1 1RN

E-mail: abnormal.loads@nationalhighways.co.uk
Tel: 0300 470 3004

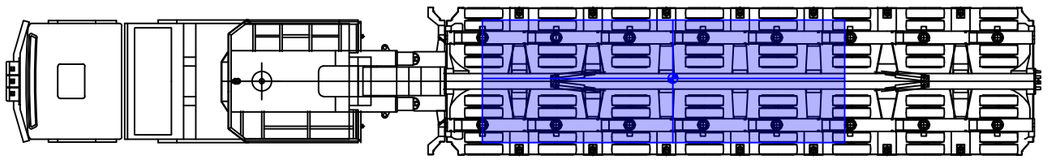
Appendix 3

Indicative Transport Arrangement Drawing

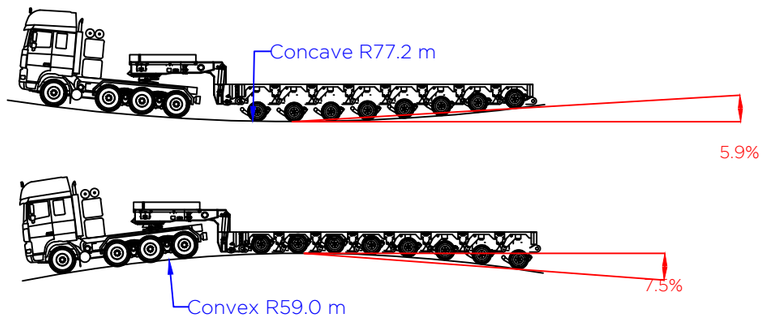


Profile View
Scale 1:125

Elevation View - 8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125

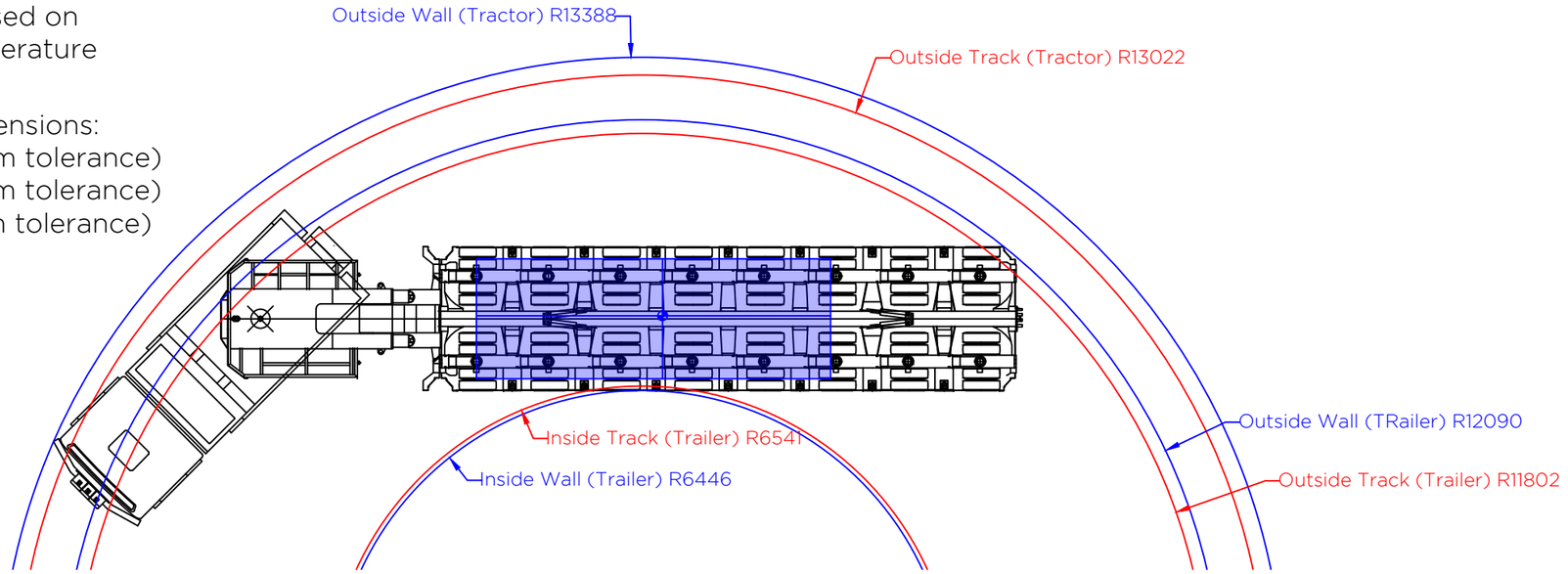


Plan View - 8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125



Vertical Curve Negotiability
Information based on
manufacturers literature

Transformer Dimensions:
7.383m (L) (incl. 50mm tolerance)
2.50m (W) (incl. 50mm tolerance)
3.863 (H) (incl. 50mm tolerance)



Minimum Turning Radii -
8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125

Load Table

8 Axle Goose Neck Trailer

Self weight of Transformer - incl. +2% tol	88.4 te
Self weight of trailer	Say 35.0 te
Self weight of tractor	14.0 te
Total combined weight	137.4 te
Load per axle line	12.34 te
Load per axle (2 per axle line)	6.17 te
Load per wheel (4 per axle)	1.55 te
Max. ground bearing pressure (trailer)	2.99 te/m²

Tractor (14 te)

Front axle	6.0 te
Second steer	8.0 te
Rear axle	12.34 te
Rear axle	12.34 te

Notes:-

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

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

[3] Drawing of transformer indicative only. Weight specified includes a +2% tolerance as per manufacturer drawing

Rev.	Date	Amendments
1	22.10.24	Project Name Amended
0	26.04.24	Issued for comment

Revisions

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

Client: FIELD

Project: Corriemollie BESS

Title: Indicative Transport Configuration 88.4 te Transformer carried upon typical 8 axle goose neck trailer showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn by:	Checked by:
1:125	JMB	MTO

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24-1236.TC01	1 of 1	1

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