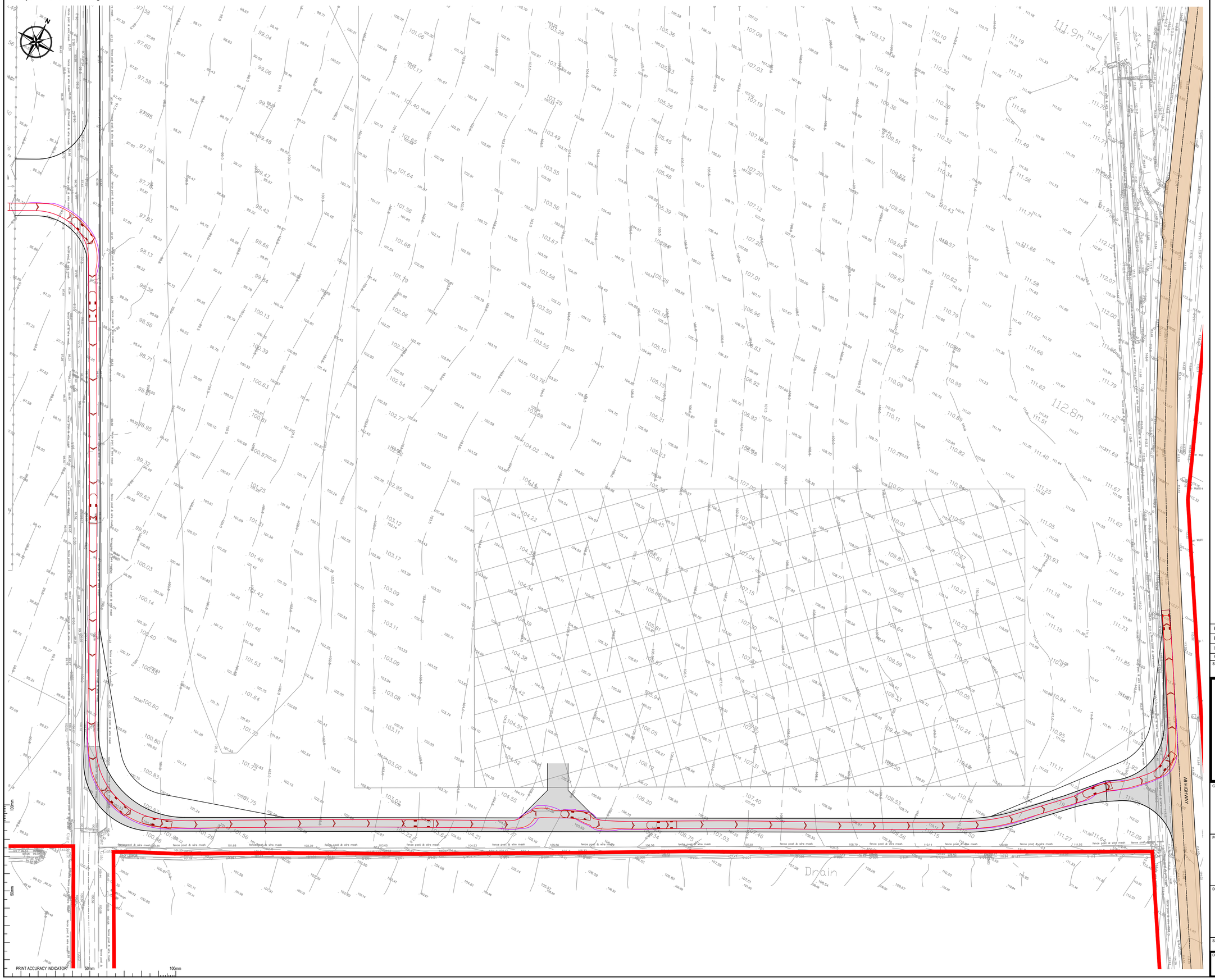
Appendix D: Swept Path Analysis

Royal HaskoningDHV
Enhancing Society Together



NOTES

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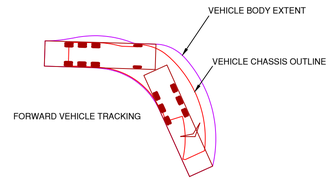
4. SITE ACCESS LEVELS AND ALIGNMENT BASED ON TOPOGRAPHICAL SURVEY BY HIGHLAND SURVEYORS, DRAWING REF. 23067, UNDERTAKEN NOVEMBER 2023.

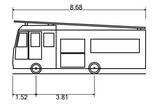
KEY

EXTENT OF EXISTING ACCESS

EXTENT OF PROPOSED SITE ACCESS

PLANNING BOUNDARY





Fire Appliance

Overall Length	8.680m
Overall Width	2.180m
Overall Body Height	3.452m
Min Body Ground Clearance	0.337m
Max Track Width	2.121m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	7.910m

DRAWING FOR APPROVAL
NOT FOR CONSTRUCTION

Rev'n	Date	Description	Drawn	Chk'd	App'd
P03	22/10/2024	UPDATED TO SUIT LATEST SITE LAYOUT	TE	BP	JC
P02	16/10/2024	TRACKING UPDATED	TW	BP	JC
P01	24/05/2024	PRELIMINARY ISSUE	RT	ME	JC

Status: PLANNING

HAYDN EVANS
Second Floor, Hyde Park House
Crown Street, Ipswich, IP1 3LG
01473 236550
www.haydnevans.co.uk
mail@haydnevans.co.uk

Client: FIELD

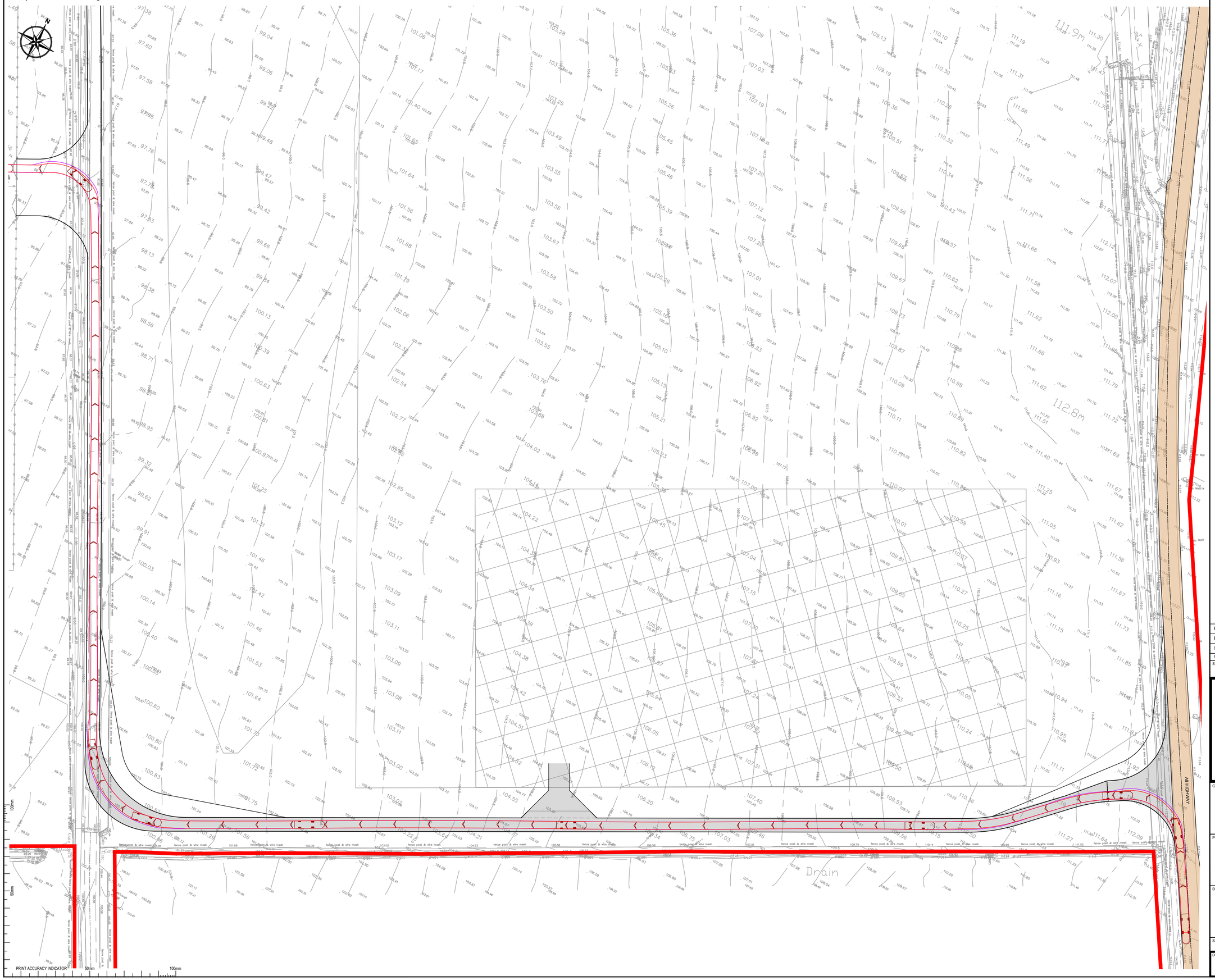
Project: SPITTAL BESS

Drawing title: SITE ACCESS
FIRE APPLIANCE VEHICLE TRACKING

Scale	Drawn	Checked	Approved	Date
1:500 @ A1	RT	BP	JC	MAY 2024

Drawing no.: 336-003-D020

Revision: P03



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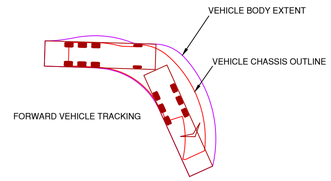

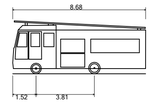

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Status: PLANNING

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Second Floor, Hyde Park House
Crown Street, Ipswich, IP1 3LG
01473 236550
www.haydnevans.co.uk
mail@haydnevans.co.uk

Client: FIELD

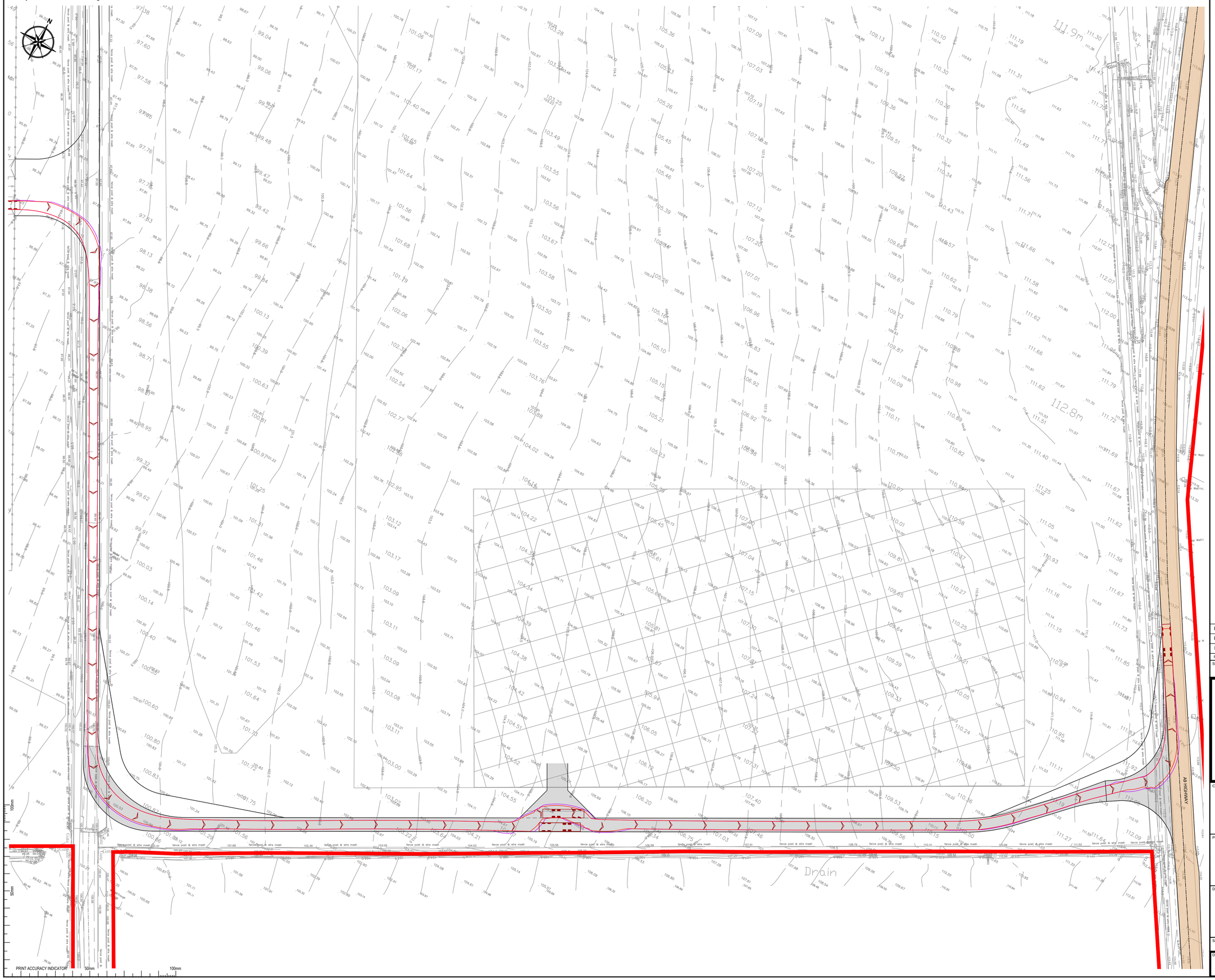
Project: SPITTAL BESS

Drawing title: SITE ACCESS
FIRE APPLIANCE VEHICLE TRACKING

Scale	Drawn	Checked	Approved	Date
1:500 @ A1	RT	BP	JC	MAY 2024

Drawing no.: 336-003-D021

Revision: P03



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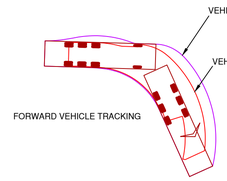

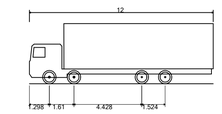

Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.900m

DRAWING FOR APPROVAL
NOT FOR CONSTRUCTION

Rev'n	Date	Description	Drawn	Chk'd	App'd
P03	22/10/2022	UPDATED TO SUIT LATEST SITE LAYOUT	TE	BP	JC
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Status: PLANNING

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Second Floor, Hyde Park House
Crown Street, Ipswich, IP1 3LG
01473 236550
www.haydnevans.co.uk
mail@haydnevans.co.uk

Client: FIELD

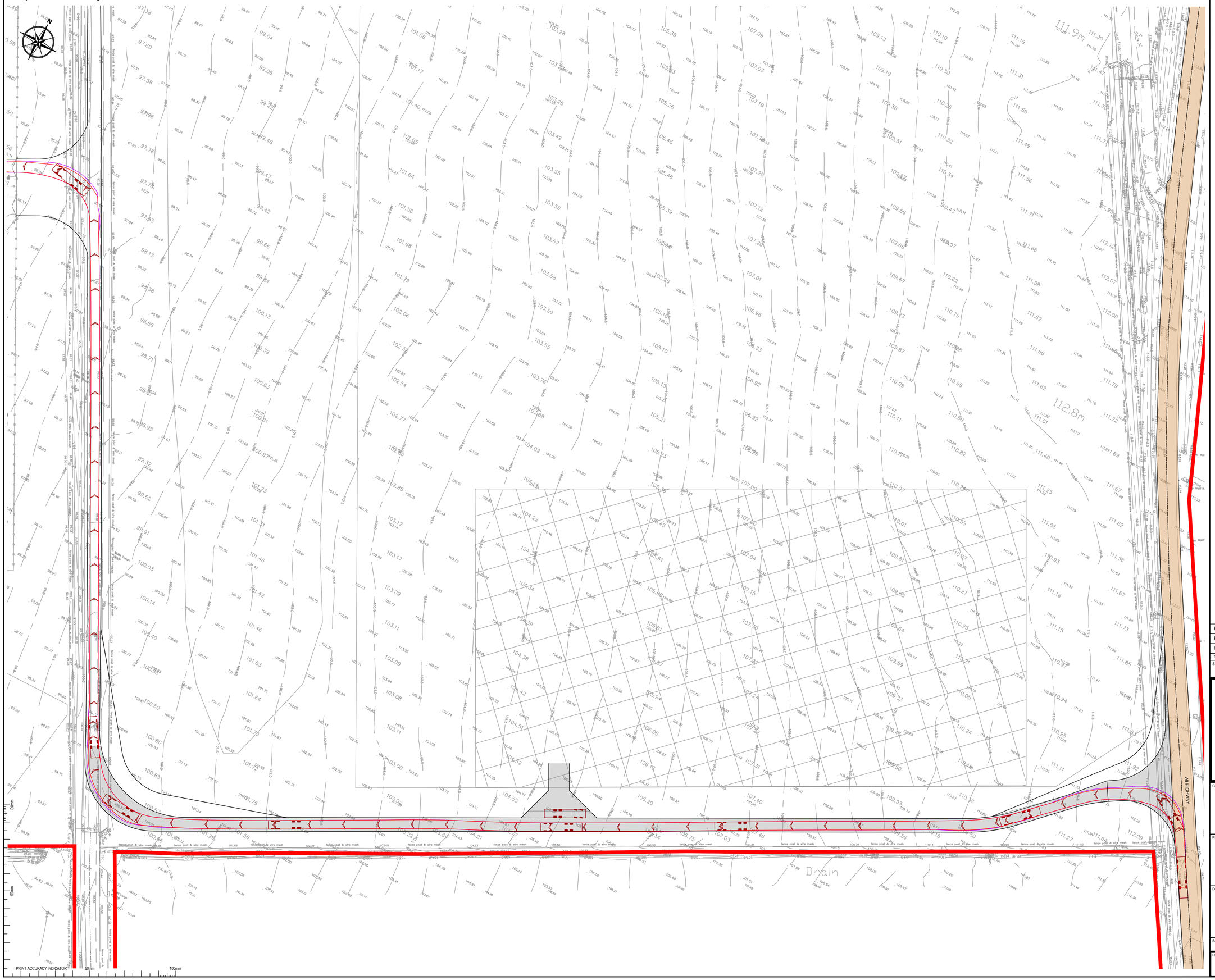
Project: SPITTAL BESS

Drawing title: SITE ACCESS
RIGID TRUCK VEHICLE TRACKING

Scale	Drawn	Checked	Approved	Date
1:500 @ A1	RT	BP	JC	MAY 2024

Drawing no.: 336-003-D022

Revision: P03



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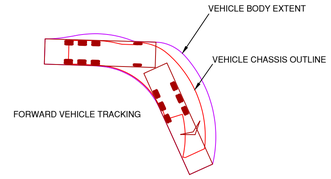
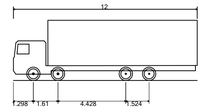
PLANNING BOUNDARY





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P01	24/05/2024	PRELIMINARY ISSUE	RT	ME	JC

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01473 236550
www.haydnevans.co.uk
mail@haydnevans.co.uk

Client: FIELD

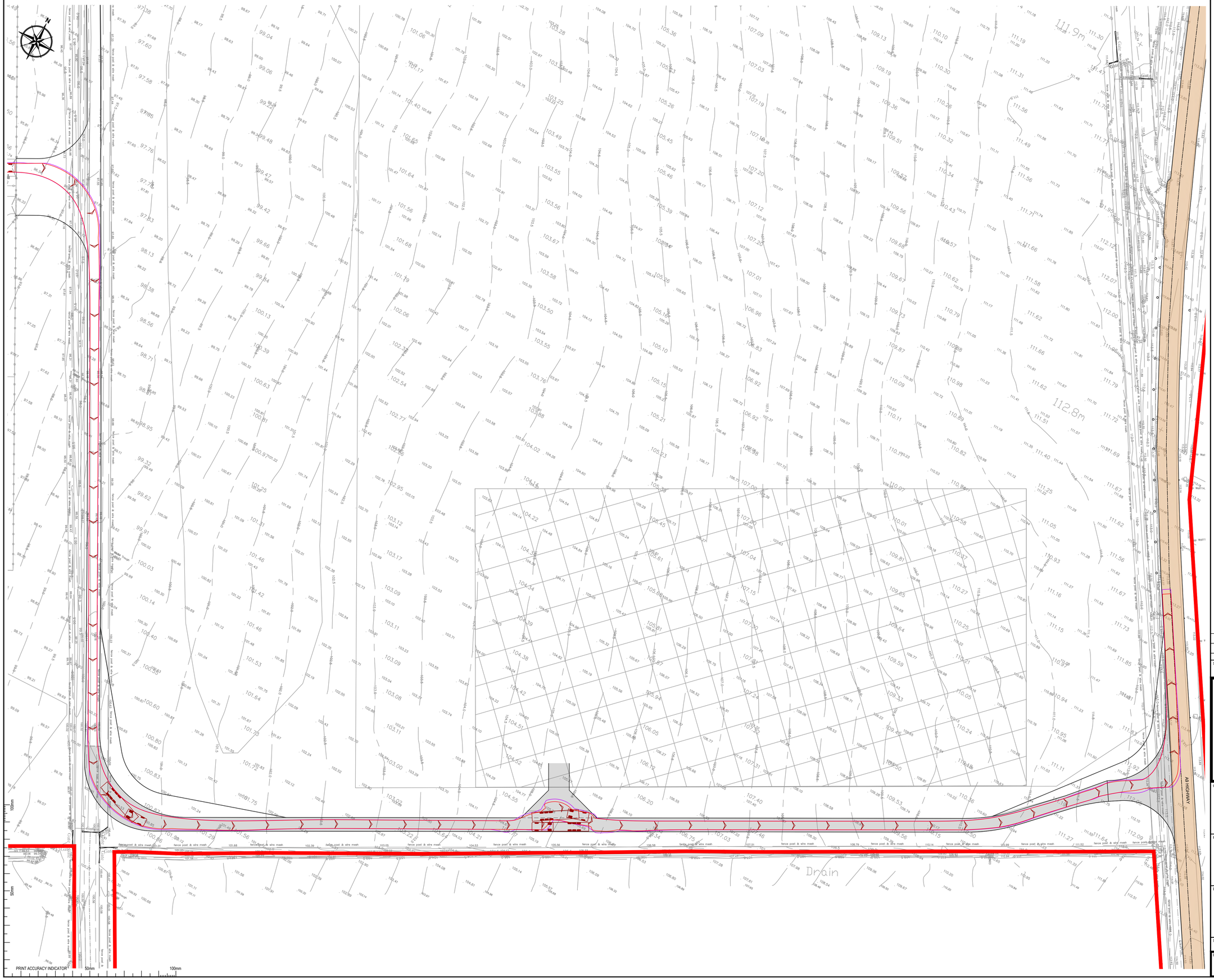
Project: SPITTAL BESS

Drawing title: SITE ACCESS
RIGID TRUCK VEHICLE TRACKING

Scale	Drawn	Checked	Approved	Date
1:500 @ A1	RT	BP	JC	MAY 2024

Drawing no.: 336-003-D023

Revision: P03



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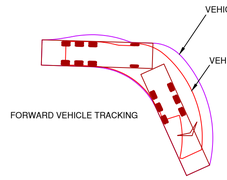

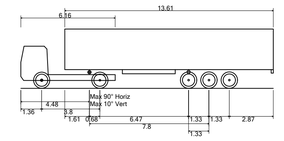

FTA Design Articulated Vehicle (2016)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

DRAWING FOR APPROVAL
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Client: FIELD

Project: SPITTAL BESS

Drawing title: SITE ACCESS
ARTICULATED VEHICLE TRACKING

Scale	Drawn	Checked	Approved	Date
1:500 @ A1	TW	BP	JC	OCT 2024

Drawing no.: 336-003-D024

Revision: P02

A9 HIGHWAY

Drain

PRINT ACCURACY INDICATOR 50mm 100mm

NOTES

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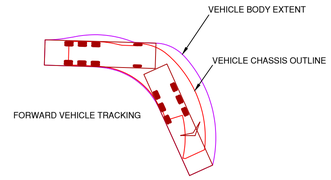

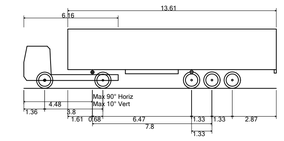

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Project: SPITTAL BESS

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ARTICULATED VEHICLE TRACKING

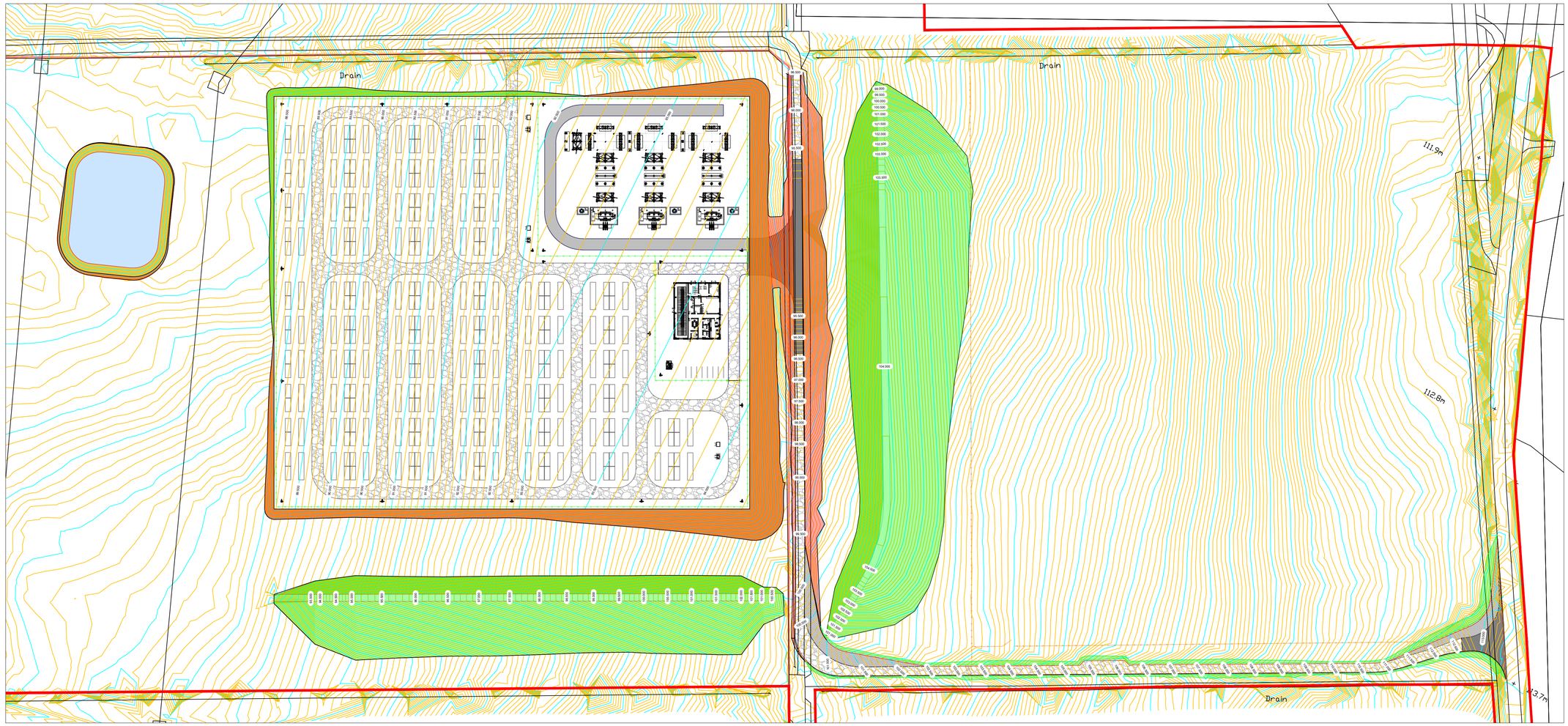
Scale	Drawn	Checked	Approved	Date
1:500 @ A1	TW	BP	JC	OCT 2024

Drawing no.: 336-003-D025

Revision: P02

Appendix E: Finished Site Levels

Royal HaskoningDHV
Enhancing Society Together



1 Site Finish Level Plan

Scale 1:1000 @ A1

Volume Summary		
Description	Unit	Volume
Cut Volume	m^3	43,695.292
Fill Volume	m^3	4,311.881
Net (Cut)	m^3	39,383.411
Import Fill Required	n/a	No
Topsoil Reused (Grading Area)	m^3	1,632.420
Topsoil Remaining	m^3	11,456.580
Site Aggregate Volume (Assumed 225mm CGA)	m^3	7,303.950
Site Finish Volume (Assumed 75mm Chippings)	m^3	2,434.650
Site Road Sub Base Volume (Assumed 350mm 6F5)	m^3	2,004.310
Site Road Finish Volume (Assumed 150mm Type 1)	m^3	858.990
Access Road Sub Base Volume (Assumed 350mm 6F5)	m^3	1,263.500
Site Road Finish Volume (Assumed 150mm Type 1)	m^3	541.500
Assumed Volume for HRA	m^3	220.000

Notes

1. All dimensions are shown in metres unless noted otherwise.
2. Do not scale from this drawing.
3. For information on the site layout refer to drawing 001.1.
4. 39,500m^3 of cut and 11,500m^3 of topsoil will be used to construct the bunds.

Legend

- Planning Boundary
- Major Contour (0.5m)
- Minor Contour (0.1m)
- Site Grading (Fill)
- Site Grading (Cut)

REV	DATE	DESCRIPTION	BY	CHK'D
6	18.12.2024	Site volume summary added	EW	JH
5	12.11.2024	East bund amended	EW	JH
4	21.10.2024	Topo surface and access road added to plan. Attenuation basin amended. Sheet size changed to A0	JH	AP
3	10.09.2024	Bunds amended.	EW	JH
2	30.08.2024	Site layout and levels amended.	JH	RS
1	07.06.2024	Site layout levels and bunds amended	JH	EW
0	08.04.2024	Site Finish Levels Plan - Original	JH	WL

Field
Fora Montacute Yards
186 Shoreditch High Street
London
E1 6HU

PROJECT
Spittal

TITLE
Site Finish Levels Plan

DISCIPLINE: PLANNING

DRAWING STATUS: FOR PLANNING

SCALE	DATE	DRAWN BY	CHECKED BY	APPROVED BY
1:1000 @A1	08.04.2024	JH	WL	RS

PROJECT NO.	DRAWING NO.	REV.
BTGBSPI01	005.2	06

1:100	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m
1:200	5m		10m		15m					20m
1:250	5m		10m		15m			20m		25m
1:500	10m		20m		30m			40m		50m
1:1000	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
1:2000	50m		100m		150m					200m
1:2500	50m		100m		150m			200m		250m
1:5000	100m		200m		300m			400m		500m

Appendix F: Abnormal Indivisible Load (AIL) Report

Royal HaskoningDHV
Enhancing Society Together

Abnormal Indivisible Load Access to the Proposed New Spittal BESS Substation Site – High Level Summary Document & Desktop Review

Prepared for Field Energy

Shaftesbury House, High Street, Eccleshall, Staffordshire ST21 6BZ, UK
Tel: +44 (0)1785 850411

wynnslimited.com
Registered in England & Wales No. 3162297

NAME		SIGNATURE	DATE
Prepared by:	Brad Dyke	[redacted]	24.05.24
Checked by:	Andy Pearce		30.05.24
Approved by:	Andy Pearce		30.05.24

DISCLAIMER

Any conclusions, calculations or findings presented here should not be changed or altered.

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DOCUMENT REVISIONS

Issue	Date	Details
0	30.05.2024	Summary Report
1		
2		

Site	Proposed New Field Energy Battery Energy Storage System (BESS) 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 will need to be confirmed for 126.11e loads. Detailed structural investigations will be required.
Existing Substation or Potential New Site	New potential Field Energy Substation Site south of existing Spittal Converter Station.
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/Transport Scotland in line with the Water Preferred Policy	Yes – Wynns are aware that there is an existing AIP to a proposed Spittal substation was agreed in 2023 for Special Order deliveries to be via Scrabster Harbour. Discussions remain ongoing with National Highways and Transport Scotland to obtain a specific AIP for the Field Energy BESS site, but this is expected to be on the same conditions from Scrabster. Appendix 2 includes the National Highways Aide Memoir which explains movement thresholds and permission requirements for AILs.
National Highways AIP Reference Number	Field Energy AIP Reference to be confirmed
Proposed port of Delivery	<u>Scrabster Harbour</u> Scrabster can be accessible for marine delivery of heavy AILs and 2 of the possible offloading locations have recently benefitted from improvement works over the recent years, however the status of access would need to be reconfirmed. St Ola Pier is designed and able to utilise mobile crane lifting from costal vessels, geared vessels with onboard cranes and also for Roll-On/Roll-Off (Ro/Ro) from heavy lift barges. Jubilee Quay has been used in the past for mobile crane lifting from coastal vessels, including in 2017 when a transformer of some 215te was lifted and destined for the existing Spittal converter substation which is located to the south of the proposed new

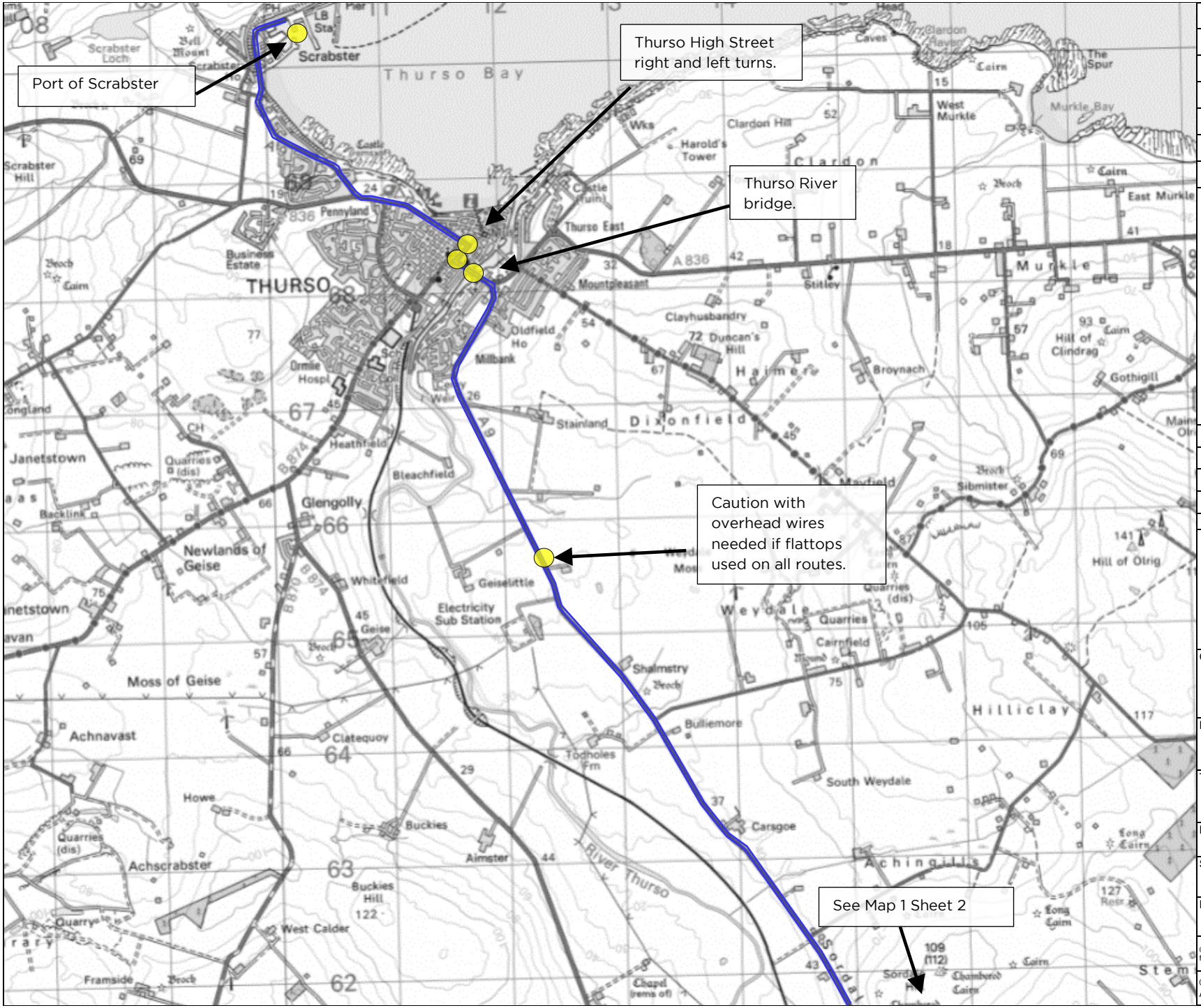
	Spittal Hub substation location.
Maximum Transport Weight considered during the most recent report in line with future project requirements	Transformer of circa 126.11te nett
Typical trailer used in Route Clearance works	Girder frame trailers could be considered for the transformer of up to 126.11te and 4200mm nett transport height in order to keep the loads under 4.95m running height. This would be subject to additional structural route clearance works. The final size of trailer will be determined by further structural clearance works but minimum of 16 axle girder frame trailer will be necessary. 5bed5 axle draw bar trailers could also be considered to keep the load below 4.95m although the weight of 120te is on the limit of what can be carried on such trailers. Flat top trailers also could be considered and have been used for deliveries to Spittal Substations in the past although the overall height of the trailer would be above 5m. There are no overhead restrictions on the proposed route to site from Scrabster Harbour other than overhead wires and trees and the use of flattop trailers will assist access within Thurso town centre as described below.
Expected delivery date of next planned transformer if known	To be confirmed
Known Maximum Transformer Weight (according to available records)	258te Transformer was approved in 2023 by Wynns un study work for others although these loads have not taken place to date.
Last Recorded Special Order Movement (according to available records)	215te transformer delivered to Spittal Converter Substation in 2017 on flattop trailer from Scrabster,
Nearest Common Heavy Load Route	A9

Suggested route(s) based on historical information	**Proposed route 1 from Scrabster** Exit Scrabster Docks via A9 Continue A9 to Thurso (Smith Terrace/Oilrig Street) Turn right Traill Street Turn right Sir George's Street Continue A9 via George's Street to junction with A882 Turn right A9 south Turn right at new proposed substation location to be constructed at approx. OS Grid Reference. ND 16074 55234
Is a map available of the proposed route?	Yes – See attached file.
Any Known Problems for AIL Access in terms of structures?	The proposed route from Scrabster has been approved for much heavier loads than being considered here within the last year by Wynns and no issues are expected, however a route enquiry has been sent to all affected authorities, Police Scotland, Bear North West and Transport Scotland for comment based on the specific BESS Substation load requirements. Responses remain outstanding and will be reported in due course.
Any Known Problems for AIL Access in terms of Negotiability and other Route Comments?	The right and left bends through Thurso Town Centre, Olrig Street turning right onto Traill Street then turning left onto Sir George's Street which would require street furniture removal in order to negotiate the turns for the 10 axle flat top trailer proposed. If the larger girder frame or bed trailers are to be considered, swept path assessments would be required to confirm negotiability. In the event a flat top trailer is used caution is required along the A9 due to overhead wires that will need to be lifted for loads in excess of 5m. This will require further surveys and discussions with utility providers including SSE and BT Openreach. Tree pruning will also be required in some locations.
Any Known Problems for AIL Access in terms of Onsite issues?	No review of site access has been undertaken within this report.
Do routing issues currently present a serious risk that access to the site may be restricted?	No.

Any other Relevant Information and Notes:

Appendix 1

Maps



Key

	Route 1 from Scrabster via A9
	Existing Spittal Converter Station
	Points of Interest
	Proposed Site

Rev	Date	Amendments:
B		
A		
0	24.05.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Consultants.

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

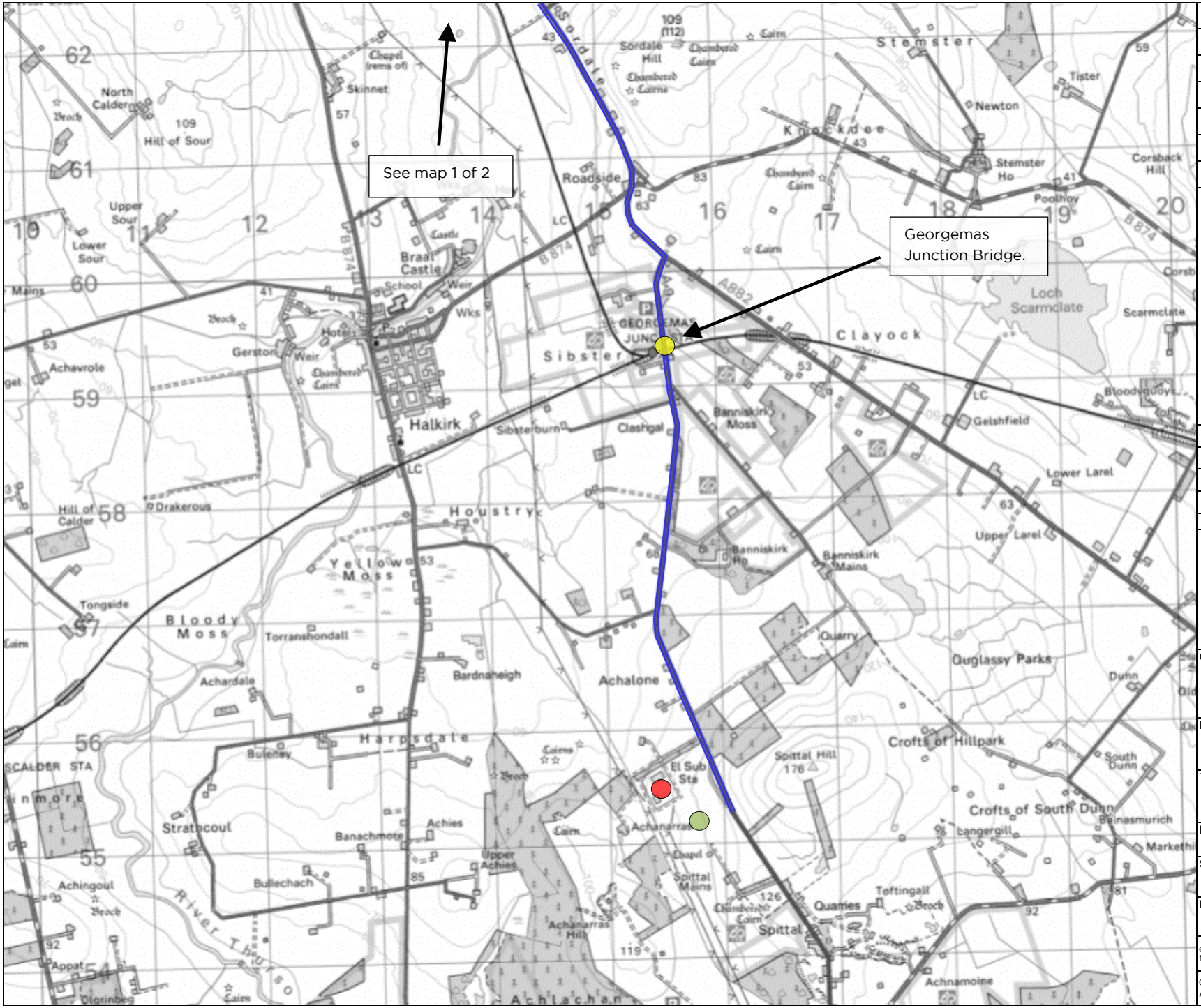
Project:
Field Energy Proposed Substation AIL Access

Title:
Map 1 – Routes to proposed Spittal Substation

Drawing Status:
Final Report

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

Ref No.:	Sheet:	Rev.:
24-1235 - Map 1	1 of 2	0



Key

	Route 1 from Scrabster via A9
	Existing Spittal Converter Station
	Points of Interest
	Proposed Site

Rev	Date	Amendments:
B		
A		
0	24.05.24	First Issue

Revisions

Wynns Ltd.
Independent Transportation Consultants.

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

Client:
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Virmati Energy Ltd
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Shoreditch High Street
London - E1 6HU
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Title:
Map 1 – Routes to proposed Spittal Substation

Drawing Status:
Final Report

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

Ref No.:	Sheet:	Rev.:
24-1235 - Map 1	2 of 2	0

Appendix 2

National Highways Aide Memoir

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 80,000kgs (78.74 tons)	2 clear days notice with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 80,000kgs up to 150,000kgs (147.63 tons)	2 clear days notice to Police and 5 clear days with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 150,000kgs (147.63 tons)	Highways England Special Order* plus 5 clear 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 4.3m (14ft 1 ins) STGO loads:- width exceeding 3.0m (9ft 10ins) up to 5.0m (16ft 5ins)	2 clear days notice to Police
Width exceeding 5.0m (16ft 5ins) up to 6.1m (20ft)	Highways England form VR1** plus 2 clear days notice to Police
Width exceeding 6.1m (20ft)	Highways England Special Order* plus 5 clear 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 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 days notice to Police
Overall length of a part 2 vehicle-combination exceeding 25.9m (85ft)	2 clear days notice to Police
Maximum length exceeding 30.0m (98ft 5ins) – 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 tonnes gross weight or trailers not exceeding 10 tonnes gross weight, a Highways England Special Order* will be required if the rigid length exceeds 27.4m (89ft 11ins)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities.

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 http://www.dft.gov.uk/vca/

*A Special Order application can be completed and submitted online at www.highways.gov.uk/esdal. 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 Highways England 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.

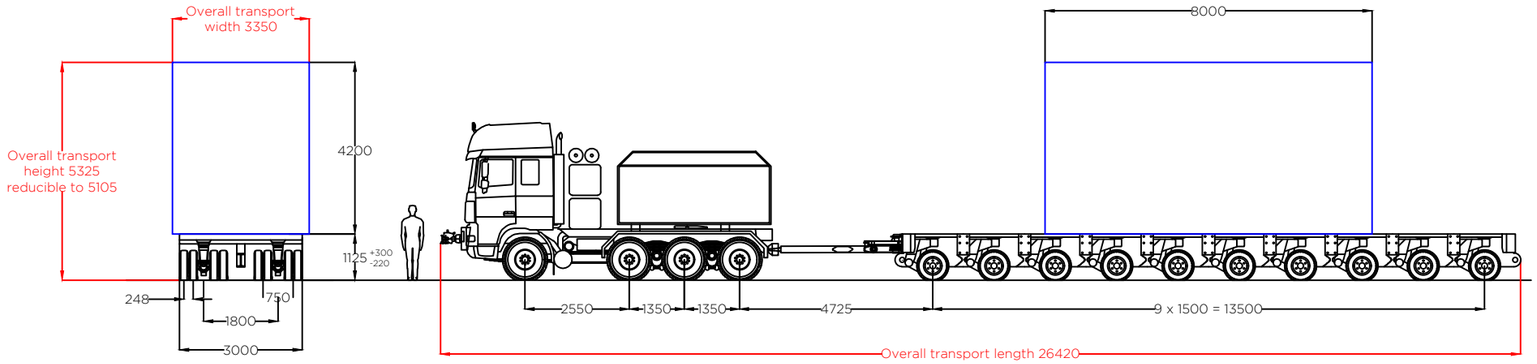
** A VR1 application can be completed and submitted online at www.highways.gov.uk/esdal. The form can also be downloaded but must not be e-mailed or faxed because the VR1 form is a legal document and so we must receive the original signed form. Approval is not automatic and is at the discretion of the Highways England 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 posting 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:
Highways England
Abnormal loads team
9th Floor, The Cube
199 Wharfside Street
Birmingham B1 1RN

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

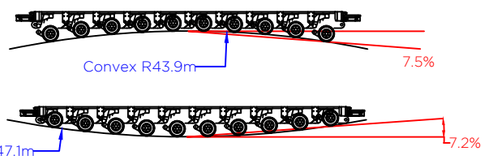
Appendix 3

Transport configuration.

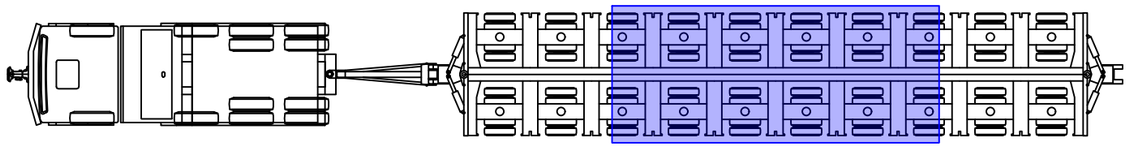


Profile View
Scale 1:150

Elevation View - 10 axle flat top trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150

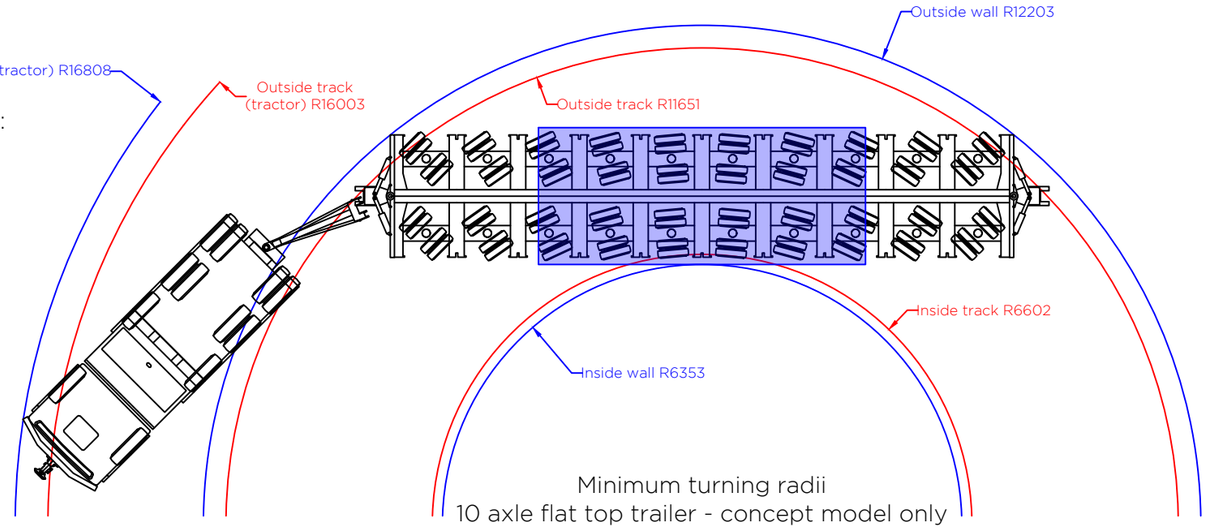


Vertical Curve Negotiabilty Information
based on manufacturers literature
Scale: 1:300



Plan View - 10 axle flat top trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150

Transformer Dimensions:
8.0m (L)
3.35m (W)
4.2m (H)



Minimum turning radii
10 axle flat top trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150

Load Table	
10 axle flat top trailer	
Self weight of load 120.1 te + 5%	126.11 te
Self weight of trailer	32.0 te
Total combined weight	158.11 te
Load per axle line	15.811 te
Load per axle	7.906 te
Load per wheel (4 per axle)	1.98 te
Overall ground bearing pressure	3.91 te/m²
Tractor (42 te)	
Front axle	8.0 te
Second steer	10.0 te
Rear axle	12.0 te
Rear axle	12.0 te

Notes:-

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

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

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

[4] Indicative transformer shown only. Assume central COG.

Rev.	Date	Amendments
1		
0	26.04.24	Issued for comment

Revisions

Prepared By:

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

Independent Transportation Engineers

Client: FIELD

Project: **Spittal**

Title:
Indicative transport configuration
126.11 te transformer carried on
10 axle flat top trailer
showing minimum turning radii

Drawing Status: Final report

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

DWG. No:	Sheet:	Rev:
24-1235.TC01	1 of 1	0

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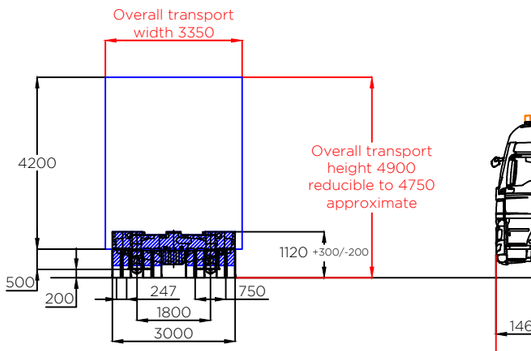
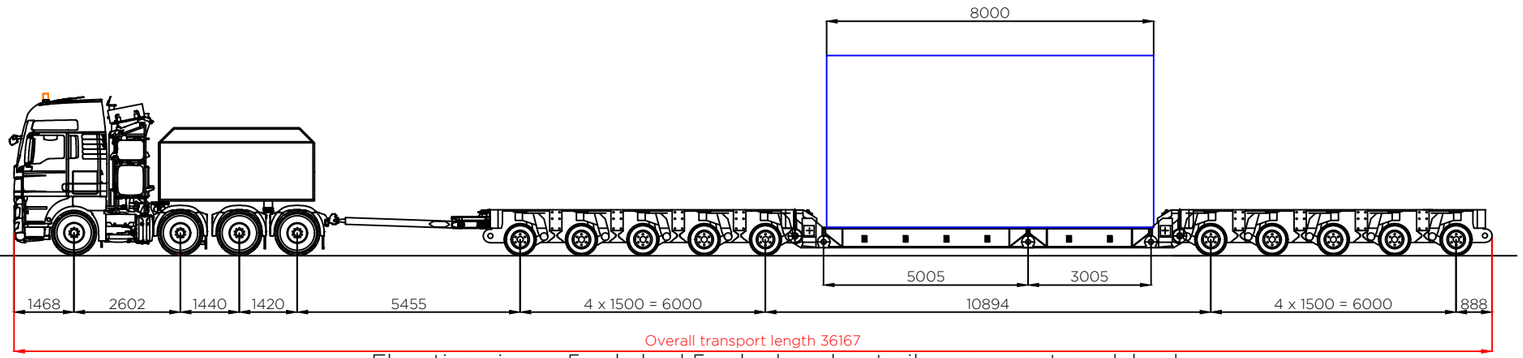
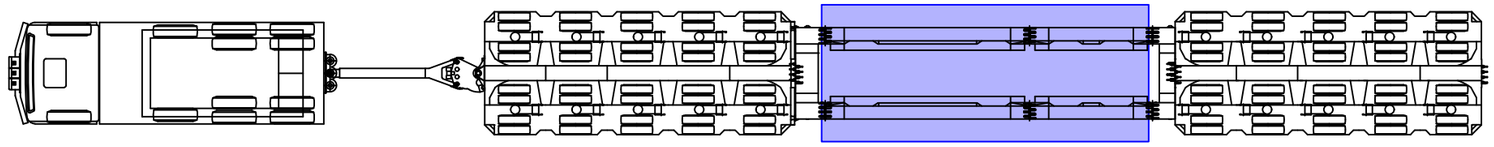


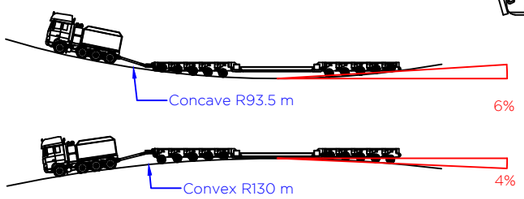
Profile view
Scale 1:150



Elevation view - 5 axle bed 5 axle draw bar trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150

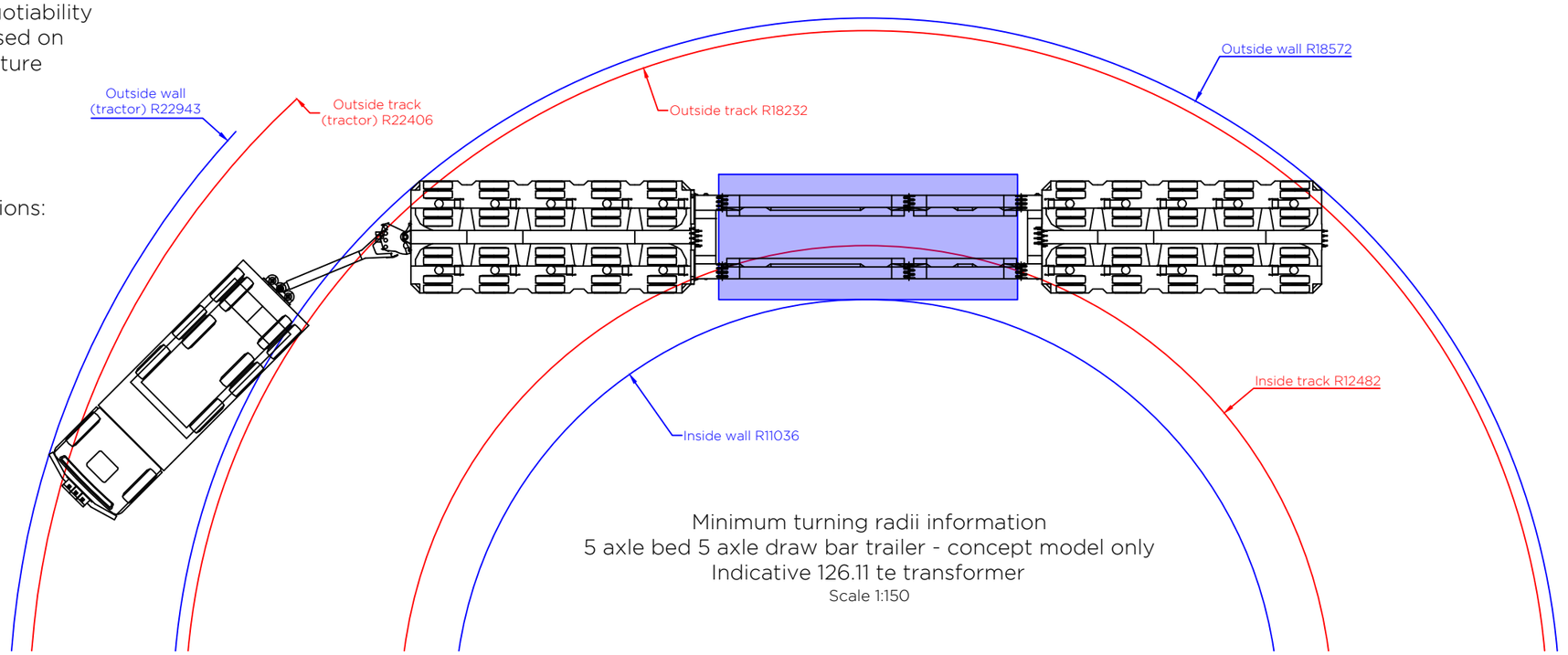


Plan view - 5 axle bed 5 axle draw bar trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150



Vertical curve negotiability
information based on
hauliers literature
Scale 1:600

Transformer Dimensions:
8.0m (L)
3.35m (W)
4.2m (H)



Minimum turning radii information
5 axle bed 5 axle draw bar trailer - concept model only
Indicative 126.11 te transformer
Scale 1:150

Load table	
5 axle bed 5 axle draw bar trailer	
Self weight of transformer 120.1 te + 5%	126.11 te
Self weight of trailer	Say 48.0 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	174.11 te
Load per axle line	17.411 te
Load per axle	8.71 te
Load per wheel (4 per axle)	2.18 te
Overall ground bearing pressure	4.84 te/m²
Tractor (40 te)	
Front axle	7.0 te
Second steer	7.0 te
Rear axle	13.0 te
Rear axle	13.0 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.

[5] Running height dependent upon tank base and beam position depth.

[6] Indicative transformer shown only. Assume central COG.

Rev.	Date	Amendments
1		
0	26.04.24	Issued for comment

Revisions

Prepared by:

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Independent Transportation Engineers

Client: FIELD

Project: **Spittal**

Title: **Indicative transport configuration**
Indicative 126.11 te transformer carried on
5 axle bed 5 axle draw bar trailer
showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn By:	Checked By:
As shown	JMB	MTO
Dwg. no:	Sheet:	Rev:
24-1235.TC02	1 of 1	0

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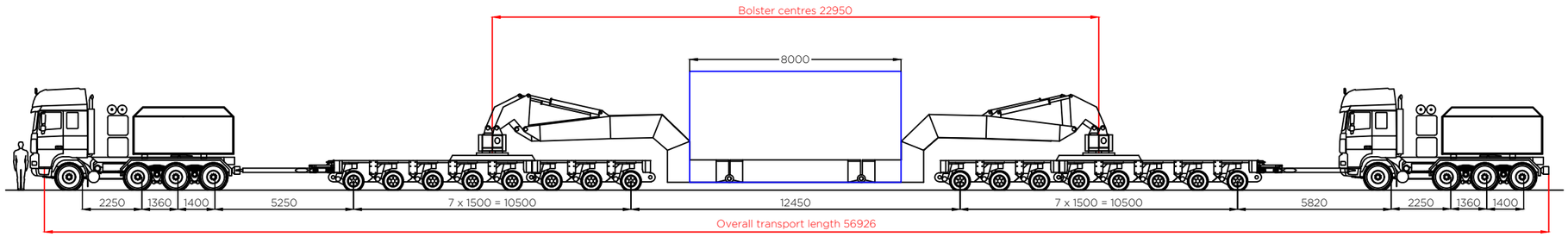
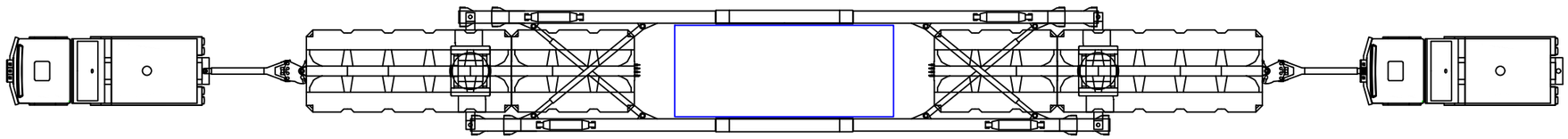
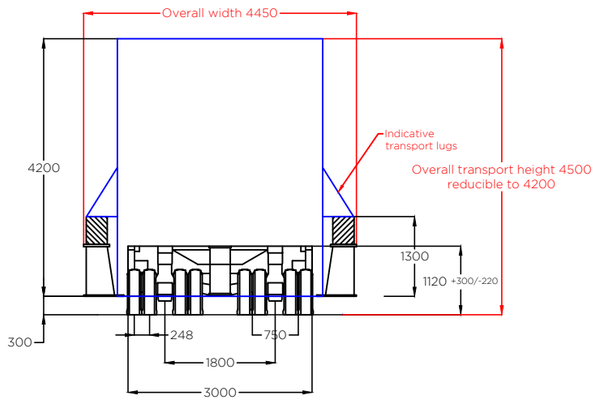


Side Elevation - 16 axle girder frame trailer - concept model only
Indicative 126.11 te transformer
Scale 1:200

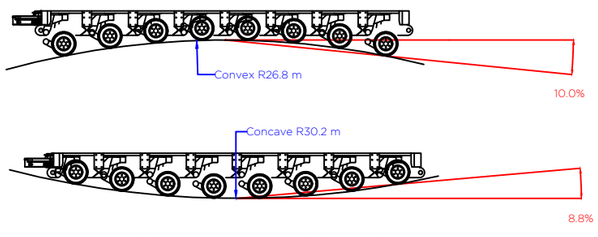


Plan View - 16 axle girder frame trailer - concept model only
Indicative 126.11 te transformer
Scale 1:200

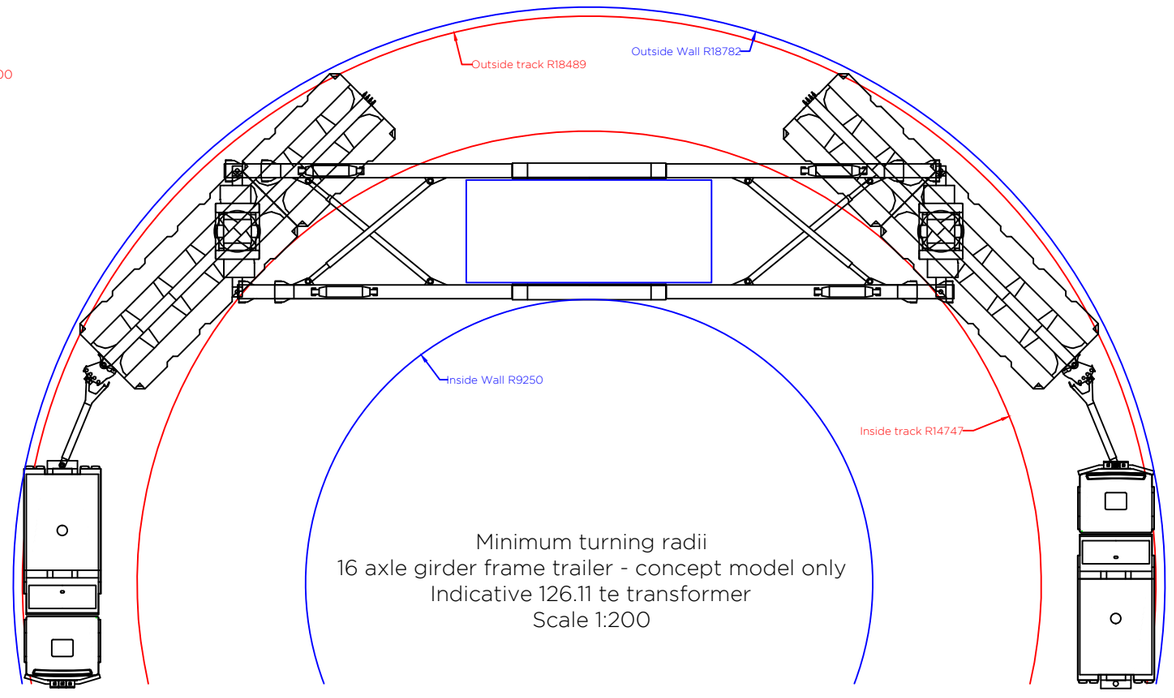
Transformer Dimensions:
8.0m (L)
3.35m (W)
4.2m (H)



Profile view
Indicative 126.11 te transformer
Scale 1:100
NOTE: Final Design/Transport Arrangement to be Determined.
Detail is Illustrative Only.



Vertical Curve Negotiabilty Information
based on manufacturers literature
Scale: 1:200



Minimum turning radii
16 axle girder frame trailer - concept model only
Indicative 126.11 te transformer
Scale 1:200

Load Table	
16 axle girder frame trailer	
Self weight of load 120.1 te + 5%	126.110 te
Self weight of trailer	86.8 te
Self weight of aux. steelwork (for L&S)	0.0 te
Total combined weight	212.91 te
Load per trailer	106.46 te
Load per axle line	13.31 te
Load per wheel (4 per axle)	3.33 te
Overall ground bearing pressure	3.38 te/m^2
Tractors x2 (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 millimeters unless stated otherwise.

[4] Transformer drawing indicative only.

[5] Running height dependent upon tank base and transport lug arrangement.

[6] Indicative transformer shown only. Assume central COG.

Rev.	Date	Amendments
1		
0	26.04.24	Issued for comment

Revisions

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

Client: FIELD

Project: Spittal

Title: Indicative Transport Configuration
126.11 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	JMB	MTO

DWG. No:	Sheet:	Rev:
24-1235.TC03	1 of 1	0

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