

	CARRIER PIPE	
	UPSTREAM	DOWNSTREAM
EASTINGS:	178136.96	178128.59
NORTHINGS:	141586.04	141577.44
EXISTING DITCH LEVELS:	64.88	64.84
PIPE INVERT:	64.88	64.84
HEADWALL:	TYPE 1	TYPE 1
PIPE TYPE:	FILTER PIPE	
MINIMUM COVER:	440mm	

**NOTES:**

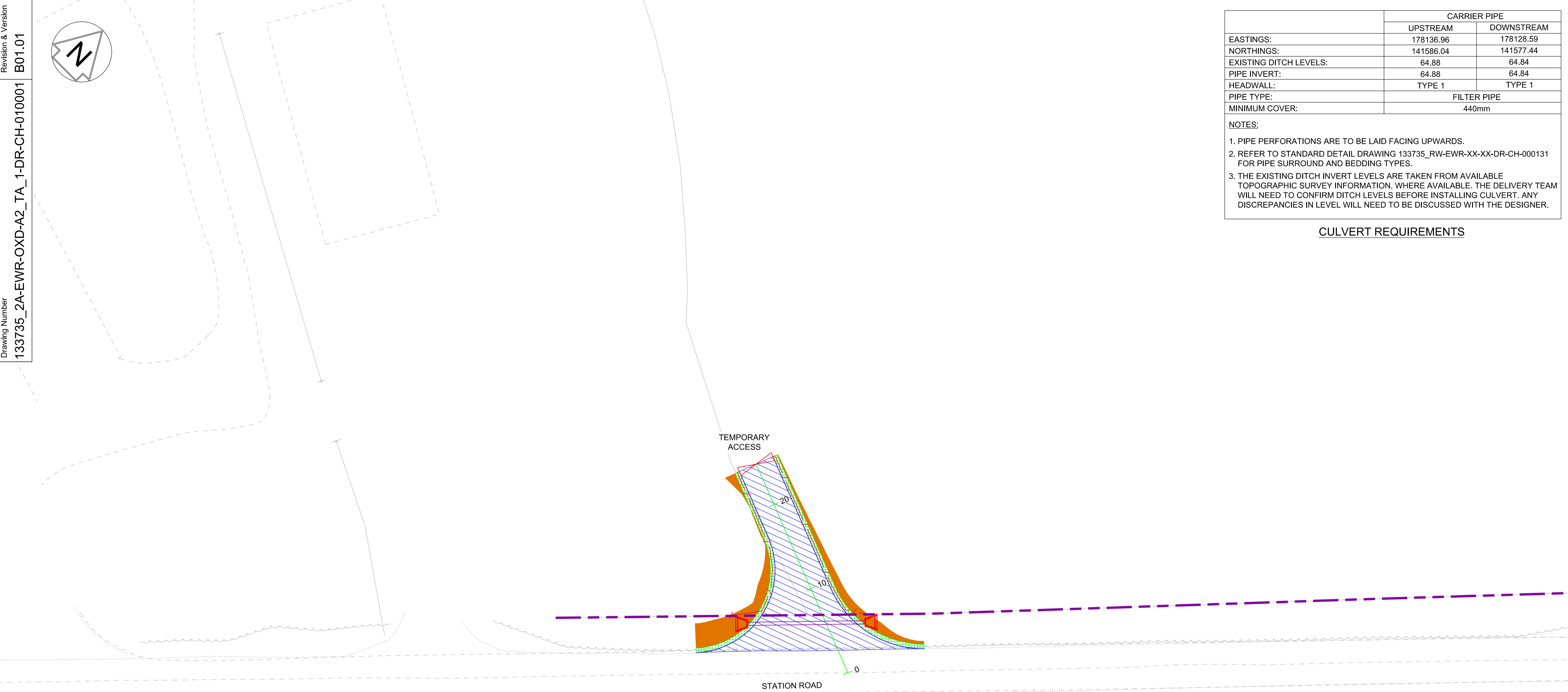
- PIPE PERFORATIONS ARE TO BE LAID FACING UPWARDS.
- REFER TO STANDARD DETAIL DRAWING 133735\_RW-EWR-XX-XX-DR-CH-000131 FOR PIPE SURROUND AND BEDDING TYPES.
- THE EXISTING DITCH INVERT LEVELS ARE TAKEN FROM AVAILABLE TOPOGRAPHIC SURVEY INFORMATION, WHERE AVAILABLE. THE DELIVERY TEAM WILL NEED TO CONFIRM DITCH LEVELS BEFORE INSTALLING CULVERT. ANY DISCREPANCIES IN LEVEL WILL NEED TO BE DISCUSSED WITH THE DESIGNER.

**CULVERT REQUIREMENTS**

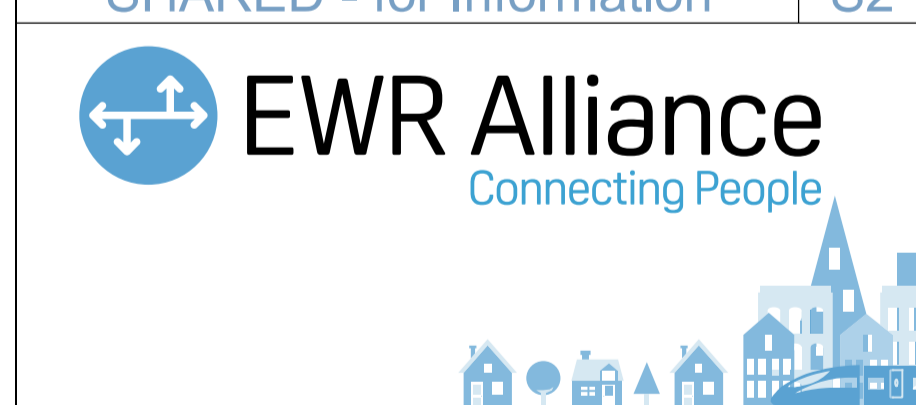
**NETWORK RAIL (EAST WEST RAIL WESTERN SECTION PHASE 2)**

**NOTES:**

- THIS DRAWING IS NOT TO BE SCALED.
- ALL DIMENSIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE HIGHWAY DESIGN PACKAGE OF DRAWINGS AND DOCUMENTS.
- WHEREVER REQUIRED, ROAD MARKINGS ARE TO BE LAID IN ACCORDANCE WITH THE TRAFFIC SIGN REGULATIONS AND GENERAL DIRECTIONS 2016 & TRAFFIC SIGNS MANUAL CHAPTER 5 (2003).
- WHERE A FENCE IS PROPOSED IT SHALL TIE-IN TO THE EXISTING HEDGEROW OR BOUNDARY TREATMENT TO PROVIDE A SECURE BOUNDARY.



Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION				S2



Project  
**East West Rail (Western Section) Phase 2**

Drawing Title  
**OTHER ACCESS A2\_TA\_1 GENERAL ARRANGEMENT**

Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	Siama Begum	Signed	S. Begum	Date	23/08/19
Checked	Gareth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)	1:250	ELR - Project Chainage (Miles Yards)	OXD -
Design Package Risk Classification	Normal	Sheet	1 of 1
Alternative Reference		Revision	B01

Drawing Number  
133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010001

**KEY:**

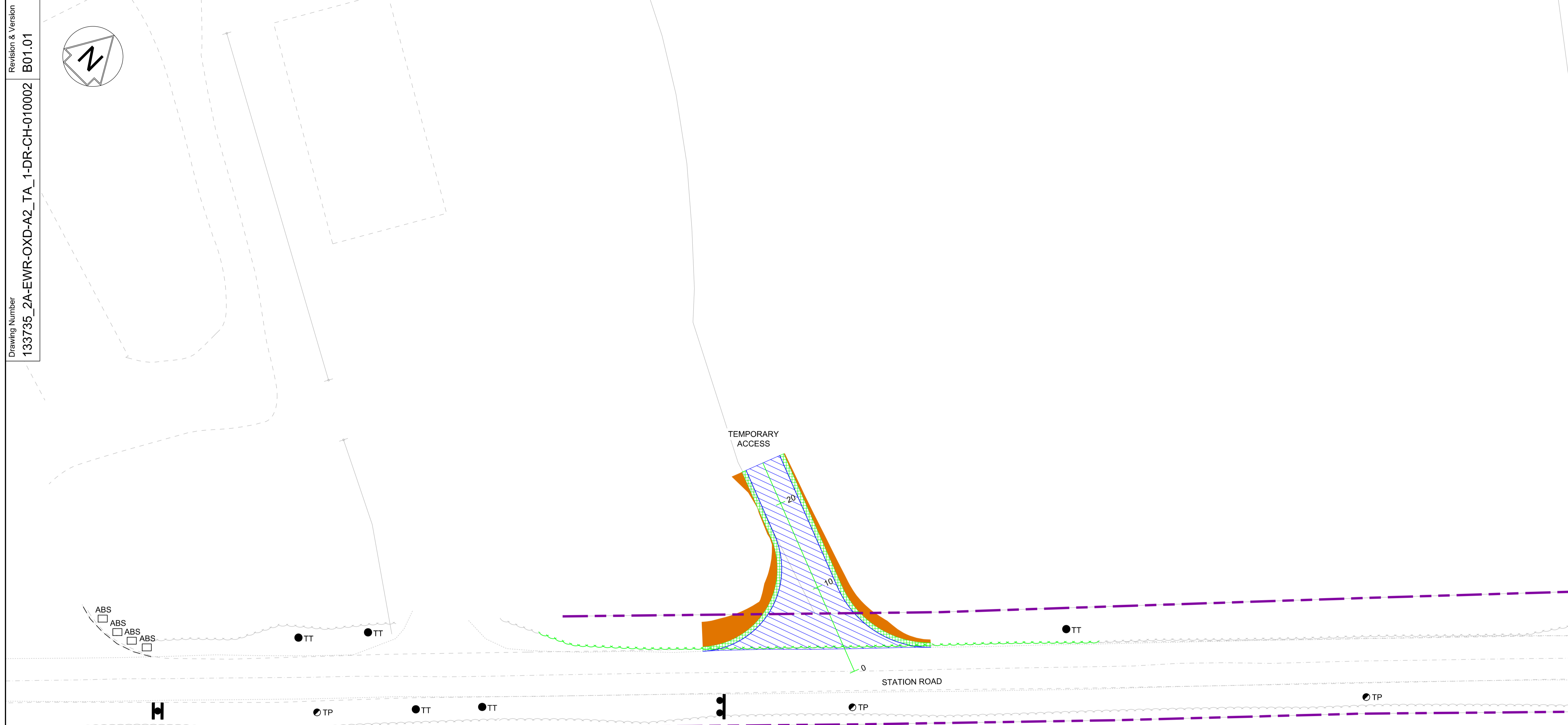
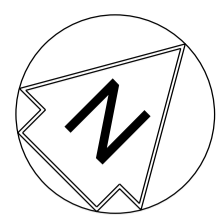
	HIGHWAY BOUNDARY
	EXISTING ROAD EDGE
	PROPOSED ROAD EDGE
	PROPOSED DRAINAGE CULVERT
	NEW PAVEMENT
	GRASS VERGE
	PROPOSED EARTHWORKS
	PROPOSED GATE
	PROPOSED POST & WIRE FENCE
	PROPOSED HEADWALL

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

THE WORKS ARE TO BE UNDERTAKEN BY A COMPETENT DELIVERY TEAM, AND THEREFORE ONLY EXCEPTIONAL RISKS RELATING TO THE WORKS ASSOCIATED WITH THIS DRAWING ARE IDENTIFIED BELOW. FOR FURTHER DETAILS AND PROPOSED SAFETY MEASURES REFER "EWR PHASE 2 HAZARD LOG WORKING COPY" EB DOC. REF: 133735-NWR-RSA-SSD-000001.

ID	HAZARD DESCRIPTION
NONE	NONE

INDICATES PROJECT RISKS (EWR2-DRIS- .....)
 INDICATES H&S RISKS (EWR2-HAZ- .....)



**NETWORK RAIL (EAST WEST RAIL WESTERN SECTION PHASE 2)**

- NOTES:**
1. THIS DRAWING IS NOT TO BE SCALED.
  2. ALL DIMENSIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
  3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE HIGHWAY DESIGN PACKAGE OF DRAWINGS AND DOCUMENTS.
  4. PRIOR TO THE COMMENCEMENT OF WORKS, A SUITABLY QUALIFIED ECOLOGIST SHALL INSPECT THE SITE FOR THE PRESENCE OF PROTECTED SPECIES AND HABITAT. THE ECOLOGIST SHALL THEN ADVISE EWR ALLIANCE ON THE REQUIRED PRECAUTIONARY METHODS AND AREAS OF EXCLUSION.
  5. WHERE SITE CLEARANCE WORKS HAVE THE POTENTIAL TO IMPACT TREES OR HEDGES WHICH ARE TO BE RETAINED, AN ARBORICULTURALIST SHALL BE PRESENT TO ADVISE ON ROOT PROTECTION ZONE EXTENTS, ROOT PRUNING AND CROWN RAISING. WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS3998:2010.
  6. SITE CLEARANCE, WHERE THERE IS PROXIMITY TO HABITAT OF PROTECTED SPECIES, SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A SUITABLY QUALIFIED ECOLOGIST.
  7. THE EXTENTS OF ALL SITE CLEARANCE WORKS SHALL BE RECORDED IN THE AS-BUILT SITE CLEARANCE DRAWINGS AND SHALL ALSO BE RECORDED, WITH PHOTOGRAPHS OF FEATURES PRIOR TO REMOVAL, IN THE SITE CLEARANCE REGISTER. THE SITE CLEARANCE REGISTER SHALL BE MAINTAINED BY EWR ALLIANCE AND WILL INFORM REINSTATEMENT DETERMINATION.
  8. IN LOCATIONS WHERE EXISTING TREES OVERHANG THE PASSING PLACE CROWN LIFTING, TO GIVE 5m CLEARANCE ABOVE GROUND LEVEL, SHALL BE UNDERTAKEN TO THE BACK OF THE PROPOSED VERGE. THIS SHALL BE UNDERTAKEN UNDER THE SUPERVISION OF AN ARBORICULTURIST.
  9. THE VEGETATION CLEARANCE SHOWN HERE ON THE DRAWING IS INDICATIVE ONLY. THE SITE TEAM NEEDS TO ASCERTAIN THE REQUIRED CLEARANCE BASED ON THE VISIBILITY SPLAY, INTERVISIBILITY ZONE AND OR WORKS REQUIRED FOR THIS SITE.
  10. FOR CLARITY ONLY THE TRUNKS OF EXISTING TREES ARE SHOWN. FOR CANOPY EXTENTS THE TREE SURVEY MODEL AND MASTER SCHEDULE ARE TO BE REFERRED TO.



Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION	N.T.	G.J.	S.A.	
Status						S2



Project  
**East West Rail (Western Section) Phase 2**

Drawing Title  
**OTHER ACCESS A2\_TA\_1 SITE CLEARANCE**

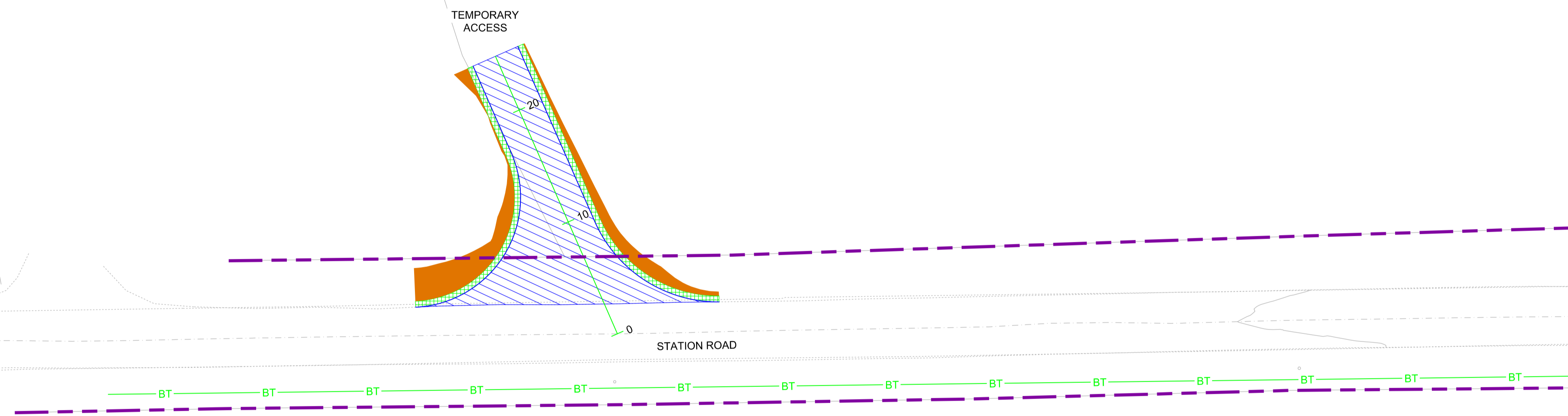
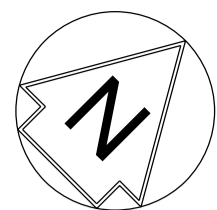
Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	Nigel R Jones	Signed	N. Jones	Date	10/07/19
Checked	Gareth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)  
 1:250  
 ELR - Project Chainage (Miles Yards)  
 OXD -  
 Design Package Risk Classification  
**Normal**  
 Sheet  
 1 of 1  
 Alternative Reference  
 Revision  
**B01**

Drawing Number  
 133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010002

**KEY:**

	HIGHWAY BOUNDARY	
	PROPOSED ROAD EDGE	
	NEW PAVEMENT	
	GRASS VERGE	
	PROPOSED EARTHWORKS	
	NONE	TRAFFIC SIGN
	NONE	TREE TRUNK
	NONE	VEGETATION
	NONE	TELEGRAPH POLE
	NONE	ADVERTISEMENT BOARD SIGN



 **DRAFT**

Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION				S2



Project  
**East West Rail  
 (Western Section)  
 Phase 2**







Drawing Title  
**OTHER ACCESS A2\_TA\_1  
 EXISTING UTILITIES**

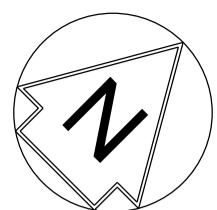
Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	Nigel R Jones	Signed	N. Jones	Date	10/07/19
Checked	Gareth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)  
 1:250  
 ELR - Project Chainage (Miles/Yards)  
 OXD -  
 Design Package Risk Classification  
**Normal**  
 Alternative Reference  
 Drawing Number  
 133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010003

Sheet 1 of 1  
 Revision B01

**KEY:**

	HIGHWAY BOUNDARY
	PROPOSED ROAD EDGE
	NEW PAVEMENT
	GRASS VERGE
	PROPOSED EARTHWORKS
	BT TELECOM UNDERGROUND CABLES

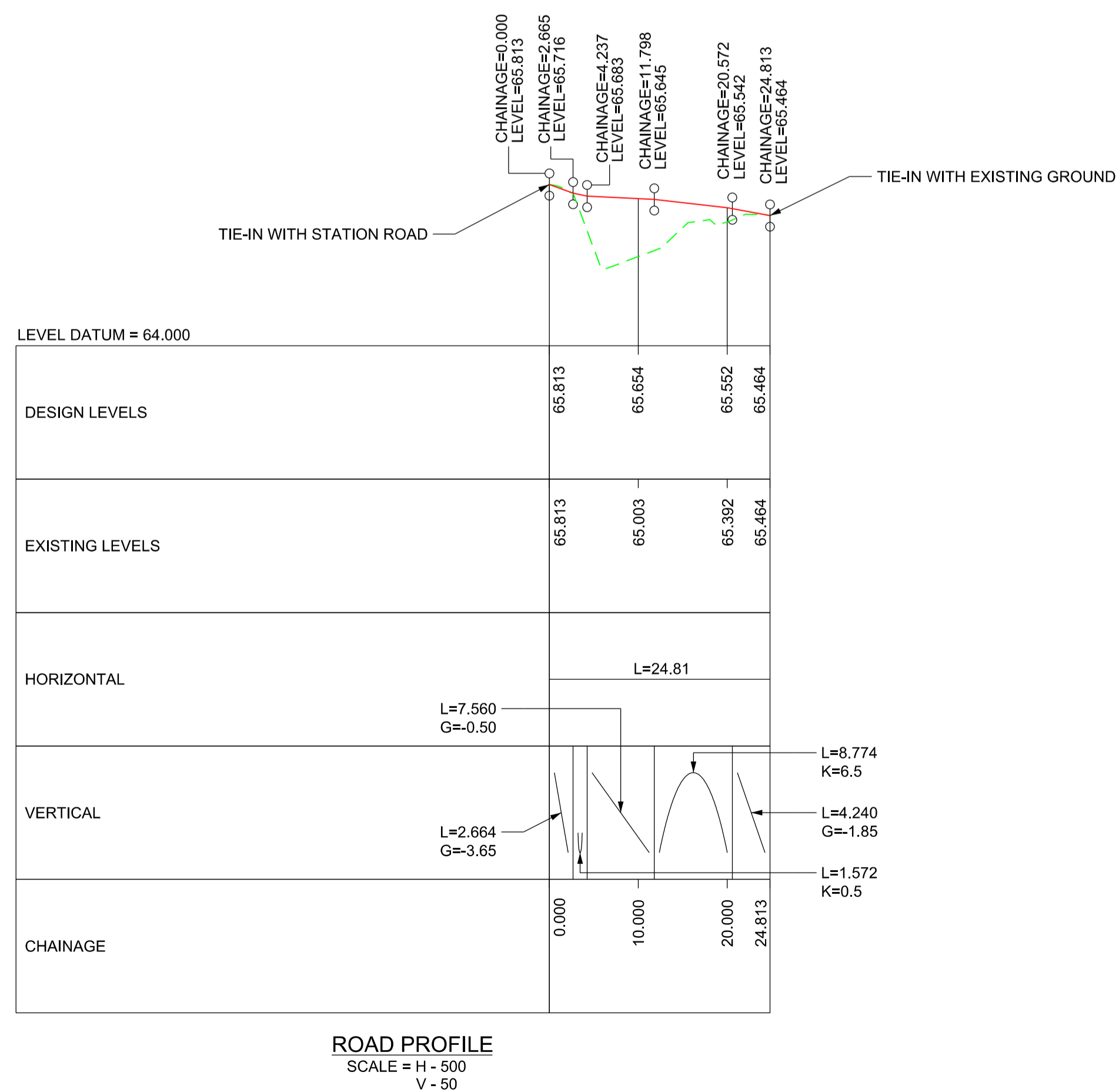


NOTES:

1. THIS DRAWING IS NOT TO BE SCALED.
2. ALL DIMENSIONS AND LEVELS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE HIGHWAY DESIGN PACKAGE OF DRAWINGS AND DOCUMENTS.

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SCALE 1:250  
 @ A1 SHEET SIZE



ROAD PROFILE  
 SCALE = H - 500  
 V - 50

KEY:

	NEW ROAD EDGE LEVEL
	EXISTING SURFACE LEVEL



Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION				S2



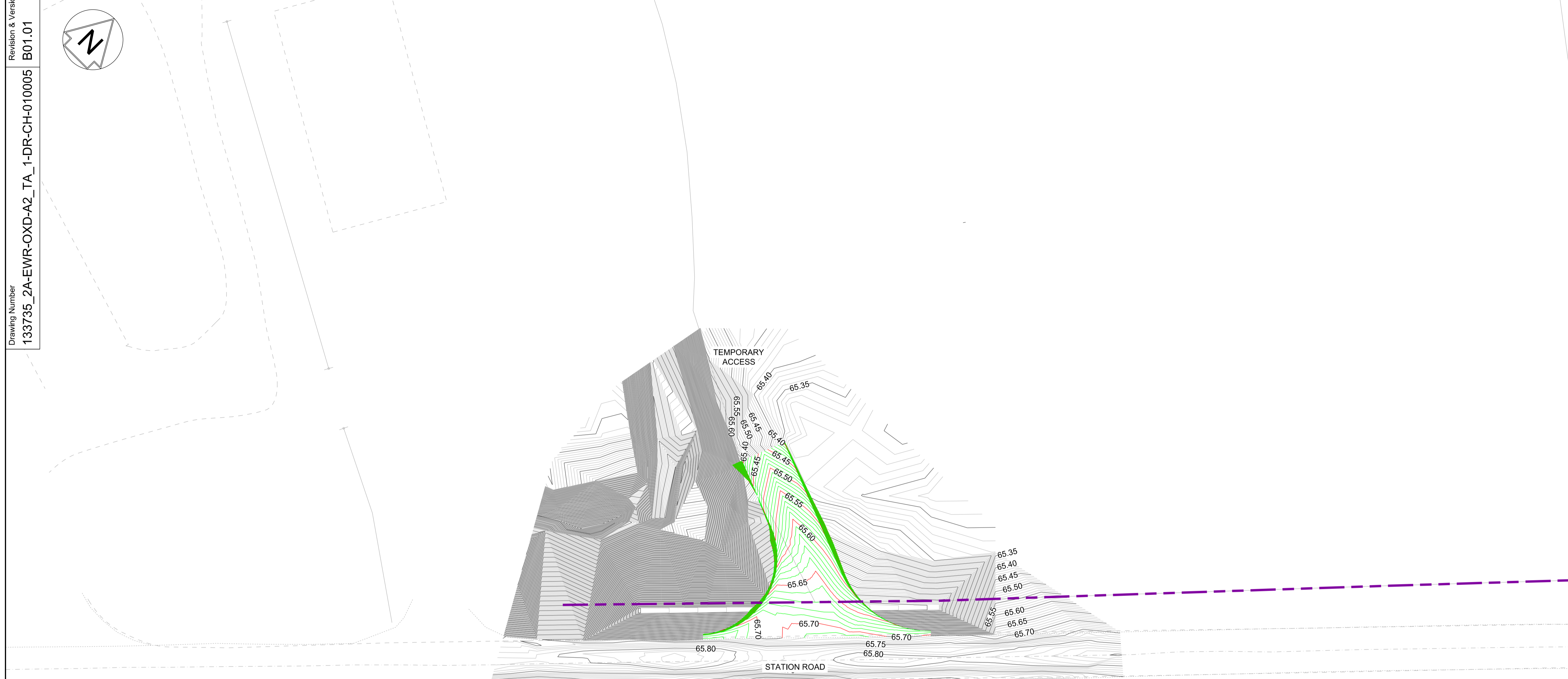
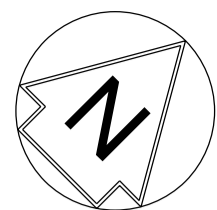
Project  
 East West Rail  
 (Western Section)  
 Phase 2

Drawing Title  
 OTHER ACCESS A2\_TA\_1  
 ROAD PLAN AND PROFILE

Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	MuraliMohan Govarathanan	Signed	M. Govarathanan	Date	06/12/19
Checked	Gareth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)	ELR - Project Chainage (Miles Yards)	Sheet	1 of 1
AS SHOWN	OXD -	Design Package Risk Classification	Normal
Alternative Reference		Revision	B01

Drawing Number  
 133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010004



NETWORK RAIL (EAST WEST  
 RAIL WESTERN SECTION PHASE 2)

NOTES:

1. THIS DRAWING IS NOT TO BE SCALED.
2. ALL DIMENSIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE HIGHWAY DESIGN PACKAGE OF DRAWINGS AND DOCUMENTS.
4. ALL WORKS TO BE IN ACCORDANCE WITH THE MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAYS WORKS VOL 1 (SPECIFICATION FOR HIGHWAY WORKS) AND STANDARD CONSTRUCTION DETAILS.
5. THE DELIVERY TEAM IS TO VERIFY DIMENSION ON SITE AND ADVISE OF ANY INFORMATION DISCREPANCIES. TIE-IN POINTS SHOULD BE VERIFIED ON SITE WITH THE ENGINEER PRIOR TO CONSTRUCTION.



Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION				S2



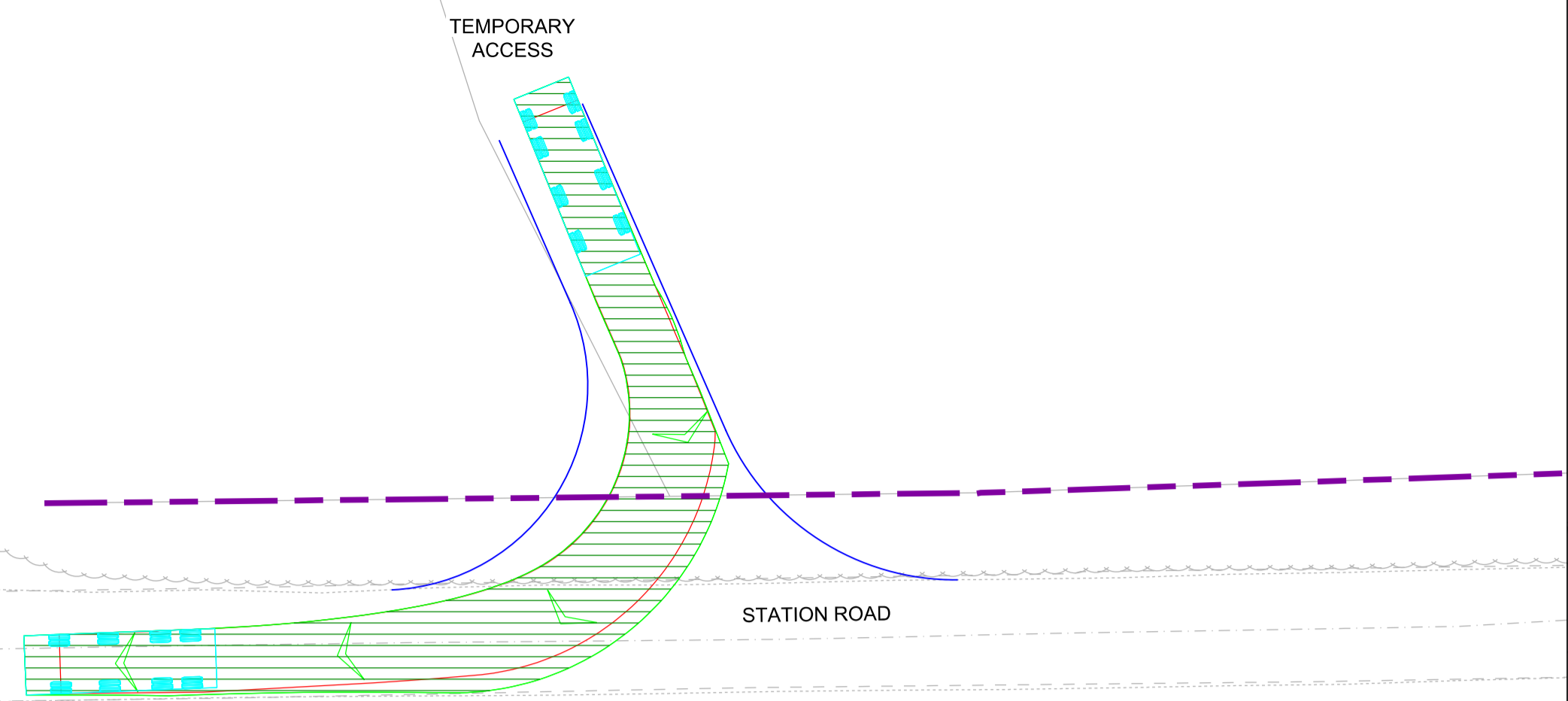
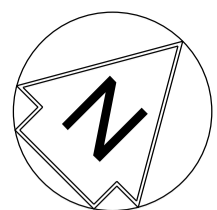
Project  
 East West Rail  
 (Western Section)  
 Phase 2

Drawing Title  
 OTHER ACCESS A2\_TA\_1  
 EXISTING AND PROPOSED  
 CONTOURS

Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	MuraliMohan Govarthanan	Signed	M. Govarthanan	Date	06/12/19
Checked	Garth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20
Scale(s)	1:250				
Design Package Risk Classification	Normal				
Alternative Reference	1 of 1				
Drawing Number	133735_2A-EWR-OXD-A2_TA_1-DR-CH-010005				

**KEY:**

	HIGHWAY BOUNDARY
	EXISTING CONTOUR MAJOR @ 0.05m INTERVALS
	EXISTING CONTOUR MINOR @ 0.01m INTERVALS
	PROPOSED CONTOUR MAJOR @ 0.05m INTERVALS
	PROPOSED CONTOUR MINOR @ 0.01m INTERVALS



**KEY:**

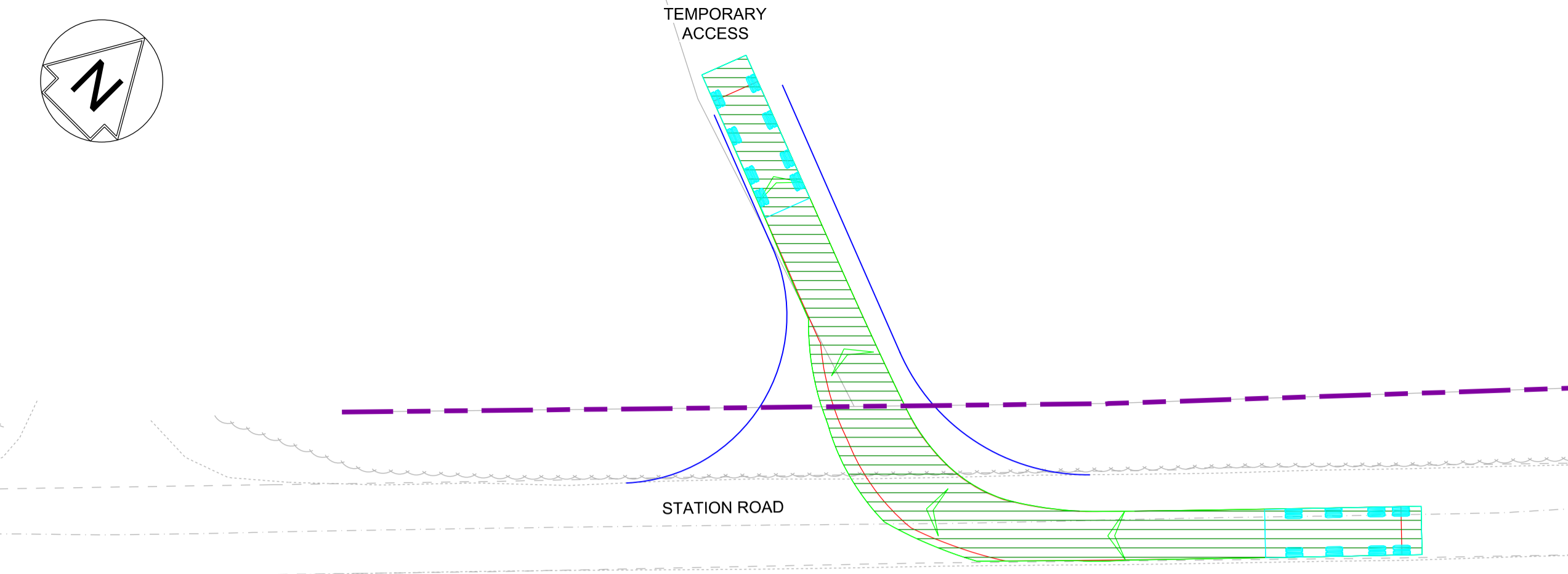
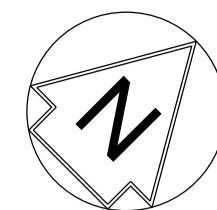
- VEHICLE TRACKING
- HIGHWAY BOUNDARY
- PROPOSED ROAD EDGE

**VEHICLE DETAILS**

HGV 40t	
OVERALL LENGTH	8.400m
OVERALL WIDTH	2.600m
OVERALL BODY HEIGHT	3.380m
MIN BODY GROUND CLEARANCE	0.363m
MAX TRACK WIDTH	2.600m
LOCK TO LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	11.550m

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SCALE 1:250  
@ A1 SHEET SIZE



**KEY:**

- VEHICLE TRACKING
- HIGHWAY BOUNDARY
- PROPOSED ROAD EDGE

**VEHICLE DETAILS**

HGV 40t	
OVERALL LENGTH	8.400m
OVERALL WIDTH	2.600m
OVERALL BODY HEIGHT	3.380m
MIN BODY GROUND CLEARANCE	0.363m
MAX TRACK WIDTH	2.600m
LOCK TO LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	11.550m

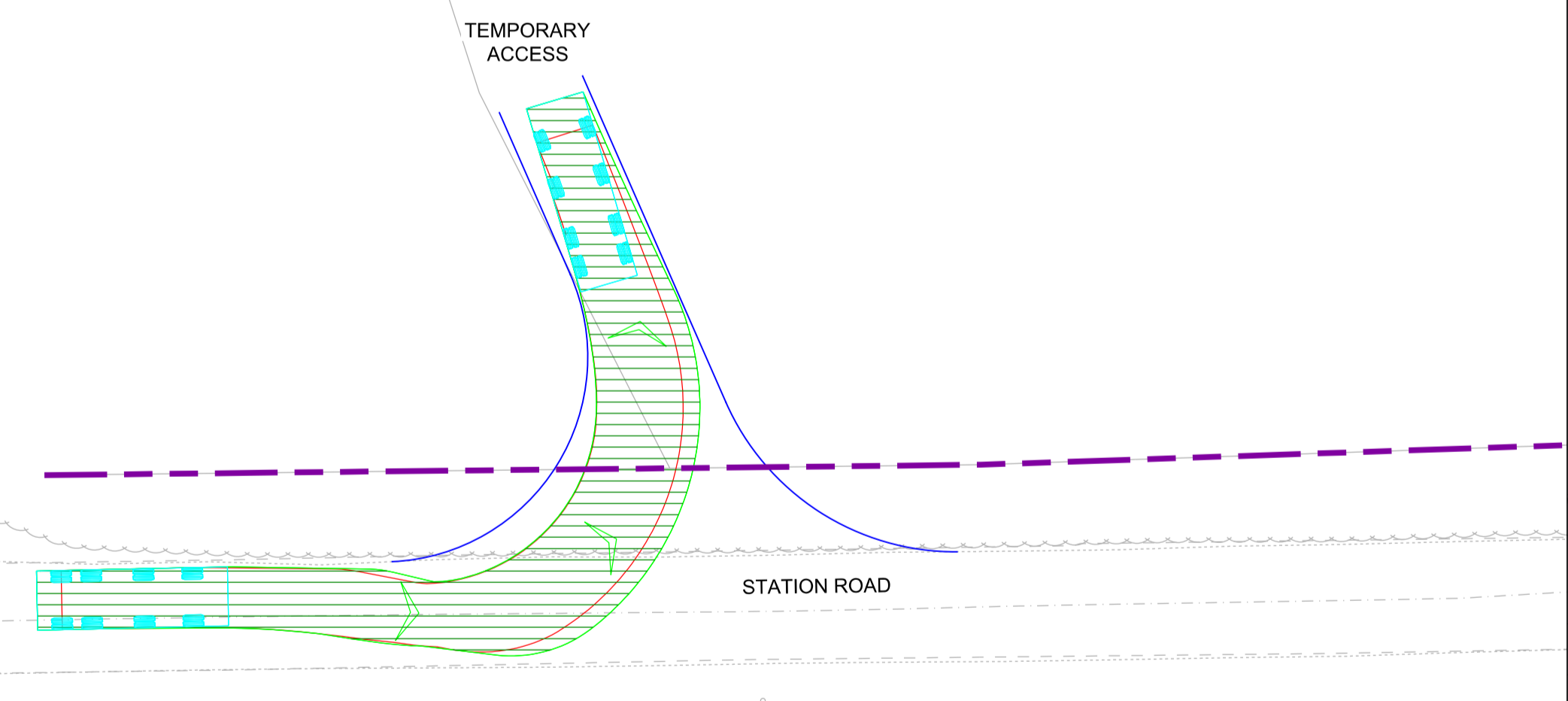
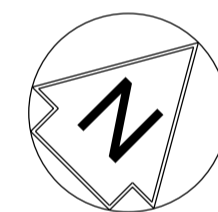
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SCALE 1:250  
@ A1 SHEET SIZE

NETWORK RAIL (EAST WEST  
RAIL WESTERN SECTION PHASE 2)

NOTES:

1. THIS DRAWING IS NOT TO BE SCALED.
2. ALL DIMENSIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
3. VEHICLE TRACKING IS UNDERTAKEN WITH COMPUTER MODELLING SOFTWARE AND IS BASED ON IDEAL SITUATIONS WHERE REAL WORLD OBSTRUCTIONS ON THE ROAD NETWORK SUCH AS PARKING OR LOADING ACTIVITY WOULD NOT HAVE BEEN FORESEEN.
4. THE MODELLING IS BASED IN 2D PLAN WHERE SWEEPED PATHS ARE INFLUENCED BY ANTICIPATED MOVEMENTS AND THEREFORE LEAD TO IDEAL APPROACH ANGLES, WHICH MIGHT NOT BE OBVIOUS IN REALITY.
5. APPROACH SPEEDS, APPROACH ANGLES, ROAD SURFACE, WEATHER CONDITIONS AND TYRE WEAR ARE ALL FACTORS THAT WILL INFLUENCE VEHICLE PATHS.



**KEY:**

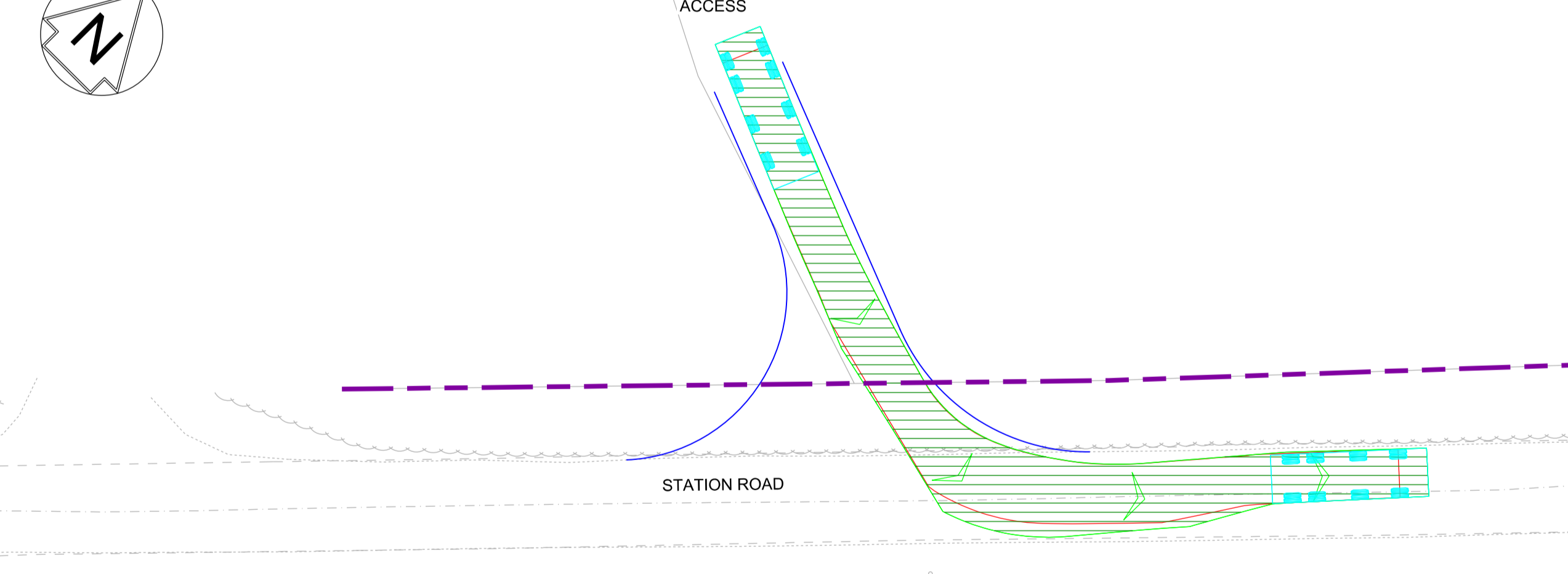
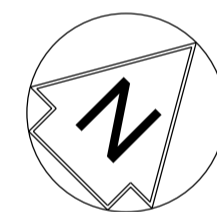
- VEHICLE TRACKING
- HIGHWAY BOUNDARY
- PROPOSED ROAD EDGE

**VEHICLE DETAILS**

HGV 40t	
OVERALL LENGTH	8.400m
OVERALL WIDTH	2.600m
OVERALL BODY HEIGHT	3.380m
MIN BODY GROUND CLEARANCE	0.363m
MAX TRACK WIDTH	2.600m
LOCK TO LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	11.550m

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SCALE 1:250  
@ A1 SHEET SIZE



**KEY:**

- VEHICLE TRACKING
- HIGHWAY BOUNDARY
- PROPOSED ROAD EDGE

**VEHICLE DETAILS**

HGV 40t	
OVERALL LENGTH	8.400m
OVERALL WIDTH	2.600m
OVERALL BODY HEIGHT	3.380m
MIN BODY GROUND CLEARANCE	0.363m
MAX TRACK WIDTH	2.600m
LOCK TO LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	11.550m

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SCALE 1:250  
@ A1 SHEET SIZE



Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION		N.T.	G.J.	S.A.
Status						S2



East West Rail  
(Western Section)  
Phase 2

OTHER ACCESS A2\_TA\_1  
VEHICLE SWEEPED PATH ANALYSIS

Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	Siama Begum	Signed	S. Begum	Date	23/08/19
Checked	Gareth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)  
1:250

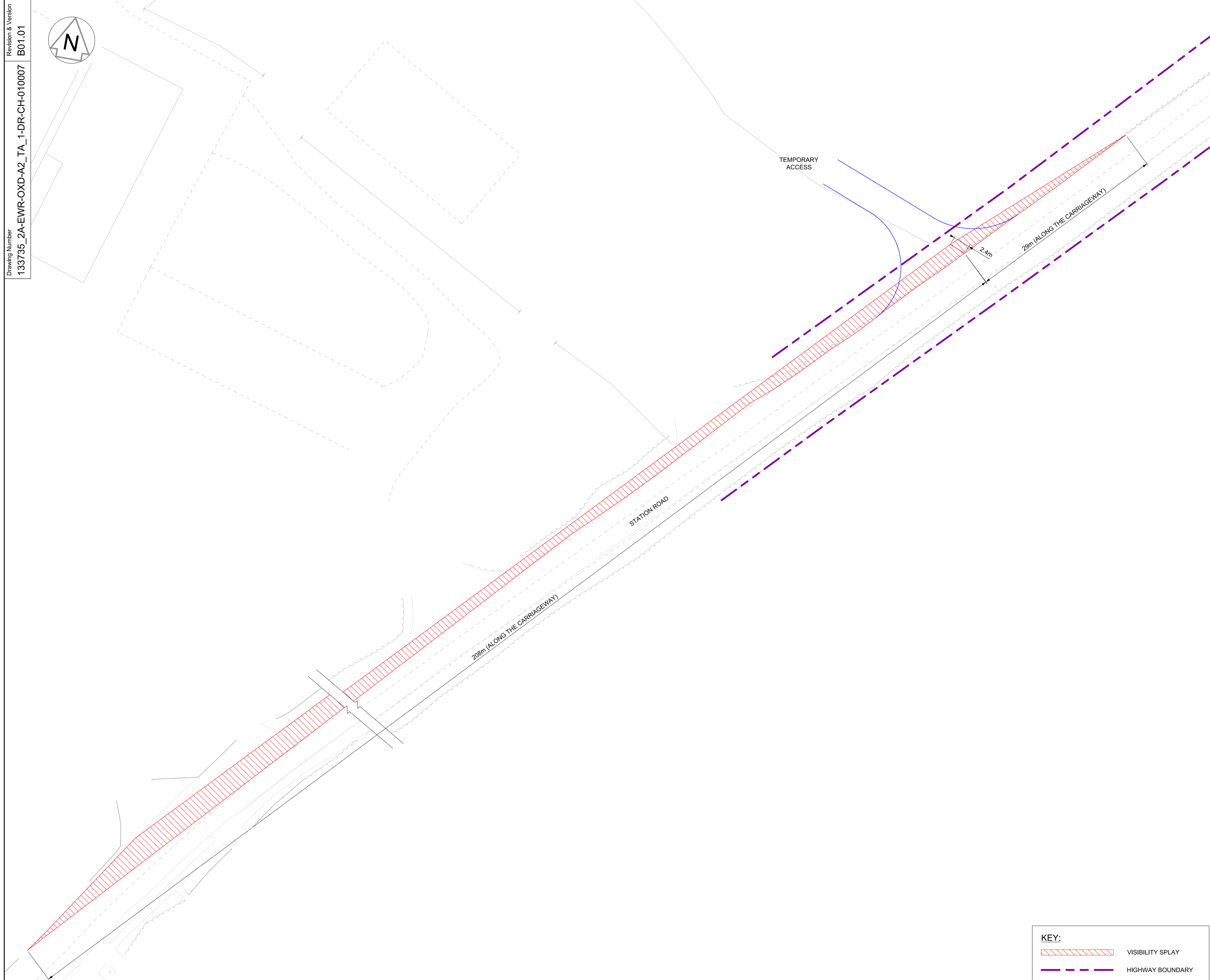
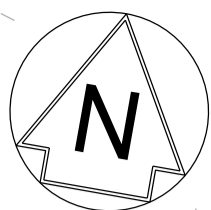
ELR - Project Chainage (Miles/Yards)  
OXD -

Design Package Risk Classification  
**Normal**

Sheet  
1 of 1

Alternative Reference  
Revision  
B01

Drawing Number  
133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010006



**NETWORK RAIL (EAST WEST RAIL WESTERN SECTION PHASE 2)**

**NOTES:**

1. THIS DRAWING IS NOT TO BE SCALED.
2. ALL DIMENSIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.
3. THE SITE TEAM NEEDS TO ASCERTAIN THE REQUIRED CLEARANCE BASED ON THE VISIBILITY SPY, INTERVISIBILITY ZONE AND OR WORKS REQUIRED FOR THIS SITE.

**DRAFT**

Rev	Date	Description of Revisions	Desd	Chkd	Appr	Suitability
B01	13/01/20	FOR INFORMATION		N.T.	G.J.	S.A
Status						SHARED - for Information
						S2



Project  
**East West Rail  
 (Western Section)  
 Phase 2**

Drawing Title  
**OTHER ACCESS A2\_TA\_1  
 VISIBILITY SPY**

Designed	Nagoth Thomas Ravi Kumar	Signed	N. T. R. Kumar	Date	10/01/20
Drawn	MuraliMohan Govarathanan	Signed	M. Govarathanan	Date	06/12/19
Checked	Garth Johnston	Signed	G. Johnston	Date	10/01/20
Approved	Stephen Abe	Signed	S. Abe	Date	10/01/20

Scale(s)	1:250	ELR - Project Chainage (Miles Yards)	OXD -
Design Package Risk Classification	Normal	Sheet	1 of 1
Alternative Reference		Revision	B01

Drawing Number  
 133735\_2A-EWR-OXD-A2\_TA\_1-DR-CH-010007

**KEY:**

	VISIBILITY SPY
	HIGHWAY BOUNDARY
	PROPOSED ROAD EDGE