

SCHEDULE OF COORDINATED ALIGNMENT POINTS

RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
	TP	207km019.703	PROPOSED UP RELIEF	338237.071	1379040.405
	TP	207km172.193	PROPOSED UP RELIEF	338177.796	1379180.904
	TRS	207km245.758	PROPOSED UP RELIEF	338148.858	1379248.536
2421.770 LEFT	CENTRE			335932.098	1378273.372
	TRS	208km212.003	PROPOSED UP RELIEF	337595.912	1380033.114

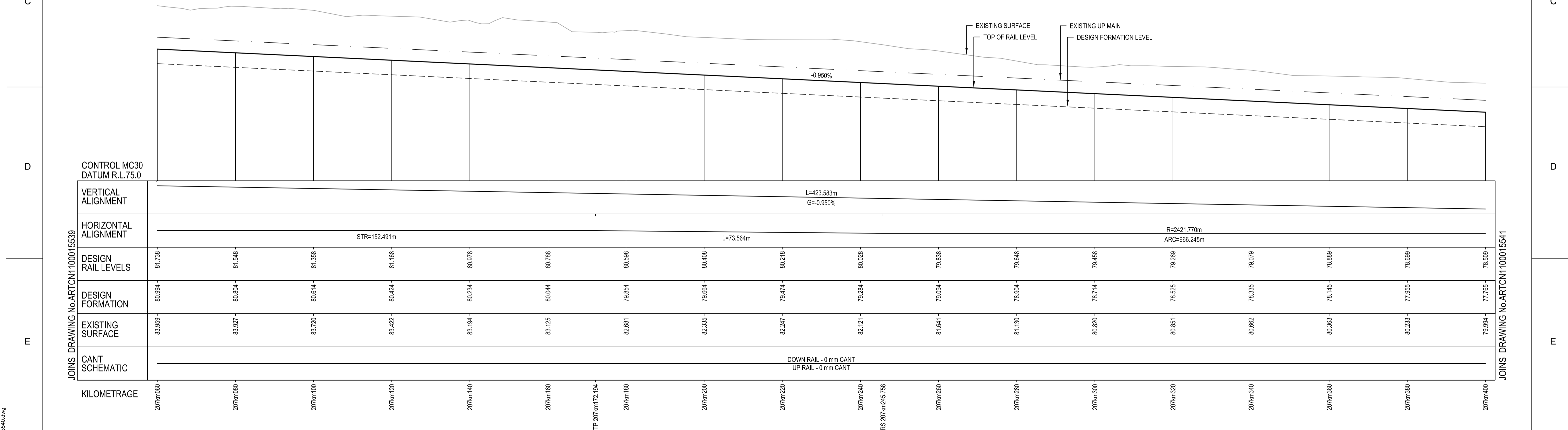
TRANSITION DETAILS

RADIUS:	2421.770m
LENGTH:	73.564m
V:	25km/h (HH)
Xc:	73.563m
Droc:	1mm/sec
M:	9.359 x 10 ⁻⁶

PLAN
SCALE 1:500

CIRCULAR CURVE DETAILS

RADIUS:	2421.770m
ARC:	966.245m
V:	25km/h (HH)
Ea:	0mm
D:	3mm
E	335932.098
N	1378273.372

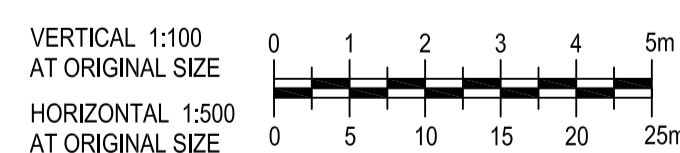


LONGITUDINAL SECTION
SCALE 1:500(H) 1:100(V)

NOTES:

- FOR GENERAL NOTES REFER TO DRG No. ARTCN1100015507.
- INDICATED TRAIN SPEEDS USED IN CALCULATIONS REFER TO MODELLED TRAIN SPEEDS. FREIGHT, PASSENGER AND XPT MAXIMUM SPEEDS COMPLY AT HIGHER RATES OF CHANGE.

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LEGEND

- PROPOSED TRACKWORK
- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK

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Used on / Next higher assembly:	H8R-DWG-S2G-TRA-2540
Alternate DMS number:	
ARTC APPROVAL Approved By:	
Signed:	
Approval Date:	06.08.10

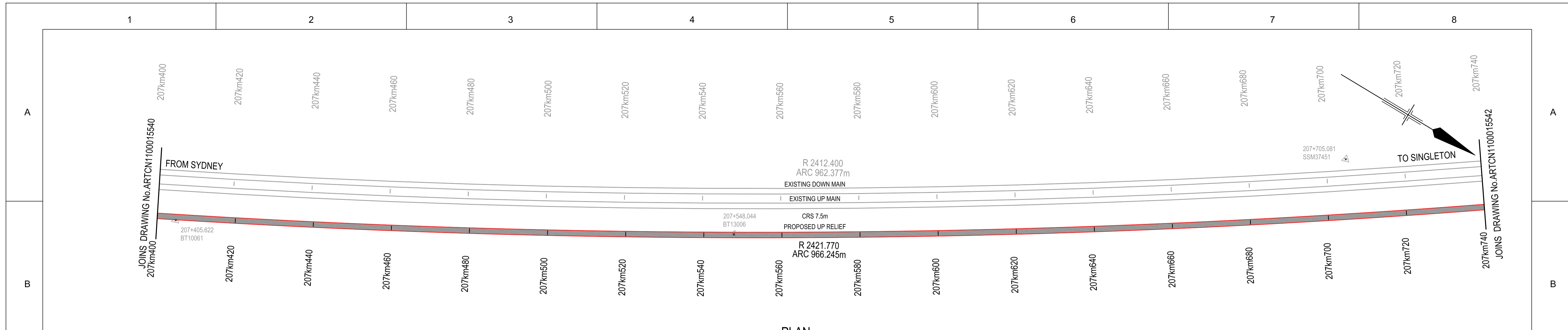
Designing Company:	GHD	Address:	Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia F 61 2 4941 2796 W www.hunter8alliance.com.au
GHD Job Number:	22-14630	Designed:	V.ALEX
Drawn:	D.CRANE	Design Check:	T.LYONS*
Drafting Check:	P.TOBIN*	Approved:	G.WICKENS*
Date:	06/08/2010	Date:	06/08/2010

Rev	Date	Revision Description	Drawn	Checked	Approved
0	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C	T.L*	G.W*

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FOR CONSTRUCTION

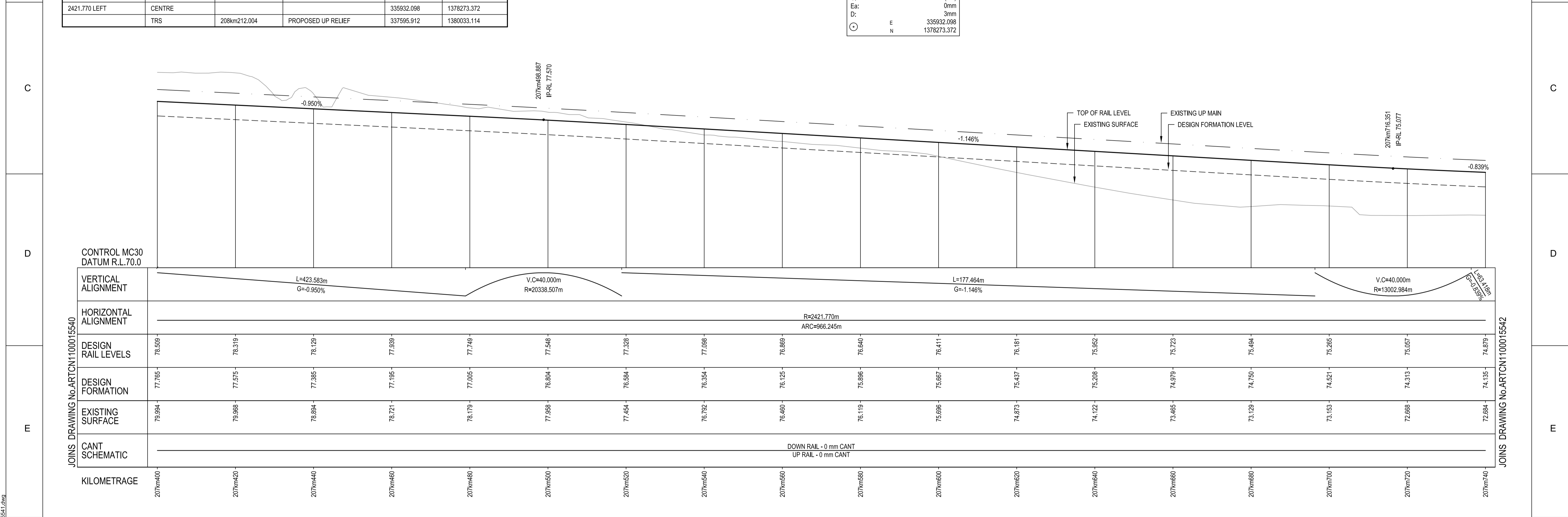
ARTC DWG NUMBER	0
ARTCN1100015540	
MAITLAND TO MINIMBAH - THIRD TRACK TRACK ALIGNMENT - UP RELIEF (PROP) 207km060 TO 207km400	
Sheet No.	34 of 67
Scale (A1): 1:500(H) 1:100(V)	



SCHEDULE OF COORDINATED ALIGNMENT POINTS					
RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
2421.770 LEFT	TRS	207km245.758	PROPOSED UP RELIEF	338148.858	1379248.536
	CENTRE			335932.098	1378273.372
	TRS	208km212.004	PROPOSED UP RELIEF	337595.912	1380033.114

PLAN
SCALE 1:500

CIRCULAR CURVE DETAILS	
RADIUS:	2421.770m
ARC:	966.245m
V:	25km/h (HH)
Ea:	0mm
D:	3mm
E	335932.098
N	1378273.372



LONGITUDINAL SECTION
SCALE 1:500(H) 1:100(V)

NOTES:

- FOR GENERAL NOTES REFER TO DRG No. ARTCN1100015507.
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FOR CONSTRUCTION

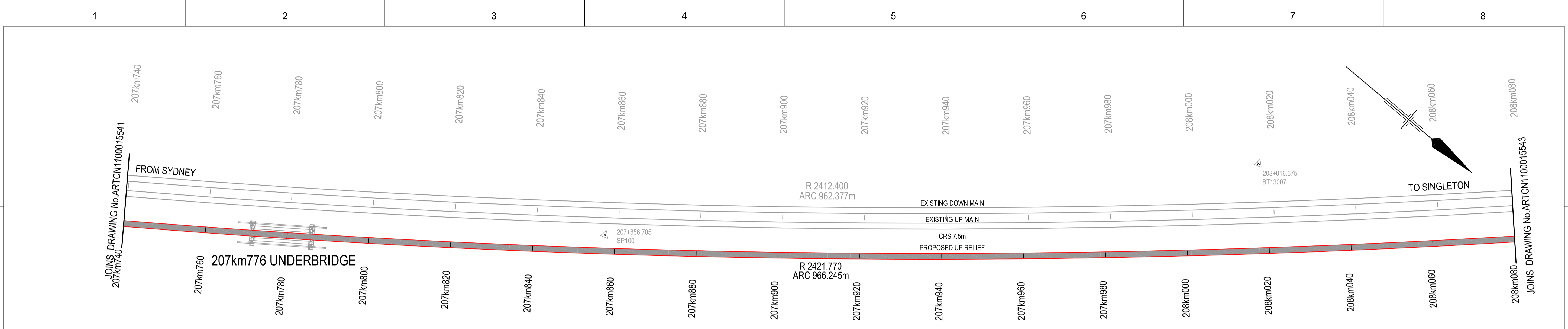
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Used on / Next higher assembly:	H8R DWG NUMBER H8R-DWG-S2G-TRA-2541
Alternate DMS number:	

ARTC APPROVAL	Approved By				
Signed:					
Approval Date	0	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C	T.L.*
Rev	Date	Revision Description		Drawn	Checked

Designing Company:	GHD	Address:	Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia F 61 2 4941 2796 W www.hunter8alliance.com.au
GHD Job Number:	22-14630	Drawn:	D.CRANE
		Designed:	V.ALEX
		Drafting Check:	P.TOBIN*
		Design Check:	T.LYONS*
Approved:	G.WICKENS*	Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	
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ARTC DWG NUMBER	0								
ARTCN1100015541									
MAITLAND TO MINIMBAH - THIRD TRACK TRACK ALIGNMENT - UP RELIEF (PROP) 207km400 TO 207km740									
								Sheet No.	35 of 67
								Scale (A1):	1:500(H) 1:100(V)

PLOT DATE: 06 August 2010 3:53 PM PLOTTED BY: DCR42
GHD FILE PATH: G:\2010\14630\Drawings\08\ARTCN1100015541.dwg

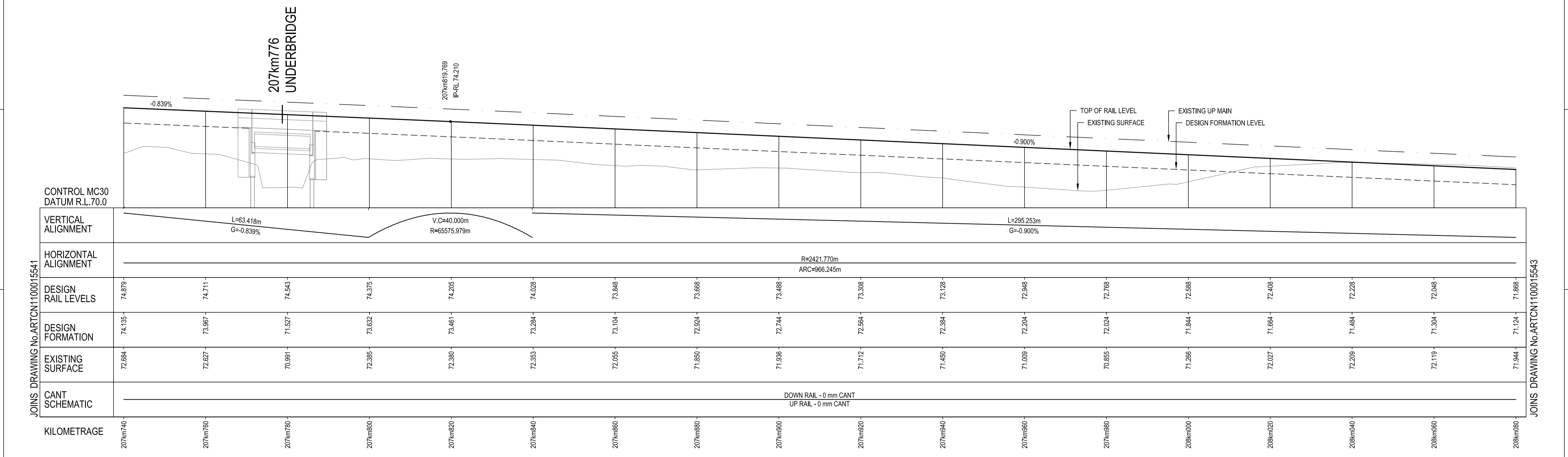


SCHEDULE OF COORDINATED ALIGNMENT POINTS					
RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
2421.770 LEFT	TRS	207km245.758	PROPOSED UP RELIEF	338148.858	1379248.536
	CENTRE			335932.098	1378273.372
	TRS	208km212.004	PROPOSED UP RELIEF	337595.912	1380033.114

PLAN
SCALE 1:500

CIRCULAR CURVE DETAILS

RADIUS:	2421.770m
ARC:	966.245m
VS:	25km/h (HH)
Ea:	0mm
D:	3mm
E	335932.098
N	1378273.372



VERTICAL ALIGNMENT	L=63.418m G=-0.839%		V.C=40.000m R=65575.979m		L=295.253m G=-0.900%	
HORIZONTAL ALIGNMENT	R=2421.770m ARC=966.245m					
DESIGN RAIL LEVELS	74.879	74.711	74.543	74.375	74.205	74.028
DESIGN FORMATION	74.135	73.987	71.527	73.652	73.461	73.284
EXISTING SURFACE	72.684	72.627	70.991	72.385	72.380	72.263
CANT SCHEMATIC	DOWN RAIL - 0 mm CANT UP RAIL - 0 mm CANT					
KILOMETRAGE	207km740	207km760	207km780	207km800	207km820	207km840

LEGEND

VERTICAL 1:100 AT ORIGINAL SIZE
HORIZONTAL 1:500 AT ORIGINAL SIZE

PROPOSED TRACKWORK
EXISTING TRACK
EXISTING TRACK TO BE REMOVED
PROPOSED TRACKWORK

- NOTES:**
- FOR GENERAL NOTES REFER TO DRG No. ARTCN1100015507.
 - INDICATED TRAIN SPEEDS USED IN CALCULATIONS REFER TO MODELLED TRAIN SPEEDS. FREIGHT, PASSENGER AND XPT MAXIMUM SPEEDS COMPLY AT HIGHER RATES OF CHANGE.

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H8R-DWG-S2G-TRA-2542

Alternate DMS number:

ARTC APPROVAL	Approved By				
Signed:					
Approval Date	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C.	T.L.*	G.W.*
Rev	Date	Revision Description	Drawn	Checked	Approved

Designing Company:
GHD
GHD Job Number:
22-14630

Address:
Level 3 GHD Tower, 24 Honesuckle Drive
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F 612 4941 2796
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Drawn
D.CRANE

Designed
V.ALEX

Drafting Check
P.TOBIN*

Design Check
T.LYONS*

Approved
G.WICKENS*

Date
06/08/2010

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ARTC DWG NUMBER 0

ARTCN1100015542

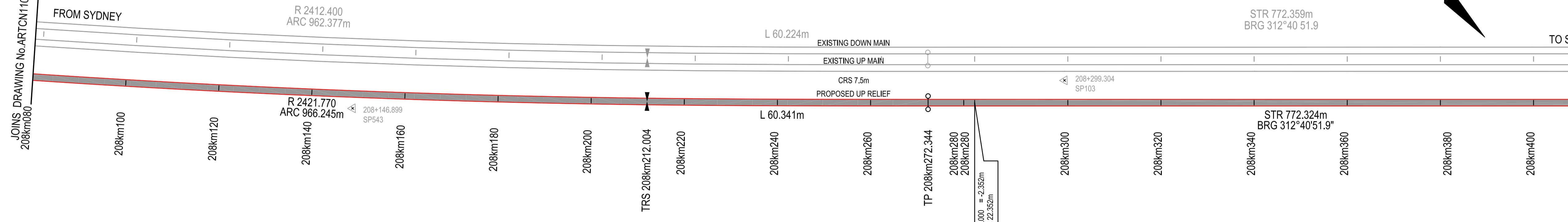
MAITLAND TO MINIMBAH - THIRD TRACK
TRACK ALIGNMENT - UP RELIEF (PROP)
207km740 TO 208km080

Sheet No.
36 of 67
Scale (A1):
1:500(H) 1:100(V)

PLOT DATE: 06 August 2010 3:54 PM PLOTTED BY: DCR42
GHD FILE PATH: G:\22\14630\Drawings\08\ARTCN1100015542.dwg

1 2 3 4 5 6 7 8

FROM SYDNEY TO SINGLETON



CIRCULAR CURVE DETAILS

RADIUS:	2421.770m
ARC:	966.245m
V:	25km/h (HH)
Ea:	0mm
D:	3mm
E	335932.098
N	1378273.372

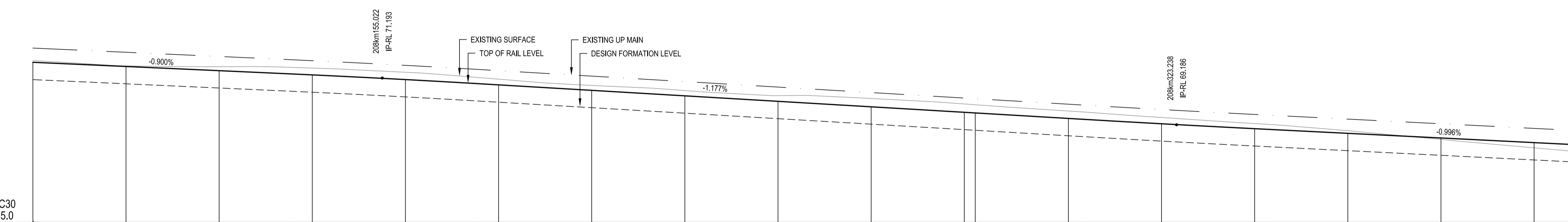
TRANSITION DETAILS

RADIUS:	2421.770m
LENGTH:	60.341m
V:	25km/h (HH)
Xc:	60.340m
Droc:	1mm/sec
M:	1.141 x 10 ⁻⁶

PLAN
SCALE 1:500

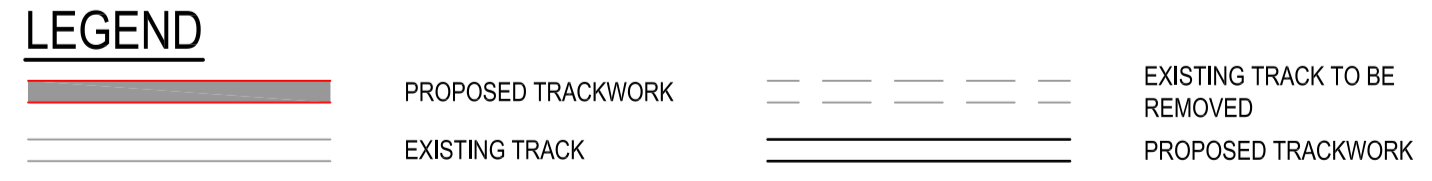
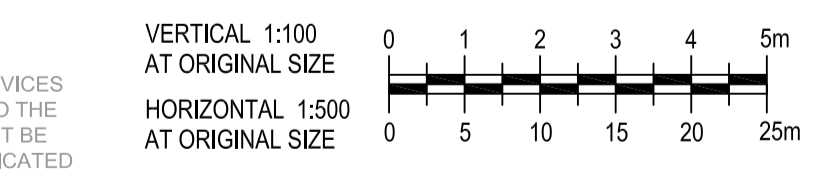
SCHEDULE OF COORDINATED ALIGNMENT POINTS

RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
	TRS	207km245.758	PROPOSED UP RELIEF	338148.858	1379248.536
2421.770 LEFT	CENTRE			335932.098	1378273.372
	TRS	208km212.004	PROPOSED UP RELIEF	337595.912	1380033.114
	TP	208km272.344	PROPOSED UP RELIEF	337551.724	1380074.203
	TP	209km042.317	PROPOSED UP RELIEF	336983.959	1380597.775



CONTROL MC30
DATUM R.L.65.0

VERTICAL ALIGNMENT	L=295.253m G=-0.900%															V.C.=40.000m R=14435.770m		L=130.568m G=-1.177%		V.C.=40.000m R=22140.818m		L=638.703m G=-0.996%	
HORIZONTAL ALIGNMENT	R=2421.770m ARC=966.245m															L=60.341m		STR=772.324m					
DESIGN RAIL LEVELS	71.868	71.688	71.508	71.328	71.147	70.967	70.787	70.607	70.427	70.247	70.067	69.887	69.707	69.527	69.347	69.167	68.987	68.807	68.627	68.447	68.267		
DESIGN FORMATION	71.124	70.944	70.764	70.584	70.404	70.224	70.044	69.864	69.684	69.504	69.324	69.144	68.964	68.784	68.604	68.424	68.244	68.064	67.884	67.704	67.524		
EXISTING SURFACE	71.944	71.764	71.584	71.404	71.224	71.044	70.864	70.684	70.504	70.324	70.144	69.964	69.784	69.604	69.424	69.244	69.064	68.884	68.704	68.524	68.344		
CANT SCHEMATIC	DOWN RAIL - 0 mm CANT UP RAIL - 0 mm CANT																						
KILOMETRAGE	208km080	208km100	208km120	208km140	208km160	208km180	208km200	208km212.004	208km220	208km240	208km260	208km272.344	208km280	208km300	208km320	208km340	208km360	208km380	208km400	208km420			



LONGITUDINAL SECTION
SCALE 1:500(H) 1:100(V)

- NOTES:**
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FOR CONSTRUCTION

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H8R-DWG-S2G-TRA-2543

Alternate DMS number:

ARTC APPROVAL	Approved By				
Signed:					
Approval Date	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C	T.L*	G.W*
Rev	Date	Revision Description	Drawn	Checked	Approved

Designing Company:
GHD
GHD Job Number:
22-14630

Address:
Level 3 GHD Tower, 24 Honeysuckle Drive
Newcastle NSW 2300 Australia
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Drawn
D.CRANE

Designed
V.ALEX

Drafting Check
P.TOBIN*

Design Check
T.LYONS*

Approved
G.WICKENS*

Date
06/08/2010

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ARTC DWG NUMBER 0

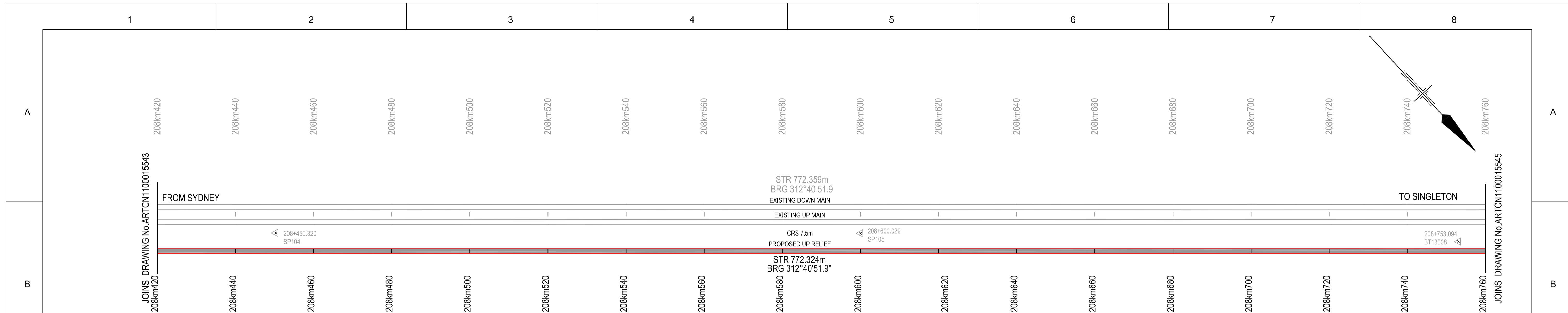
ARTCN1100015543

MAITLAND TO MINIMBAH - THIRD TRACK
TRACK ALIGNMENT - UP RELIEF (PROP)
208km080 TO 208km420

Sheet No.
37 of 67
Scale (A1):
1:500(H) 1:100(V)

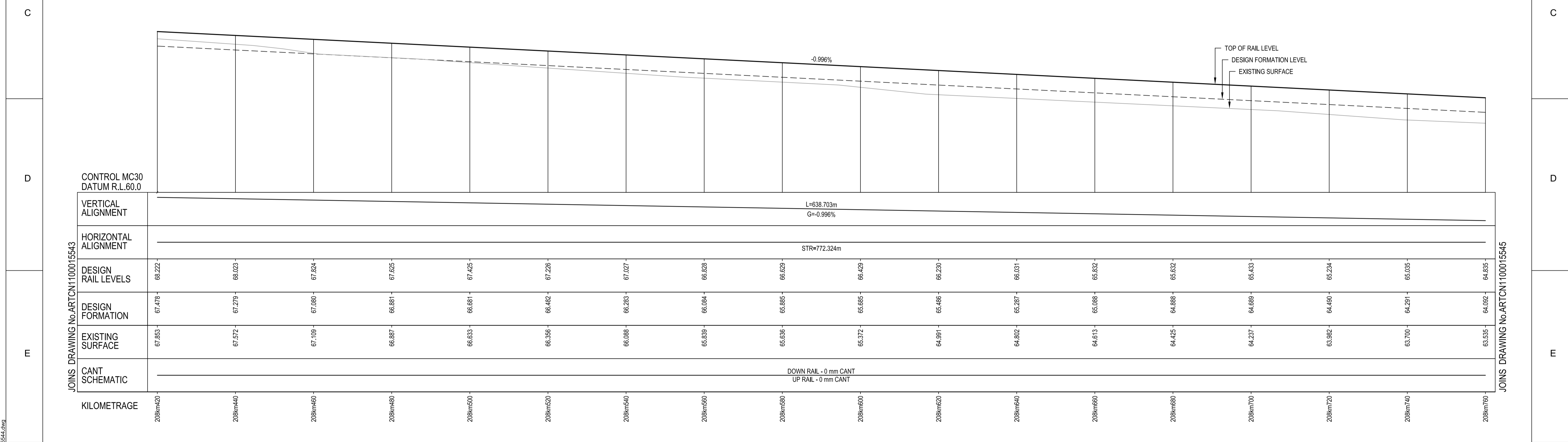
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PLOT DATE: 06 August 2010 3:54 PM PLOTTED BY: DCR42 GHD FILE PATH: G:\2010\14630\Drawings\08\ARTCN1100015543.dwg



SCHEDULE OF COORDINATED ALIGNMENT POINTS					
RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
	TP	208km272.344	PROPOSED UP RELIEF	337551.724	1380074.203
	TP	209km042.317	PROPOSED UP RELIEF	336983.959	1380597.775

PLAN
SCALE 1:500



LONGITUDINAL SECTION
SCALE 1:500(H) 1:100(V)

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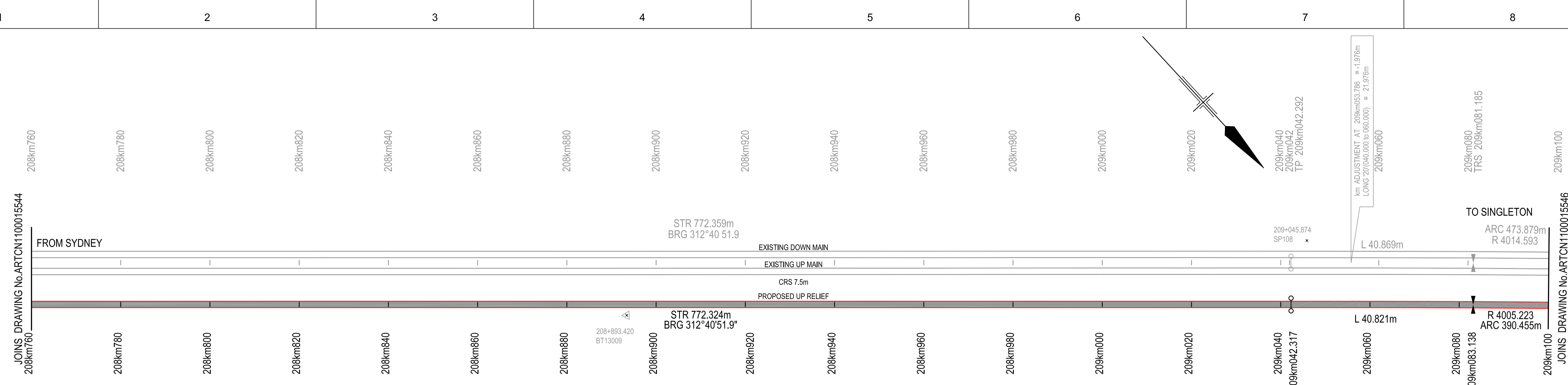
Alternate DMS number:

Rev	Date	Revision Description	Drawn	Checked	Approved
0	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C	T.L.*	G.W.*

Designing Company: GHD GHD Job Number: 22-14630	Address: Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia F 61 2 4941 2796 W www.hunteralliance.com.au
Drawn D.CRANE	Designed V.ALEX
Drafting Check P.TOBIN*	Design Check T.LYONS*
Approved G.WICKENS*	Date 06/08/2010

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ARTC DWG NUMBER 0	ARTCN1100015544
MAITLAND TO MINIMBAH - THIRD TRACK TRACK ALIGNMENT - UP RELIEF (PROP) 208km420 TO 208km760	
Sheet No. 38 of 67	Scale (A1): 1:500(H) 1:100(V)

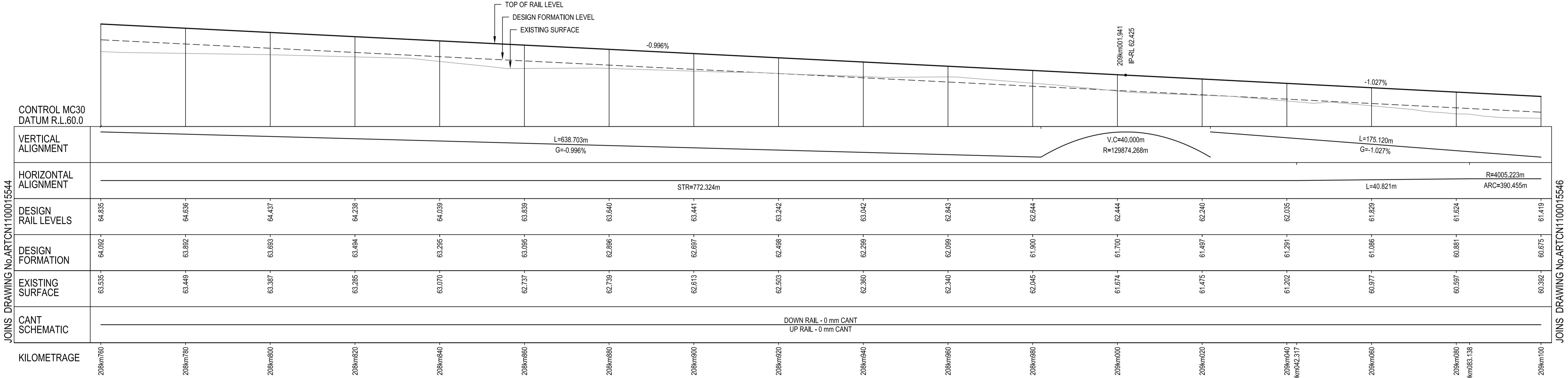


PLAN
SCALE 1:500

SCHEDULE OF COORDINATED ALIGNMENT POINTS					
RADIUS	POINT	KM	CENTRELINE	EASTING	NORTHING
	TP	208km272.344	PROPOSED UP RELIEF	337551.724	1380074.203
	TP	209km042.317	PROPOSED UP RELIEF	336983.959	1380597.775
	TRS	209km083.138	PROPOSED UP RELIEF	336953.997	1380625.499
4005.223 RIGHT	CENTRE			339684.175	1383556.017
	CTP	209km473.593	PROPOSED UP RELIEF	336681.726	1380905.148

TRANSITION DETAILS	
RADIUS:	4005.223m
LENGTH:	40.821m
V:	30km/h (HH)
Xc:	40.821m
Droc:	1mm/sec
M:	1.019 x 10 ⁻³

CIRCULAR CURVE DETAILS	
RADIUS:	4005.223m
ARC:	390.455m
V:	30km/h (HH)
Ea:	0mm
D:	3mm
E	339684.175
N	1383556.017



LONGITUDINAL SECTION
SCALE 1:500(H) 1:100(V)

- NOTES:
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 - INDICATED TRAIN SPEEDS USED IN CALCULATIONS REFER TO MODELLED TRAIN SPEEDS. FREIGHT, PASSENGER AND XPT MAXIMUM SPEEDS COMPLY AT HIGHER RATES OF CHANGE.

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Alternate DMS number:	

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0	06.08.10	ISSUED FOR CONSTRUCTION	D.J.C	T.L.*	G.W.*

Designing Company: GHD GHD Job Number: 22-14630	Address: Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia F 61 2 4941 2796 W www.hunteralliance.com.au
Drawn D.CRANE	Designed V.ALEX
Drafting Check P.TOBIN*	Design Check T.LYONS*
Approved G.WICKENS*	Date 06/08/2010

ARTC DWG NUMBER 0

ARTCN1100015545

Maitland to Minibah - Third Track
Track Alignment - Up Relief (Prop)
208km760 TO 209km100

Sheet No.
39 of 67
Scale (A1):
1:500(H) 1:100(V)

PLOT DATE: 06 August 2010 3:55 PM PLOTTED BY: DCR42
GHD FILE PATH: G:\2010\14630\Drawings\08\ARTCN1100015545.dwg