

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 310.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.15616E-05
RAMP : 1 in 833
Droc : 23.6mm/sec

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 600.000m LEFT
ARC : 49.884m
V : 45 km/hr
Ea : 0mm
D : 39.9mm

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.2
RADIUS : 315.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.12177E-05
RAMP : 1 in 833
Droc : 23.0mm/sec

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.3
RADIUS : 320.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.08846E-05
RAMP : 1 in 833
Droc : 22.4mm/sec

NOTES

1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 3

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
320.000 R	TP	346.366	CL 4ft-NCIG ARRIVAL ROAD No. 3	367 422.416	1 361 659.247
	TRS	371.366	CL 4ft-NCIG ARRIVAL ROAD No. 3	367 438.388	1 361 678.478
	CENTRE			367 679.146	1 361 467.681

LEGEND

- EXISTING TRACK
- EXISTING TRACK TO BE REMOVED
- PROPOSED STAGE 2 TRACK
- DERAILER
- DD1 DERAILER NUMBERS
- 7A PTS. POINT NUMBERS
- L LUBRICATOR



RELOCATED 33kV TRANSMISSION LINE 33032
RELOCATED 33kV TRANSMISSION LINE 3377

DOWN KOORAGANG BRANCH LINE

EXISTING DOWN KOORAGANG BRANCH LINE

EXISTING UP KOORAGANG BRANCH LINE

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.2
RADIUS : 315.000m RIGHT
ARC : 526.467m
V : 45 km/hr
Ea : 30mm
D : 46.8mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 310.000m RIGHT
ARC : 517.755m
V : 45 km/hr
Ea : 30mm
D : 47.2mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.3
RADIUS : 320.000m RIGHT
ARC : 535.263m
V : 45 km/hr
Ea : 30mm
D : 44.8mm

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 1

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
600.000 L	TP	283.45	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 388.826	1 361 605.103
	CENTRE			366 955.231	1 362 019.826
	TP	333.334	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 421.769	1 361 642.543
310.000 R	TP	346.727	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 430.191	1 361 652.957
	TRS	371.727	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 446.170	1 361 672.181
	CENTRE			367 679.146	1 361 467.677

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 2

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
315.000 R	TP	268.971	CL 4ft-NCIG ARRIVAL ROAD No. 2	367 377.537	1 361 595.799
	TP	346.525	CL 4ft-NCIG ARRIVAL ROAD No. 2	367 426.303	1 361 656.102
	TRS	371.525	CL 4ft-NCIG ARRIVAL ROAD No. 2	367 442.279	1 361 675.330
	CENTRE			367 679.146	1 361 467.679

KEY PLAN
NTS

SCALE 1:500

PRELIMINARY
NOT FOR CONSTRUCTION

Rev.	Date	Revision Details	Drn	Ver.	App.
A6	05/06/12	CLIENT AMENDMENTS	NS		
A5	27/04/12	UP KOORAGANG BRANCH LINE ALIGNMENT REVISED	NS		
A4	17/01/12	VERIFICATION COMPLETE	NS		
A3	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED	NS		
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		

aurecon HATCH
Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9465 5599
110 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9465 5598
New South Wales 2088 Australia Email: NCIGStage2@aureconhatch.com

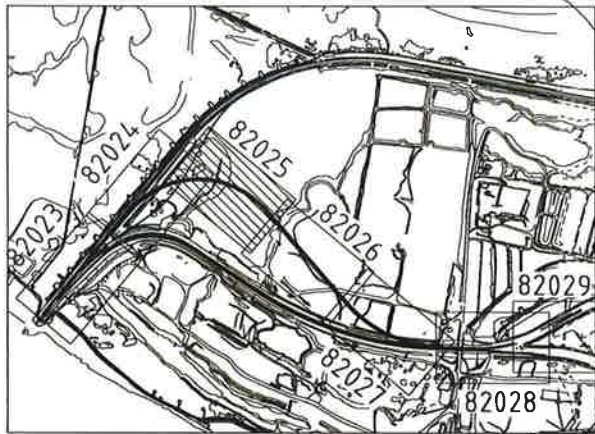
Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
SETOUT PLAN - SHEET 2 OF 7

Project No.	H337400	Sheet Size	A1
Scale	1:500	Rev.	A6
Drawing No.	HW03-01-R-82024		

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 3					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
320.000 R	CENTRE			367 679.146	1 361 467.681
	TRS	906.588	CL 4ft-NCIG ARRIVAL ROAD No. 3	367 913.313	1 361 685.778
	TP	931.588	CL 4ft-NCIG ARRIVAL ROAD No. 3	367 929.868	1 361 667.046



KEY PLAN
NTS

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 310.000m RIGHT
ARC : 517.755m
V : 45 km/hr
Ea : 30mm
D : 47.2mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.2
RADIUS : 315.000m RIGHT
ARC : 526.467m
V : 45 km/hr
Ea : 30mm
D : 46.0mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.3
RADIUS : 320.000m RIGHT
ARC : 535.263m
V : 45 km/hr
Ea : 30mm
D : 44.8mm

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 310.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.15616E-05
RAMP : 1 in 833
Droc : 23.6mm/sec

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.2
RADIUS : 315.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.12177E-05
RAMP : 1 in 833
Droc : 23.0mm/sec

TRANSITION DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.3
RADIUS : 320.000mm RIGHT
L : 25.000
Xc : 24.996
m : 2.08846E-05
RAMP : 1 in 833
Droc : 22.4mm/sec

NOTES

1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

LEGEND

- EXISTING TRACK
- EXISTING TRACK TO BE REMOVED
- PROPOSED STAGE 2 TRACK
- DERAILER
- DD1 DERAILER NUMBERS
- 7A PTS. POINT NUMBERS
- L LUBRICATOR

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 1						SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 2					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES		CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH					EAST	NORTH
310.000 R	CENTRE			367 679.146	1 361 467.677	315.000 R	CENTRE			367 679.146	1 361 467.679
	TRS	889.439	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 905.728	1 361 679.245		TRS	897.992	CL 4ft-NCIG ARRIVAL ROAD No. 2	367 909.520	1 361 682.511
	TP	914.439	CL 4ft-NCIG ARRIVAL ROAD No. 1	367 922.290	1 361 660.521		TP	922.992	CL 4ft-NCIG ARRIVAL ROAD No. 2	367 926.079	1 361 663.784

ADJOINS DRAWING HW03-01-R-82024

Rev.	Date	Revision Details	Drn	Ver.	App.
A6	05/06/12	CLIENT AMENDMENTS		NS	
A5	27/04/12	UP KODRAGANG BRANCH LINE ALIGNMENT REVISED		NS	
A4	17/01/12	VERIFICATION COMPLETE		NS	
A3	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED		NS	
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED		NS	
A1	06/09/11	PRELIMINARY ISSUE		NS	

aurecon HATCH

Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 8485 5589
116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 8485 5580
New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com

A person using Aurecon Hatch drawings and other data accepts the risk of:
1. Using the drawings and other data in violation of the conditions of use.
2. Using the drawings and other data for any purpose not agreed to in writing by Aurecon Hatch.

Client:

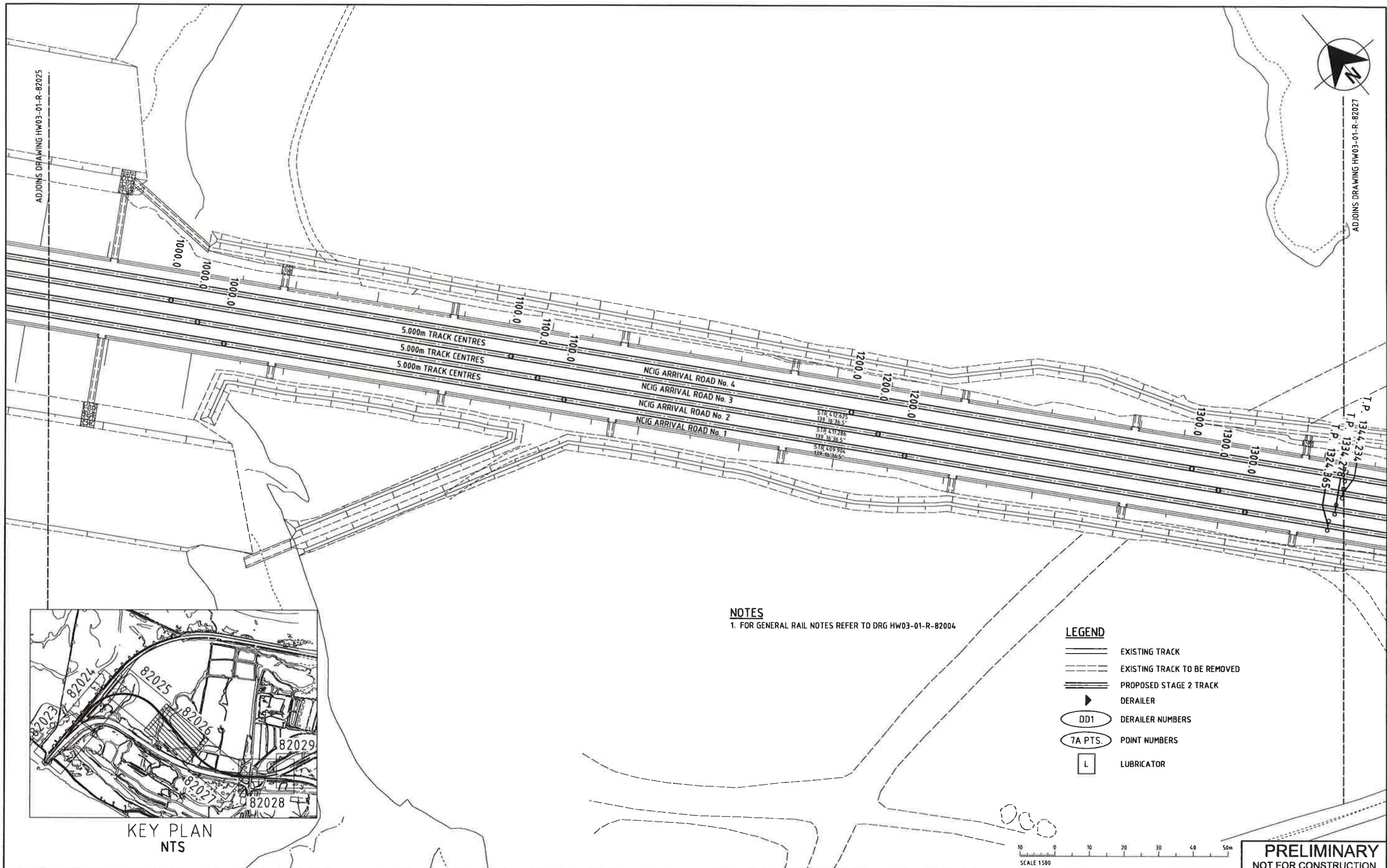
Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

10 0 10 20 30 40 50m
SCALE 1:500

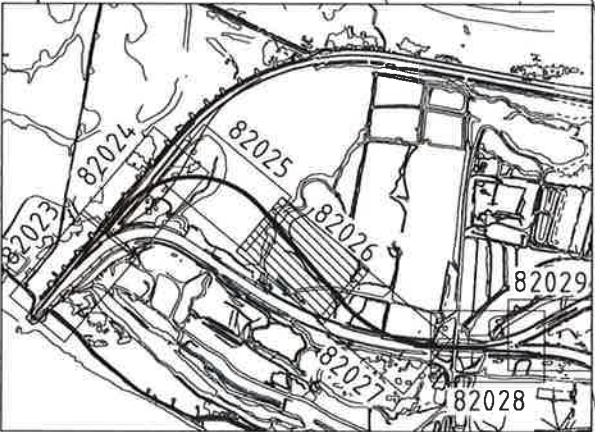
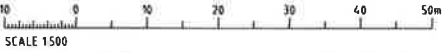
NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
SETOUT PLAN - SHEET 3 OF 7

PRELIMINARY NOT FOR CONSTRUCTION	
Project No. H337400	Sheet Size A1
Scale 1:500	Rev. A6
Drawing No. HW03-01-R-82025	



NOTES
1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

- LEGEND**
- EXISTING TRACK
 - EXISTING TRACK TO BE REMOVED
 - PROPOSED STAGE 2 TRACK
 - DERAILER
 - DD1 DERAILER NUMBERS
 - 7A PTS. POINT NUMBERS
 - L LUBRICATOR



KEY PLAN
NTS

Rev.	Date	Revision Details	Drn	Ver.	App.
A4	05/06/12	CLIENT AMENDMENTS		NS	
A3	17/01/12	VERIFICATION COMPLETE		NS	
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED		NS	
A1	06/09/11	PRELIMINARY ISSUE		NS	

Aurecon Hatch ABN 21 645 421 651 Telephone: +61 2 9465 5599
116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9465 5598
New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com

A person using Aurecon Hatch drawings and other data accepts the risk of:
1. Using the drawings and other data in a manner not intended by Aurecon Hatch;
2. Using the drawings or other data for any purpose not agreed to in writing by Aurecon Hatch.

Client:

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
SETOUT PLAN - SHEET 4 OF 7

PRELIMINARY
NOT FOR CONSTRUCTION

Project No. H337400

Scale 1:500	Sheet Size A1
Drawing No. HW03-01-R-82026	Rev. A4

ADJOINS DRAWING HW03-01-R-82026

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 3					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
435.500 L	TP	1344.234	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 199.080	1 361 354.315
	TRS	1369.234	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 215.570	1 361 335.526
	CENTRE			368 537.325	1 361 629.012
	TRS	1704.336	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 510.407	1 361 194.344
	TP	1729.336	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 535.383	1 361 193.277

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 2					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
440.500 L	TP	1334.278	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 194.404	1 361 352.083
	TRS	1359.278	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 210.892	1 361 333.292
	CENTRE			368 536.438	1 361 630.041
	TRS	1698.515	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 509.355	1 361 190.374
	TP	1723.515	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 534.331	1 361 189.310

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 1					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
445.500 L	TP	1324.365	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 189.728	1 361 349.051
	TRS	1349.365	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 206.214	1 361 331.058
	CENTRE			368 535.551	1 361 631.070
	TRS	1692.737	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 508.302	1 361 186.404
	TP	1717.737	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 533.279	1 361 185.342

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 3
RADIUS : 435.500mm LEFT
L : 25.000
Xc : 24.998
m : 153283E-05
RAMP : 1 in 1000
Droc : 15.0mm/sec

CIRCULAR CURVE DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 3
RADIUS : 435.500m LEFT
ARC : 335.102m
V : 45 km/hr
Ea : 25mm
D : 30.0mm

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 2
RADIUS : 440.500mm LEFT
L : 25.000
Xc : 24.998
m : 151539E-05
RAMP : 1 in 1000
Droc : 14.7mm/sec

CIRCULAR CURVE DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 2
RADIUS : 440.500m LEFT
ARC : 339.237m
V : 45 km/hr
Ea : 25mm
D : 29.3mm

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 1
RADIUS : 445.500mm LEFT
L : 25.000
Xc : 24.998
m : 149834E-05
RAMP : 1 in 1000
Droc : 14.4mm/sec

CIRCULAR CURVE DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 1
RADIUS : 445.500m LEFT
ARC : 343.372m
V : 45 km/hr
Ea : 25mm
D : 28.7mm

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 3
RADIUS : 435.500mm LEFT
L : 25.000
Xc : 24.998
m : 153283E-05
RAMP : 1 in 1000
Droc : 15.0mm/sec

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 2
RADIUS : 440.500mm LEFT
L : 25.000
Xc : 24.998
m : 151539E-05
RAMP : 1 in 1000
Droc : 14.7mm/sec

TRANSITION DETAILS
C/L 4ft NCIG ARRIVAL ROAD No. 1
RADIUS : 445.500mm LEFT
L : 25.000
Xc : 24.998
m : 149834E-05
RAMP : 1 in 1000
Droc : 14.4mm/sec

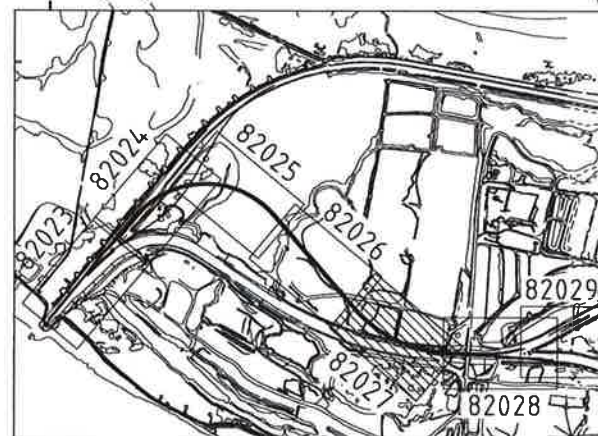
CIRCULAR CURVE DETAILS
C/L 4ft NCIG DEPARTURE ROAD No. 1
RADIUS : 453.500m RIGHT
ARC : 22.277m
V : 30 km/hr
Ea : 0mm
D : 23.5mm

CIRCULAR CURVE DETAILS
C/L 4ft NCIG DEPARTURE ROAD No. 3
RADIUS : 449.500m RIGHT
ARC : 92.755m
V : 30 km/hr
Ea : 0mm
D : 23.7mm

CIRCULAR CURVE DETAILS
C/L 4ft NCIG DEPARTURE ROAD No. 3
RADIUS : 500.000m LEFT
ARC : 28.553m
V : 30 km/hr
Ea : 0mm
D : 21.3mm

NOTES
1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

LEGEND
EXISTING TRACK
EXISTING TRACK TO BE REMOVED
PROPOSED STAGE 2 TRACK
DERAILER
DD1 DERAILER NUMBERS
7A PTS. POINT NUMBERS
L LUBRICATOR



KEY PLAN
NTS

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG DEPARTURE ROAD No. 3					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
449.500 R	TP	4 654.078	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 520.638	1 361 181.759
	CENTRE			368 535.524	1 361 631.013
	TP	4 746.833	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 428.906	1 361 194.340
500.000 L	TP	4 776.557	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 400.030	1 361 201.390
	CENTRE			368 281.435	1 360 715.659
	TP	4 805.110	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 372.114	1 361 207.367
	TP	4 836.747	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 341.002	1 361 213.105

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG DEPARTURE ROAD No. 1					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
453.500 R	TP	4 653.927	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 520.506	1 361 177.761
	CENTRE			368 535.524	1 361 631.014
	TP	4 676.204	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 498.268	1 361 179.045
	TP	4 715.390	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 459.215	1 361 182.265

SCALE 1:500

PRELIMINARY
NOT FOR CONSTRUCTION

Rev.	Date	Revision Details	Drn	Ver.	App.
A6	05/06/12	CLIENT AMENDMENTS			
A5	28/04/12	NCIG DEPARTURE ROADS CHAINAGES AMENDED			
A4	17/01/12	VERIFICATION COMPLETE			
A3	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED			
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED			
A1	06/09/11	PRELIMINARY ISSUE			

aurecon HATCH
Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9485 5589
116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9485 5588
New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com

a person using Aurecon Hatch drawings and other data accepts the risk of:
1. Using the drawings and other data in electronic form without requesting and checking them for accuracy against the original hard copy version.
2. Using the drawings or other data for any purpose not agreed to in writing by Aurecon Hatch.

Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
SETOUT PLAN - SHEET 5 OF 7

Project No.	H337400
Scale	1:500
Drawing No.	HW03-01-R-82027
Sheet Size	A1
Rev.	A6

TURNOUT DETAILS									
No.	Description	T/O Length	M/L Geometry	T/O Geometry	Cal No.	Xing Rate	Switch	Xing Min. Type	Rating
26B PTS	Conventional RH	25.731	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBM	60
27A PTS	Conventional RH	25.731	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBM	60
29A PTS	Conventional RH	25.731	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBM	60

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 2					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
435.000 L	TP	1845.162	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 655.911	1361 185.281
	CENTRE			368 670.316	1361 620.043
	CTP	1983.280	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 792.366	1361 202.516
SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 1					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
424.998 L	TP	1845.723	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 661.195	1361 181.104
	CENTRE			368 675.269	1361 605.869
	CTP	1990.107	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 803.544	1361 200.692

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG DEPARTURE ROAD No. 3					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
248.410 R	TP	4 354.027	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 820.265	1361 168.830
	CENTRE			368 828.492	1361 417.103
	TP	4 377.614	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 796.764	1361 170.728
300.000 L	TP	4 393.748	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 780.762	1361 172.789
	CENTRE			368 742.445	1360 875.246
	TP	4 422.234	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 752.379	1361 175.081
1004.000 L	TP	4 438.656	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 735.966	1361 175.625
	CENTRE			368 702.718	1360 172.176
	TP	4 459.226	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 715.402	1361 176.096
996.000 R	TP	4 487.550	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 687.080	1361 176.453
	CENTRE			368 699.663	1362 172.374
	TP	4 507.956	CL 4ft-NCIG DEPARTURE ROAD No. 3	368 666.680	1361 176.920

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.2
 RADIUS : 435.000m LEFT
 ARC : 138.119m
 V : 30 km/hr
 Ea : 0mm
 D : 24.5mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
 RADIUS : 424.998m LEFT
 ARC : 164.384m
 V : 30 km/hr
 Ea : 0mm
 D : 25.0mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG DEPARTURE ROAD No.3
 RADIUS : 996.000m RIGHT
 ARC : 20.406m
 V : 30 km/hr
 Ea : 0mm
 D : 10.7mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG DEPARTURE ROAD No.1
 RADIUS : 1000.000m RIGHT
 ARC : 20.488m
 V : 30 km/hr
 Ea : 0mm
 D : 10.6mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG DEPARTURE ROAD No.3
 RADIUS : 1004.000m LEFT
 ARC : 20.510m
 V : 30 km/hr
 Ea : 0mm
 D : 10.6mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG DEPARTURE ROAD No.3
 RADIUS : 300.000m LEFT
 ARC : 28.486m
 V : 30 km/hr
 Ea : 0mm
 D : 35.6mm

CIRCULAR CURVE DETAILS

C/L 4ft NCIG DEPARTURE ROAD No.1
 RADIUS : 1000.000m LEFT
 ARC : 20.488m
 V : 30 km/hr
 Ea : 0mm
 D : 10.6mm

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG DEPARTURE ROAD No. 1					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
1000.000 L	TP	4 350.701	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 823.590	1361 168.720
	TP	4 354.027	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 820.265	1361 168.830
	TP	4 438.505	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 735.834	1361 171.627
1000.000 R	CENTRE			368 702.718	1360 172.176
	TP	4 458.993	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 715.352	1361 172.096
	TP	4 487.318	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 687.029	1361 172.454
1000.000 R	CENTRE			368 699.663	1362 172.374
	TP	4 507.805	CL 4ft-NCIG DEPARTURE ROAD No. 1	368 666.547	1361 172.922

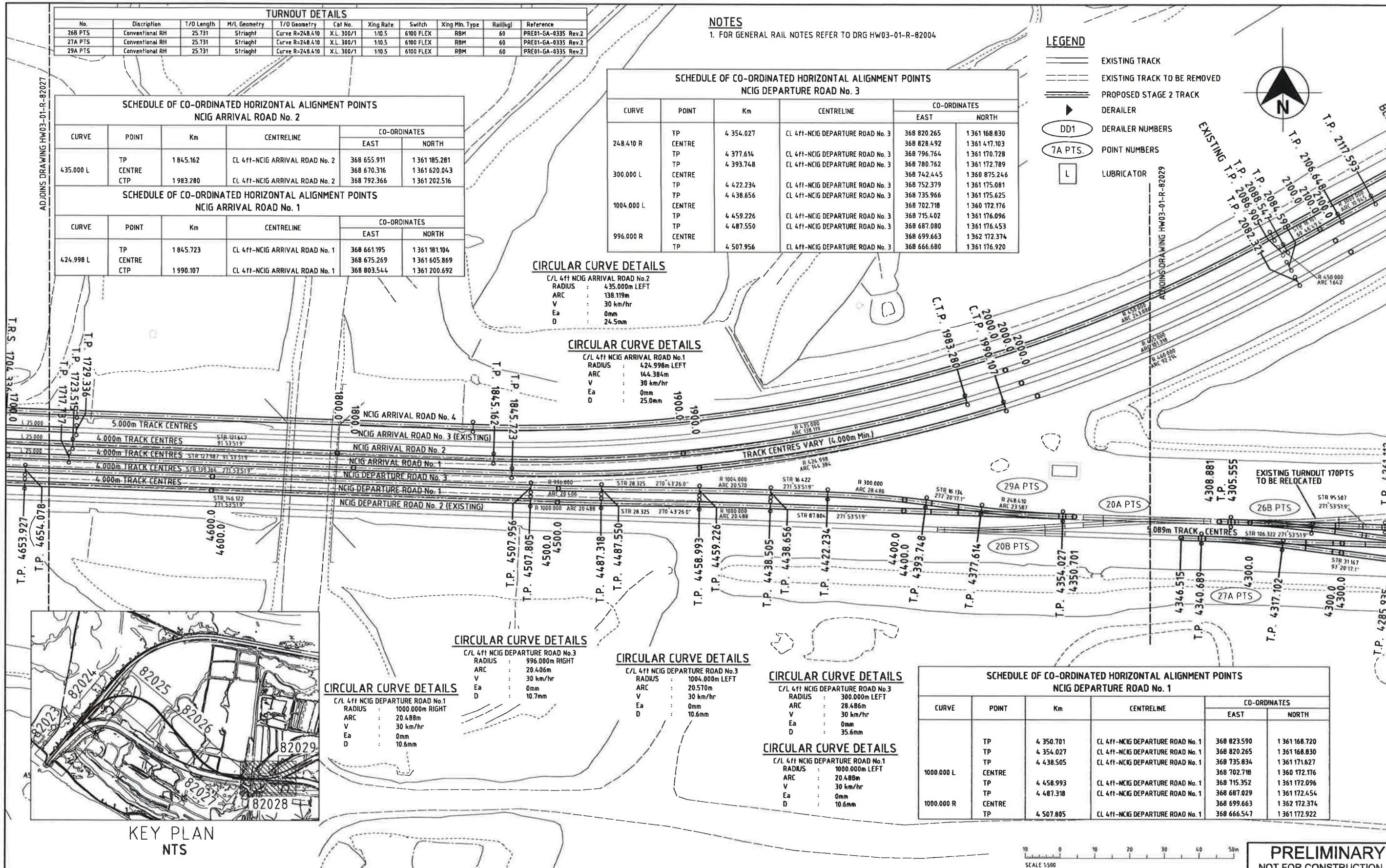
NOTES

1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

LEGEND

- EXISTING TRACK
- EXISTING TRACK TO BE REMOVED
- PROPOSED STAGE 2 TRACK
- DERAILER
- DERAILER NUMBERS
- POINT NUMBERS
- LUBRICATOR

DD1
 7A PTS.
 L



KEY PLAN
 NTS

SCALE 1:500

PRELIMINARY
 NOT FOR CONSTRUCTION

Rev.	Date	Revision Details	Drn	Ver.	App.
	05/06/12	CLIENT AMENDMENTS		NS	
A4	28/04/12	NCIG DEPARTURE ROADS LAYOUT REVISED		NS	
A3	17/01/12	VERIFICATION COMPLETE		NS	
A2	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED		NS	
A1	06/09/11	PRELIMINARY ISSUE		NS	

aurecon HATCH

Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9405 6599
 116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9485 6598
 New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com

A person using Aurecon Hatch drawings and other data accepts the risk of:
 1. Using the drawings and other data for purposes not intended by Aurecon Hatch.
 2. Using the drawings and other data for any purpose not intended by Aurecon Hatch.

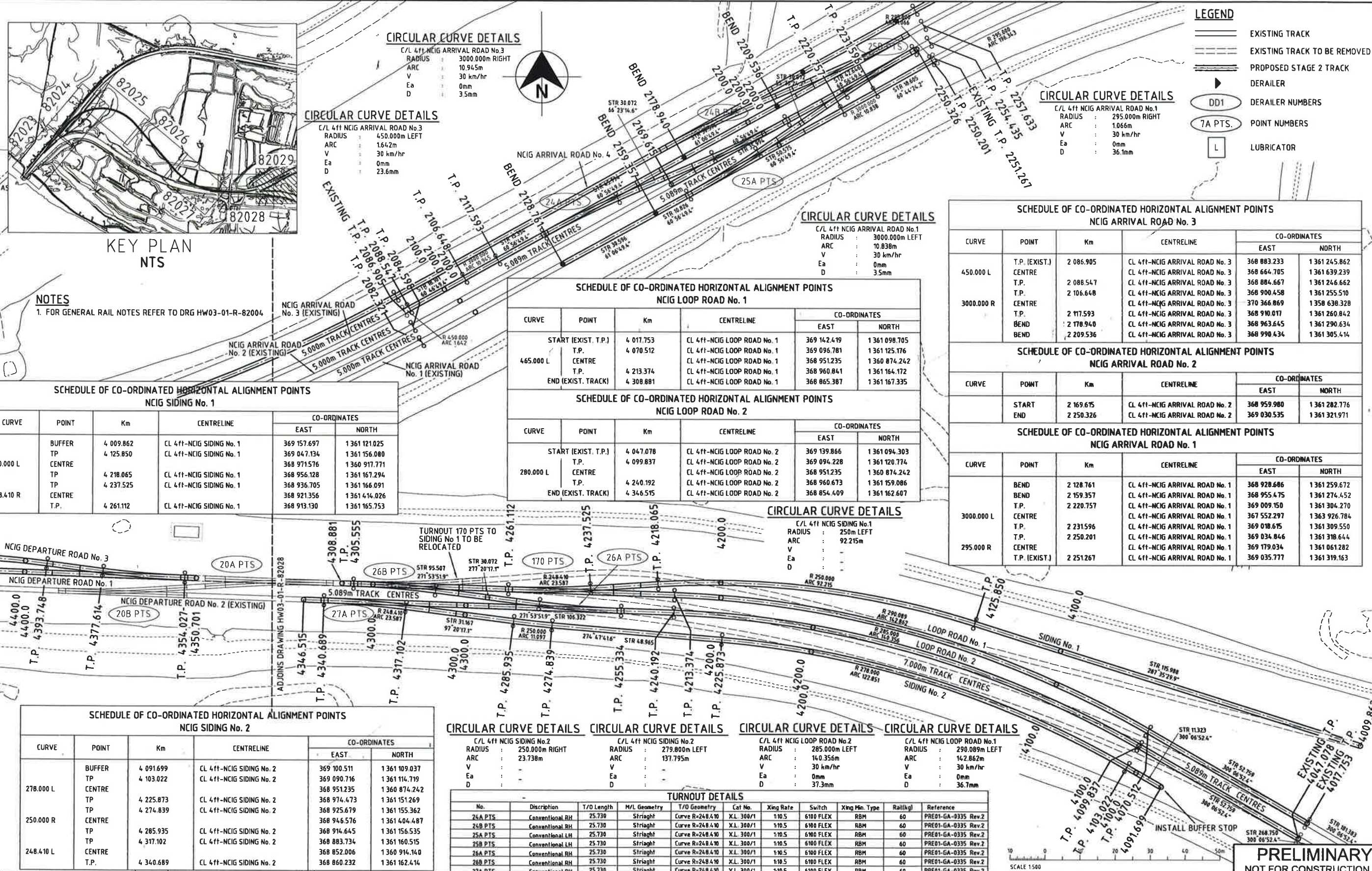
Client:

Newcastle Coal
 INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
 RAIL AREA
 NCIG ARRIVAL ROADS
 SETOUT PLAN - SHEET 6 OF 7

Project No.	H337400
Scale	1:500
Drawing No.	HW03-01-R-82028
Sheet Size	A1
Rev.	A5



LEGEND

- EXISTING TRACK
- EXISTING TRACK TO BE REMOVED
- PROPOSED STAGE 2 TRACK
- DERAILER
- DERAILER NUMBERS
- POINT NUMBERS
- LUBRICATOR

CIRCULAR CURVE DETAILS

C/L 4ft NCIG ARRIVAL ROAD No.1
RADIUS : 295.000m RIGHT
ARC : 1.066m
V : 30 km/hr
Ea : 0mm
D : 36.1mm

KEY PLAN NTS

NOTES
1. FOR GENERAL RAIL NOTES REFER TO DRG HW03-01-R-82004

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG SIDING No. 1

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
250.000 L	BUFFER	4 009.862	CL 4ft-NCIG SIDING No. 1	369 157.697	1 361 121.025
	TP	4 125.850	CL 4ft-NCIG SIDING No. 1	369 047.134	1 361 156.080
	CENTRE		CL 4ft-NCIG SIDING No. 1	368 971.576	1 360 917.771
	TP	4 218.065	CL 4ft-NCIG SIDING No. 1	368 956.128	1 361 167.294
248.410 R	TP	4 237.525	CL 4ft-NCIG SIDING No. 1	368 936.705	1 361 166.091
	CENTRE		CL 4ft-NCIG SIDING No. 1	368 921.356	1 361 414.026
	TP	4 261.112	CL 4ft-NCIG SIDING No. 1	368 913.130	1 361 165.753

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS					
NCIG LOOP ROAD No. 1					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
465.000 L	START (EXIST. T.P.)	4 017.753	CL 4ft-NCIG LOOP ROAD No. 1	369 142.419	1 361 098.705
	T.P.	4 070.512	CL 4ft-NCIG LOOP ROAD No. 1	369 095.781	1 361 125.176
	CENTRE		CL 4ft-NCIG LOOP ROAD No. 1	368 951.235	1 360 874.242
	T.P.	4 213.374	CL 4ft-NCIG LOOP ROAD No. 1	368 960.841	1 361 164.172
	END (EXIST. TRACK)	4 308.881	CL 4ft-NCIG LOOP ROAD No. 1	368 865.387	1 361 167.335

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG LOOP ROAD No. 2					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
280.000 L	START (EXIST. T.P.)	4 047.078	CL 4 ft-NCIG LOOP ROAD No. 2	369 139.866	1 361 094.303
	T.P.	4 099.837	CL 4 ft-NCIG LOOP ROAD No. 2	369 094.228	1 361 120.774
	CENTRE		CL 4 ft-NCIG LOOP ROAD No. 2	368 951.235	1 360 874.242
	T.P.	4 240.192	CL 4 ft-NCIG LOOP ROAD No. 2	368 960.673	1 361 159.086
	END (EXIST. TRACK)	4 346.515	CL 4 ft-NCIG LOOP ROAD No. 2	368 854.409	1 361 162.607

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 3

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
450.000 L	T.P. (EXIST.)	2 086.905	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 883.233	1 361 245.862
	CENTRE		CL 4ft-NCIG ARRIVAL ROAD No. 3	368 664.705	1 361 639.239
	TP	2 088.547	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 884.667	1 361 246.662
	T.P.	2 106.648	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 900.458	1 361 255.510
3000.000 R	CENTRE		CL 4ft-NCIG ARRIVAL ROAD No. 3	370 366.869	1 358 638.328
	TP	2 117.593	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 910.017	1 361 260.842
	BEND	2 178.940	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 963.645	1 361 290.634
	BEND	2 209.536	CL 4ft-NCIG ARRIVAL ROAD No. 3	368 990.434	1 361 305.414

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 2

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
	START	2 169.675	CL 4ft-NCIG ARRIVAL ROAD No. 2	368 959.980	1 361 282.776
	END	2 250.326	CL 4ft-NCIG ARRIVAL ROAD No. 2	369 030.535	1 361 321.971

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG ARRIVAL ROAD No. 1

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
3000.000 L	BEND	2 128.761	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 928.686	1 361 259.672
	BEND	2 159.357	CL 4ft-NCIG ARRIVAL ROAD No. 1	368 955.475	1 361 274.452
	TP	2 220.757	CL 4ft-NCIG ARRIVAL ROAD No. 1	369 009.150	1 361 304.270
	CENTRE		CL 4ft-NCIG ARRIVAL ROAD No. 1	367 552.297	1 363 926.784
295.000 R	TP	2 231.596	CL 4ft-NCIG ARRIVAL ROAD No. 1	369 018.675	1 361 309.550
	TP	2 250.201	CL 4ft-NCIG ARRIVAL ROAD No. 1	369 034.846	1 361 318.644
	CENTRE		CL 4ft-NCIG ARRIVAL ROAD No. 1	369 179.034	1 361 061.282
	T.P. (EXIST.)	2 251.267	CL 4ft-NCIG ARRIVAL ROAD No. 1	369 035.777	1 361 319.163

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS NCIG SIDING No. 2

CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
278.000 L	BUFFER	4 091.699	CL 4ft-NCIG SIDING No. 2	369 100.511	1 361 109.037
	TP	4 103.022	CL 4ft-NCIG SIDING No. 2	369 090.716	1 361 114.719
	CENTRE		CL 4ft-NCIG SIDING No. 2	368 951.235	1 360 874.242
	TP	4 225.873	CL 4ft-NCIG SIDING No. 2	368 974.473	1 361 151.269
250.000 R	TP	4 274.839	CL 4ft-NCIG SIDING No. 2	368 925.679	1 361 155.362
	CENTRE		CL 4ft-NCIG SIDING No. 2	368 946.576	1 361 404.487
	TP	4 285.935	CL 4ft-NCIG SIDING No. 2	368 914.645	1 361 156.535
	TP	4 317.102	CL 4ft-NCIG SIDING No. 2	368 883.734	1 361 160.515
248.410 L	CENTRE		CL 4ft-NCIG SIDING No. 2	368 852.006	1 360 914.140
	T.P.	4 340.689	CL 4ft-NCIG SIDING No. 2	368 860.232	1 361 162.414

CIRCULAR CURVE DETAILS

No.	Description	T/O Length	M/L Geometry	T/O Geometry	Ref No.	Xing Rate	Switch	Xing Min. Type	Rail(kg)	Reference
24A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
24B PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
25A PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
25B PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
26A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
26B PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
27A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2

TURNOUT DETAILS

No.	Description	T/O Length	M/L Geometry	T/O Geometry	Ref No.	Xing Rate	Switch	Xing Min. Type	Rail(kg)	Reference
24A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
24B PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
25A PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
25B PTS	Conventional LH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
26A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
26B PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2
27A PTS	Conventional RH	25.730	Straight	Curve R=248.410	X.L. 300/1	1:10.5	6100 FLEX	RBH	60	PRE01-GA-0335 Rev.2

CLIENT AMENDMENTS

Rev.	Date	Revision Details	Orn	Ver.	App
05/06/12		CLIENT AMENDMENTS			NS
A4	28/04/12	NCIG DEPARTURE ROADS LAYOUT REVISED			NS
A3	17/01/12	VERIFICATION COMPLETE			NS
A2	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED			NS
A1	06/09/11	PRELIMINARY ISSUE			NS

Signature Block

Drawn	Signed	Date
NS		
Designed		
Verified		
Approved		

Project Information

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
SETOUT PLAN - SHEET 7 OF 7

Project No. H337400
Scale 1:500
Drawing No. HW03-01-R-82029

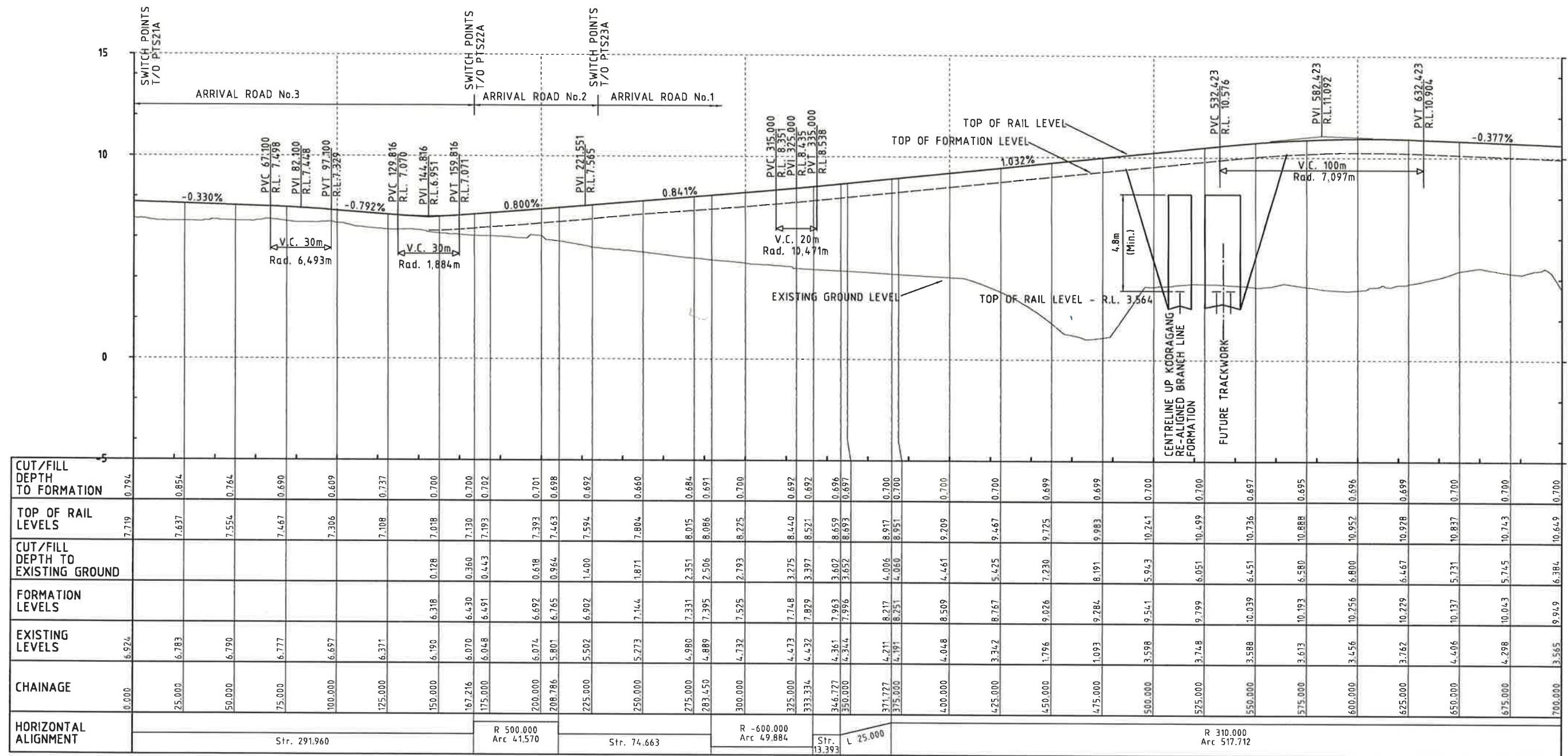
Logos and Contact Info

aurecon HATCH
Aurecon Hatch ABN 21 646 421 651
110 Military Road (PO Box 538) Neutral Bay
New South Wales 2089 Australia
Telephone: +61 2 9465 5599
Facsimile: +61 2 9465 5599
Email: NCIGStage2F@aureconhatch.com

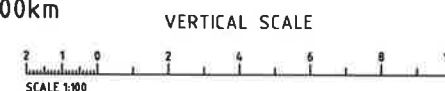
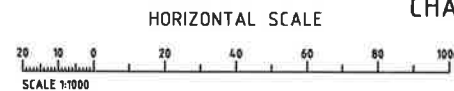
Newcastle Coal
INFRASTRUCTURE GROUP

Revision Details

Rev.	Date	Revision Details	Orn	Ver.	App
05/06/12		CLIENT AMENDMENTS			NS
A4	28/04/12	NCIG DEPARTURE ROADS LAYOUT REVISED			NS
A3	17/01/12	VERIFICATION COMPLETE			NS
A2	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED			NS
A1	06/09/11	PRELIMINARY ISSUE			NS



LONGITUDINAL SECTION
NCIG ARRIVAL ROAD No. 1
CHAINAGE 0.000km TO 700.000km



NOTES

- ALL TRACK WORK TO BE BUILT TO CLASS 1XC TO ARTC STANDARD TSD11.
- ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
- EXISTING SURVEY SOURCED FROM AVAILABLE PHOTOGRAMATRY DATA. SETOUT & GRADING TO BE CONFIRMED ON SITE AGAINST VERIFIED SURVEY.
- ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
- ALL LEVELS ARE TO THE AUSTRALIAN HEIGHT DATUM (AHD).
- ALL LEVELS ARE MEASURED IN METRES UNLESS SHOWN OTHERWISE.

Rev.	Date	Revision Details	Drn	Ver.	App.
A3	27/04/12	UP KOORAGANG BRANCH LINE ALIGNMENT REVISED	NS		
A2	17/01/12	VERIFICATION COMPLETE	NS		
A1	10/10/11	PRELIMINARY ISSUE	NS		

aurecon HATCH

Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9465 5599
116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9465 5598
New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com

A person using Aurecon Hatch drawings and other data accepts the risk of:
1. Using the drawings and other data in the project for purposes not intended by Aurecon Hatch.
2. Using the drawings and other data for any purpose not agreed to in writing by Aurecon Hatch.

Client:

Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS	Signed	Date
Designed	Signed	Date
NS	Signed	Date
Verified	Signed	Date
SM	Signed	Date
Approved	Signed	Date
DIB	Signed	Date

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROAD NO. 1
LONGITUDINAL SECTION SHEET 1 OF 3

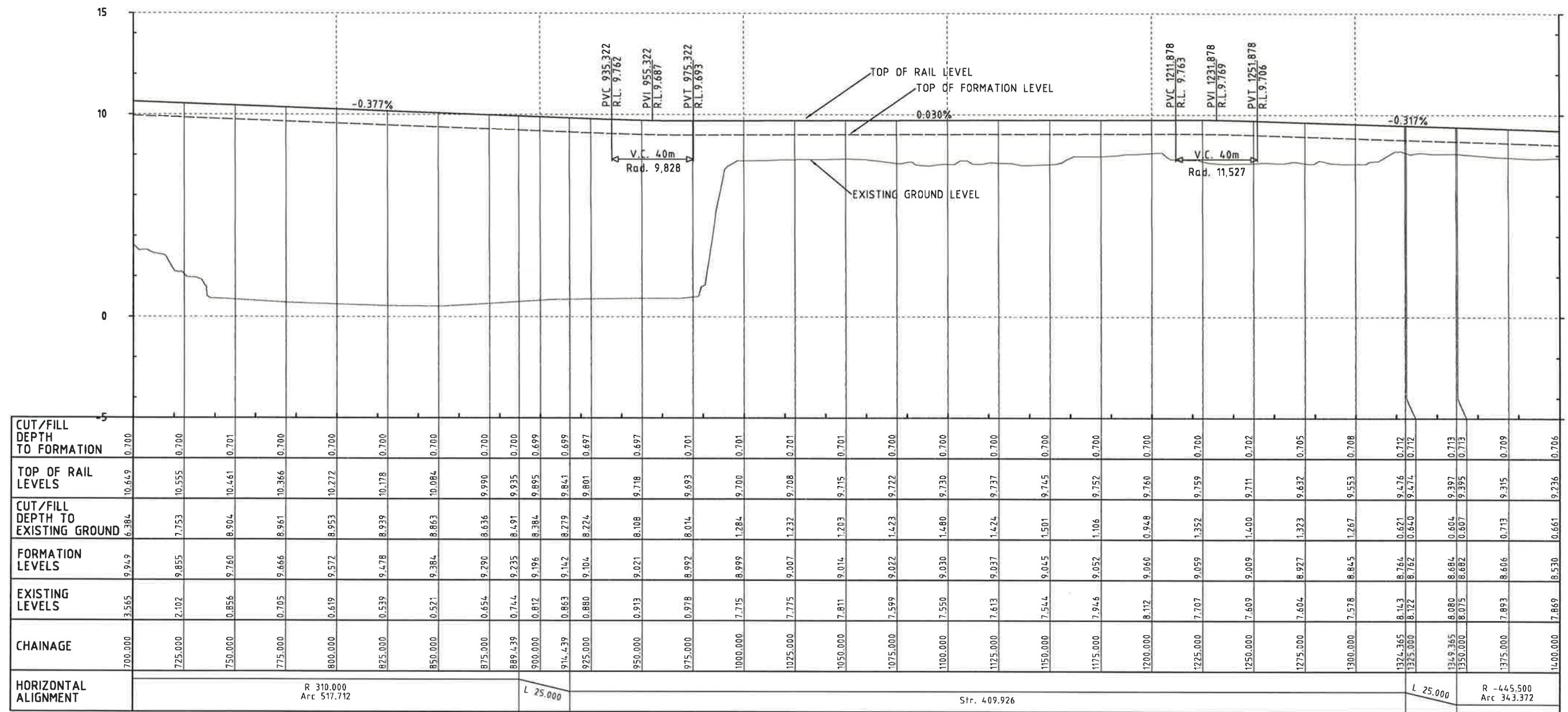
PRELIMINARY
NOT FOR CONSTRUCTION

Project No. H337400

Scale 1:100
1:1000

Drawing No. HW03-01-R-82030

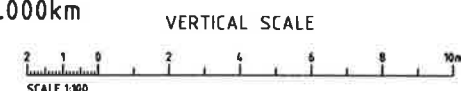
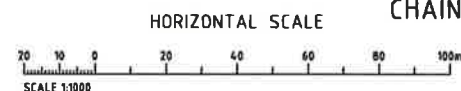
Sheet Size A1
Rev. A3



LONGITUDINAL SECTION
NCIG ARRIVAL ROAD No. 1
CHAINAGE 700.000km TO 1400.000km

NOTES

1. ALL TRACK WORK TO BE BUILT TO CLASS 1XC TO ARTC STANDARD TSD11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TSD10.
3. EXISTING SURVEY SOURCED FROM AVAILABLE PHOTOGRAMATRY DATA. SETOUT & GRADING TO BE CONFIRMED ON SITE AGAINST VERIFIED SURVEY.
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
5. ALL LEVELS ARE TO THE AUSTRALIAN HEIGHT DATUM (AHD).
6. ALL LEVELS ARE MEASURED IN METRES UNLESS SHOWN OTHERWISE.



				aurecon HATCH			
				Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9465 5599 116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9465 5598 New South Wales 2089 Australia Email: NCIGStage2F@aureconhatch.com			
A2	17/01/12	VERIFICATION COMPLETE	NS				
A1	10/10/11	PRELIMINARY ISSUE	NS				
Rev.	Date	Revision Details	Drn	Ver.	App.		

Client:

Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROAD NO. 1
LONGITUDINAL SECTION SHEET 2 OF 3

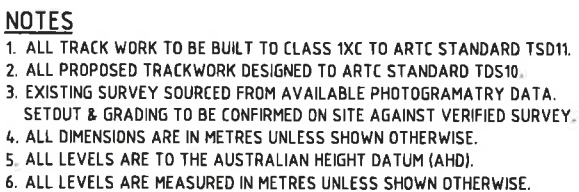
PRELIMINARY
NOT FOR CONSTRUCTION

Project No. H337400

Scale 1:100
1:1000

Drawing No. HW03-01-R-82031

Sheet Size A1
Rev. A2



HORIZONTAL SCALE

SCALE 1:1000

VERTICAL SCALE



A horizontal line with vertical tick marks. Major ticks are labeled 2, 4, 6, 8, and 10. There are minor ticks between each major tick, representing increments of 1.

A2	17/01/12	VERIFICATION COMPLETE		NS	
A1	10/10/11	PRELIMINARY ISSUE		NS	
Rev.	Date	Revision Details	Dwn	Ver.	App.

aurecon  **HATCH**

Aurecon Hatch ABN 21 646 421 651 Telephone: +61 2 9465 5599
116 Military Road (PO Box 538) Neutral Bay Facsimile: +61 2 9465 5598
New South Wales 2069 Australia Email: NCXGSaga2F@aureconhatch.com

1. person using Aurecon Hatch drawings and/or their data accepts the risk of:
a. Doing the drawings and/or their data in electronic form without requesting and checking them for accuracy against the original hard copy version;
b. Using the drawings or/or their data for any purpose not agreed to in writing by Aurecon Hatch.

Client:



Newcastle Coal
INFRASTRUCTURE GROUP

Drawn NS	Signed	Date
Designed NS	Signed	Date
Verified SM	Signed	Date
Approved DIR	Signed	Date

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROAD NO. 1
LONGITUDINAL SECTION SHEET 3 OF 3

PRELIMINARY NOT FOR CONSTRUCTION		
PROJECT INFORMATION	Project No. H337400	
	Scale 1:100 1:1000	Sheet Size A1
	Drawing No. HW03-01-R-82032	Rev. A2