

APPENDIX A
DETAILED DESIGN DRAWINGS

NEWCASTLE COAL INFRASTRUCTURE GROUP

NEWCASTLE COAL EXPORT TERMINAL

RAIL

STAGE 2F - FLYOVER

APRIL 2012

DRAWING INDEX

ITEM No.	DRG NO	REVISION	TITLE
1	HW03-01-R-82001	A6	COVER SHEET AND DRAWING LIST

KOORAGANG BRANCH LINE TEMPORARY DEVIATION

STAGE 2F:

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3	HW03-01-R-82003	A3	TYPICAL FORMATION - CROSS SECTION
4	HW03-01-R-82004	A4	KOORAGANG BRANCH LINE - TEMPORARY DEVIATION - SETOUT PLAN - SHEET 1 OF 2
5	HW03-01-R-82005	A4	KOORAGANG BRANCH LINE - TEMPORARY DEVIATION - SETOUT PLAN - SHEET 2 OF 2
6	HW03-01-R-82006	A4	UP KOORAGANG BRANCH LINE - TEMPORARY DEVIATION - LONGITUDINAL SECTION
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STAGE 2F:

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29	HW03-01-R-82029	A4	NCIG ARRIVAL ROADS - SETOUT PLAN - SHEET 7 OF 7
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39	HW03-01-R-82039	A4	NCIG DEPARTURE ROAD No.1 - LONGITUDINAL SECTION
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41	HW03-01-R-82041	A4	NCIG DEPARTURE ROAD No.3 - LONGITUDINAL SECTION - SHEET 1 OF 2
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43	HW03-01-R-82043	A4	NCIG ARRIVAL ROADS CROSSOVERS - LONGITUDINAL SECTIONS
44	HW03-01-R-82044	A3	NCIG DEPARTURE ROADS CROSSOVERS & CRIPPLE SIDING No.2 - LONGITUDINAL SECTIONS

LOCALITY PLAN



A6	30/04/12	DRAWING REVISIONS UPDATED	NS		
A5	17/01/12	VERIFICATION COMPLETE	NS		
A4	17/11/11	DRAWING REVISIONS UPDATED	NS		
A3	10/10/11	DRAWING REVISIONS UPDATED	NS		
A2	06/10/11	DRAWING REVISIONS UPDATED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		
Rev.	Date	Revision Details	Drn	Ver	App

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Designed	NS
Verified	SM
Approved	DIB
Signed	
Date	

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
COVER SHEET AND DRAWING LIST

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	NTS
Drawing No.	HW03-01-R-82001
Sheet Size	A1
Rev.	A6

20 10 0 10 20 30 40 50 100mm



Rev	Date	Revision Details	Drn	Ver	App
A4	23/05/12	CLIENT AMENDMENTS			AR
A3	17/01/12	VERIFICATION COMPLETE			NS
A2	05/10/11	DRAWING TITLE REVISED			NS
A1	05/09/11	PRELIMINARY ISSUE			NS



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Verified SM	Signed	Date
Approved DIB	Signed	Date

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
KOORAGANG BRANCH LINE
TEMPORARY DEVIATION
GENERAL ARRANGEMENT

PRELIMINARY
NOT FOR CONSTRUCTION

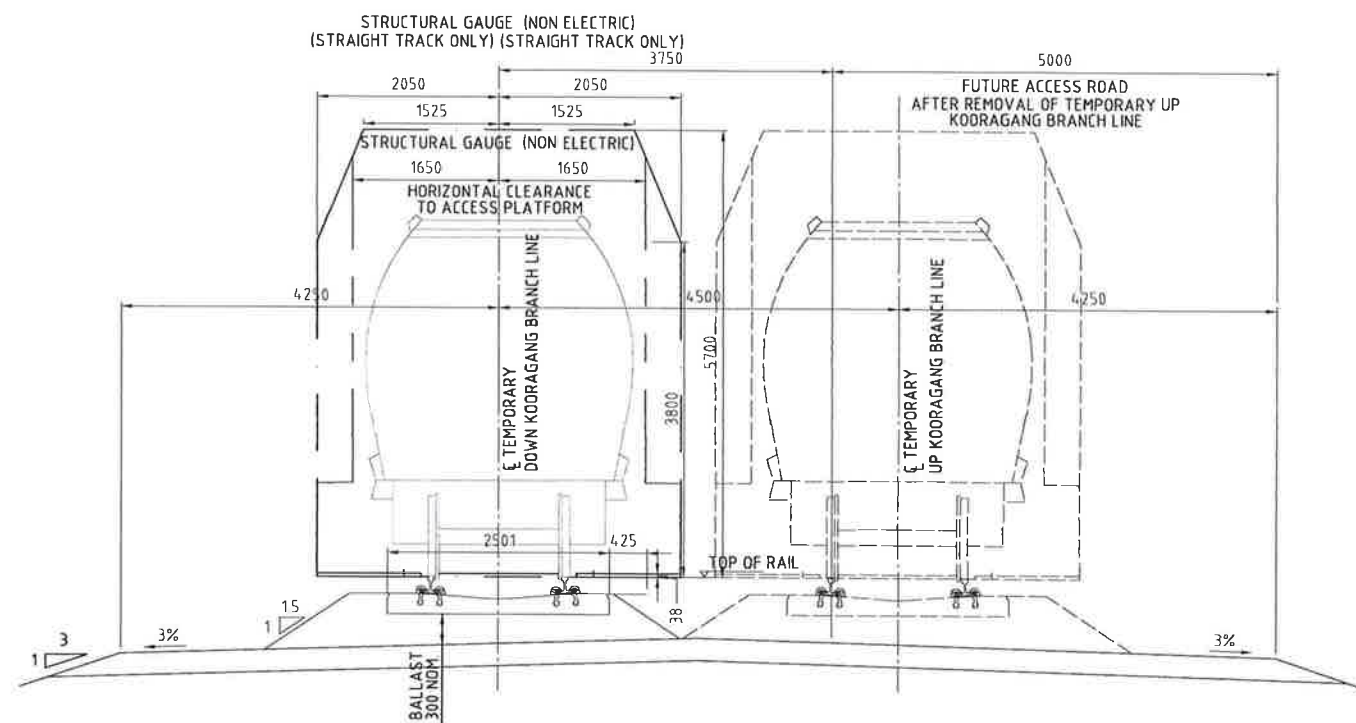
Project No.
H337400

Scale

Drawing No.
HW03-01-R-82002

Sheet Size
A1

Rev
A4



TYPICAL TRACK FORMATION - TEMPORARY KOORAGANG BRANCH LINE
SCALE - 1:40

NOTES :

1. TRACKWORK TO BE CLASS 1XC TO ARTC STANDARD TDS11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
3. FORMATION SHOWN INDICATIVE ONLY, REFER TO CIVIL DRAWINGS FOR DETAIL.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. STRUCTURAL VEHICLE ENVELOPE AND WALKWAY POSITION AND DIMENSIONS ARE INDICATIVE ONLY.

A2	06/10/11	ACCESS ROAD DIMENSION ADDED			NS				
A1	06/09/11	PRELIMINARY ISSUE			NS				
Rev.	Date	Revision Details			Drn	Ver.	App.		

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Verified	Signed	Date
Approved	Signed	Date

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
KOORAGANG BRANCH LINE
TEMPORARY DEVIATION
TYPICAL FORMATION CROSS SECTION

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	NTS
Sheet Size	A1
Drawing No.	HW03-01-R-82003
Rev.	A2

20 10 5 10 20 30 40 50 100mm

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS UP KOORAGANG BRANCH LINE DEVIATION					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
250.000 L	START	171 052.332	CL 4ft-UP KOORAGANG BRANCH	367 265.160	1 361 458.967
	TP	171 055.206	CL 4ft-UP KOORAGANG BRANCH	367 266.967	1 361 461.202
	CENTRE			367 072.576	1 361 618.403
250.00 R	TP	171 125.176	CL 4ft-UP KOORAGANG BRANCH	367 302.828	1 361 521.017
	TP	171 155.330	CL 4ft-UP KOORAGANG BRANCH	367 314.575	1 361 548.789
	CENTRE			367 544.827	1 361 451.403
	TP	171 230.154	CL 4ft-UP KOORAGANG BRANCH	367 353.525	1 361 612.349
	TP	171 344.904	CL 4ft-UP KOORAGANG BRANCH	367 427.399	1 361 700.157

SCHEDULE OF CO-ORDINATED HORIZONTAL ALIGNMENT POINTS DOWN KOORAGANG BRANCH LINE DEVIATION					
CURVE	POINT	Km	CENTRELINE	CO-ORDINATES	
				EAST	NORTH
250.000 L	TP	171 051.445	CL 4ft-DOWN KOORAGANG BRANCH	367 261.790	1 361 460.561
	CENTRE			367 067.441	1 361 617.814
	TP	171 121.481	CL 4ft-DOWN KOORAGANG BRANCH	367 297.693	1 361 520.428
254.500 R	TP	171 154.178	CL 4ft-DOWN KOORAGANG BRANCH	367 310.430	1 361 550.542
	CENTRE			367 544.827	1 361 451.403
	TP	171 230.349	CL 4ft-DOWN KOORAGANG BRANCH	367 350.082	1 361 615.246
	TP	171 345.099	CL 4ft-DOWN KOORAGANG BRANCH	367 423.956	1 361 703.054

CIRCULAR CURVE DETAILS

C/L 4ft DOWN KOORAGANG DEVIATION
 RADIUS : 250.000m LEFT
 ARC : 70.036m
 V : 30 km/hr
 Ea : 0mm
 D : 42.6mm

CIRCULAR CURVE DETAILS

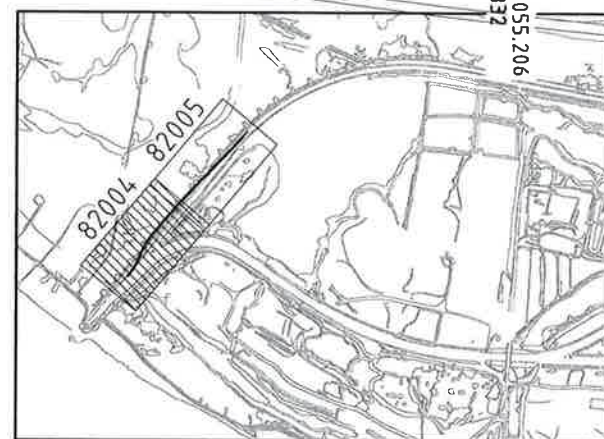
C/L 4ft NCIG - UP KOORAGANG DEVIATION
 RADIUS : 250.000m LEFT
 ARC : 69.970m
 V : 30 km/hr
 Ea : 0mm
 D : 42.6mm

CIRCULAR CURVE DETAILS

C/L 4ft DOWN KOORAGANG DEVIATION
 RADIUS : 254.500m RIGHT
 ARC : 76.171m
 V : 30 km/hr
 Ea : 0mm
 D : 41.8mm

CIRCULAR CURVE DETAILS

C/L 4ft UP KOORAGANG DEVIATION
 RADIUS : 250.000m RIGHT
 ARC : 74.825m
 V : 30 km/hr
 Ea : 0mm
 D : 42.6mm



KEY PLAN
NTS

NOTES

1. TRACK WORK TO BE CLASS 1XC TO ARTC STANDARD TDS11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS09.
3. MAX ALLOWABLE DESIGN SPEED SHOWN, REFER TO SIGNAL SCHEMATIC PLAN FOR SPEED BOARD LOCATIONS.
4. ALL CO-ORDINATES ARE TO INTERGRATED SURVEY GRID (ISG). EXISTING SURVEY SOURCED FROM AVAILABLE PHOTOGRAMATRY DATA. LEVELS, SETOUT & GRADING TO BE CONFIRMED ON SITE AGAINST VERIFIED SURVEY PRIOR TO CONSTRUCTION.
5. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
6. ALL LEVELS ARE TO THE AUSTRALIAN HEIGHT DATUM (AHD).
7. DRAWINGS TO BE READ IN CONJUNCTION WITH SPECIFICATIONS.
8. KILOMETRAGE DATUM NOT SET. ARTC TO CONFIRM.
9. FORMATION SHOWN INDICATIVELY ONLY, REFER TO CIVIL DRAWINGS FOR DETAIL.

LEGEND

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

Rev.	Date	Revision Details	Drn	Ver.	App.
A4	17/01/12	VERIFICATION COMPLETE		NS	
A3	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED		NS	
A2	06/10/11	CONNECTION TO MAINLINE FINALISED		NS	
A1	06/09/11	PRELIMINARY ISSUE		NS	

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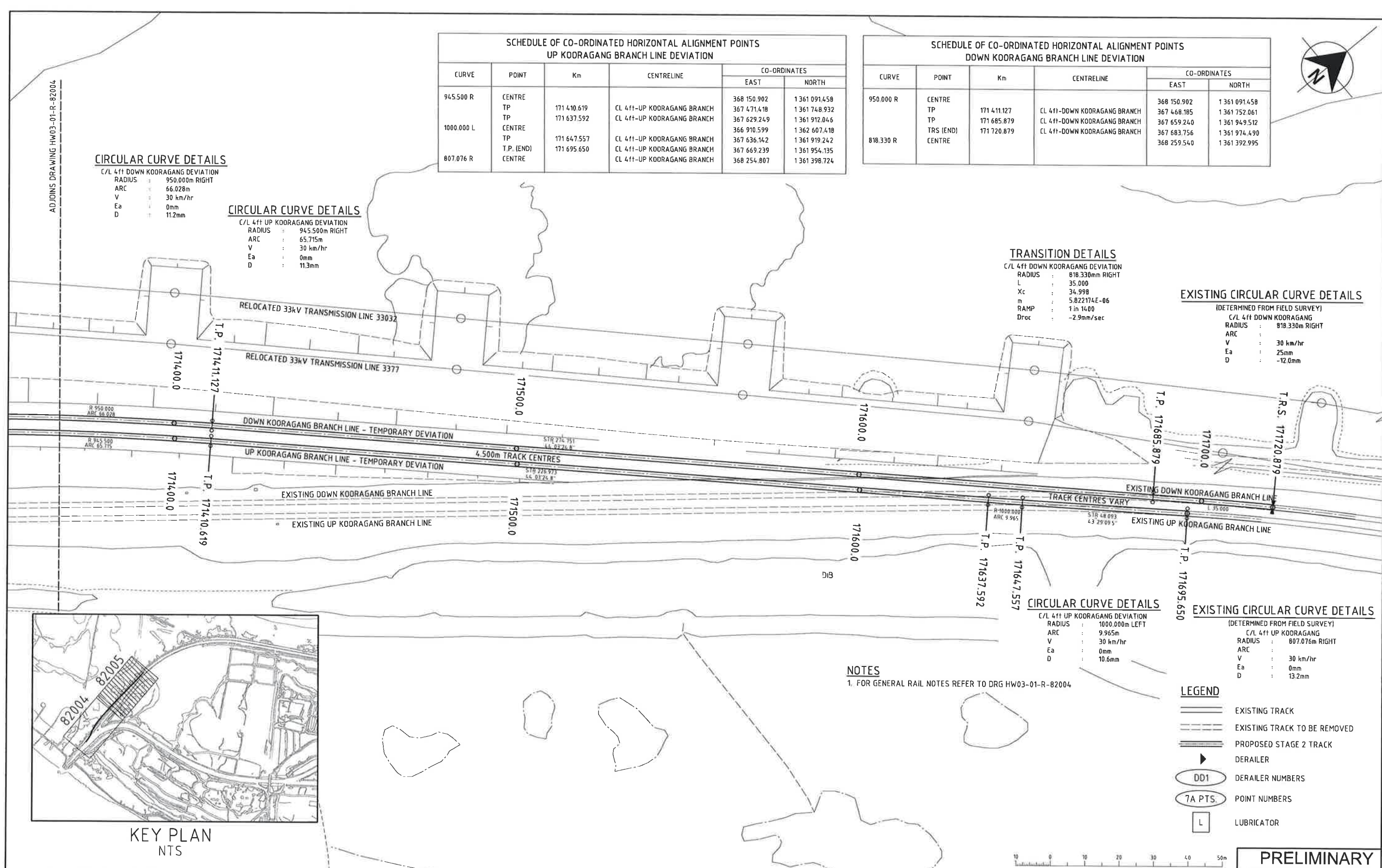
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NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
 RAIL AREA
 KOORAGANG BRANCH LINE
 TEMPORARY DEVIATION
 SETOUT PLAN - SHEET 1 OF 2

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	1:500
Drawing No.	HW03-01-R-82004
Sheet Size	A1
Rev.	A4



Rev

Date

Revision Details

Drn

Ver.

App.

A4

17/01/12

VERIFICATION COMPLETE

NS

A3

17/11/11

DRAFTING REVIEW COMMENTS INCORPORATED

NS

A2

06/10/11

CONNECTION TO MAINLINE FINALISED

NS

A1

06/09/11

PRELIMINARY ISSUE

NS

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Drawn

NS

Signed

Date

Designed

NS

Signed

Date

Verified

SM

Signed

Date

Approved

DIB

Signed

Date

Client:

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
KOORAGANG BRANCH LINE
TEMPORARY DEVIATION
SETOUT PLAN - SHEET 2 OF 2

Project No.

H337400

Scale

1:500

Sheet Size

A1

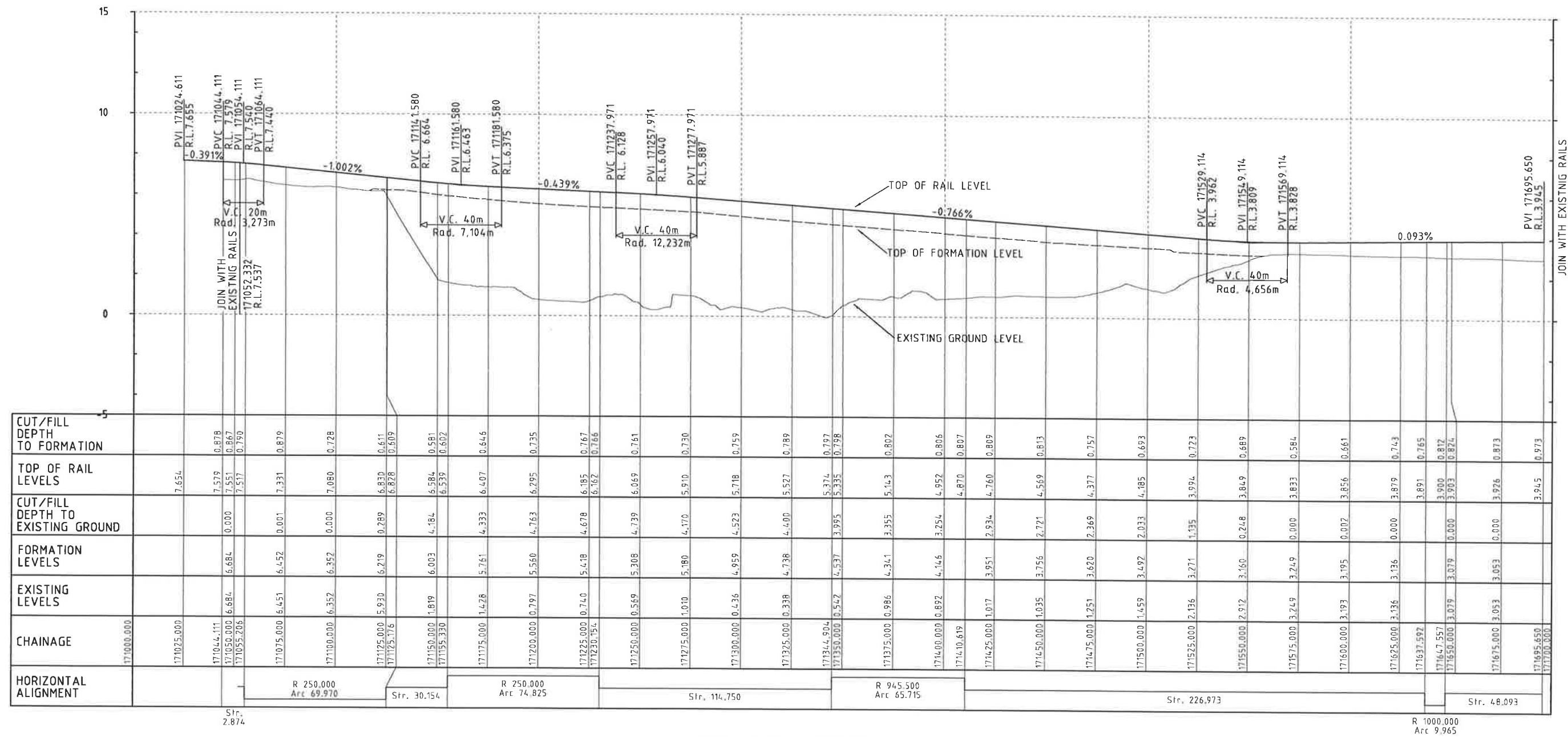
Drawing No.

HW03-01-R-82005

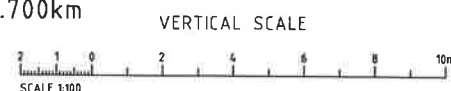
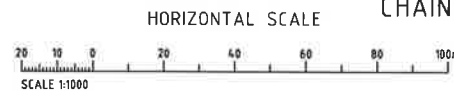
Rev.

A4

HW03-01-R-82005.dgn 17/01/2012 7:31:58 AM



- NOTES
1. ALL TRACK WORK TO BE BUILT TO CLASS 1XC TO ARTC STANDARD TSD11.
 2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
 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.



Rev	Date	Revision Details	Drn	Ver	App
A4	17/01/12	VERIFICATION COMPLETE	NS		
A3	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED	NS		
A2	06/10/11	GRADING CONNECTION TO MAILINE FINALISED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		

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SM		
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DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
UP KOORANGANG BRANCH LINE
TEMPORARY DEVIATION
LONGITUDINAL SECTION

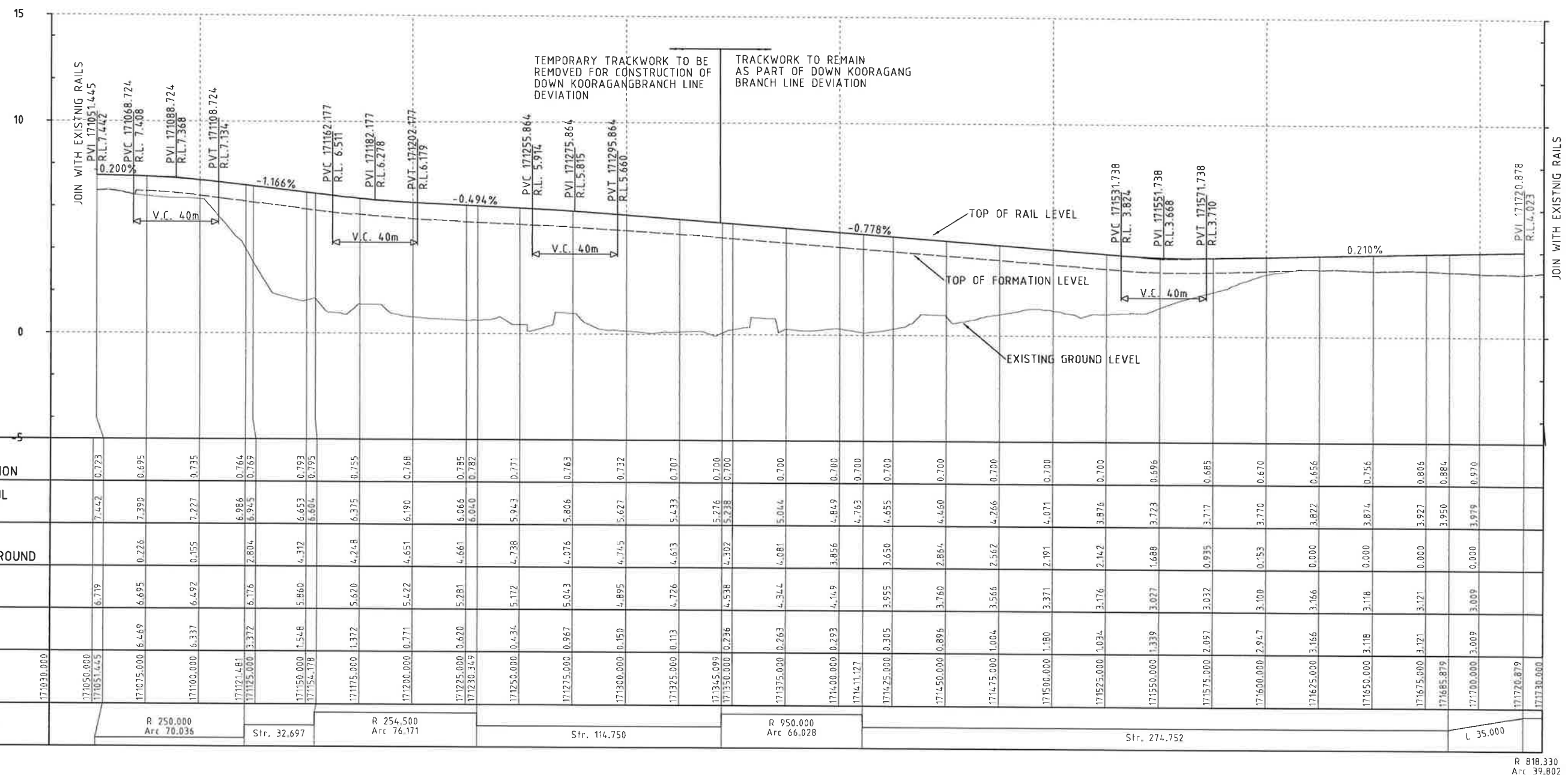
PRELIMINARY
NOT FOR CONSTRUCTION

Project No. H337400

Scale 1:100
1:1000

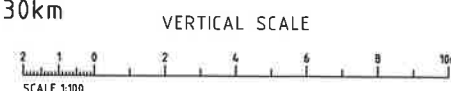
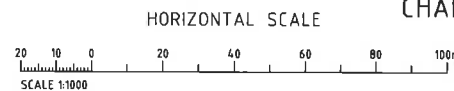
Drawing No. HW03-01-R-82006

Sheet Size A1
Rev. A4



NOTES

1. ALL TRACK WORK TO BE BUILT TO CLASS 1XC TO ARTC STANDARD TSD11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
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.



Rev.	Date	Revision Details	Drn	Ver	App.
A2	06/10/11	GRADING CONNECTION TO MAINLINE FINALISED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		

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Verified	Signed	Date	
Approved	Signed	Date	

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
DOWN KOORAGANG BRANCH LINE
TEMPORARY DEVIATION
LONGITUDINAL SECTION

PRELIMINARY
NOT FOR CONSTRUCTION

Project No. H337400

Scale 1:100
1:1000

Drawing No. HW03-01-R-82007

Sheet Size A1
Rev. A2



Rev	Date	Revision Details	Drn	Ver	App
A5	23/05/12	CLIENT AMENDMENTS	AR		
A4	26/04/12	UP KOORAGANG BRANCH LINE ALIGNMENT REVISED	NS		
A3	17/01/12	VERIFICATION COMPLETE	NS		
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		

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A 25-ton land-based crane will be used to lift and place the rail sleepers. The crane will be used to lift and place the rail sleepers. The crane will be used to lift and place the rail sleepers.

Newcastle Coal
INFRASTRUCTURE GROUP

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

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
KOORAGANG UP/DOWN BRANCH LINES
GENERAL ARRANGEMENT

PRELIMINARY
NOT FOR CONSTRUCTION

Project No. **H337400**

Scale 1:2500 Sheet Size **A1**

Drawing No. **HW03-01-R-82008** Rev. **A5**



Rev	Date	Revision Details	Drn	Ver	App
A5	23/05/12	CLIENT AMENDMENTS	AR		
A4	26/04/12	JP KOORAGANG BRANCH LINE ALIGNMENT REVISED	NS		
A3	17/01/12	VERIFICATION COMPLETE	NS		
A2	06/10/11	BACKGROUND EARTHWORKS MODEL REVISED	NS		
A1	06/09/11	PRELIMINARY ISSUE	NS		

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2. Using the drawings and other data for any purpose not agreed to in writing by Aurecon Hatch.

INFRASTRUCTURE GROUP

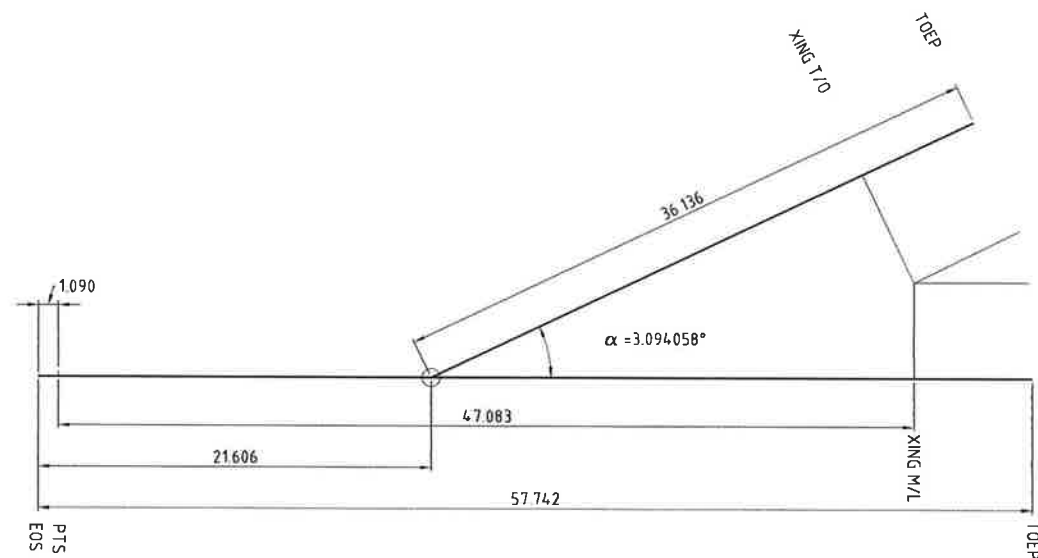
Drawn	Signed	Date
NS		
Designed	Signed	Date
NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
NCIG ARRIVAL ROADS
GENERAL ARRANGEMENT

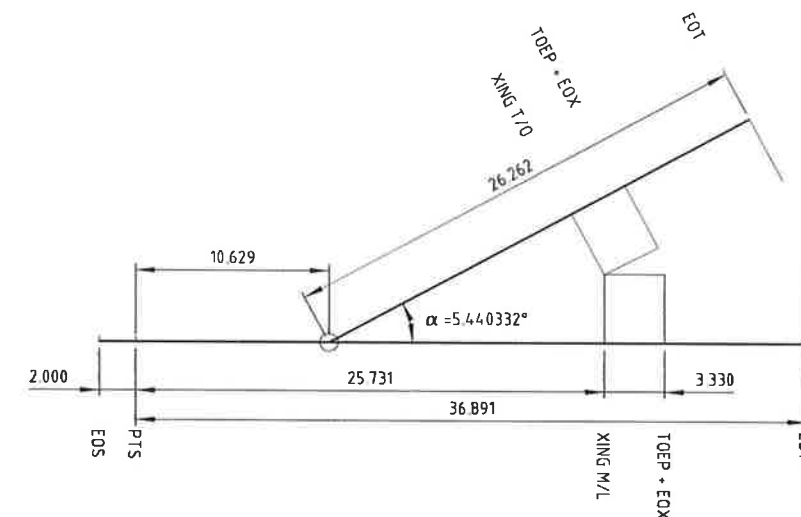
PRELIMINARY
NOT FOR CONSTRUCTION

Project No. **H337400**

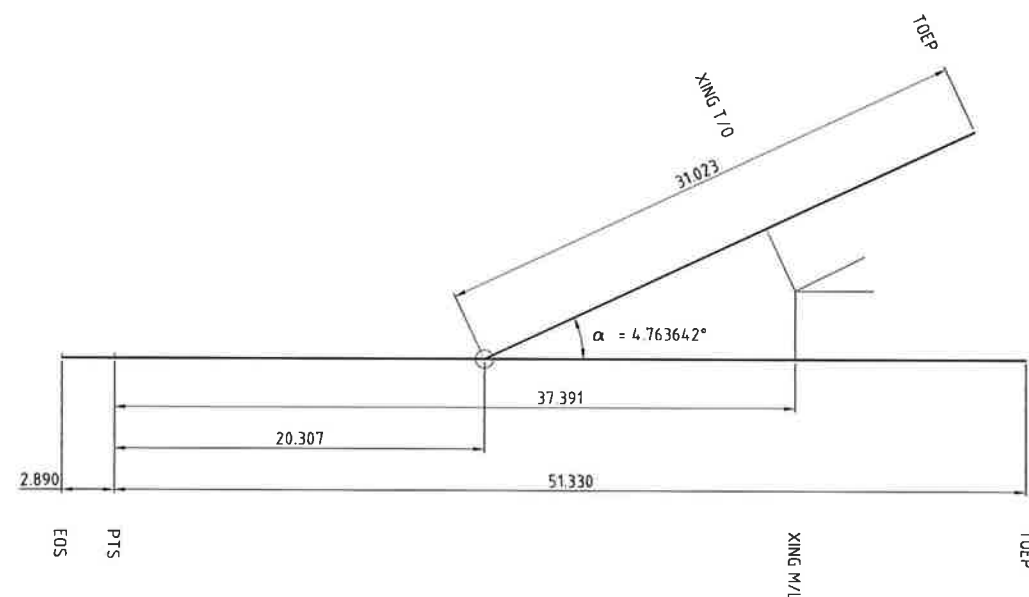
Scale 1:3000	Sheet Size A1
Drawing No. HW03-01-R-82009	Rev. A5



TANGENTIAL TURNOUT - 800:18.5
REF. DRG PRE01-GA-0305 Rev. 1



1 IN 10.5 CONVENTIONAL 6100 FLEX TURNOUT
REF. DRG PRE01-GA-0335 Rev. 2



TANGENTIAL TURNOUT 500:12
(WITH STRAIGHT END INFILL)
REF. DRG PRE01-GA-0040-01 Rev. 6

NOTES :

1. REFER TO TRACK SETOUT PLANS FOR NOTES & SETOUT CO-ORDINATES.
2. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
3. ANY REFERENCE TO P.R.E. DRAWINGS THAT ARE NON NCIG SPECIFIC, IS FOR THE PURPOSE OF TURNOUT GEOMETRY ONLY.
4. ALL NCIG TURNOUTS ARE TO HAVE SIEMENS IN BEARER MOTORS.

A2	17/11/11	DRAFTING REVIEW COMMENTS INCORPORATED	NS				
A1	06/09/11	PRELIMINARY ISSUE	NS				
Rev	Date	Revision Details	Drn	Ver	App		

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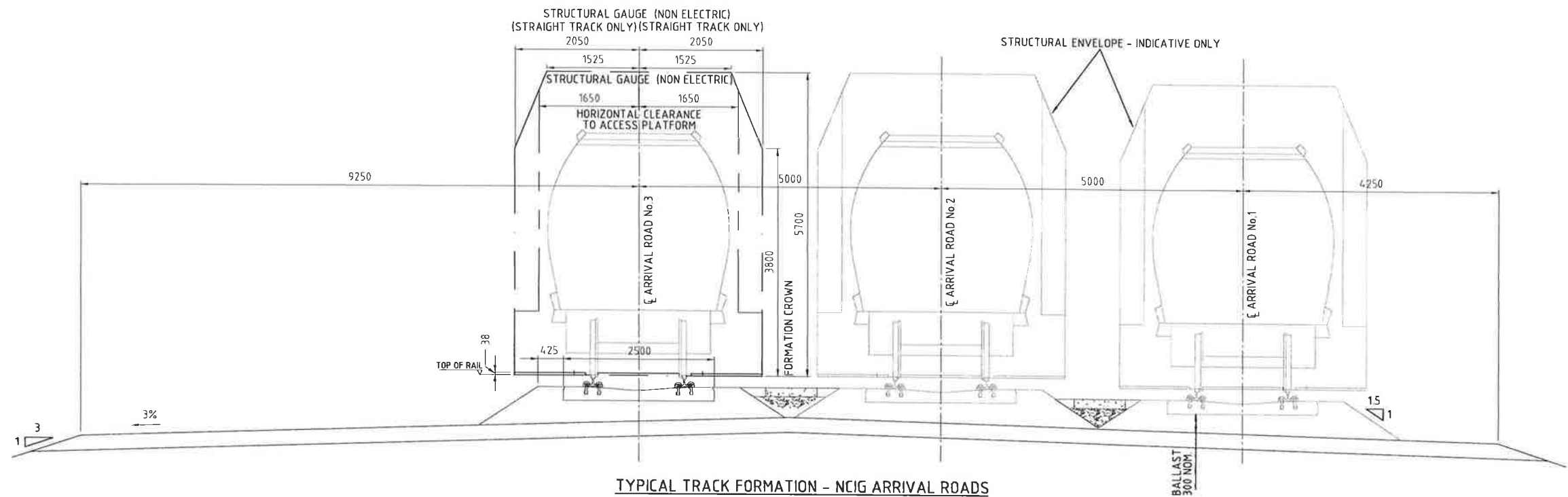
Newcastle Coal
INFRASTRUCTURE GROUP

Drawn	Signed	Date
NS		
Designed	Signed	Date
Verified	Signed	Date
Approved	Signed	Date

NCIG COAL EXPORT TERMINAL - STAGE 2F

RAIL AREA
TURNOUTS
GEOMETRY SCHEMATICS

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	NTS
Drawing No.	HW03-01-R-82010
Sheet Size	A1
Rev.	A2

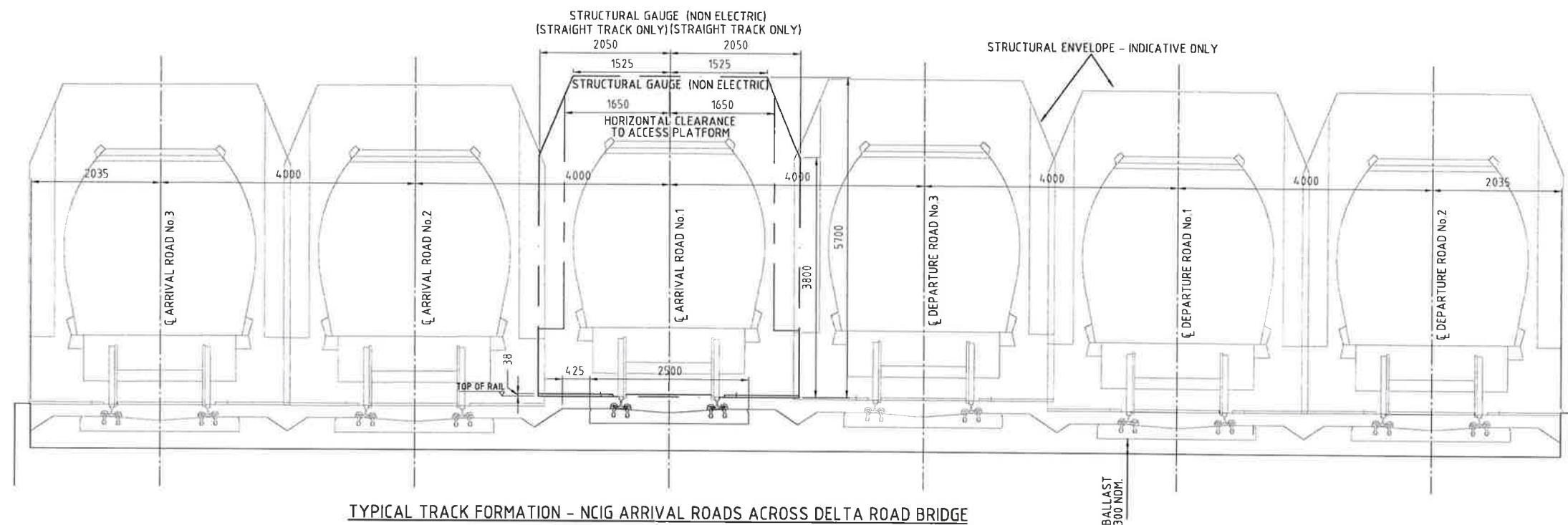


TYPICAL TRACK FORMATION - NCIG ARRIVAL ROADS

SCALE - 1:40

NOTES :

1. TRACKWORK TO BE CLASS 1XC TO ARTC STANDARD TDS11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
3. FORMATION SHOWN INDICATIVE ONLY, REFER TO CIVIL DRAWINGS FOR DETAIL.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. STRUCTURAL VEHICLE ENVELOPE AND WALKWAY POSITION AND DIMENSIONS ARE INDICATIVE ONLY.
6. 4.0m TRACK CENTRES (AS PER ARTC STANDARD BDS-12, SECTION 5)
7. STRUCTURAL ENVELOPE AS SHOWN REFERS TO CLEARANCES FROM INFRASTRUCTURE BOTH NEW AND EXISTING. (AS PER ARTC STANDARD BDS 12 SECTION 1)



TYPICAL TRACK FORMATION - NCIG ARRIVAL ROADS ACROSS DELTA ROAD BRIDGE

SCALE - 1:40

Rev	Date	Revision Details	Drn	Ver	App
A2	17/01/12	VERIFICATION COMPLETE			NS
A1	06/09/11	PRELIMINARY ISSUE			NS

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Newcastle Coal
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NS		
Verified	Signed	Date
SM		
Approved	Signed	Date
DIB		

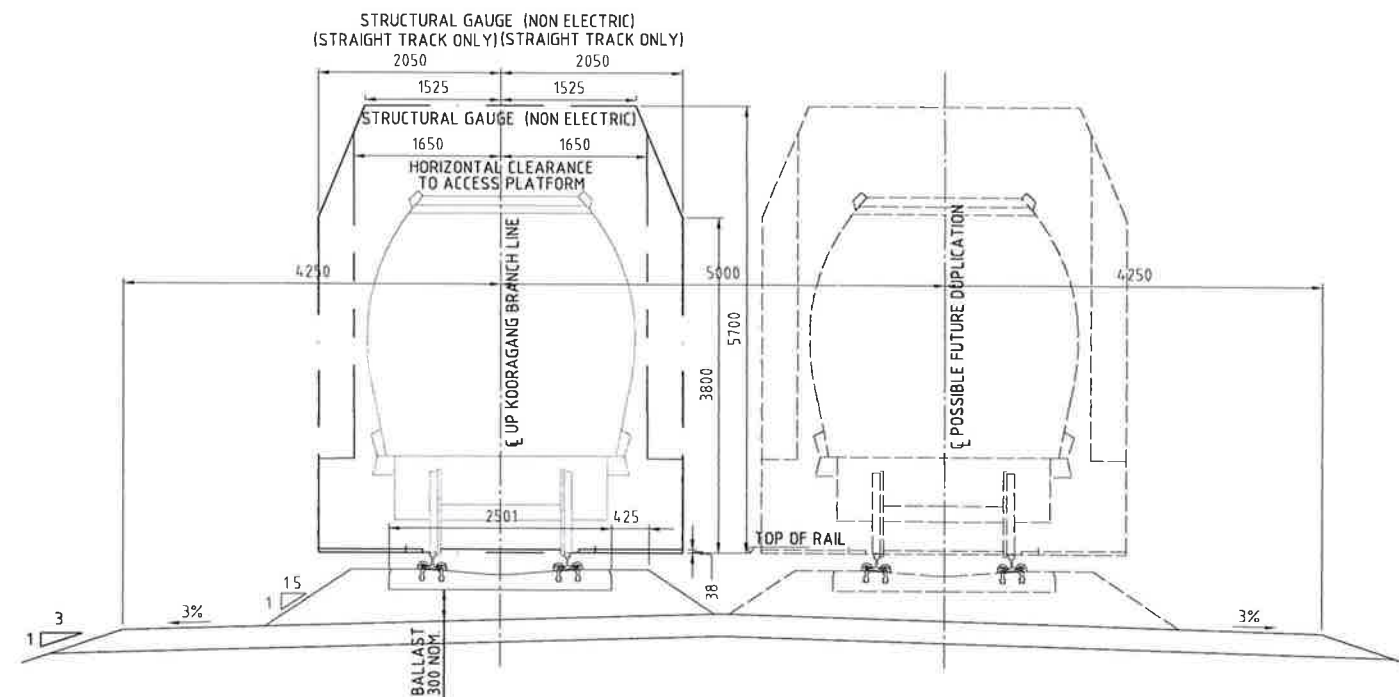
NCIG COAL EXPORT TERMINAL - STAGE 2F
 RAIL AREA
 TYPICAL FORMATION CROSS SECTION
 SHEET 1 OF 2

PRELIMINARY
 NOT FOR CONSTRUCTION

Project No. H337400

Scale NTS Sheet Size A1

Drawing No. HW03-01-R-82011 Rev. A2



TYPICAL TRACK FORMATION - UP KOORAGANG BRANCH LINE

SCALE - 1:40

NOTES :

1. TRACKWORK TO BE CLASS 1XC TO ARTC STANDARD TDS11.
2. ALL PROPOSED TRACKWORK DESIGNED TO ARTC STANDARD TDS10.
3. FORMATION SHOWN INDICATIVE ONLY , REFER TO CIVIL DRAWINGS FOR DETAIL.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. STRUCTURAL VEHICLE ENVELOPE AND WALKWAY POSITION AND DIMENSIONS ARE INDICATIVE ONLY.

Rev	Date	Revision Details	Drn	Ver	App
A2	17/01/12	VERIFICATION COMPLETE			
A1	06/09/11	PRELIMINARY ISSUE			

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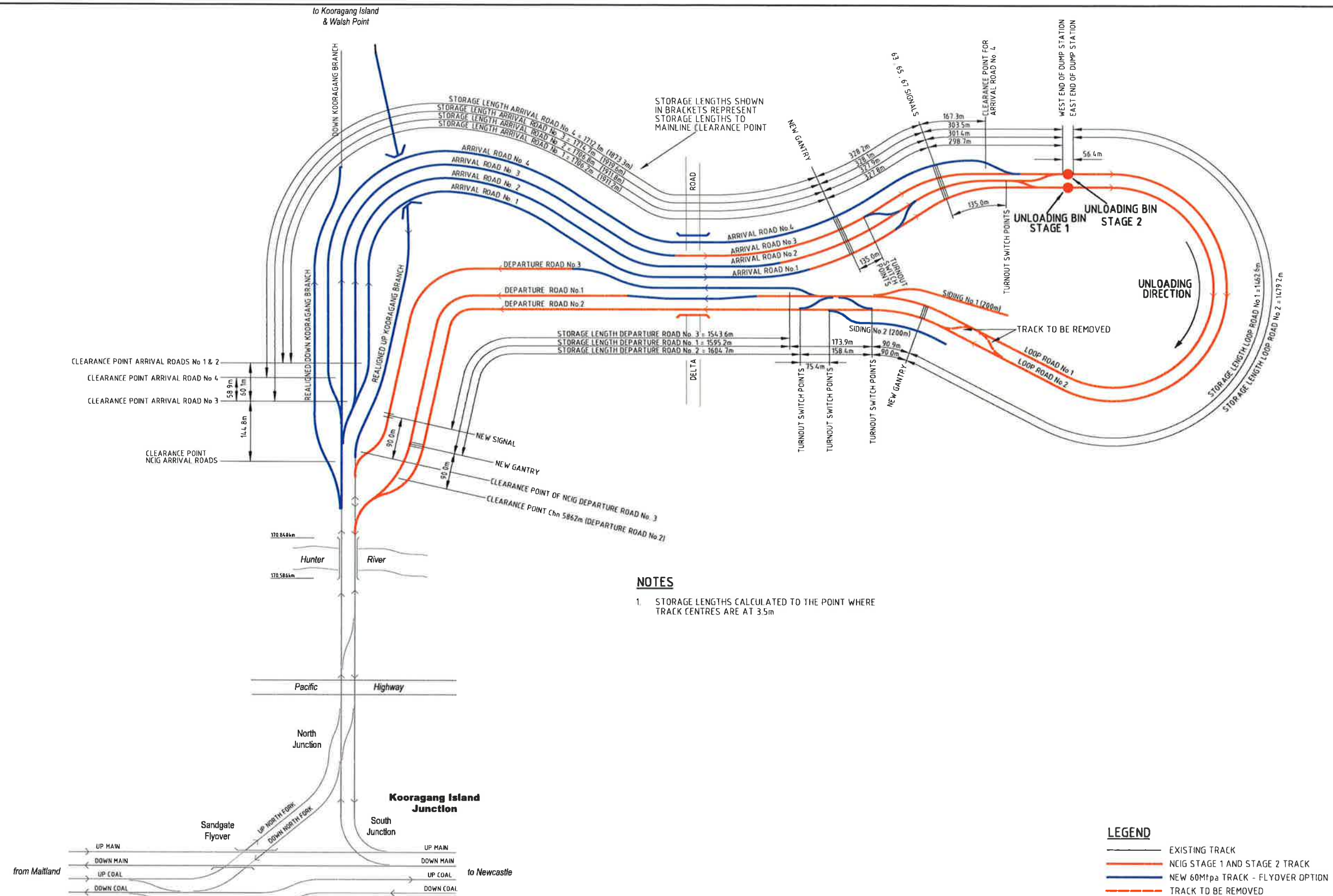
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Client: **Newcastle Coal**
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NS		
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SM		
Approved	Signed	Date
DIB		

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
TYPICAL FORMATION CROSS SECTION
SHEET 2 OF 2

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	NTS
Drawing No.	HW03-01-R-82012
Sheet Size	A1
Rev.	A2



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

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

NCIG COAL EXPORT TERMINAL - STAGE 2F
RAIL AREA
TRAIN STORAGE SCHEMATIC PLAN

PRELIMINARY NOT FOR CONSTRUCTION	
Project No.	H337400
Scale	NTS
Drawing No.	HW03-01-R-82013
Sheet Size	A1
Rev.	A4