

TWO BRIDGES OVER IRONBARK CREEK

AT 10.98km NORTH OF NEWCASTLE

NEW BRIDGE - 2022

BRIDGE No. TBC
DESIGN FILE : TBC
DESIGN STANDARD : AS 5100 - 2017 BRIDGE DESIGN SET
TRAFFIC LOADING :
SM1600 - 3 DESIGN LANES
HLP400 LOADING SHALL BE POSITIONED CENTRAL IN BETWEEN LANE 1 AND LANE 2,
WITH 50% OF SM1600 APPLIED ON LANE 3.
HLP DESIGN SPEED RESTRICTED TO 10km/hr
NUMBER OF HEAVY VEHICLES PER LANE PER DAY: 4200
ROUTE FACTOR : 1.0
DESIGN TRAFFIC SPEED : 80 km PER HOUR
TRAFFIC BARRIER PERFORMANCE LEVEL : MEDIUM
EARTHQUAKE LOADING : AS 5100.2
BRIDGE EARTHQUAKE DESIGN CATEGORY : BEDC-4
DESIGN PERFORMANCE LEVEL : SERVICE PERFORMANCE LEVEL
PROBABILITY FACTOR (KP) : 1.7
ANNUAL PROBABILITY OF EXCEEDANCE (P) : 1/2000
SEISMIC HAZARD FACTOR (Z) : 0.11
DESIGN DUCTILITY FACTOR FACTOR : 2.0
SITE SUBSOIL CLASS D_s
WIND LOADING : AS 5100.2
REGION : A2
WIND TERRAIN CATEGORY : 2
REGION WIND SPEED ULS V2000 = 48 m/s
REGION WIND SPEED SLS V20 = 37 m/s
DRAG PRESSURE COEFFICIENTS IN ACCORDANCE WITH AS 5100.2
FLOOD DATA :
100 YEAR FLOW VELOCITY : 1.7 m/s
2000 YEAR FLOW VELOCITY : 1.7 m/s
100 YEAR FLOOD LEVEL : 3.3 m AHD
2000 YEAR FLOOD LEVEL : 3.4 m AHD
DESIGN SCOUR DEPTH : TBA
REFERENCE REPORTS :
GEOTECHNICAL INVESTIGATION REPORT: DOUGLAS PARTNERS 102037.00 R.005. REV2
GEOTECHNICAL CONCEPT DESIGN REPORT : IA301100-HSW-GT-RPT-0001
CONCEPT DESIGN REPORT : IA301100-HSW-DM-RPT-0002

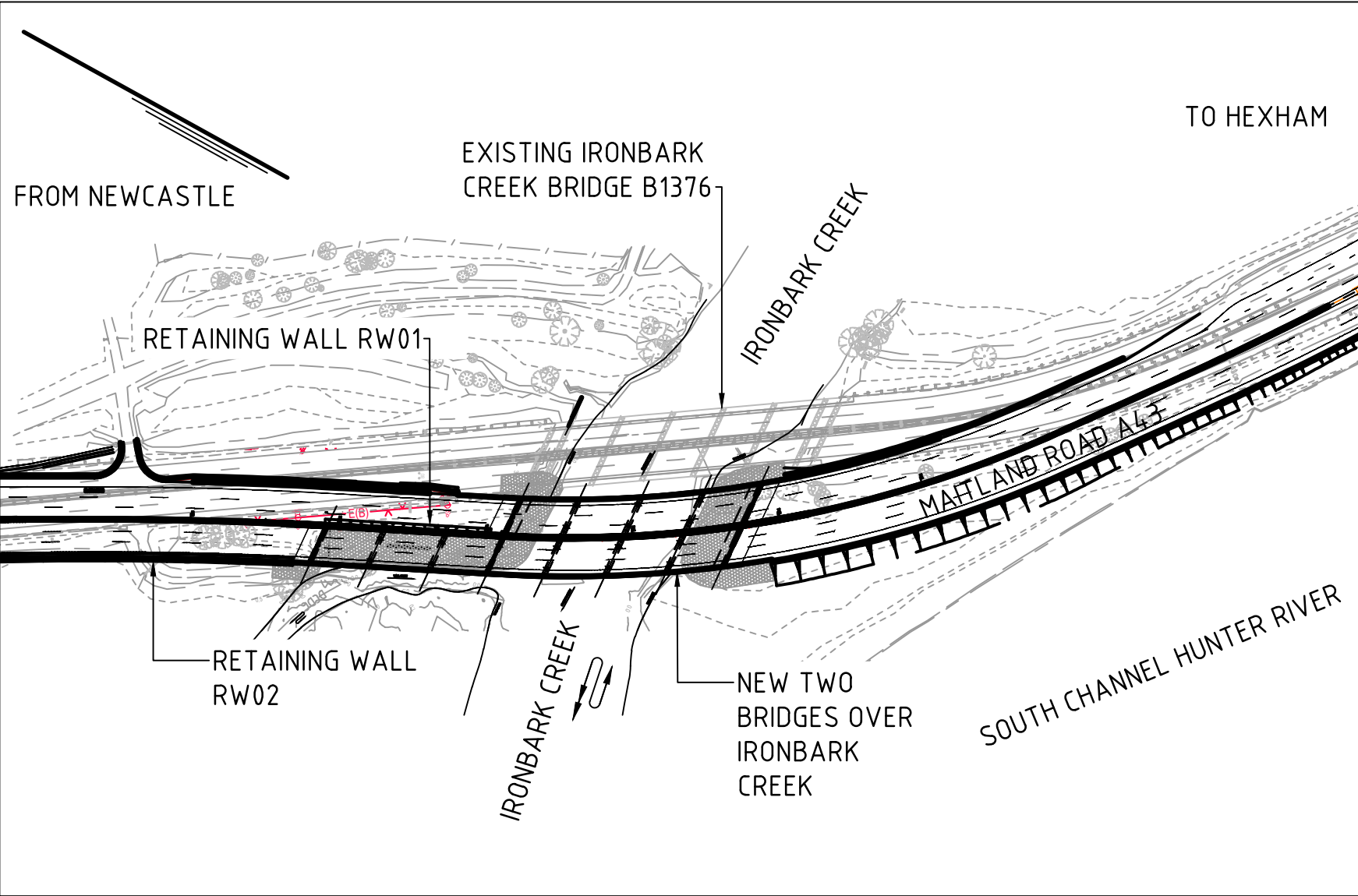
SCHEDULE OF DRAWINGS

- 1. COVER SHEET
- 2. GENERAL ARRANGEMENT - SHEET A
- 3. GENERAL ARRANGEMENT - SHEET B

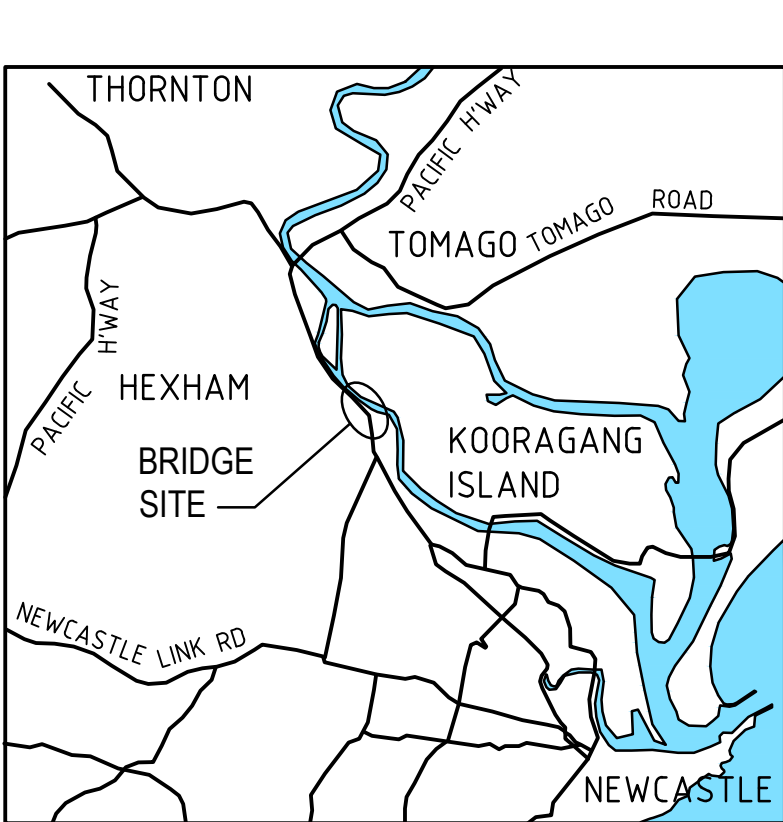
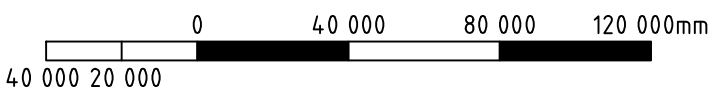
JACKING OF BRIDGE DECK FOR BEARING REPLACEMENT

THE DESIGN INCLUDES THE FOLLOWING REQUIREMENTS :

- TRAFFIC SHOULDERS ON THE BRIDGE TO BE CLOSED TRAFFIC
- TRAFFIC TO BE RESTRICTED TO 40 km/h
- DYNAMIC LOAD ALLOWANCE OF $\alpha = 0.1$ HAS BEEN INCLUDED IN THE DESIGN
- HLP VEHICLES MUST NOT BE ALLOWED IN THE BRIDGE
- ALL JACKS AT EACH LIFT POINT MUST BE HYDRAULICALLY LINKED AND HAVE A CENTRAL MECHANISM TO ENSURE THAT THE SAME VERTICAL DISPLACEMENTS (TOLERANCE $\pm 1\text{mm}$) OCCUR AT EACH LIFT POINT AT ALL TIMES DURING THE JACKING OPERATIONS
- BRIDGE BEARINGS ARE DESIGNED TO BE REPLACED USING LIFTS OF NOT GREATER THAT 10mm



SITE PLAN



LOCALITY PLAN
NOT TO SCALE
THE BRIDGE SITE IS APPROXIMATELY
10.98km BY ROAD FROM NEWCASTLE

NOT FOR CONSTRUCTION

Jacobs

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
Level 9, 177 Pacific Highway
North Sydney, NSW 2060
AUSTRALIA
Tel: +61 2 9928 2100
Fax: +61 2 9928 2500
Web: www.jacobs.com
DOCUMENT CONTROL No. IA301100-HSW-BR-DRG-0001

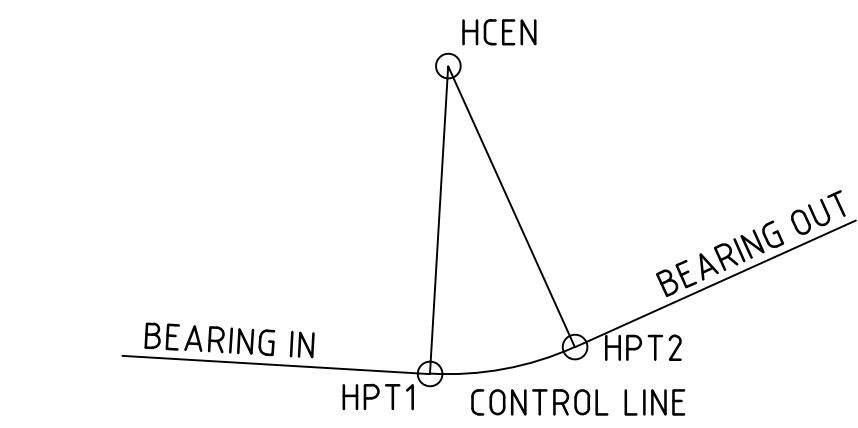
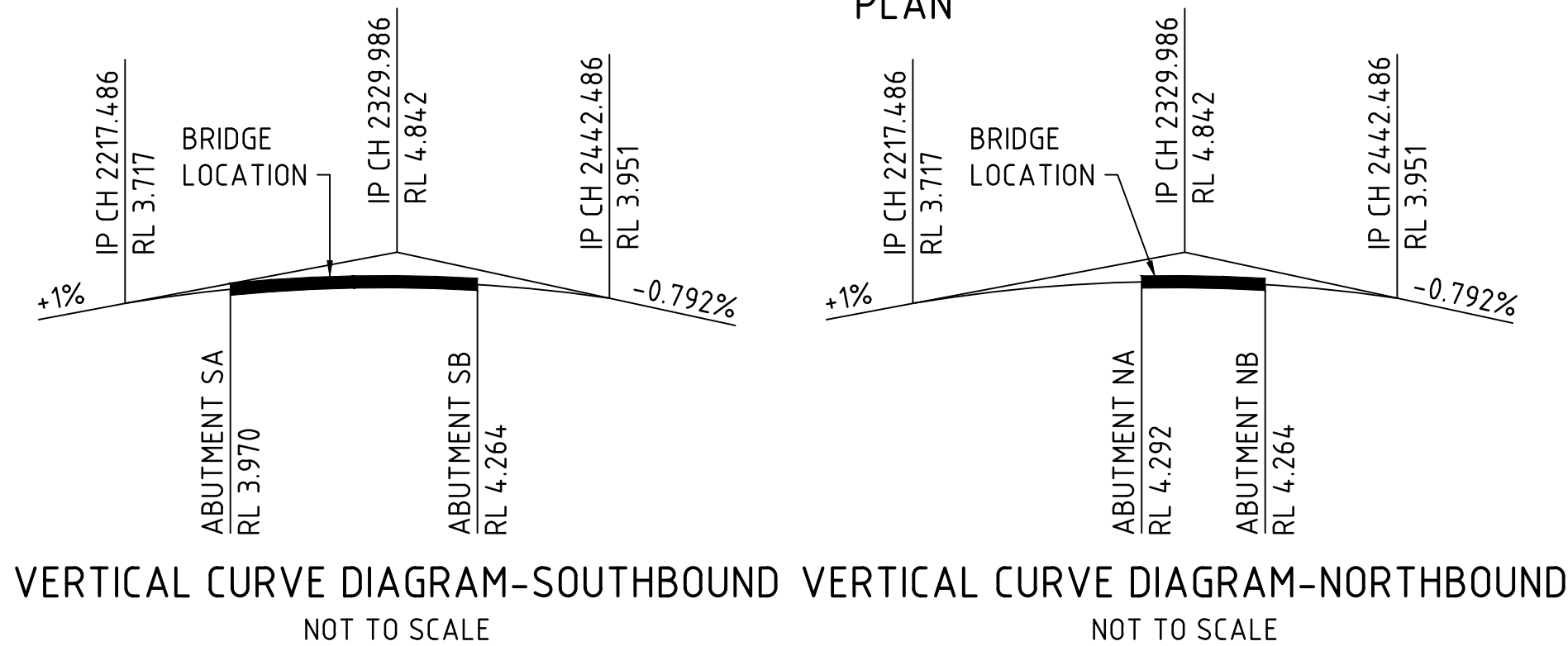
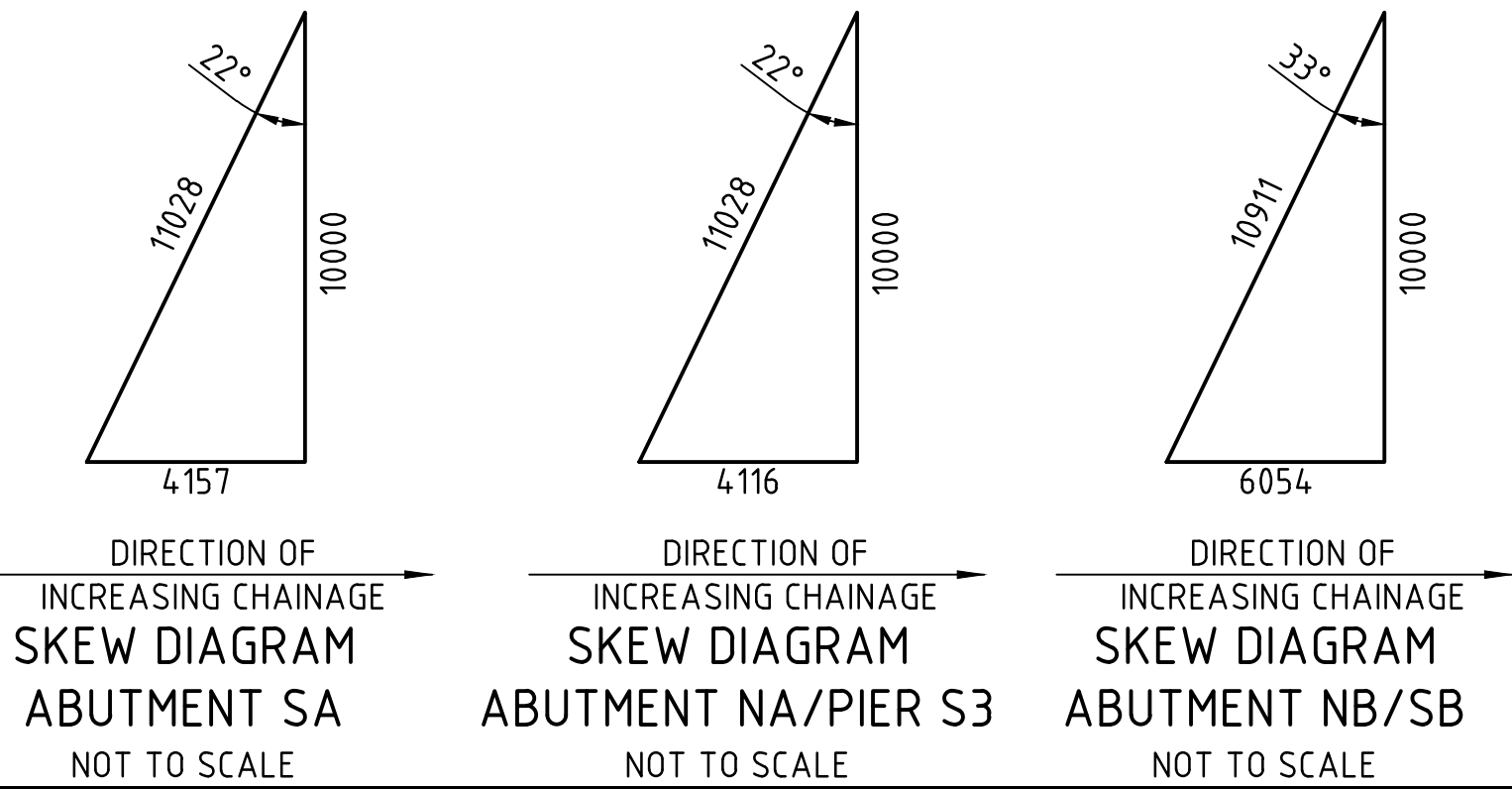
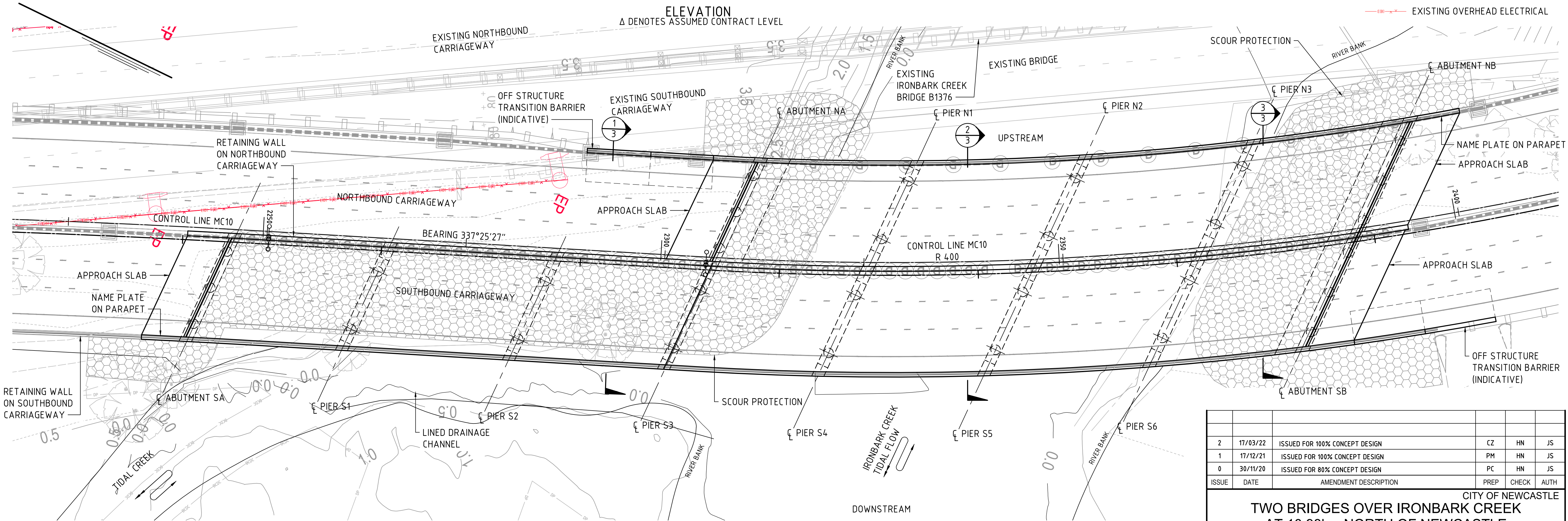
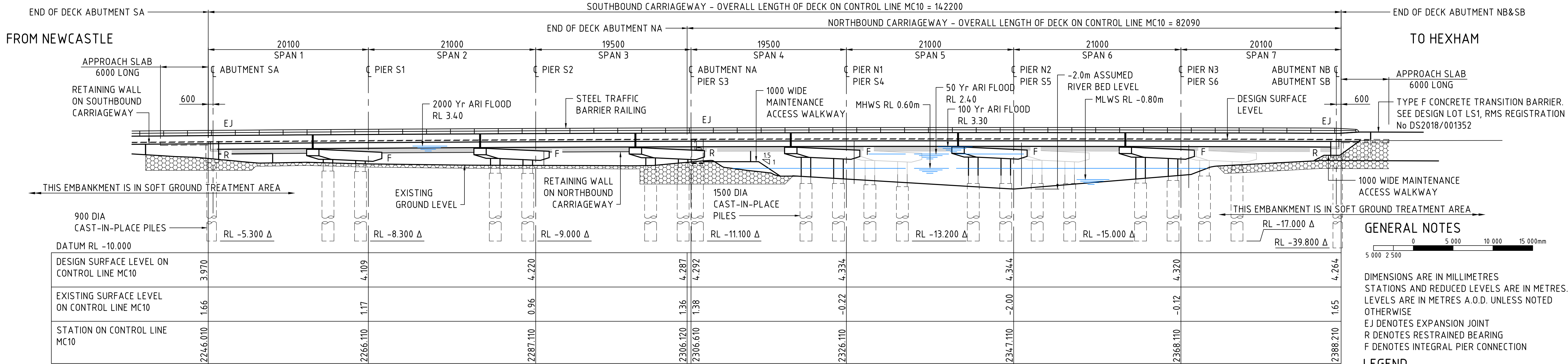


Transport
for NSW

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Rev.	Date	Description	By	Ch'd	App'd
2	17/03/22	ISSUED FOR 100% CONCEPT DESIGN	CZ	HN	JS
1	17/12/21	ISSUED FOR 100% CONCEPT DESIGN	PM	HN	JS
0	30/11/20	ISSUED FOR 80% CONCEPT DESIGN	PC	HN	JS
DRAWING SET No DS2021/000295					
ISSUE STATUS: 100% CONCEPT DESIGN					
ISSUE 2		No. OF SHEETS 3		SHEET No. 1	

DATE: 8/03/2022 12:21:14 PM LOGIN NAME: ZHANG, CHRISTINE LOCATION: C:\users\zhang2\appdata\local\project\jacobson\anz_id0349819\A301100-HSW-BR-DRG-0011.dwg



HORIZONTAL ALIGNMENT - CONTROL LINE MC10

POINT	LOCATION	COORDINATES		BEARING IN/OUT	RADIUS
		EASTING	NORTHING		
HPT1	2305.691	378676.065	6364058.731	337°25'27"	-
HCEN	CENTRE	378306.716	6363905.169	-	+400.000
HPT2	2498.719	378562.626	6364212.594	309°46'30"	-

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ISSUE	DATE	AMENDMENT DESCRIPTION	PREP	CHECK	AUTH

CITY OF NEWCASTLE

TWO BRIDGES OVER IRONBARK CREEK AT 10.98km NORTH OF NEWCASTLE

GENERAL ARRANGEMENT - SHEET A

Jacobs

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
Level 17, 177 Pacific Highway
North Sydney, NSW 2060
AUSTRALIA
Tel: +61 2 9828 2100
Fax: +61 2 9828 2500
Web: www.jacobs.com

NSW **Transport for NSW**

DOCUMENT CONTROL No IA301100-HSW-BR-DRG-0011

DESIGN	SA	PREPARED	JS	CHECKED	FL
DRAWING	PAC	FL			

APPROVED DESIGN QA RECORDS

DIRECTOR

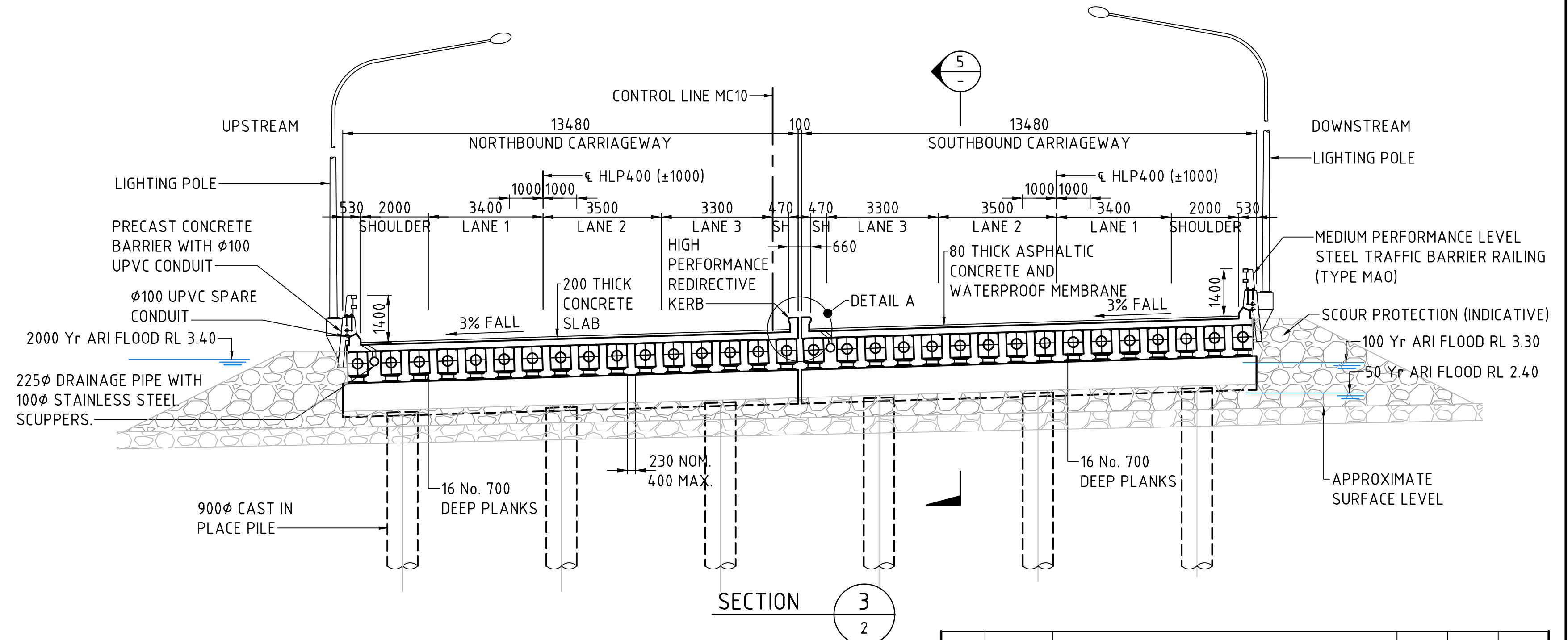
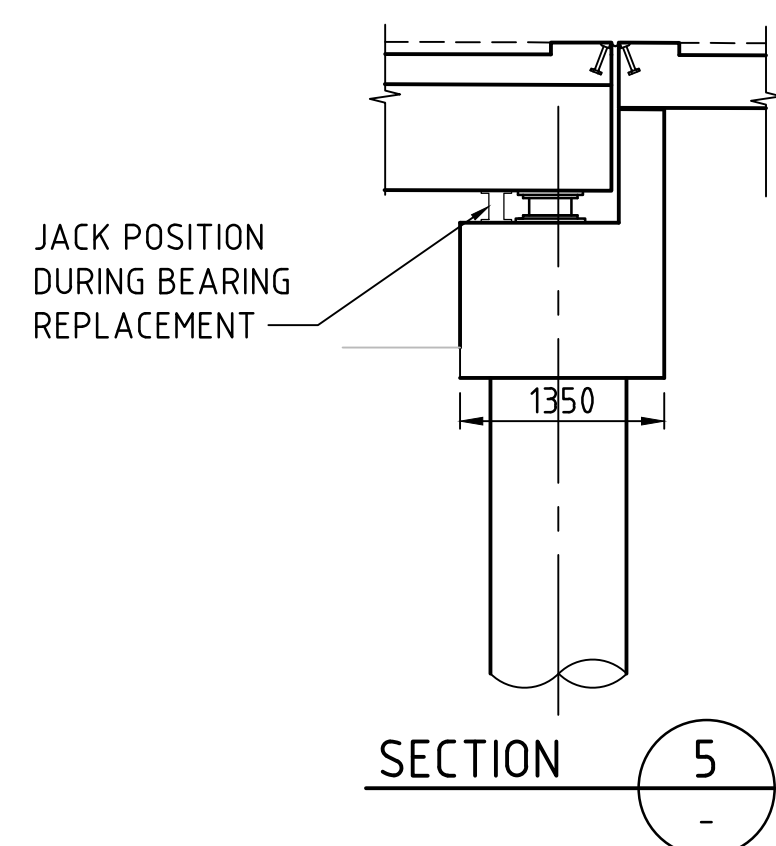
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BRIDGE NUMBER TBC

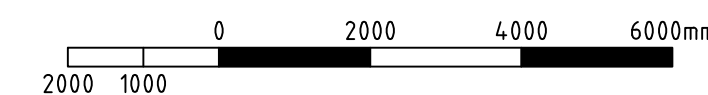
ISSUE STATUS: 100% CONCEPT DESIGN

ISSUE	2	No SHEETS	3	SHEET No	2
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GENERAL NOTES



DIMENSIONS ARE IN MILLIMETRES
STATIONS AND REDUCED LEVELS ARE IN METRES.
LEVELS ARE IN METRES A.O.D. UNLESS NOTED OTHERWISE
EJ DENOTES EXPANSION JOINT
R DENOTES RESTRAINED BEARING
SUFFICIENT AGE MUST BE ACHIEVED IN THE GIRDERS AND IN THE IN-SITU DECKS
BEFORE CASTING THE DIAPHRAGM TO MINIMISE CREEP AND SHRINKAGE EFFECT.

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ISSUE	DATE	AMENDMENT DESCRIPTION	PREP	CHECK	AUTH

MAITLAND ROAD A43 CITY OF NEWCASTLE
TWO BRIDGES OVER IRONBARK CREEK
AT 10.98km NORTH OF NEWCASTLE

GENERAL ARRANGEMENT - SHEET B

Jacobs

ABN 37 001 024 095 and ACN 001 024 095
Jacobs Group (Australia) Pty Ltd
Level 7, 177 Pacific Highway
North Sydney, NSW 2060
AUSTRALIA



DOCUMENT CONTROL No. IA301100-HSW-BR-DRG-0012			DRAWING SET No.		
DESIGN	SA	JS	DS2021/000295		
DRAWING	PAC	FL	BRIDGE NUMBER		
APPROVED DESIGN QA RECORDS			ISSUE STATUS: 100% CONCEPT DESIGN		
DIRECTOR			ISSUE 2	No SHEETS 3	SHEET No 3