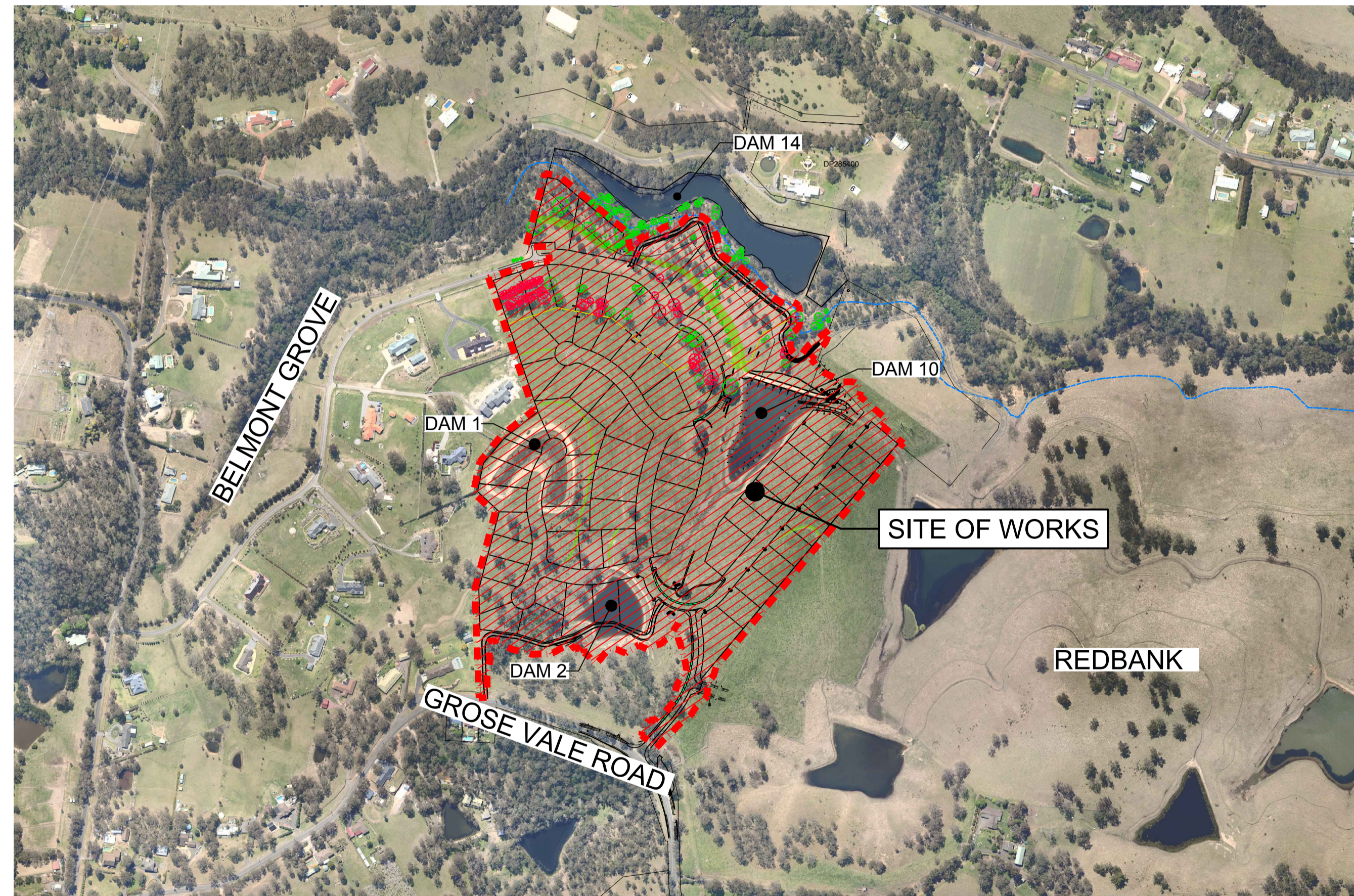




# REDBANK - BELMONT PRECINCT PROPOSED LOT, ROAD & DRAINAGE WORKS SUBDIVISION OF LOT 74 D.P. 1187236 CONSTRUCTION CERTIFICATE

HAWKESBURY CITY COUNCIL REF: DA0438-14, DA0451-14, DA0452-14 & DA0467-15



LOCALITY SKETCH

Prepared By:

## J. WYNDHAM PRINCE

CONSULTING CIVIL INFRASTRUCTURE ENGINEERS  
& PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750

P 02 4720 3300 F 02 4720 3399

W [www.jwprince.com.au](http://www.jwprince.com.au)

E [jwp@jwprince.com.au](mailto:jwp@jwprince.com.au)

Survey By:

### VINCE MORGAN SURVEYORS

REGISTERED SURVEYORS  
1/77 UNION ROAD PENRITH NSW 2750  
Ph. (02) 4721 5293

REF: NORTH RICHMOND - DETAIL SURVEY UPDATE 4 July 2016

LOT LAYOUT PLAN OF PROPOSED SUBDIVISION REF: 16800-6-P3(C) & 16800-12-L3(B)

CONSTRUCTION CERTIFICATE	
Certificate No.	20130299C36
Date of Issue	31 July 2017
Issuing Officer	<i>[Signature]</i>
Accreditation No.	BPB0565
These plans/specifications form part of the certificate issued 31 July 2017	

ISSUED FOR CONSTRUCTION APPROVAL

PLAN No.  
110185BEL/CC00 **E**  
FILE No. 110185BELCC00



Plotted: 18 July 2017 4:50:40 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCBELMONT\110185BELCC02.dwg

Drawing Number	Drawing Title	Revision Number
110185BEL/CC00	COVER SHEET	E
110185BEL/CC01	GENERAL NOTES & LEGEND	E
110185BEL/CC02	INDEX	G
110185BEL/CC03	LAYOUT PLAN	F
110185BEL/CC04	SETOUT PLAN SHEET 1	F
110185BEL/CC05	SETOUT PLAN SHEET 2	E
110185BEL/CC06	ENGINEERING PLAN SHEET 1	F
110185BEL/CC07	ENGINEERING PLAN SHEET 2	F
110185BEL/CC08	ENGINEERING PLAN SHEET 3	F
110185BEL/CC09	ENGINEERING PLAN SHEET 4	F
110185BEL/CC10	ENGINEERING PLAN SHEET 5	F
110185BEL/CC11	ENGINEERING PLAN SHEET 6	F
110185BEL/CC12	ENGINEERING PLAN SHEET 7	F
110185BEL/CC13	LONGITUDINAL SECTIONS SHEET 1	F
110185BEL/CC14	LONGITUDINAL SECTIONS SHEET 2	F
110185BEL/CC15	LONGITUDINAL SECTIONS SHEET 3	E
110185BEL/CC16	LONGITUDINAL SECTIONS SHEET 4	E
110185BEL/CC17	LONGITUDINAL SECTIONS SHEET 5	F
110185BEL/CC18	LONGITUDINAL SECTIONS SHEET 6	F
110185BEL/CC19	LONGITUDINAL SECTIONS SHEET 7	F
110185BEL/CC20	LONGITUDINAL SECTIONS SHEET 8	F
110185BEL/CC21	ROAD CROSS SECTIONS SHEET 1	E
110185BEL/CC22	ROAD CROSS SECTIONS SHEET 2	E
110185BEL/CC23	ROAD CROSS SECTIONS SHEET 3	F
110185BEL/CC24	ROAD CROSS SECTIONS SHEET 4	F
110185BEL/CC25	ROAD CROSS SECTIONS SHEET 5	F
110185BEL/CC26	ROAD CROSS SECTIONS SHEET 6	F
110185BEL/CC27	ROAD CROSS SECTIONS SHEET 7	E
110185BEL/CC28	ROAD CROSS SECTIONS SHEET 8	E
110185BEL/CC29	ROAD CROSS SECTIONS SHEET 9	E
110185BEL/CC30	ROAD CROSS SECTIONS SHEET 10	F
110185BEL/CC31	ROAD CROSS SECTIONS SHEET 11	F
110185BEL/CC32	ROAD CROSS SECTIONS SHEET 12	F
110185BEL/CC33	ROAD CROSS SECTIONS SHEET 13	F
110185BEL/CC34	ROAD CROSS SECTIONS SHEET 14	F
110185BEL/CC35	ROAD CROSS SECTIONS SHEET 15	E
110185BEL/CC36	ROAD CROSS SECTIONS SHEET 16	E
110185BEL/CC37	ROAD CROSS SECTIONS SHEET 17	F
110185BEL/CC38	ROAD CROSS SECTIONS SHEET 18	F
110185BEL/CC55	KERB RETURN PLAN & SECTIONS SHEET 1	E
110185BEL/CC56	KERB RETURN PLAN & SECTIONS SHEET 2	F
110185BEL/CC57	KERB RETURN PLAN & SECTIONS SHEET 3	F
110185BEL/CC58	KERB RETURN PLAN & SECTIONS SHEET 4	E
110185BEL/CC59	KERB RETURN PLAN & SECTIONS SHEET 5	E
110185BEL/CC60	KERB RETURN PLAN & SECTIONS SHEET 6	E
110185BEL/CC61	CATCHMENT PLAN SHEET 1	E
110185BEL/CC62	CATCHMENT PLAN SHEET 2	F
110185BEL/CC63	DRAINAGE LONGITUDINAL SECTIONS SHEET 1	E
110185BEL/CC64	DRAINAGE LONGITUDINAL SECTIONS SHEET 2	F
110185BEL/CC65	DRAINAGE LONGITUDINAL SECTIONS SHEET 3	E
110185BEL/CC66	DRAINAGE LONGITUDINAL SECTIONS SHEET 4	E
110185BEL/CC67	DRAINAGE LONGITUDINAL SECTIONS SHEET 5	E

110185BEL/CC68	DRAINAGE LONGITUDINAL SECTIONS SHEET 6	E
110185BEL/CC69	DRAINAGE LONGITUDINAL SECTIONS SHEET 7	E
110185BEL/CC70	DRAINAGE LONGITUDINAL SECTIONS SHEET 8	F
110185BEL/CC71	PIT SCHEDULE & PIT SETOUT	F
110185BEL/CC72	HYDROLOGIC CALCULATIONS SHEET 1	E
110185BEL/CC73	HYDROLOGIC CALCULATIONS SHEET 2	E
110185BEL/CC74	HYDRAULIC CALCULATIONS SHEET 1	E
110185BEL/CC75	HYDRAULIC CALCULATIONS SHEET 2	E
110185BEL/CC76	CULVERT 1 PLAN, SECTION, HEADWALL 1 & RETAINING WALL 1 PROFILE	F
110185BEL/CC77	CULVERT 2 PLAN, SECTION & HEADWALL 3 & 4 PROFILES	E
110185BEL/CC78	SPILLWAY PLAN, SECTION & DETAILS	E
110185BEL/CC79	OUTLET PLAN, LONGITUDINAL SECTION & DETAILS	E
110185BEL/CC80	OUTLET CONTROL CROSS SECTIONS	E
110185BEL/CC81	DROP STRUCTURE & ENERGY DISSIPATOR & DETAILS	E
110185BEL/CC82	RETAINING WALL 3 & F1 PLAN & SECTION	F
110185BEL/CC83	RETAINING WALLS L1, L2 & L3 PLAN & SECTIONS	D
110185BEL/CC84	CARPARK PLAN, SECTIONS & DETAILS	D
110185BEL/CC85	NOT USED	-
110185BEL/CC86	NOT USED	-
110185BEL/CC87	NOT USED	-
110185BEL/CC88	SOIL & WATER MANAGEMENT PLAN PHASE 1 - OVERALL SITE	G
110185BEL/CC89	NOT USED	D
110185BEL/CC90	NOT USED	D
110185BEL/CC91	SOIL & WATER MANAGEMENT PLAN PHASE 1A - DAM 10 SEDIMENT BASIN	G
110185BEL/CC92	SOIL & WATER MANAGEMENT PLAN PHASE 2 BULK EARTHWORKS	G
110185BEL/CC93	SOIL & WATER MANAGEMENT PLAN PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 1	G
110185BEL/CC94	SOIL & WATER MANAGEMENT PLAN PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 2	F
110185BEL/CC95	SOIL & WATER MANAGEMENT DETAILS	F
110185BEL/CC96	SOIL & WATER MANAGEMENT NOTES	F
110185BEL/CC97	SIGNPOSTING & LINEMARKING SHEET 1	E
110185BEL/CC98	SIGNPOSTING & LINEMARKING SHEET 2	E
110185BEL/CC99	SIGNPOSTING & LINEMARKING SHEET 3	E
110185BEL/CC100	SIGNPOSTING & LINEMARKING SHEET 4	F
110185BEL/CC101	SIGNPOSTING & LINEMARKING SHEET 5	E
110185BEL/CC102	100YR HYDROLOGIC CALCULATIONS SHEET 1	B
110185BEL/CC103	100YR HYDROLOGIC CALCULATIONS SHEET 2	B
110185BEL/CC104	100YR HYDRAULIC CALCULATIONS SHEET 1	B
110185BEL/CC105	100YR HYDRAULIC CALCULATIONS SHEET 2	B
110185BEL/CC106	TRAFFIC MANAGEMENT PLAN SHEET 1	B
110185BEL/CC107	TRAFFIC MANAGEMENT PLAN SHEET 2	B
110185BEL/CC300	OUTLET CONTROLS LAYOUT PLAN	B
110185BEL/CC301	OUTLET CONTROLS OUTLET DETAIL SHEET 1	B
110185BEL/CC302	OUTLET CONTROLS OUTLET DETAIL SHEET 2	B
110185BEL/CC303	OUTLET CONTROLS OUTLET DETAIL SHEET 3	B

△



UTILITIES SHOWN ARE DIAGRAMMATIC ONLY, CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS.

NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *Jerry H...*  
 Accreditation No. BPPB0565

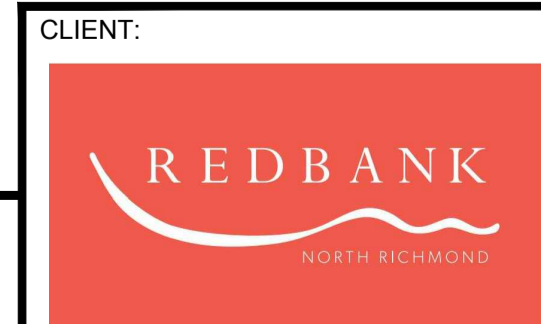
These plans/specifications form part of the certificate issued 31 July 2017

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F	INDEX UPDATED	MP	NA	MS	MS	13/02/17
E	ISSUED FOR COUNCIL APPROVAL	VG	VG	RO	MS	25/10/16
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:



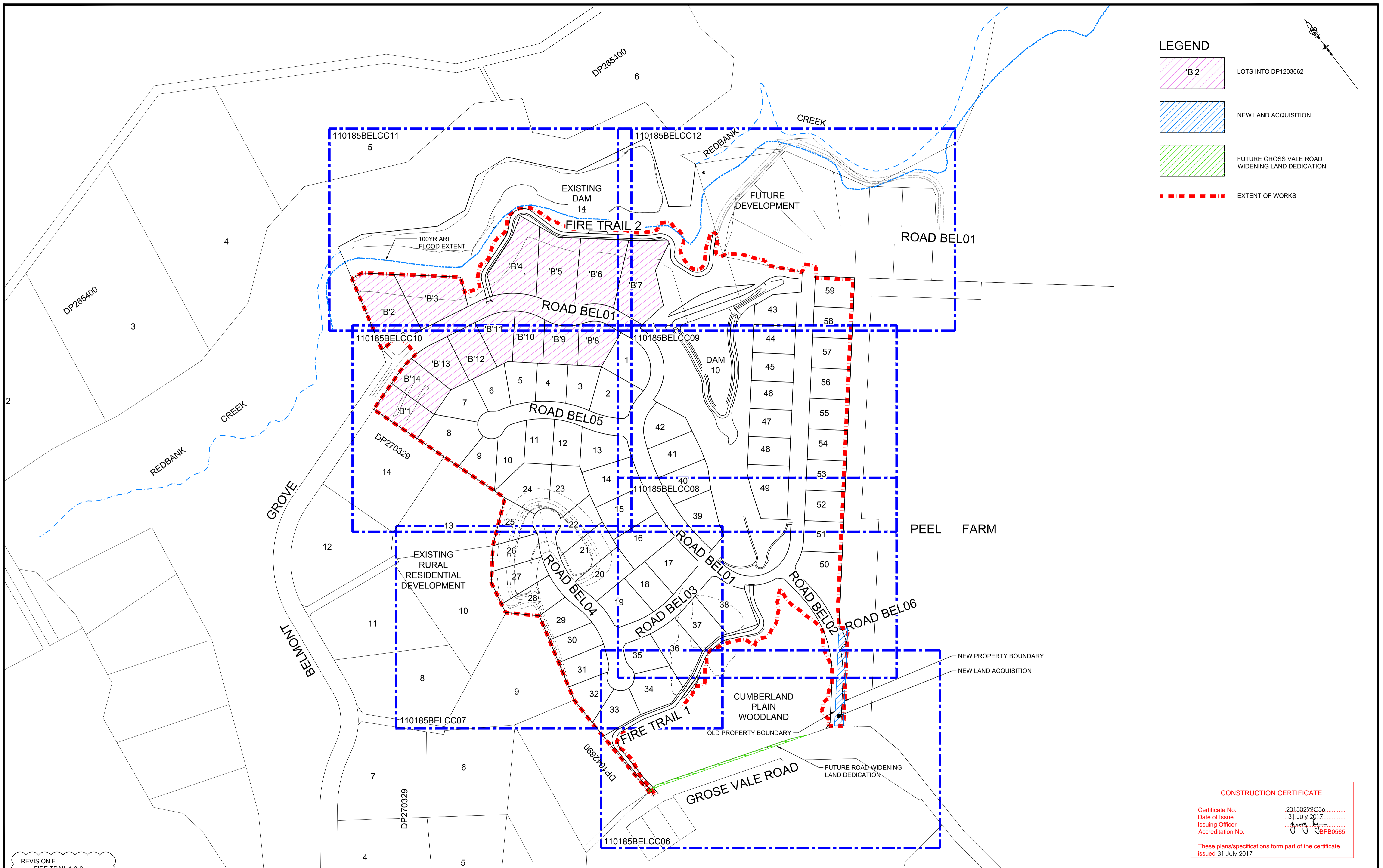
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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK, NORTH RICHMOND  
 BELMONT  
 INDEX

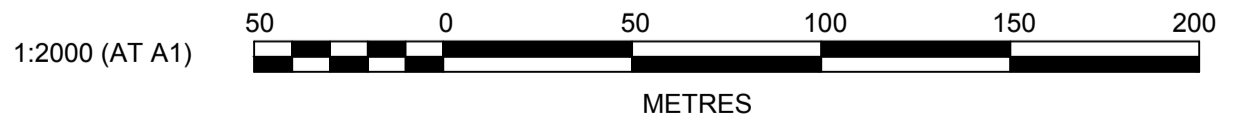
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FILE No:	110185BELCC02	
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REVISION F  
 FIRE TRAIL 1 & 2  
 ALIGNMENTS AMENDED

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
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AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
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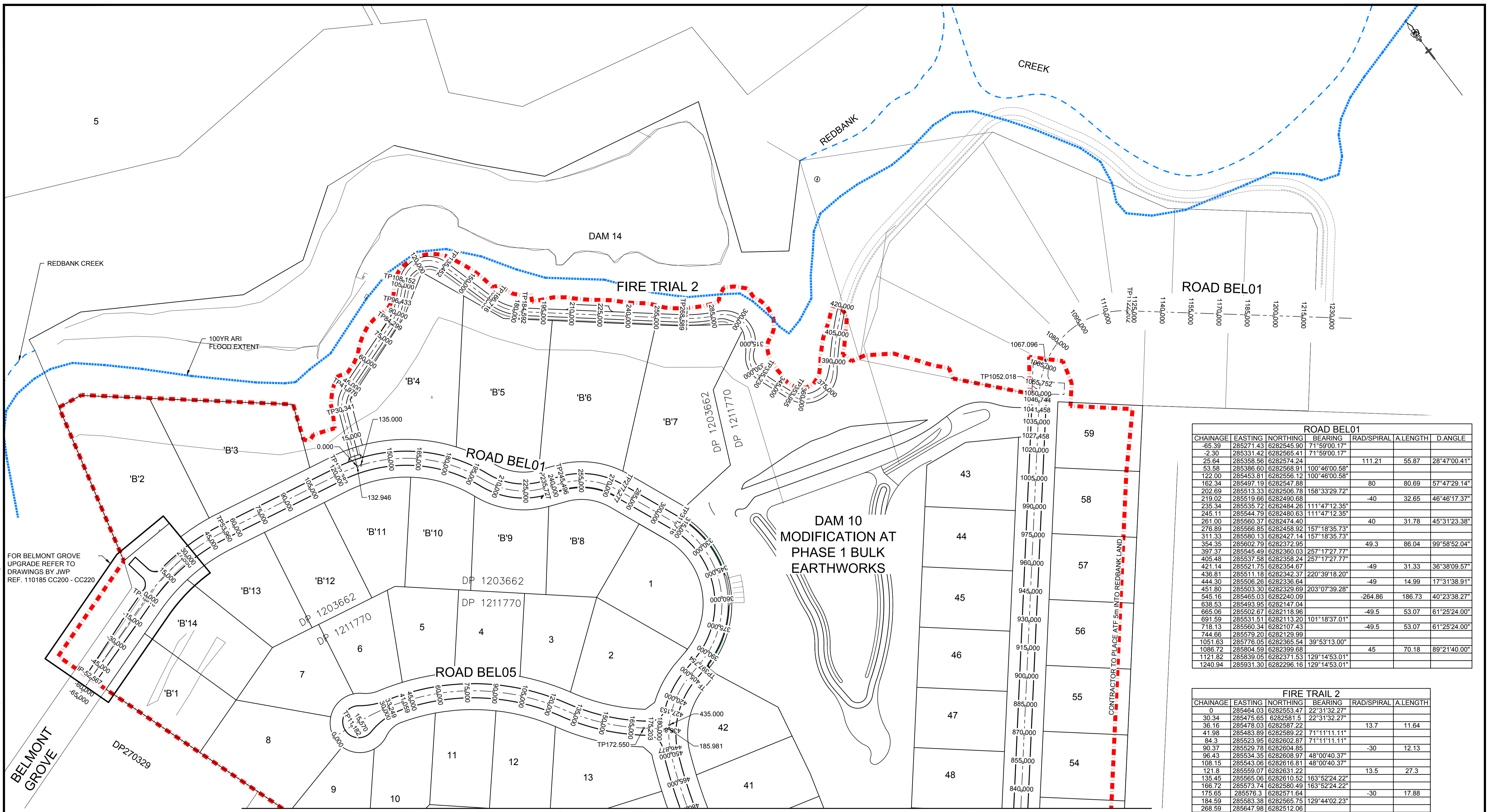
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
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CLIENT: **REDBANK** NORTH RICHMOND  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

**ISSUED FOR CONSTRUCTION APPROVAL**  
 REDBANK, NORTH RICHMOND  
 BELMONT  
 LAYOUT PLAN

PLAN No: 110185BEL/CC03 **F**  
 FILE No: 110185BELCC03  
 SHEET SIZE: A1 ORIGINAL

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ROAD BEL01						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
-65.39	285271.43	6282545.90	71°59'00.17"			
-2.30	285331.42	6282565.41	71°59'00.17"			
25.64	285358.56	6282574.24		111.21	55.87	28°47'00.41"
53.58	285386.60	6282568.91	100°46'00.58"			
122.00	285453.81	6282556.12	100°46'00.58"			
162.34	285497.19	6282547.88		80	80.69	57°47'29.14"
202.69	285513.33	6282506.78	158°33'29.72"			
219.02	285519.66	6282490.68		-40	32.65	46°46'17.37"
235.34	285535.72	6282484.26	111°47'12.35"			
245.11	285544.79	6282480.63	111°47'12.35"			
261.00	285560.37	6282474.40		40	31.78	45°31'23.38"
276.89	285566.85	6282458.92	157°18'35.73"			
311.33	285580.13	6282427.14	157°18'35.73"			
354.35	285602.79	6282372.95		49.3	86.04	99°58'52.04"
397.37	285645.49	6282360.03	257°17'27.77"			
405.48	285653.58	6282358.24	257°17'27.77"			
421.14	285621.75	6282354.67		-49	31.33	36°38'09.57"
436.81	285511.18	6282342.37	220°39'18.20"			
444.30	285506.26	6282336.64		-49	14.99	17°31'38.91"
451.80	285503.30	6282329.69	203°07'39.28"			
545.16	285465.03	6282240.09		-264.86	186.73	40°23'38.27"
638.53	285493.95	6282147.04				
665.06	285502.67	6282118.96		-49.5	53.07	61°25'24.00"
691.59	285531.51	6282113.20	101°18'37.01"			
718.13	285560.34	6282107.43		-49.5	53.07	61°25'24.00"
744.66	285579.20	6282129.99				
1051.63	285776.05	6282365.54	39°53'13.00"			
1086.72	285804.59	6282399.68		45	70.18	89°21'40.00"
1121.82	285839.05	6282371.53	129°14'53.01"			
1240.94	285931.30	6282296.16	129°14'53.01"			

FIRE TRIAL 2						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0	285464.03	6282553.47	22°31'32.27"			
30.34	285475.65	6282581.5	22°31'32.27"			
36.16	285478.03	6282587.22		13.7	11.64	
41.98	285483.99	6282589.22	71°11'11.11"			
84.3	285523.95	6282602.87	71°11'11.11"			
90.37	285529.78	6282604.85		-30	12.13	
96.43	285534.35	6282608.97	48°00'40.37"			
108.15	285543.06	6282616.81	48°00'40.37"			
121.8	285559.07	6282631.22		13.5	27.3	
135.45	285565.06	6282610.52	163°52'24.22"			
166.72	285573.74	6282580.49	163°52'24.22"			
175.65	285576.3	6282571.64		-30	17.88	
194.59	285583.38	6282565.75	129°44'02.23"			
268.59	285647.98	6282512.06				
278.77	285655.85	6282505.52		-80	20.35	
288.94	285665.11	6282501.17				
304.18	285687.82	6282490.5		14.6	30.48	
319.42	285667.33	6282476.02				
327.33	285659.74	6282470.67		-12	15.81	
335.23	285663.02	6282461.98	159°18'00.01"			
353.95	285669.64	6282444.46	159°18'00.01"			
369.6	285678.73	6282420.4		-15	31.29	
385.24	285695.2	6282440.17	39°47'54.00"			
397.63	285703.14	6282449.7		193.5	24.79	
410.03	285712.24	6282458.14	47°08'14.44"			
414.37	285715.43	6282461.1		193.5	8.7	
418.72	285718.74	6282463.91	49°42'46.82"			
420.49	285720.09	6282465.05		193.5	3.53	
422.25	285721.46	6282466.17	50°45'28.06"			

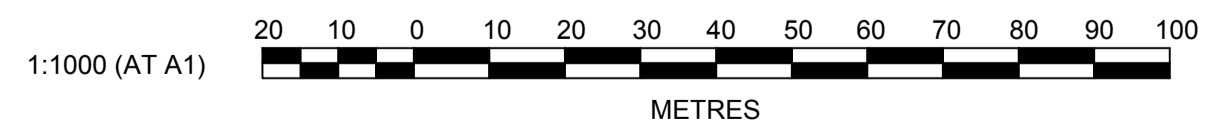
ROAD BEL05						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285367.01	6282446.62	94°49'10.62"			
11.18	285378.15	6282445.68	94°49'10.62"			
70.10	285442.08	6282440.29		120	117.83	56°15'30.06"
129.01	285473.11	6282384.14	151°04'40.68"			
150.78	285483.76	6282364.86		-115	43.54	21°41'33.45"
172.55	285500.79	6282350.88				
185.98	285511.18	6282342.37	129°18'03.35"			

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPP0565

These plans/specifications form part of the certificate issued 31 July 2017

REVISION F  
 FIRE TRIAL 2 ALIGNMENT AND SETOUT AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 SETOUT PLAN  
 SHEET 1

PLAN No: 110185BEL/CC04 **F**  
 FILE No: 110185BELCC04  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 4:51:38 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC04.dwg

REFER TO DRAWING 110185BELCC04 FOR CONTINUATION

ROAD BEL02						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285474.11	6281918.58	39°54'50.95"			
71.26	285519.83	6281973.23	39°54'50.95"			
125.79	285556.86	6282017.49		-135.11	109.06	46°14'56.80"
180.32	285550.49	6282074.83	353°39'54.15"			
218.22	285546.31	6282112.50	353°39'54.15"			

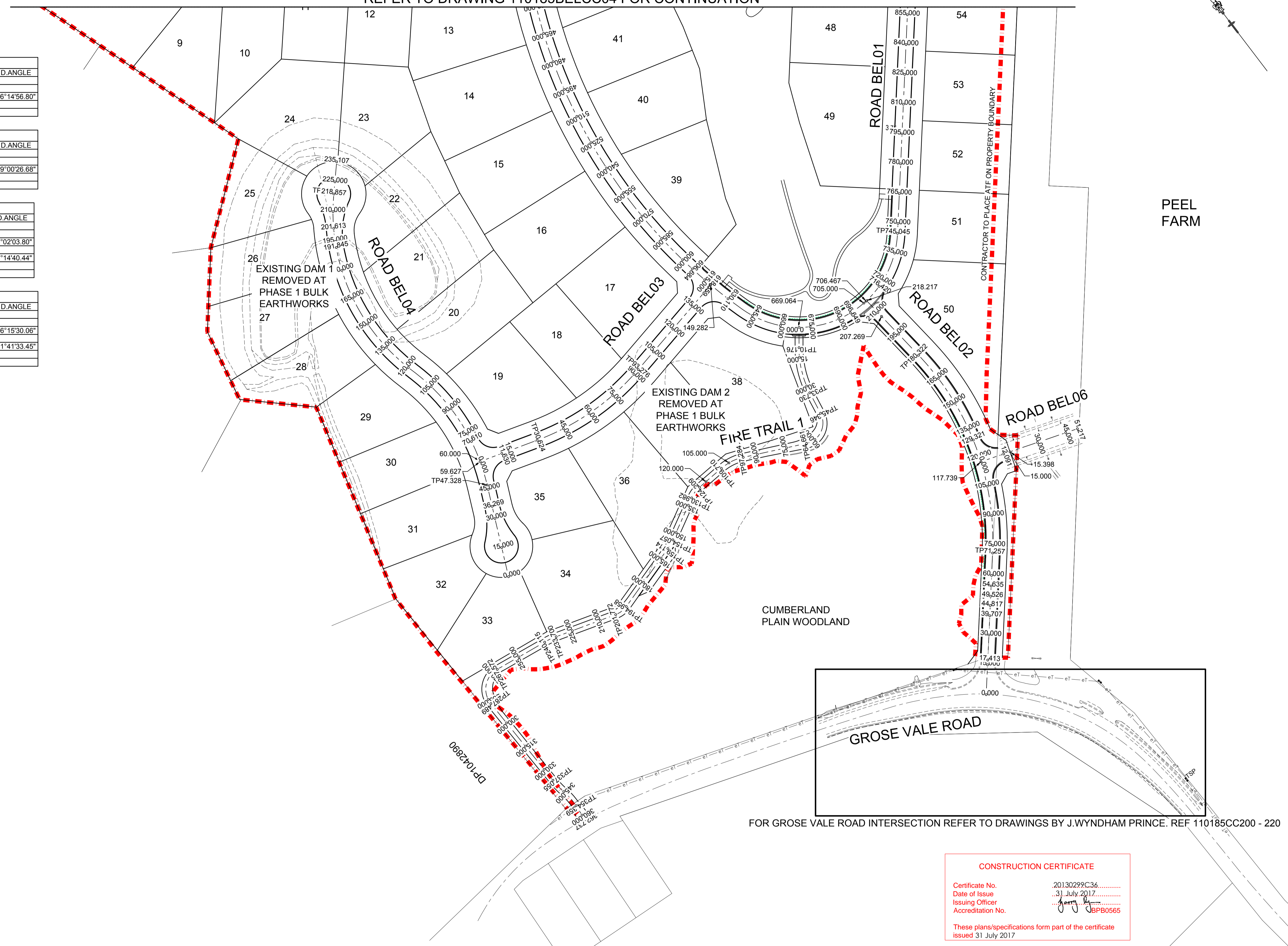
ROAD BEL03						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285367.01	6282154.49	106°52'19.18"			
30.62	285372.06	6282157.11	106°52'19.18"			
61.95	285402.69	6282147.81		-123.75	62.65	29°00'26.68"
93.28	285433.99	6282154.54	77°51'52.50"			
149.28	285488.74	6282166.32	77°51'52.50"			

ROAD BEL04						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285319.03	6282111.32	24°10'58.27"			
47.53	285338.41	6282154.49				
82.28	285353.34	6282187.73		-100	69.87	40°02'03.80"
117.20	285343.39	6282222.77				
168.03	285328.17	6282276.36		100	101.66	58°14'40.44"
218.86	285365.73	6282317.51	42°23'34.91"			
235.11	285376.69	6282329.51	42°23'34.91"			

ROAD BEL05						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285367.01	6282446.63	94°49'10.62"			
11.18	285378.15	6282445.66	94°49'10.62"			
70.10	285442.08	6282440.29		120	117.83	56°15'30.06"
129.01	285473.11	6282384.14	151°04'40.68"			
150.78	285483.76	6282364.86		-115	43.54	21°41'33.45"
172.55	285500.79	6282350.88				
185.98	285511.18	6282342.37	129°18'03.35"			

ROAD BEL06			
CHAINAGE	EASTING	NORTHING	BEARING
0.00	285543.00	6282013.28	108°26'33.39"
51.22	285591.59	6281997.06	108°26'33.39"

FIRE TRAIL 1					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	285511.16	6282122.41	217°23'19.03"		
10.18	285504.98	6282114.32	217°23'19.03"		
21.95	285497.69	6282104.79		-50	23.55
33.73	285495.53	6282092.98			
45.35	285493.61	6282081.53		10.5	19.31
55	285491.33	6282067.93			
64.66	285478.83	6282073.74			
97.28	285449.24	6282087.47	294°54'06.60"		
103.5	285443.49	6282090.15		-25	12.43
109.71	285437.16	6282089.75	266°25'25.76"		
124.21	285422.68	6282088.85	266°25'25.76"		
127.6	285419.25	6282088.63		-15.5	6.77
130.98	285416.23	6282086.98	241°23'21.73"		
154.06	285396.97	6282075.93	241°23'21.73"		
156.59	285393.74	6282074.72		25	5.06
159.11	285391.32	6282073.98	252°58'46.21"		
194.96	285357.04	6282063.48	252°58'46.21"		
198.36	285353.69	6282062.46		11.5	6.81
201.77	285350.33	6282063.48	286°55'39.12"		
233.7	285319.79	6282072.77	286°55'39.12"		
236.91	285316.71	6282073.71		-37	6.42
240.12	285313.52	6282074.1			
267.57	285286.3	6282077.7	277°31'27.01"		
277.53	285272.89	6282079.47		-11.5	19.92
287.49	285273.3	6282065.95	178°17'33.00"		
337.05	285274.77	6282016.41	178°17'33.00"		
341.37	285274.9	6282012.09		-50	8.63
345.68	285275.77	6282007.85	168°24'18.27"		
350.02	285276.65	6282003.57		30	8.68
354.36	285276.27	6281999.22	184°58'33.54"		
362.74	285275.54	6281990.87	184°58'33.54"		



PEEL FARM

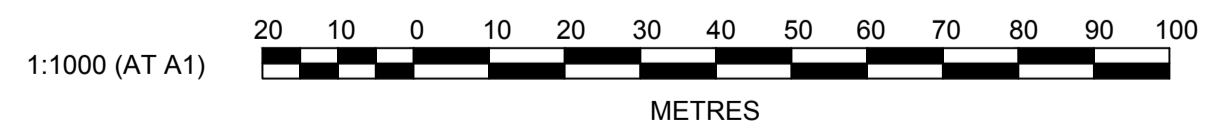
CUMBERLAND PLAIN WOODLAND

GROSE VALE ROAD

FOR GROSE VALE ROAD INTERSECTION REFER TO DRAWINGS BY J.WYNDHAM PRINCE. REF 110185CC200 - 220

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36 .....  
 Date of Issue 31 July 2017 .....  
 Issuing Officer *Harry B* .....  
 Accreditation No. BP0565 .....  
 These plans/specifications form part of the certificate issued 31 July 2017

REVISION E  
 • FIRE TRAIL 1 ALIGNMENT & SETOUT TABLE AMENDED



NO.	DESCRIPTION	DES	DRN	CKD	APR	DATE
E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO		21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: **REDBANK** NORTH RICHMOND  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**  
**REDBANK, NORTH RICHMOND BELMONT SETOUT PLAN SHEET 2**  
 PLAN No: 110185BEL/CC05 **E**  
 FILE No: 110185BELCC05  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 4:52:17 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC05.dwg

REFER TO DRAWING 110185BELCC07 & CC08 FOR CONTINUATION

REFER TO DRAWING 110185BELCC07 FOR CONTINUATION



**NOTE**

- REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

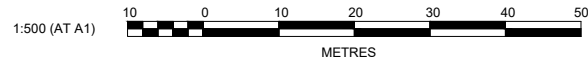
**NOTE**

- 10m WIDE LAND DEDICATION FROM ROAD CENTRELINE FOR FUTURE GROSE VALE ROAD WIDENING
- FOR GROSE VALE ROAD INTERSECTION REFER TO DRAWINGS. REF 110185BELCC200 - 217

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
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AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND BELMONT  
 ENGINEERING PLAN SHEET 1

PLAN No: 110185BEL/CC06 **F**  
 FILE No: 110185BELCC06  
 SHEET SIZE: A1 ORIGINAL

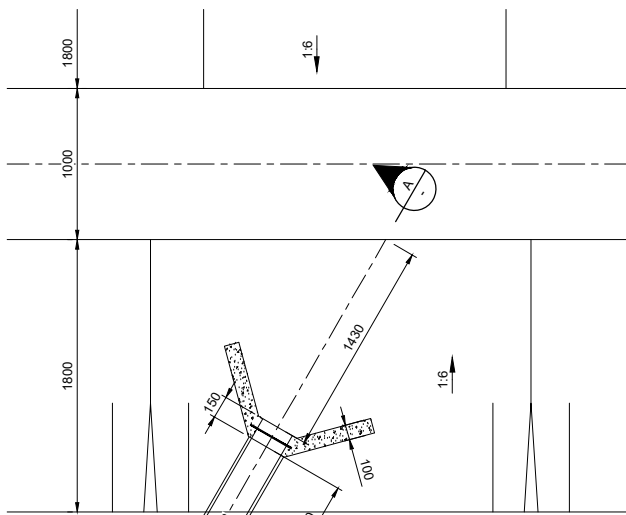
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REFER TO DRAWING 110185BELCC10 FOR CONTINUATION

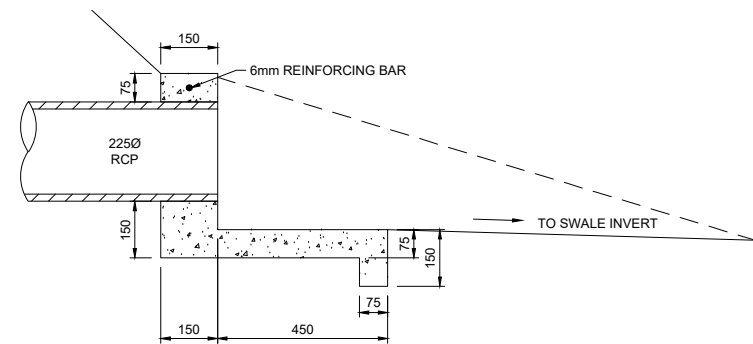
REFER TO DRAWING 110185BELCC09 FOR CONTINUATION

REFER TO DRAWING 110185BELCC08 FOR CONTINUATION

REFER TO DRAWING 110185BELCC06 FOR CONTINUATION



ROOF WATER CONNECTION TO SWALE DRAIN  
LOTS 9-12, 13-19, 29-33, 'B'1, 'B'8 & 'B'14  
SCALE 1:25



SECTION A  
SCALE 1:10

NOTE

- REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

NOTE

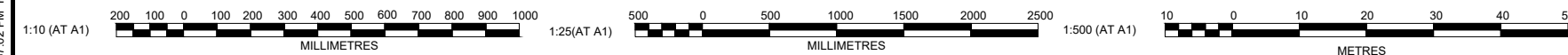
LOTS 9-12, 13-19, 29-33, 'B'1, 'B'8 & 'B'14  
ROOFWATER DIRECT CONNECTION TO SWALE DRAIN. REFER TO DETAIL ABOVE.

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPPB0565

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- REVISION F
- FIRE TRAIL 1 ALIGNMENT AMENDED
  - DESIGN SURFACE & BATTER INTERFACE AMENDED

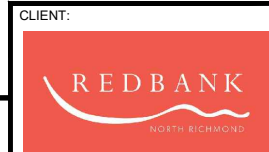


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E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:



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REDBANK, NORTH RICHMOND  
BELMONT  
ENGINEERING PLAN  
SHEET 2

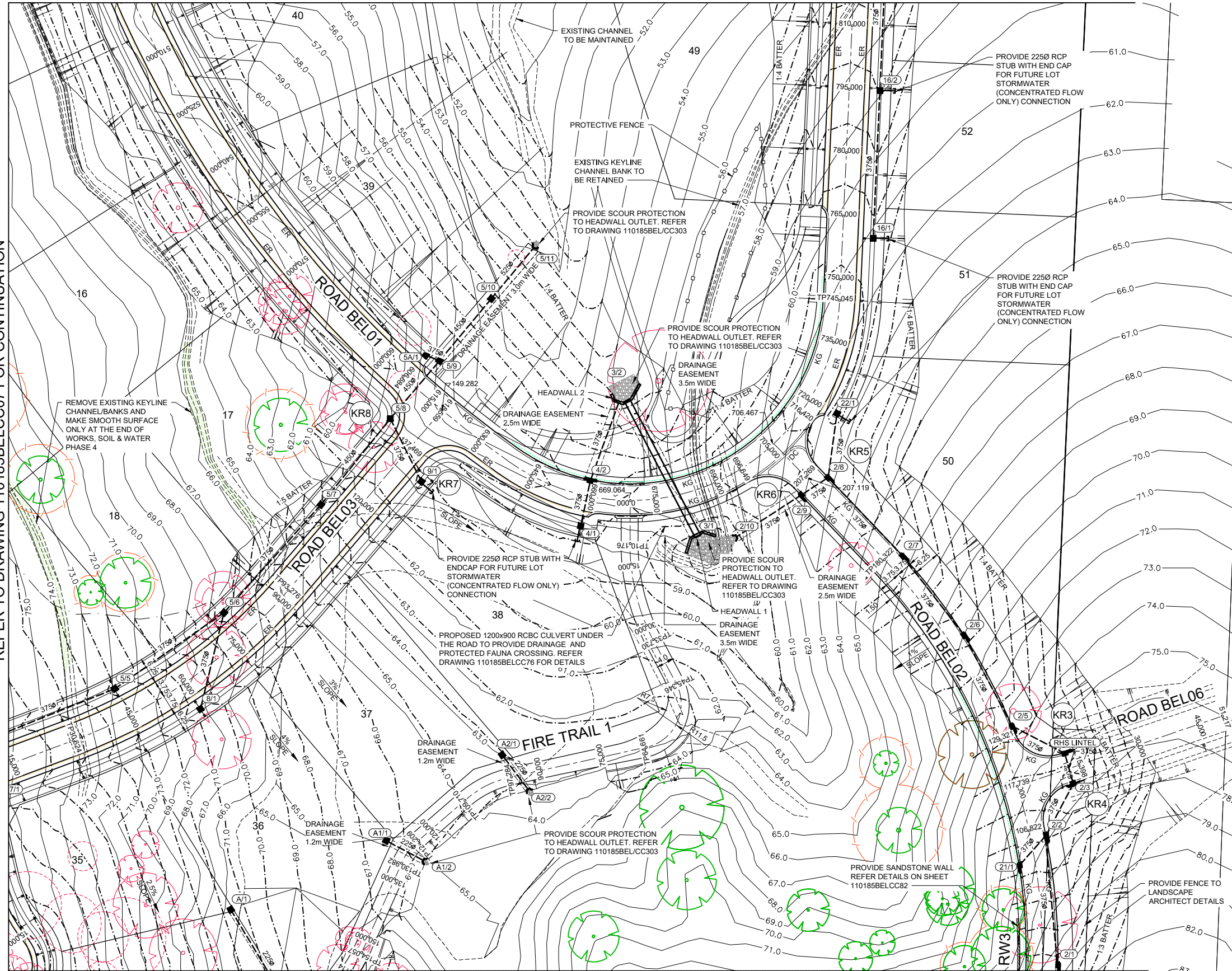
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FILE No: 110185BELCC07  
SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:37:02 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC07.dwg



REFER TO DRAWING 110185BELCC09 FOR CONTINUATION

REFER TO DRAWING 110185BELCC07 FOR CONTINUATION



REFER TO DRAWING 110185BELCC06 FOR CONTINUATION



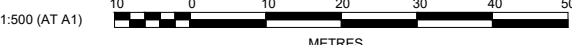
**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
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**LEGEND**  
 LOT/BDY \* EASEMENT TO DRAIN WATER 1m x 1.5m WIDE PROVIDED FOR EACH LOT FUTURE DRAINING DIRECTLY TO OPEN SPACE

**NOTE**  
 LOTS 9-12, 13-19, 29-33, B1, B8 & B14 ROOFWATER DIRECT CONNECTION TO SWALE DRAIN. REFER TO DETAIL ON DRAWING 110185BEL/CC07.

**NOTE**  
 REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

**REVISION F**  
 • FIRE TRAIL 1 ALIGNMENT AMENDED  
 • DESIGN SURFACE & BATTER INTERFACE AMENDED  
 • CULVERT 1 ALIGNMENT AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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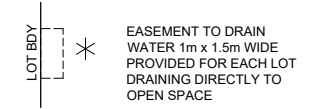
**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 ENGINEERING PLAN  
 SHEET 3

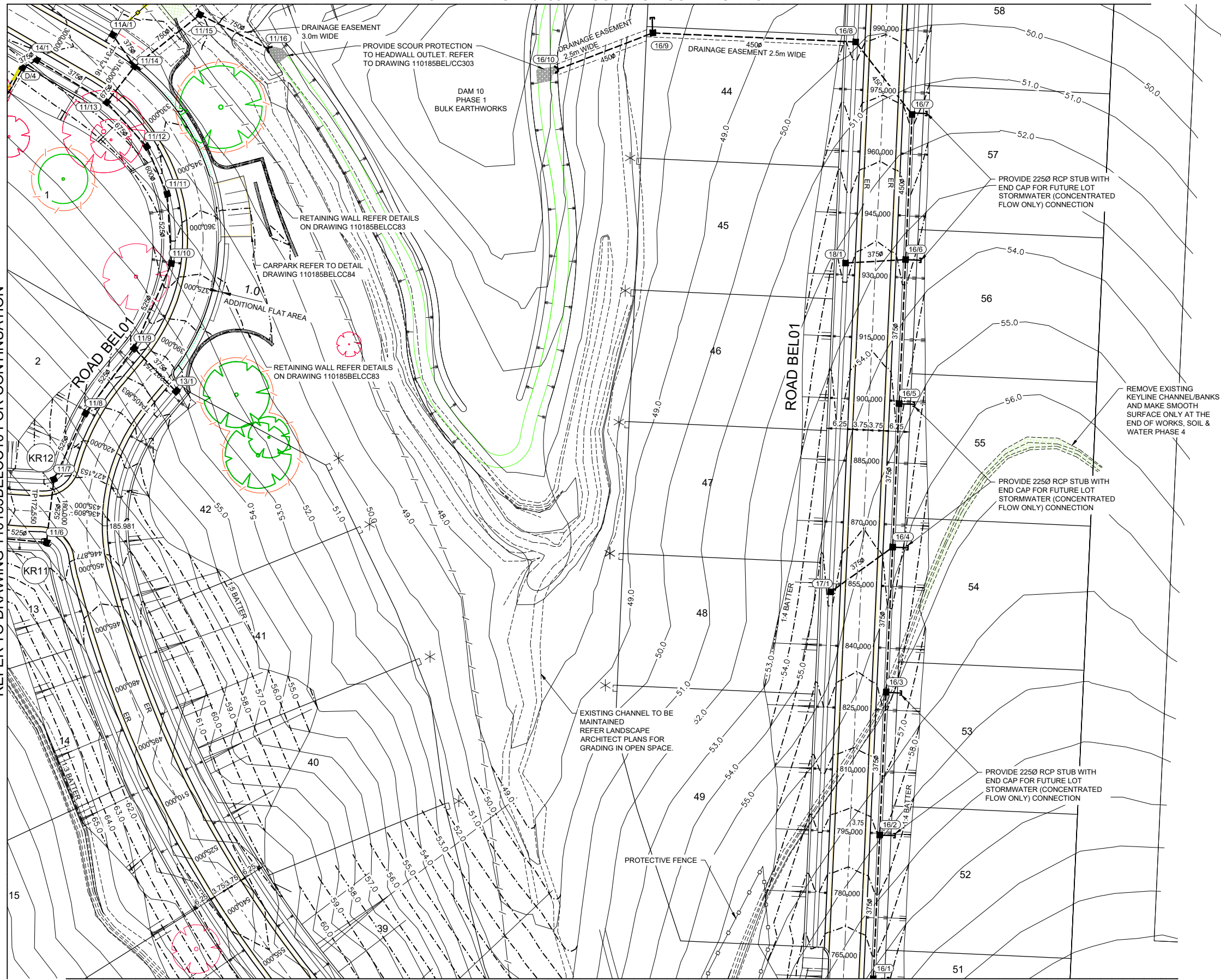
PLAN No:	110185BEL/CC08	F
FILE No:	110185BELCC08	
SHEET SIZE:	A1 ORIGINAL	

REFER TO DRAWING 110185BELCC12 FOR CONTINUATION

LEGEND



REFER TO DRAWING 110185BELCC10 FOR CONTINUATION



REFER TO DRAWING 110185BELCC08 FOR CONTINUATION

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 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

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**NOTE**

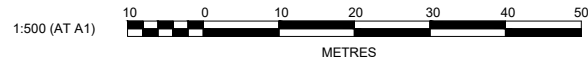
LOTS 9-12, 13-19, 29-33, 'B'1, 'B'8 & 'B'14 ROOFWATER DIRECT CONNECTION TO SWALE DRAIN. REFER TO DETAIL ON DRAWING 110185BEL/CC07.

**NOTE**

- REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

**REVISION F**

- DESIGN SURFACE & BATTER INTERFACE AMENDED
- DRAINAGE EASEMENT AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
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A	MP	MG	RO		21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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REDBANK, NORTH RICHMOND  
 BELMONT  
 ENGINEERING PLAN  
 SHEET 4

PLAN No:	110185BEL/CC09	F
FILE No:	110185BELCC09	
SHEET SIZE:	A1 ORIGINAL	

Plotted: 18 July 2017 5:39:53 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC09.dwg

REFER TO DRAWING 110185BELCC11 FOR CONTINUATION

FOR BELMONT GROVE UPGRADE  
REFER TO DRAWINGS BY JWP  
REF. 110185CC200 - CC220

EXISTING GATE TO BE  
REMOVED MAKE SMOOTH  
TRANSITION WITH  
EXISTING

REMOVE EXISTING KEYLINE CHANNEL/BANKS  
AND MAKE SMOOTH SURFACE ONLY AT THE  
END OF WORKS. SOIL & WATER PHASE 4

REMOVE EXISTING  
KEYLINE CHANNEL/BANKS  
AND MAKE SMOOTH  
SURFACE ONLY AT THE  
END OF WORKS. SOIL & WATER PHASE 4

**NOTE**

LOTS 9-12, 13-19, 29-33, B1, B8 & B14  
ROOFWATER DIRECT CONNECTION  
TO SWALE DRAIN. REFER TO DETAIL  
ON DRAWING 110185BEL/CC07.

**NOTE**

- REFER TO TREE PROTECTION &  
REMOVAL PLAN BY ARTERRA

**CONSTRUCTION CERTIFICATE**

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Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

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issued 31 July 2017

REVISION F  
DESIGN SURFACE & BATTER  
INTERFACE AMENDED



REFER TO DRAWING 110185BELCC07 FOR CONTINUATION

REFER TO DRAWING 110185BELCC09 FOR CONTINUATION

Plotted: 18 July 2017 5:42:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC10.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
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E	MP	NA	MS	MS	13/02/17
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A	MP	MG	RO	RO	21/06/16

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CLIENT: REDBANK NORTH RICHMOND

AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

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REDBANK, NORTH RICHMOND  
BELMONT  
ENGINEERING PLAN  
SHEET 5

PLAN No: 110185BEL/CC10 **F**  
FILE No: 110185BELCC10  
SHEET SIZE: A1 ORIGINAL

**NOTE**

- REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

**NOTE**

LOTS 9-12, 13-19, 29-33, B1, B8 & B14 ROOFWATER DIRECT CONNECTION TO SWALE DRAIN. REFER TO DETAIL ON DRAWING 110185BEL/CC07.

**LEGEND**

- EASEMENT TO DRAIN WATER 1m x 1.5m WIDE PROVIDED FOR FUTURE EACH LOT DRAINING DIRECTLY TO OPEN SPACE
- FLOOD EXTENT FOR 100 yr ARI STORM EVENT

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *[Signature]*  
 Accreditation No. BPB0565

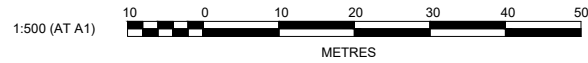
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REFER TO DRAWING 110185BELCC12 FOR CONTINUATION

REFER TO DRAWING 110185BELCC10 FOR CONTINUATION

- REVISION F**
- FIRE TRAIL 2 ALIGNMENT AMENDED
  - DESIGN SURFACE & BATTER INTERFACE AMENDED



REV	DESCRIPTION	DES	DRN	CKD	APR	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
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D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
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B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 ENGINEERING PLAN  
 SHEET 6

PLAN No: 110185BEL/CC11 **F**  
 FILE No: 110185BELCC11  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:41:45 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CC\CCBELMONT\110185BELCC11.dwg

**NOTE**

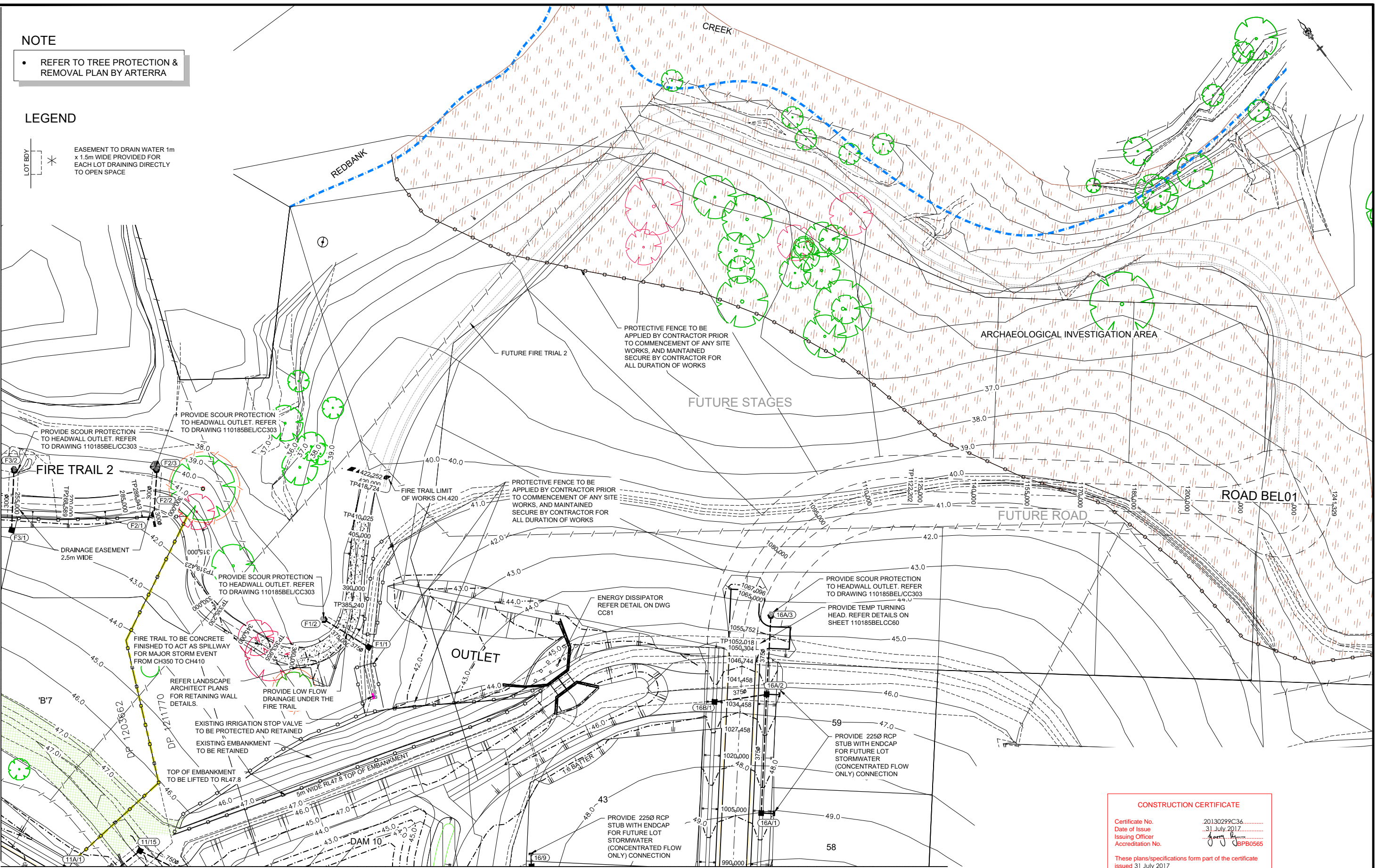
- REFER TO TREE PROTECTION & REMOVAL PLAN BY ARTERRA

**LEGEND**

LOT B'DY \* EASEMENT TO DRAIN WATER 1m x 1.5m WIDE PROVIDED FOR EACH LOT DRAINING DIRECTLY TO OPEN SPACE

REFER TO DRAWING 110185BELCC11 FOR CONTINUATION

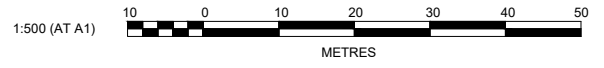
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REFER TO DRAWING 110185BELCC09 FOR CONTINUATION

**REVISION F**

- FIRE TRAIL 2 ALIGNMENT AMENDED
- DESIGN SURFACE & BATTER INTERFACE AMENDED



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Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. JBP0565

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NO.	DESCRIPTION	MP	MG	RO	MS	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	FIRE TRAIL 2 AMENDED	MP	NA	MS	MS	13/02/17
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	AMENDMENT	DES	DRN	CKD	APR	DATE

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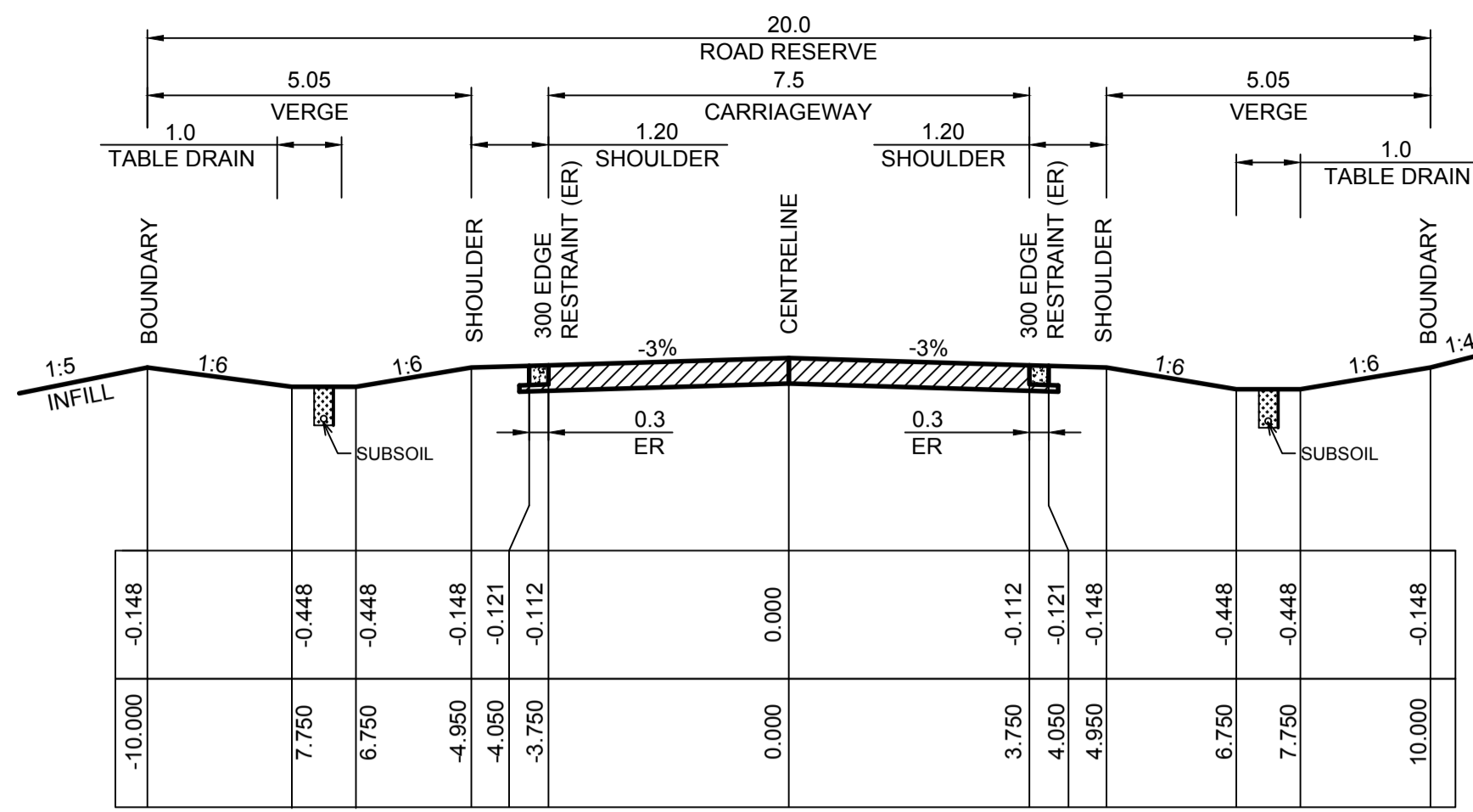
CLIENT: **REDBANK** NORTH RICHMOND

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**ISSUED FOR CONSTRUCTION APPROVAL**

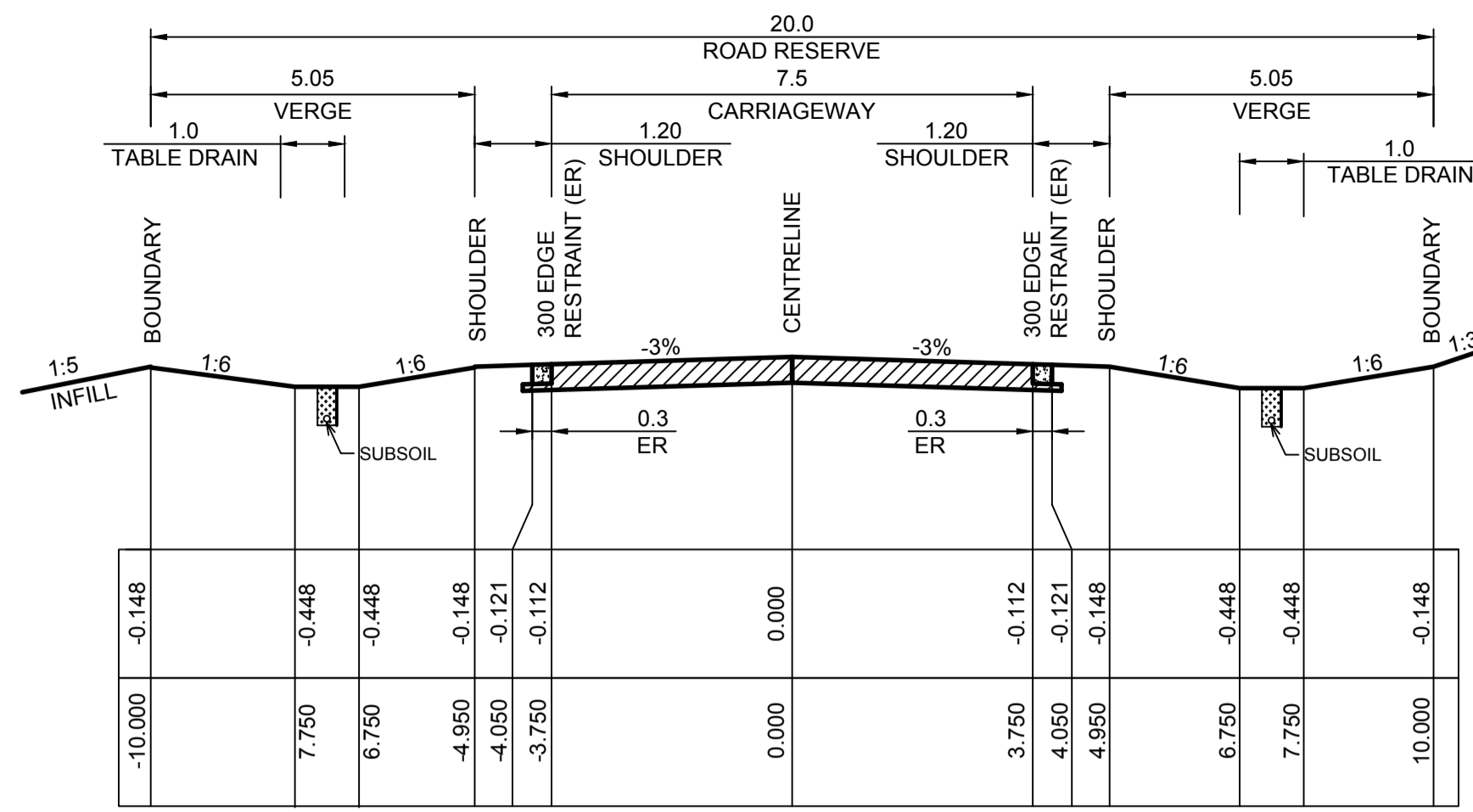
RED BANK, NORTH RICHMOND  
 BELMONT  
 ENGINEERING PLAN  
 SHEET 7

PLAN No: 110185BEL/CC12 **F**  
 FILE No: 110185BELCC12  
 SHEET SIZE: A1 ORIGINAL



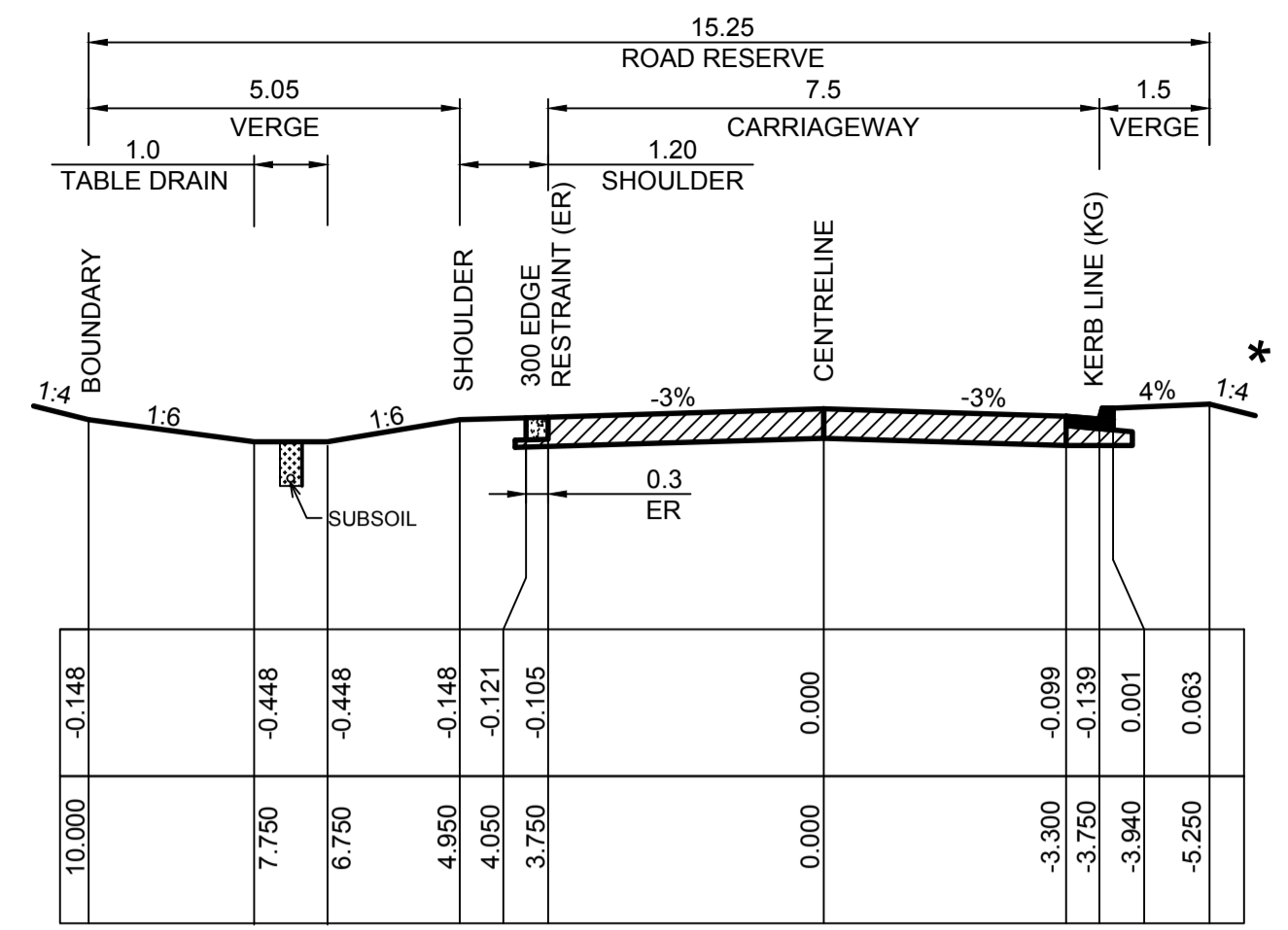
TYPICAL CROSS SECTION ROAD BEL01

CHAINAGE 27.55 - 233.00  
CHAINAGE 278 - 311.31  
CHAINAGE 397.368 - 427.153  
CHAINAGE 766.00 - 1050.00  
1:100 NATURAL



TYPICAL CROSS SECTION ROAD BEL01

CHAINAGE 427.153 - 606.684  
1:100 NATURAL



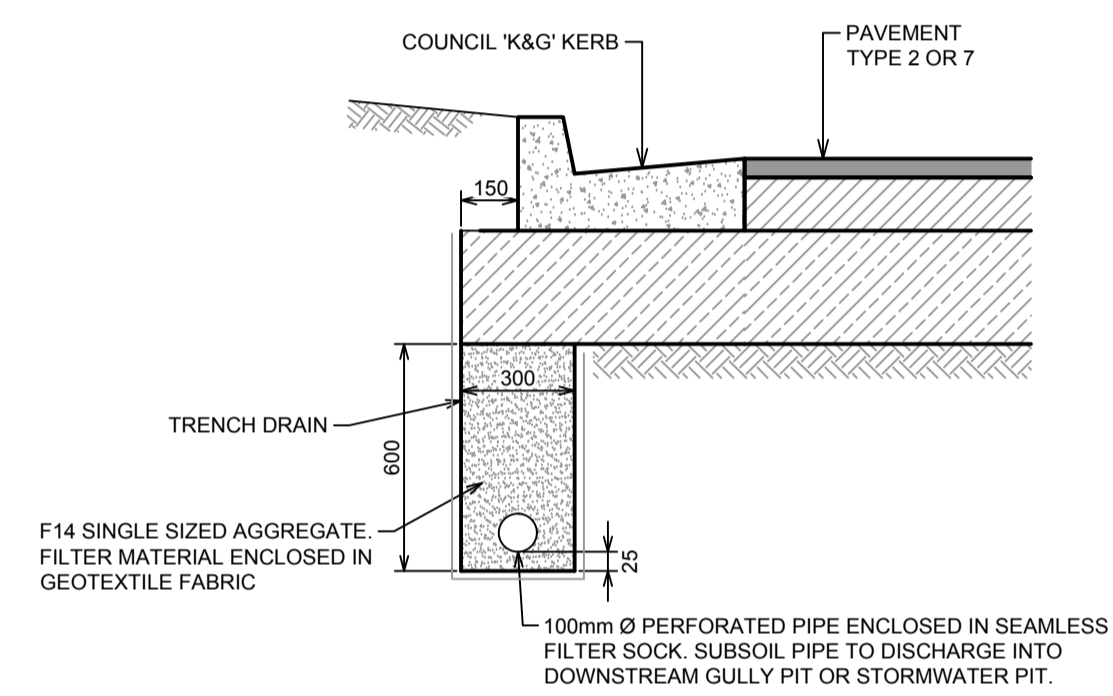
TYPICAL CROSS SECTION ROAD BEL01

CHAINAGE 233.000 - 278.000  
1:100 NATURAL

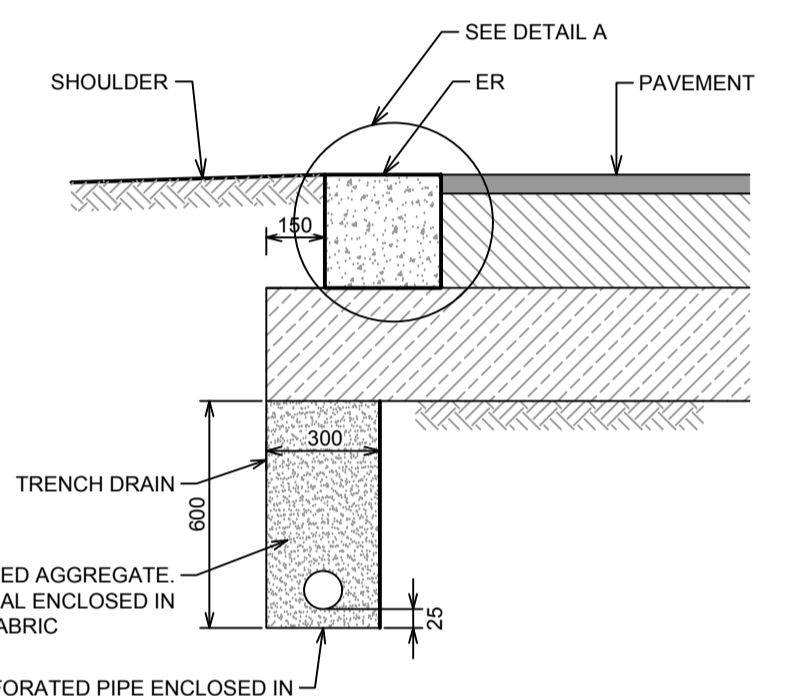
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Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565  
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REFER TO ENGINEERING PLANS FOR SITE REGRADING

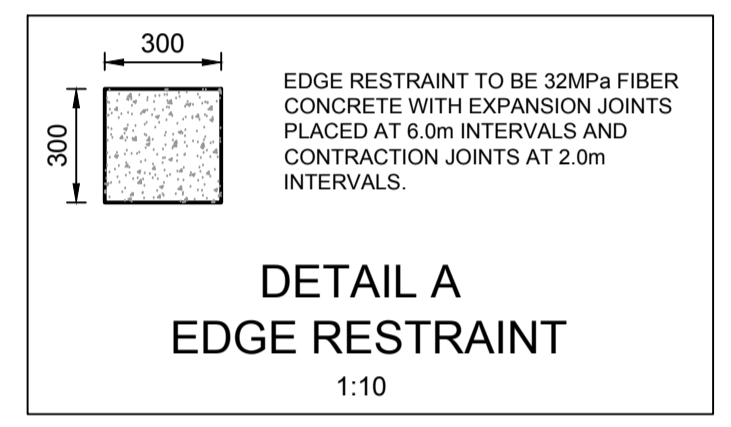
SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT REFER HCC STANDARD DRAWING No. SD3.



TYPICAL KERB & GUTTER SUBSOIL DETAIL  
1:20



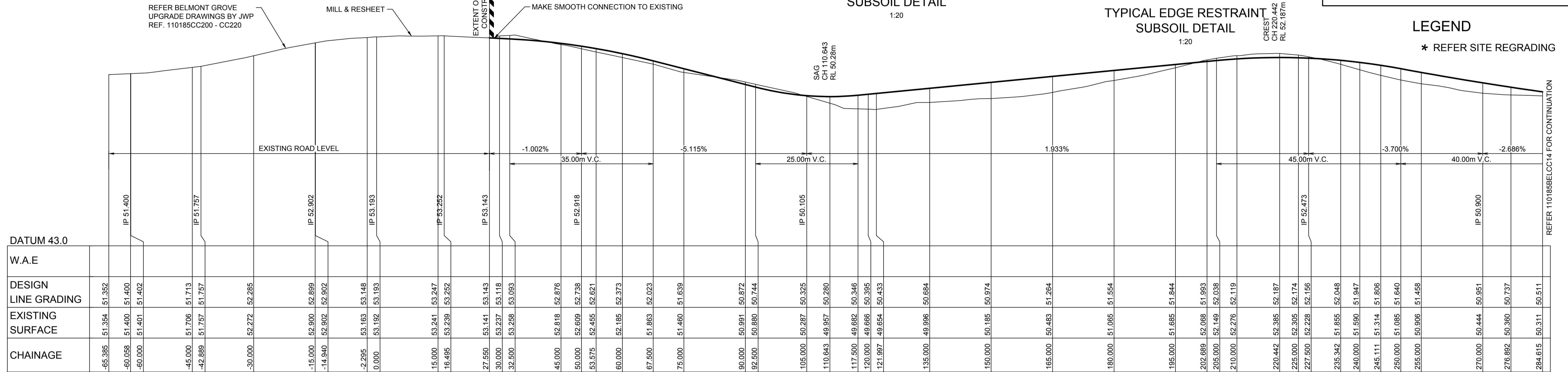
TYPICAL EDGE RESTRAINT SUBSOIL DETAIL  
1:20



DETAIL A  
EDGE RESTRAINT  
1:10

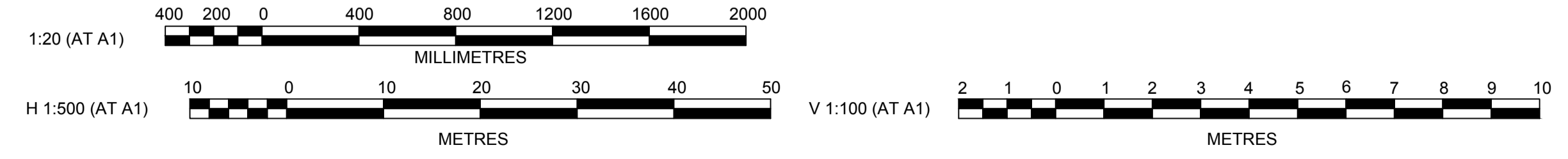
**PAVEMENT NOTES (ROAD BEL1 & BEL2)**  
2x10<sup>5</sup> ESA (GEOTECHNICAL REPORT BY GEOTECHNIQUE, REF: 12261/14-AA-R2)  
1. 50mm WEARING COURSE AC10  
2. ONE COAT HOT BITUMEN FLUSH SEAL  
3. 125mm DGB 20 BASE COURSE  
4. 250mm SUB-BASE COURSE

**LEGEND**  
\* REFER SITE REGRADING



LONGITUDINAL SECTION ROAD BEL01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

**REVISION F**  
• BEL01 ROAD LONGITUDINAL SECTION AMENDED  
• TYPICAL CROSS SECTIONS AMENDED  
• DETAIL A AMENDED



NO.	DESCRIPTION	DES	DRN	CKD	APR	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	BATTER AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16

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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

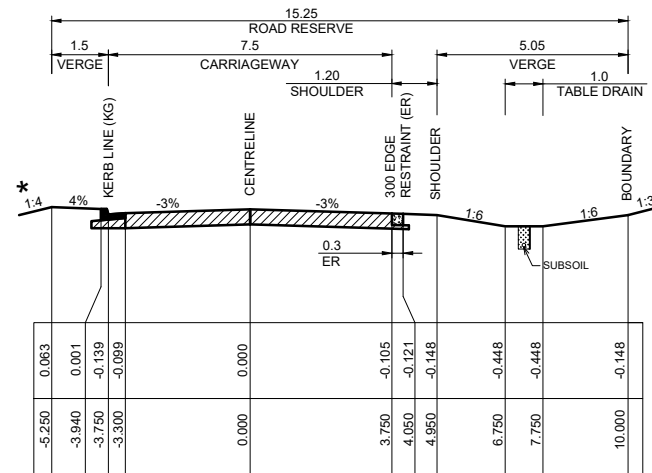
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT:  
**REDBANK**  
NORTH RICHMOND  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

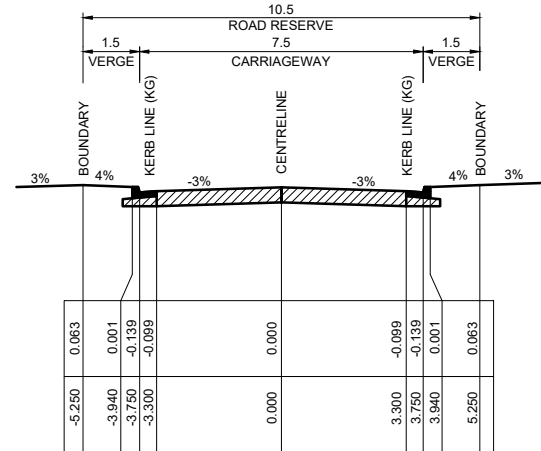
**ISSUED FOR CONSTRUCTION APPROVAL**  
REDBANK, NORTH RICHMOND BELMONT  
LONGITUDINAL SECTIONS SHEET 1  
PLAN No: 110185BEL/CC13 F  
FILE No: 110185BELCC13  
SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:00:53 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC13.dwg

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017



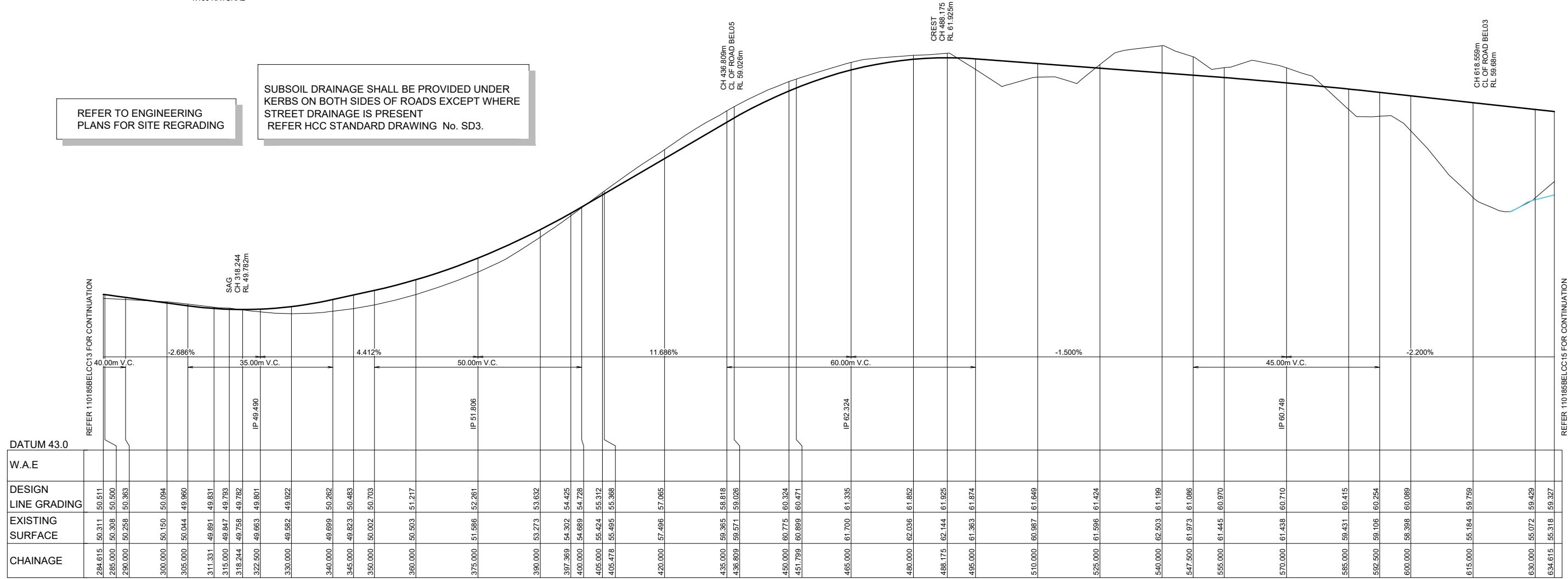
**TYPICAL CROSS SECTION ROAD BEL01**  
 CHAINAGE 311.331 - 397.368  
 CHAINAGE 606.684 - 659.500  
 CHAINAGE 696.649 - 766.000  
 1:100 NATURAL



**TYPICAL CROSS SECTION ROAD BEL01**  
 CHAINAGE 659.000 - 696.649  
 1:100 NATURAL

REFER TO ENGINEERING PLANS FOR SITE REGRADING

SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT REFER HCC STANDARD DRAWING No. SD3.



**LONGITUDINAL SECTION ROAD BEL01**  
 HORIZONTAL SCALE 1:500  
 VERTICAL SCALE 1:100

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	W.A.E
284.615	50.311	50.511	
285.000	50.308	50.500	
290.000	50.258	50.363	
300.000	50.150	50.094	
305.000	50.044	49.960	
311.331	49.891	49.831	
315.000	49.847	49.793	
318.244	49.758	49.792	
322.500	49.663	49.801	
330.000	49.562	49.922	
340.000	49.699	50.262	
345.000	49.823	50.483	
350.000	50.002	50.703	
360.000	50.503	51.217	
375.000	51.566	52.261	
390.000	53.273	53.632	
397.369	54.302	54.425	
400.000	54.689	54.728	
405.000	55.424	55.312	
405.478	55.495	55.368	
420.000	57.496	57.065	
435.000	59.365	58.818	
436.809	59.571	59.026	
450.000	60.775	60.324	
451.799	60.889	60.471	
465.000	61.700	61.335	
480.000	62.036	61.852	
488.175	62.144	61.925	
495.000	61.963	61.874	
510.000	60.987	61.649	
525.000	61.596	61.424	
540.000	62.503	61.199	
547.500	61.973	61.096	
555.000	61.445	60.970	
570.000	61.438	60.710	
585.000	59.431	60.415	
592.500	59.106	60.254	
600.000	58.398	60.089	
615.000	55.184	59.759	
630.000	55.072	59.429	
634.615	55.318	59.327	

REVISION F  
 • BEL01 ROAD LONGITUDINAL SECTION AMENDED  
 • TYPICAL CROSS SECTIONS AMENDED



Plotted: 28 July 2017 12:02:29 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC14.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
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E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:  
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**ISSUED FOR CONSTRUCTION APPROVAL**

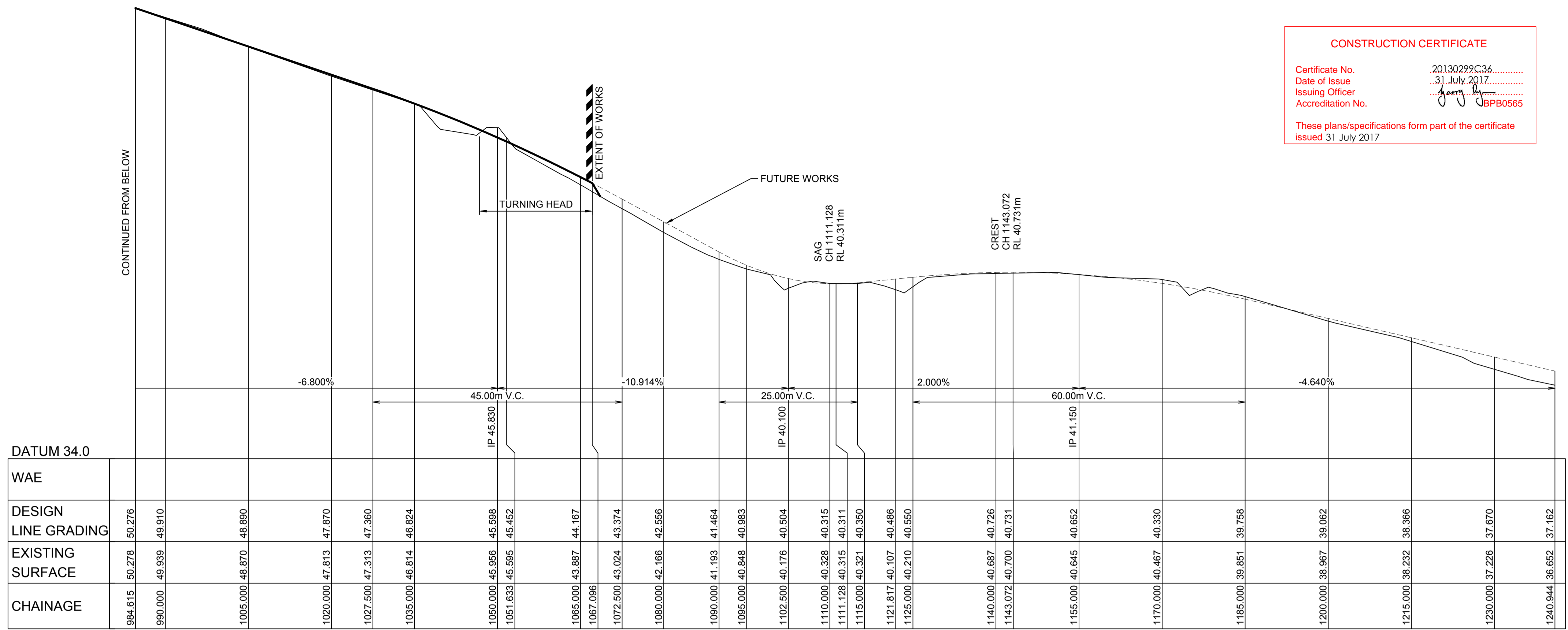
REDBANK, NORTH RICHMOND BELMONT  
 LONGITUDINAL SECTIONS SHEET 2

PLAN No: 110185BEL/CC14 **F**  
 FILE No: 110185BELCC14  
 SHEET SIZE: A1 ORIGINAL

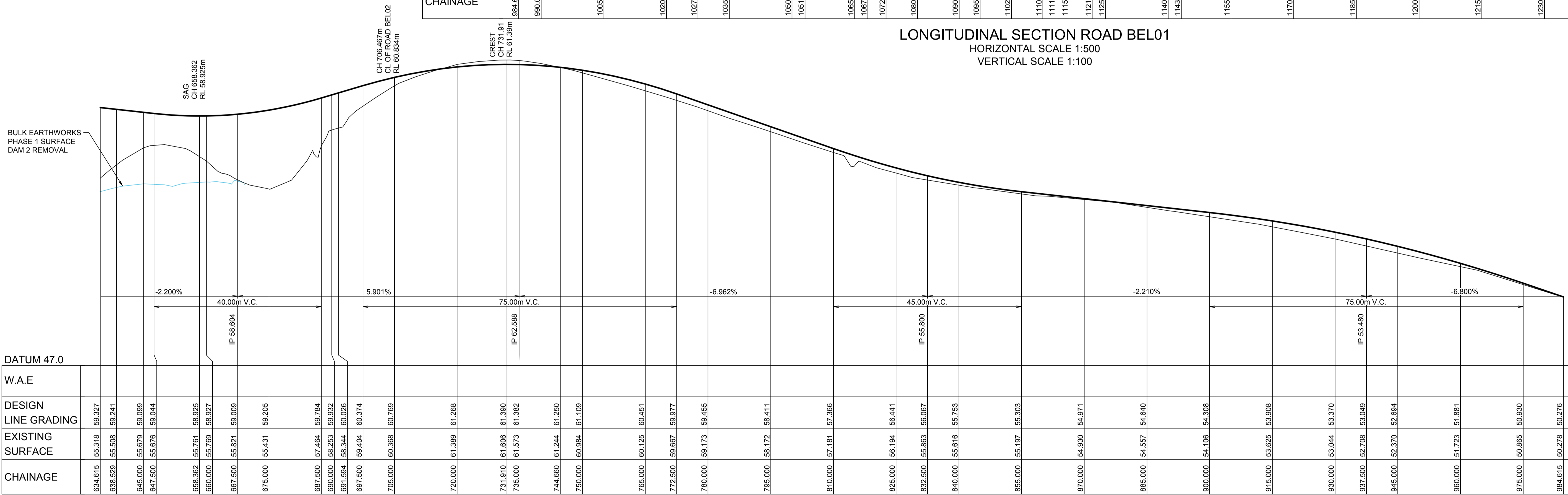
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *[Signature]*  
 Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017

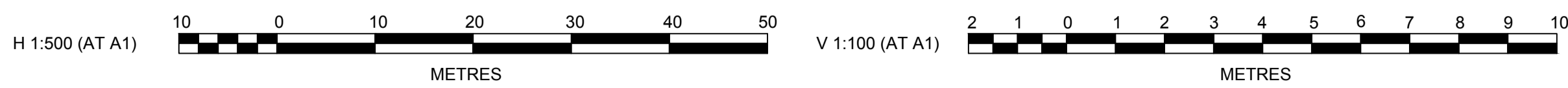


**LONGITUDINAL SECTION ROAD BEL01**  
 HORIZONTAL SCALE 1:500  
 VERTICAL SCALE 1:100



**LONGITUDINAL SECTION ROAD BEL01**  
 HORIZONTAL SCALE 1:500  
 VERTICAL SCALE 1:100

REVISION E  
 • BEL01 ROAD LONGITUDINAL SECTION AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND BELMONT  
 LONGITUDINAL SECTIONS SHEET 3

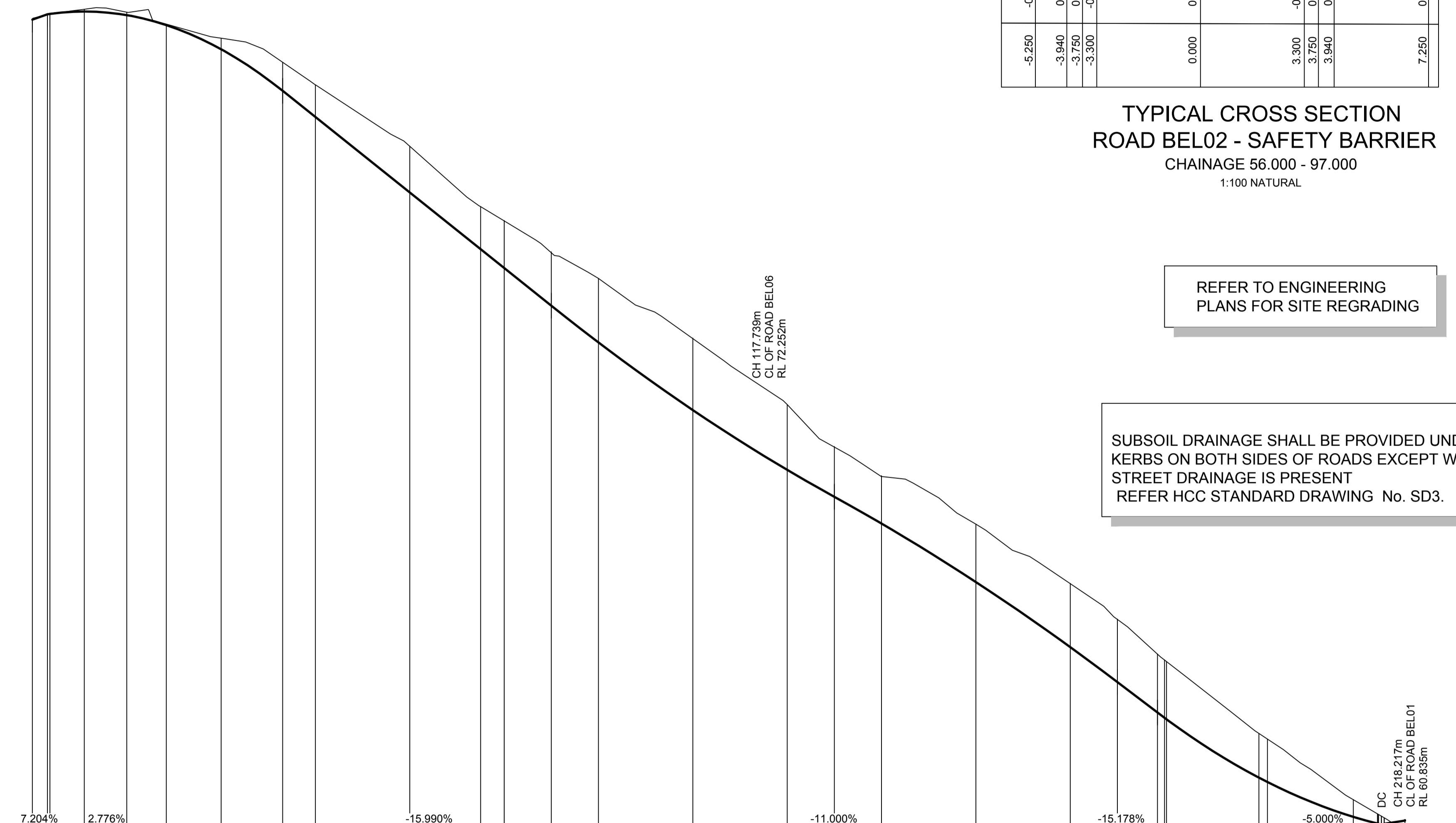
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 FILE No: 110185BELCC15  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:01:40 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC15.dwg



Plotted: 18 July 2017 5:02:03 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCBELMONT\110185BELCC16.dwg

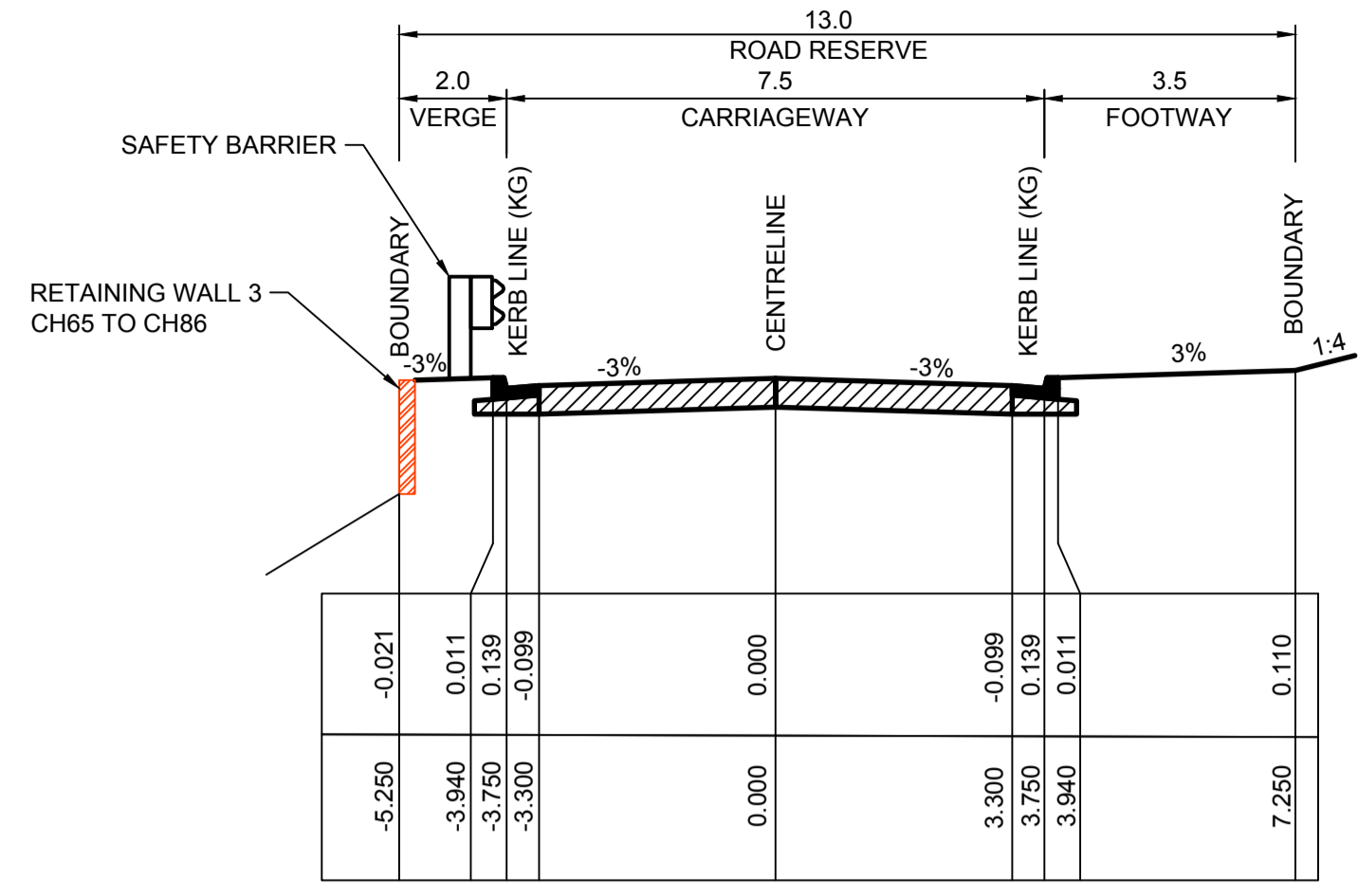
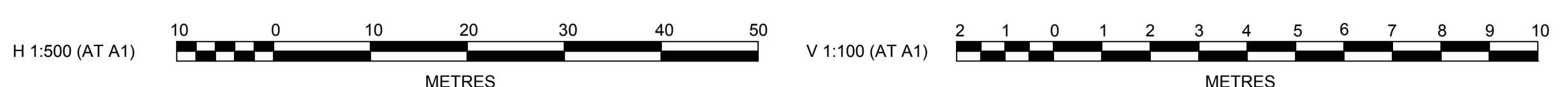
CH 0m  
CL OF GROSE VALE ROAD  
RL 86.292m  
CREST  
CH 8.257  
RL 86.257m  
CH 86.551m  
RL 86.551m



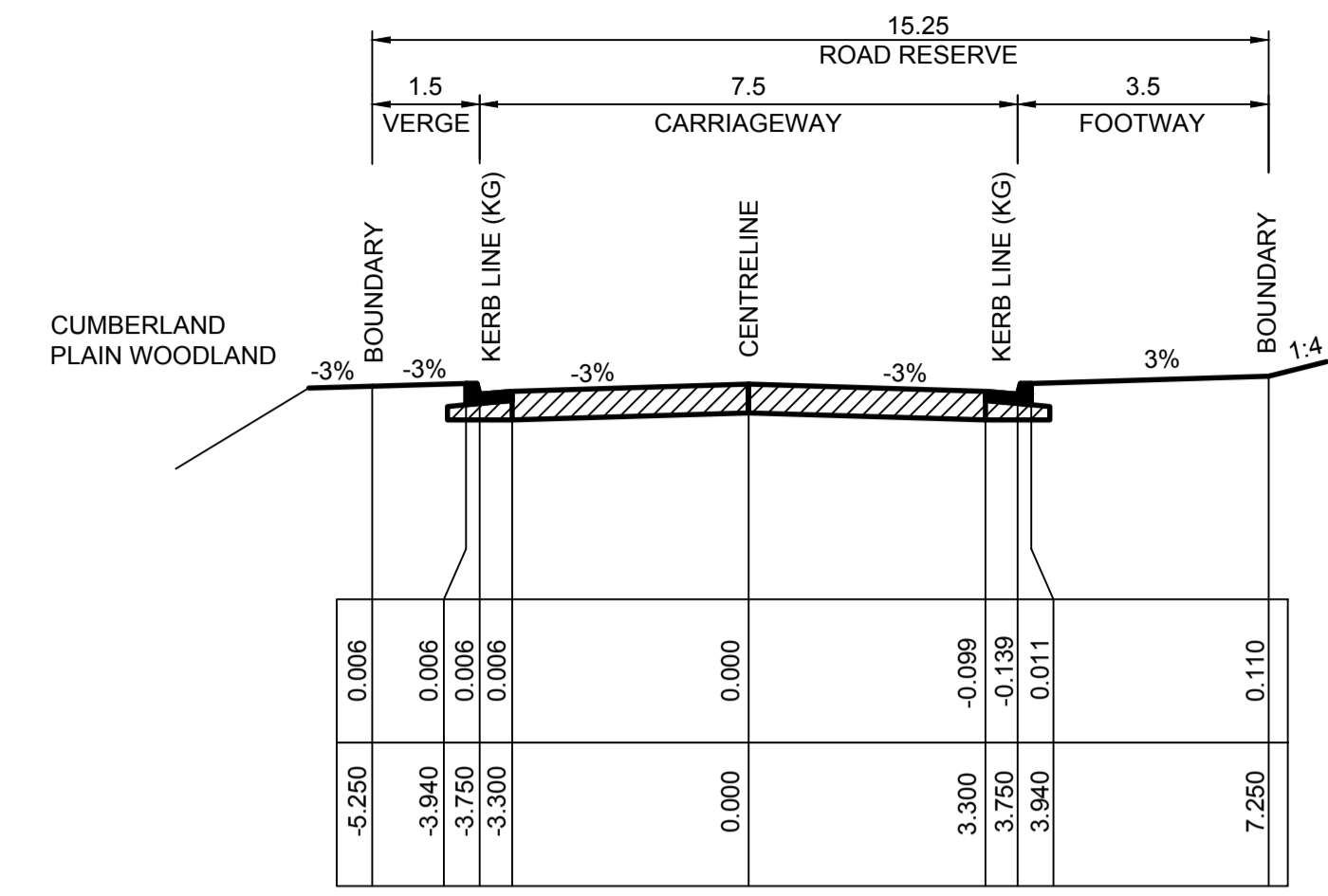
W.A.E	DESIGN LINE GRADING	EXISTING SURFACE	CHAINAGE
			0.000
			2.385
			2.785
			8.257
			15.000
			21.285
			30.000
			39.785
			45.000
			60.000
			71.257
			75.000
			82.500
			90.000
			105.000
			120.000
			127.500
			135.000
			150.000
			165.000
			172.500
			178.867
			180.000
			180.322
			195.000
			196.387
			210.000
			213.887
			214.017
			214.467
			214.917
			218.217

**LONGITUDINAL SECTION ROAD BEL02**  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

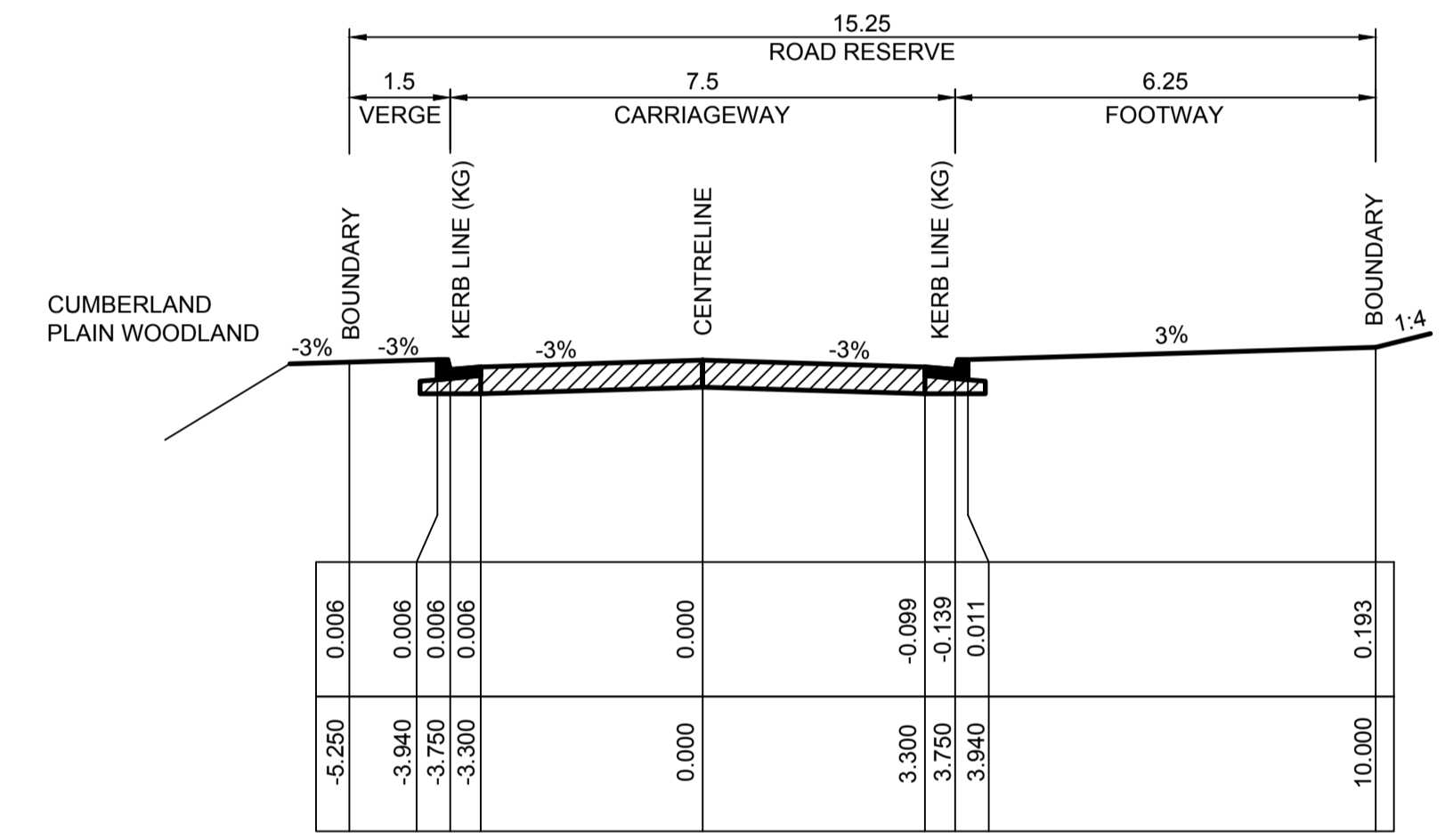
REVISION E  
• BEL02 ROAD LONGITUDINAL SECTION AMENDED



**TYPICAL CROSS SECTION ROAD BEL02 - SAFETY BARRIER**  
CHAINAGE 56.000 - 97.000  
1:100 NATURAL



**TYPICAL CROSS SECTION ROAD BEL02**  
CHAINAGE 17.413 - 56.000  
CHAINAGE 97.000 - 129.000  
1:100 NATURAL



**TYPICAL CROSS SECTION ROAD BEL02**  
CHAINAGE 129.000 - 207.260  
1:100 NATURAL

REFER TO ENGINEERING PLANS FOR SITE REGRADING

SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT REFER HCC STANDARD DRAWING No. SD3.

**PAVEMENT NOTES (ROAD BEL2)**  
2x10<sup>5</sup>ESA (GEOTECHNICAL REPORT BY GEOTECHNIQUE, REF: 12261/14-AA-R2)  
1. 50mm WEARING COURSE AC10 2x25mm  
2. ONE COAT HOT BITUMEN FLUSH SEAL  
3. 125mm DGB 20 BASE COURSE  
4. 250mm SUB-BASE COURSE

**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565  
These plans/specifications form part of the certificate issued 31 July 2017

AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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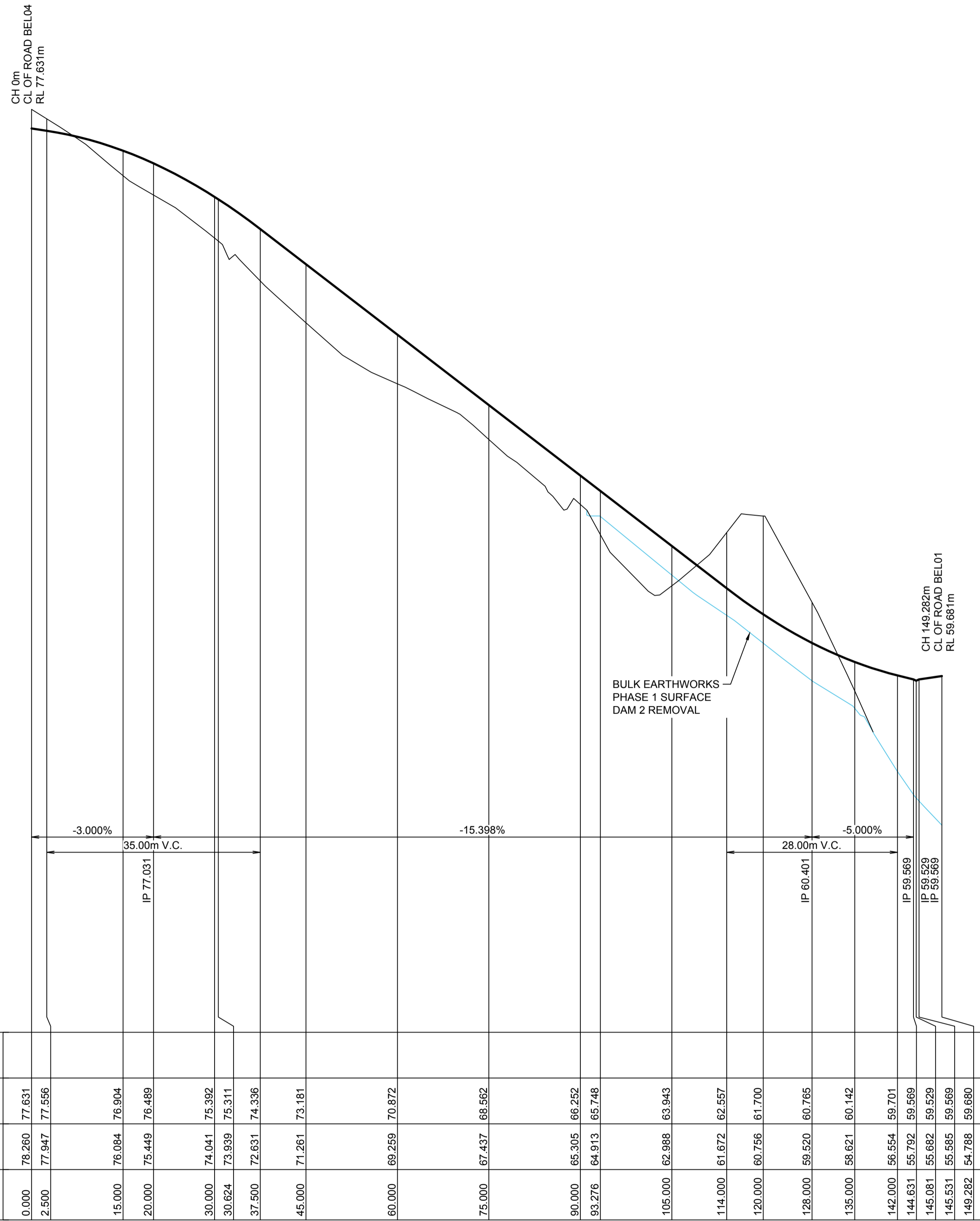
CLIENT: REDBANK NORTH RICHMOND  
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

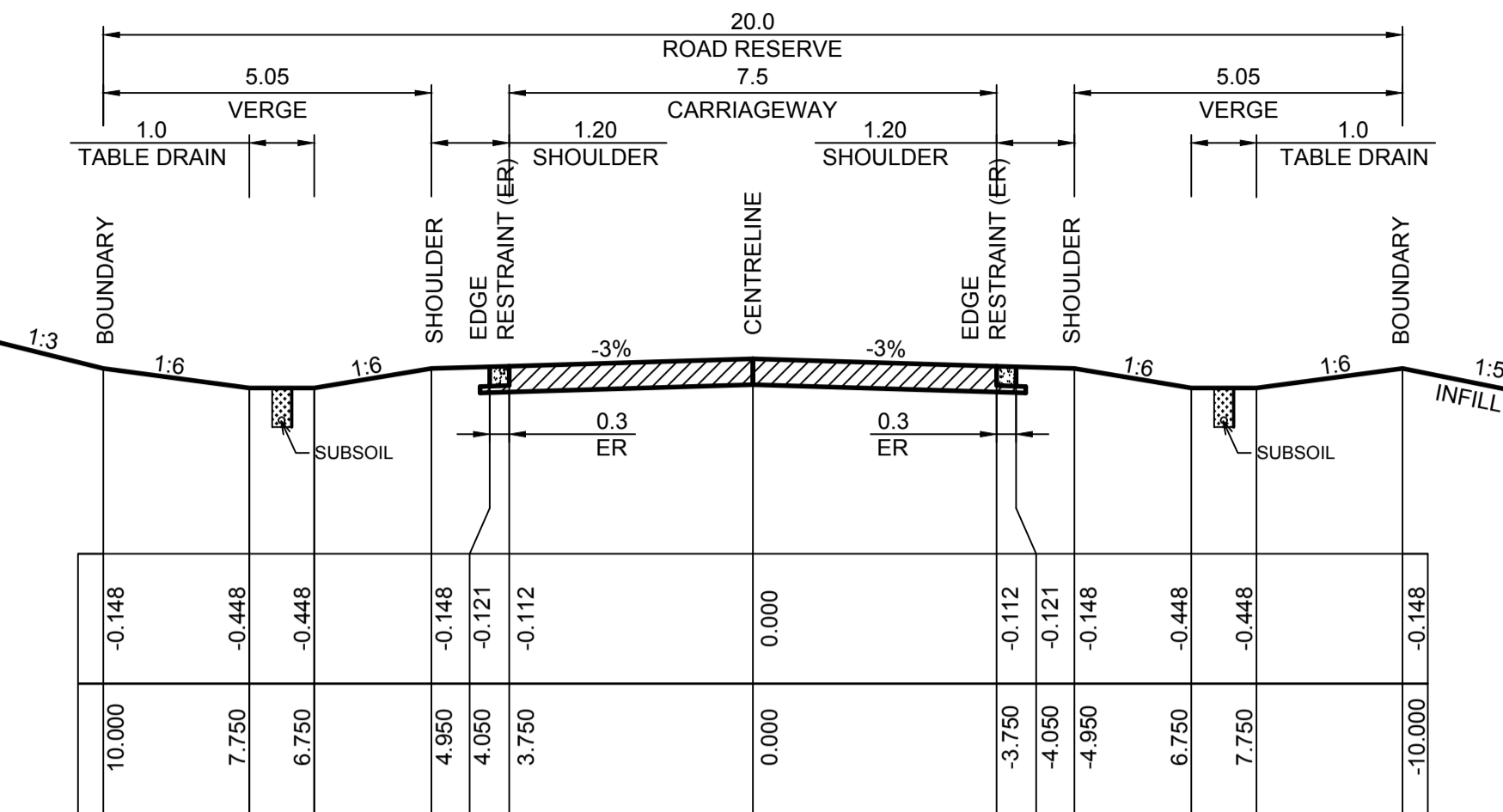
REDBANK, NORTH RICHMOND BELMONT  
LONGITUDINAL SECTIONS SHEET 4

PLAN No: 110185BEL/CC16 E  
FILE No: 110185BELCC16  
SHEET SIZE: A1 ORIGINAL

Plotfile: 18 July 2017 5:02:26 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC17.dwg



**LONGITUDINAL SECTION ROAD BEL03**  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



**TYPICAL CROSS SECTION - ROAD BEL03**  
1:100 NATURAL

REFER TO ENGINEERING PLANS FOR SITE REGRADING

SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT REFER HCC STANDARD DRAWING No. SD3.

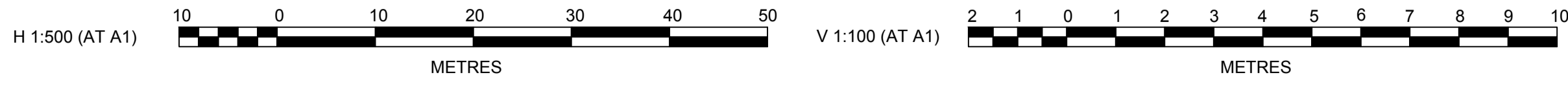
**PAVEMENT NOTES (ROAD BEL3)**  
5x10° ESA (GEOTECHNICAL REPORT BY GEOTECHNIQUE, REF: 12261/14-AA-R2)  
1. 50mm WEARING COURSE AC10 2x25mm  
2. ONE COAT HOT BITUMEN FLUSH SEAL  
3. 125mm DGB 20 BASE COURSE  
4. 200mm SUB-BASE COURSE

**LEGEND**  
\* REFER SITE REGRADING

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING
0.000	76.260	77.631
2.500	77.947	77.556
15.000	76.084	76.904
20.000	75.449	76.489
30.000	74.041	75.592
30.624	73.939	75.311
37.500	72.631	74.336
45.000	71.261	73.181
60.000	69.259	70.872
75.000	67.437	68.562
90.000	65.305	66.252
93.276	64.913	65.748
105.000	62.988	63.943
114.000	61.672	62.557
120.000	60.756	61.700
128.000	59.520	60.765
135.000	58.621	60.142
142.000	56.554	59.701
144.631	55.792	59.569
145.081	55.682	59.529
145.531	55.585	59.569
149.282	54.788	59.680

**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130229C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565  
These plans/specifications form part of the certificate issued 31 July 2017

REVISION F  
• BEL03 ROAD LONGITUDINAL SECTION AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	MG	NA	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: REDBANK NORTH RICHMOND  
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**  
REDBANK, NORTH RICHMOND BELMONT  
LONGITUDINAL SECTIONS SHEET 5  
PLAN No: 110185BEL/CC17 [F]  
FILE No: 110185BELCC17  
SHEET SIZE: A1 ORIGINAL

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

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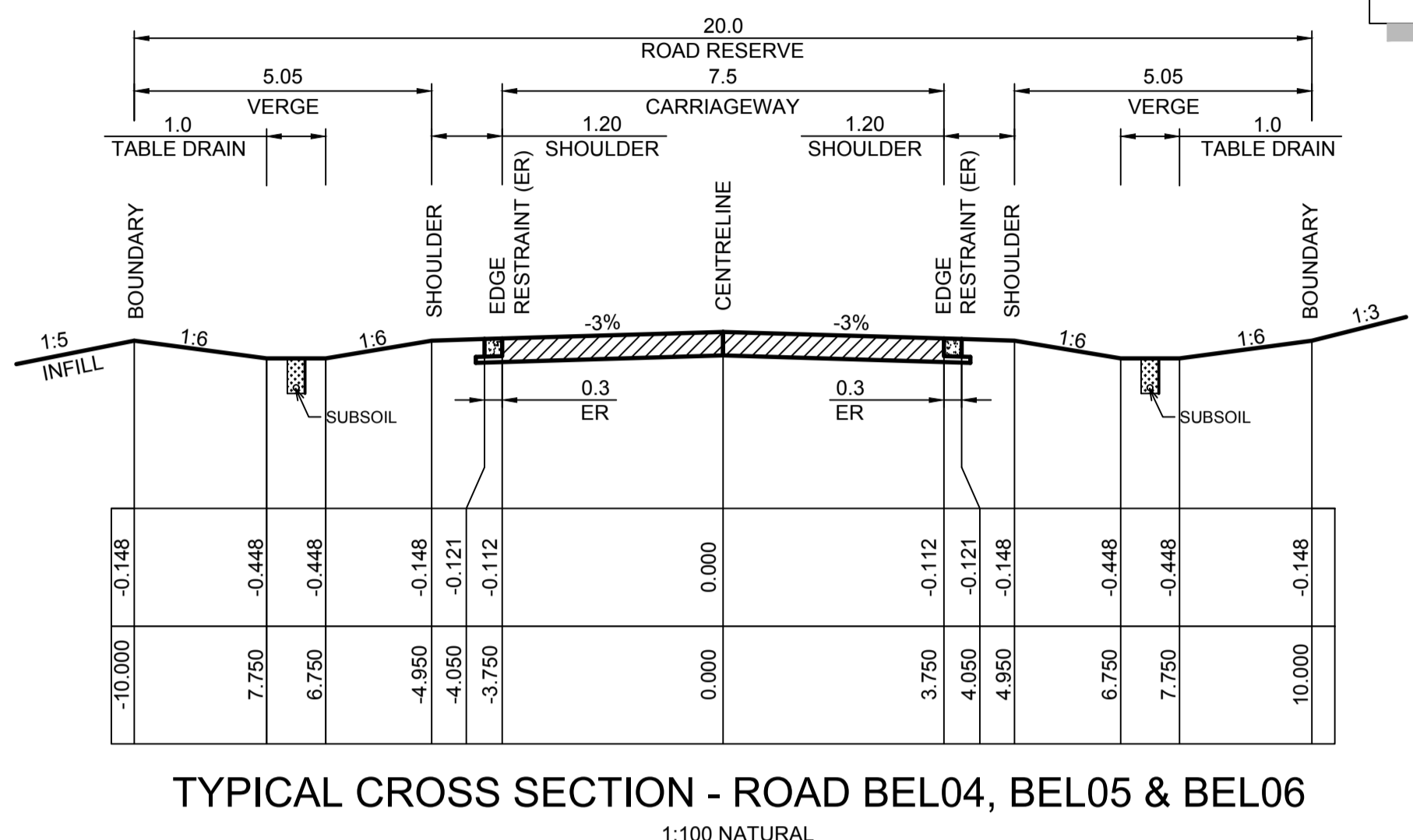
**PAVEMENT NOTES (ROAD BEL4, BEL5 & BEL06)**

5x10<sup>4</sup> ESA (GEOTECHNICAL REPORT BY GEOTECHNIQUE, REF: 2261/14-AA-R2)

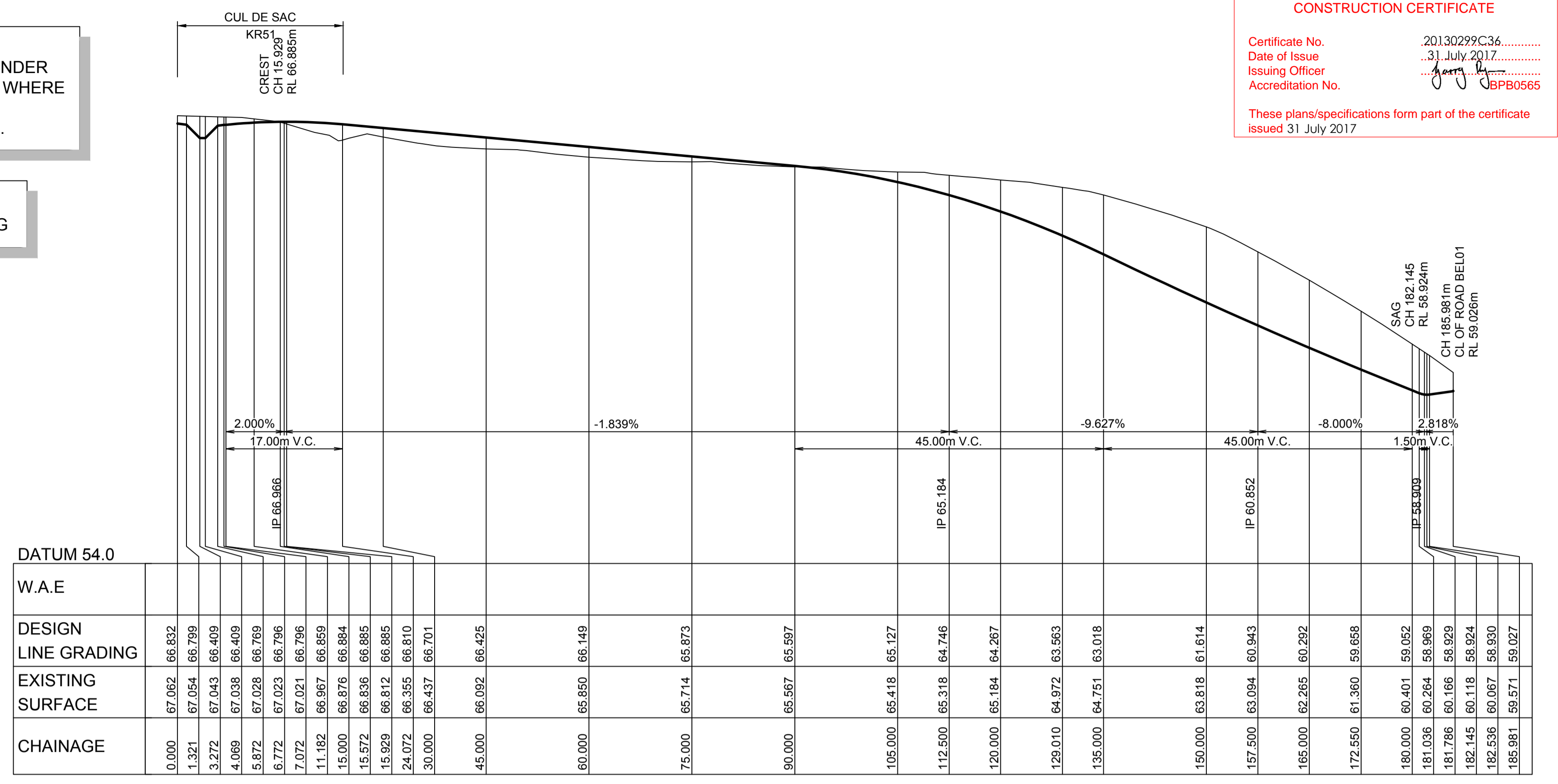
- 50mm WEARING COURSE AC10 2x25mm
- ONE COAT HOT BITUMEN FLUSH SEAL
- 125mm DGB 20 BASE COURSE
- 200mm SUB-BASE COURSE

SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT REFER HCC STANDARD DRAWING No. SD3.

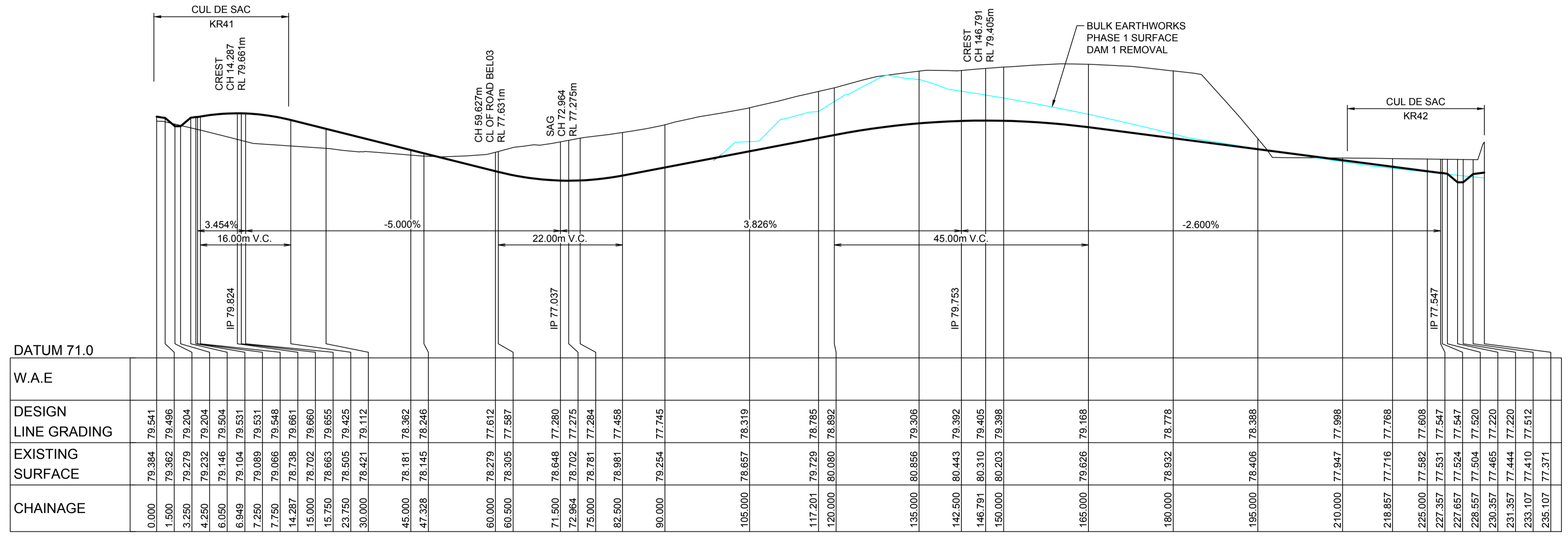
REFER TO ENGINEERING PLANS FOR SITE REGRADING



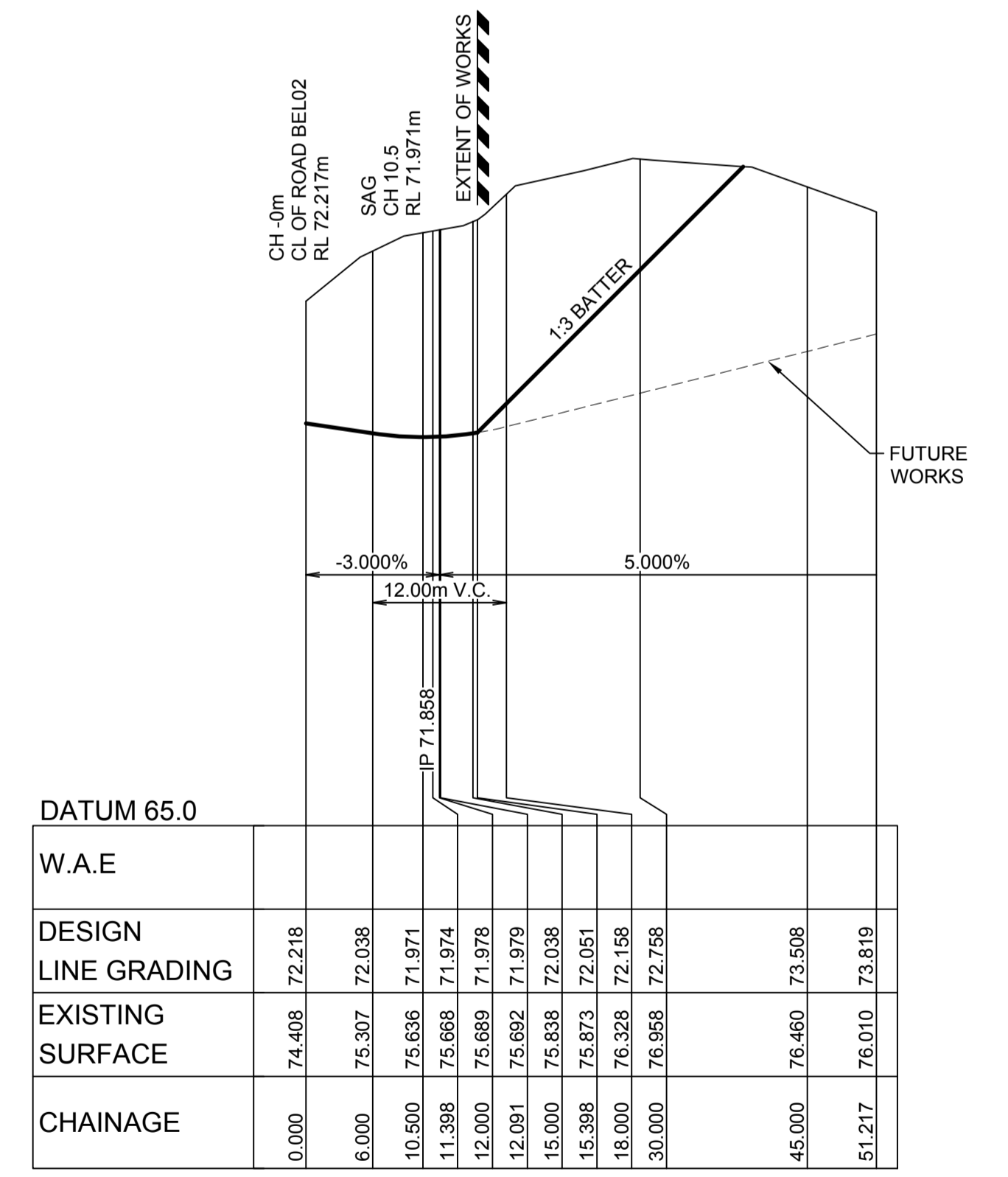
TYPICAL CROSS SECTION - ROAD BEL04, BEL05 & BEL06  
1:100 NATURAL



LONGITUDINAL SECTION ROAD BEL05  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

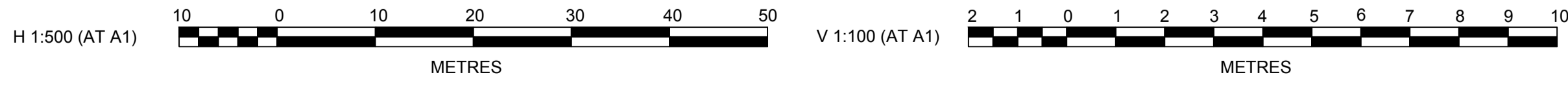


LONGITUDINAL SECTION ROAD BEL04  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



LONGITUDINAL SECTION ROAD BEL06  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

REVISION F  
• BEL04 ROAD LONGITUDINAL SECTION AMENDED



NO	DESCRIPTION	DES	DRN	CKD	APR	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	ROAD LONG SECTION AND BATTER AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16

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CLIENT: REDBANK NORTH RICHMOND

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND BELMONT  
 LONGITUDINAL SECTIONS SHEET 6

PLAN No: 110185BEL/CC18 [F]  
 FILE No: 110185BELCC18  
 SHEET SIZE: A1 ORIGINAL

Plotfile: 18 July, 2017 5:02:50 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC18.dwg

**CONSTRUCTION CERTIFICATE**

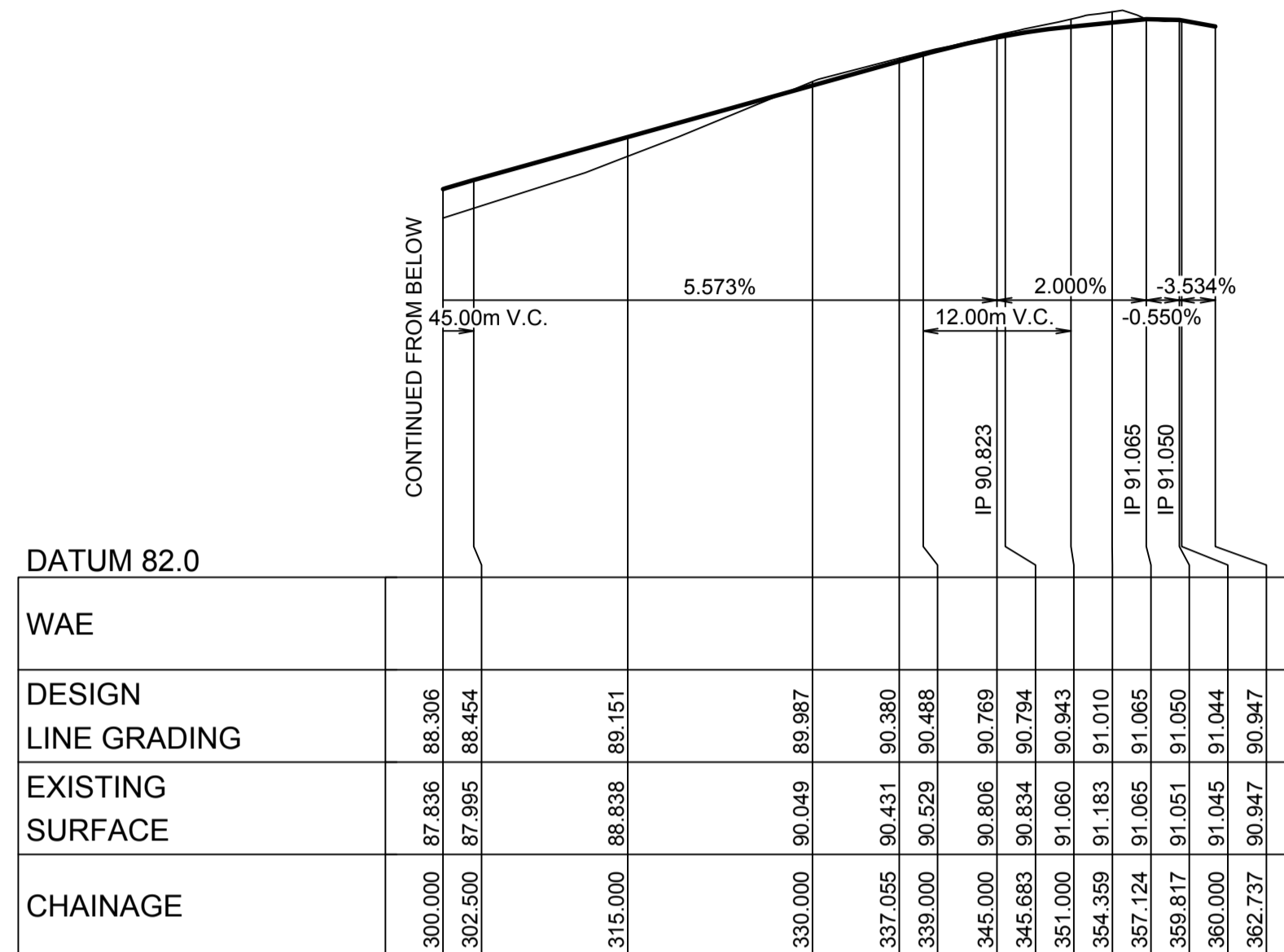
Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPPB0565

These plans/specifications form part of the certificate issued 31 July 2017

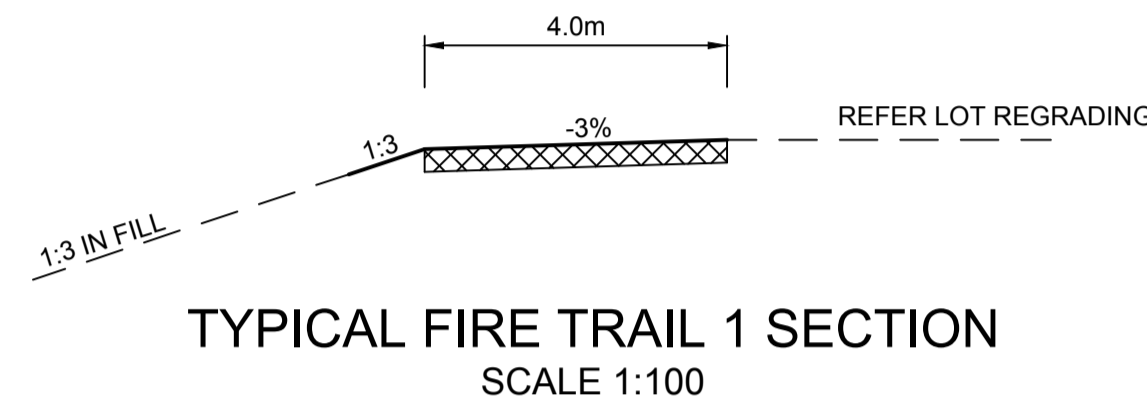
CH 362.73m  
 CL OF GROSE VALE ROAD  
 RL 90.946m

**PAVEMENT NOTES (FIRE TRAIL)**

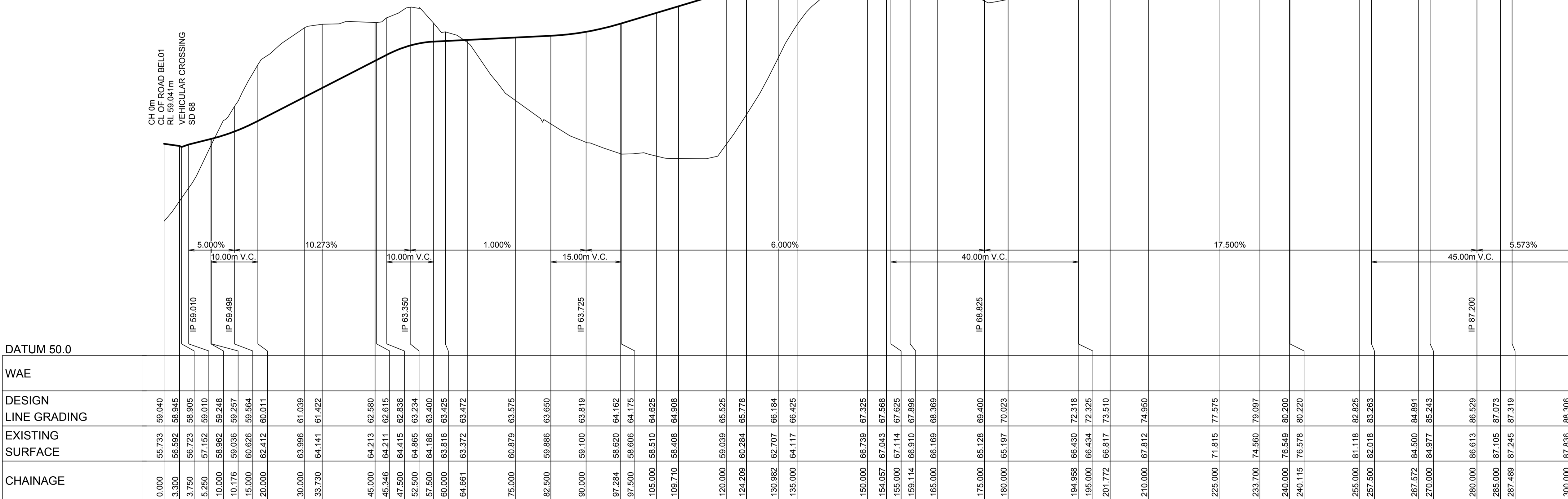
- 1x10<sup>4</sup>ESA (GEOTECHNICAL REPORT BY GEOTECHNIQUE, REF: 12261/14-AA-R2)  
 1. TWO COAT HOT BITUMEN FLUSH SEAL  
 2. 125mm DGB 20 BASE COURSE  
 3. 200mm SUB-BASE COURSE



**LONGITUDINAL SECTION FIRE TRAIL 1**  
 HORIZONTAL SCALE 1:500  
 VERTICAL SCALE 1:100



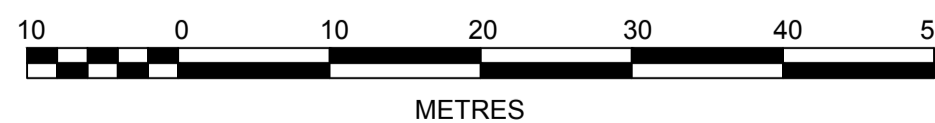
**TYPICAL FIRE TRAIL 1 SECTION**  
 SCALE 1:100



CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
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3.300	56.592	58.945	
3.750	56.723	58.905	
5.250	57.152	59.010	
10.000	58.962	59.248	
10.176	59.036	59.257	
15.000	60.626	59.564	
20.000	62.412	60.011	
30.000	63.996	61.039	
33.730	64.141	61.422	
45.000	64.213	62.580	
46.346	64.211	62.615	
47.500	64.415	62.836	
52.500	64.865	63.234	
57.500	64.186	63.400	
60.000	63.816	63.425	
64.661	63.372	63.472	
75.000	60.879	63.575	
82.500	59.886	63.650	
90.000	59.100	63.819	
97.284	58.620	64.162	
97.500	58.606	64.175	
105.000	58.510	64.625	
109.710	58.408	64.908	
120.000	59.039	65.525	
124.209	60.284	65.778	
130.982	62.707	66.184	
135.000	64.117	66.425	
150.000	66.739	67.325	
154.057	67.043	67.568	
155.000	67.114	67.625	
159.114	66.910	67.896	
165.000	66.169	68.369	
175.000	65.128	69.400	
180.000	65.197	70.023	
194.958	66.430	72.318	
195.000	66.434	72.325	
201.772	66.817	73.510	
210.000	67.812	74.950	
225.000	71.815	77.575	
233.700	74.560	79.097	
240.000	76.549	80.200	
240.115	76.578	80.220	
255.000	81.118	82.825	
257.500	82.018	83.263	
267.572	84.500	84.891	
270.000	84.977	85.243	
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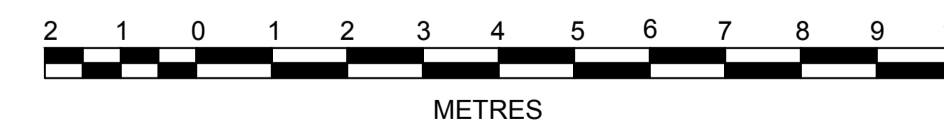
- REVISION F**
- FIRE TRAIL 1 LONGITUDINAL SECTIONS AMENDED
  - TYPICAL FIRE TRAIL 1 CROSS SECTION AMENDED

H 1:500 (AT A1)



**LONGITUDINAL SECTION FIRE TRAIL 1**

V 1:100 (AT A1)



CLIENT:



**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND  
 BELMONT**  
 LONGITUDINAL SECTIONS  
 SHEET 7

PLAN No: 110185BEL/CC19 **F**  
 FILE No: 110185BELCC19  
 SHEET SIZE: A1 ORIGINAL

AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

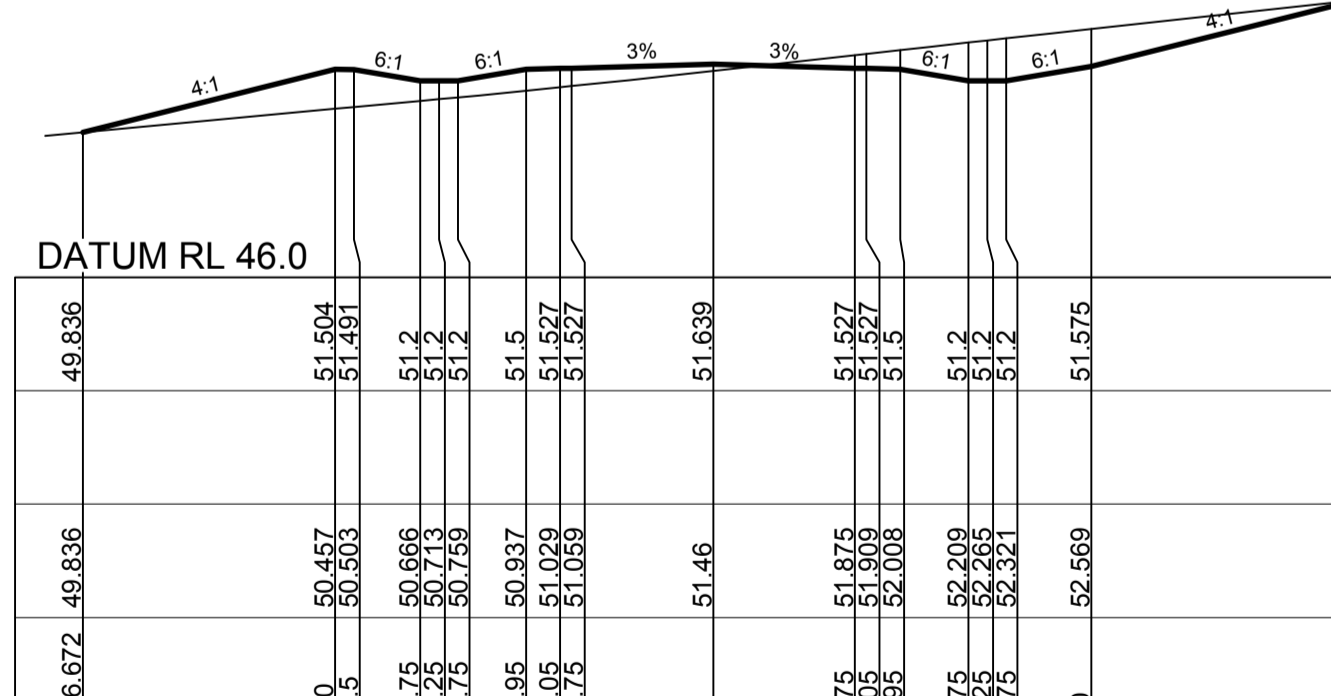
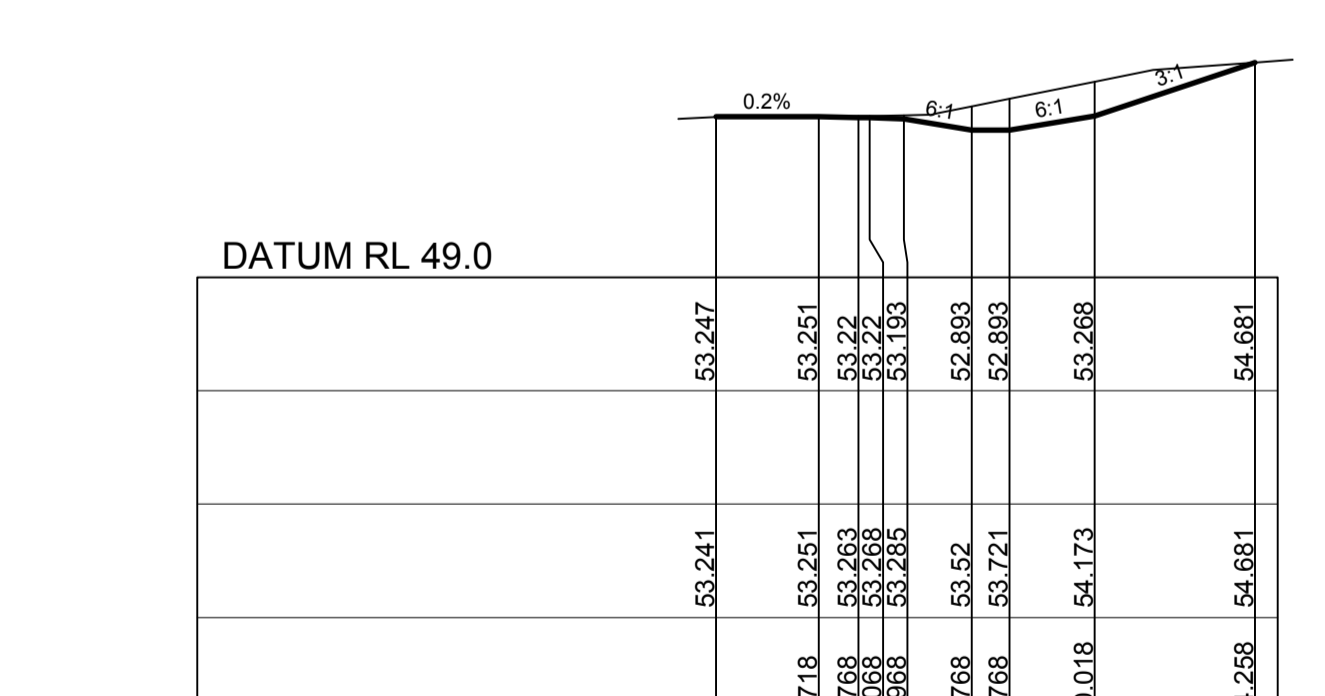
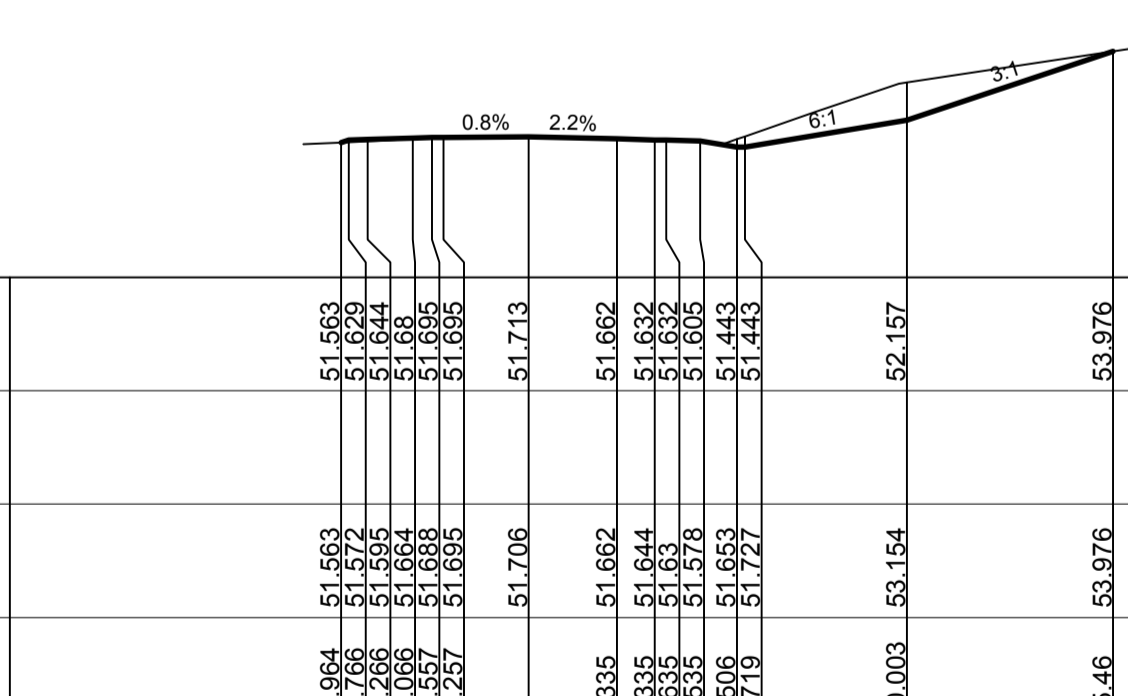
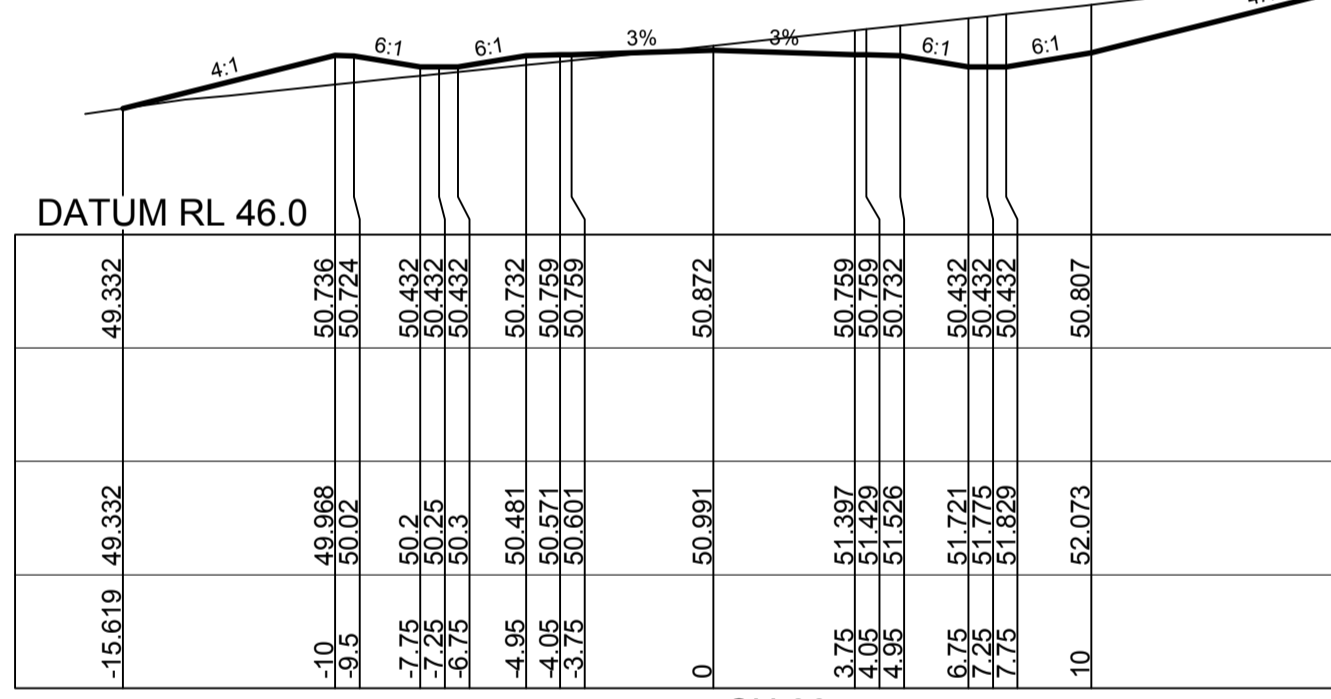
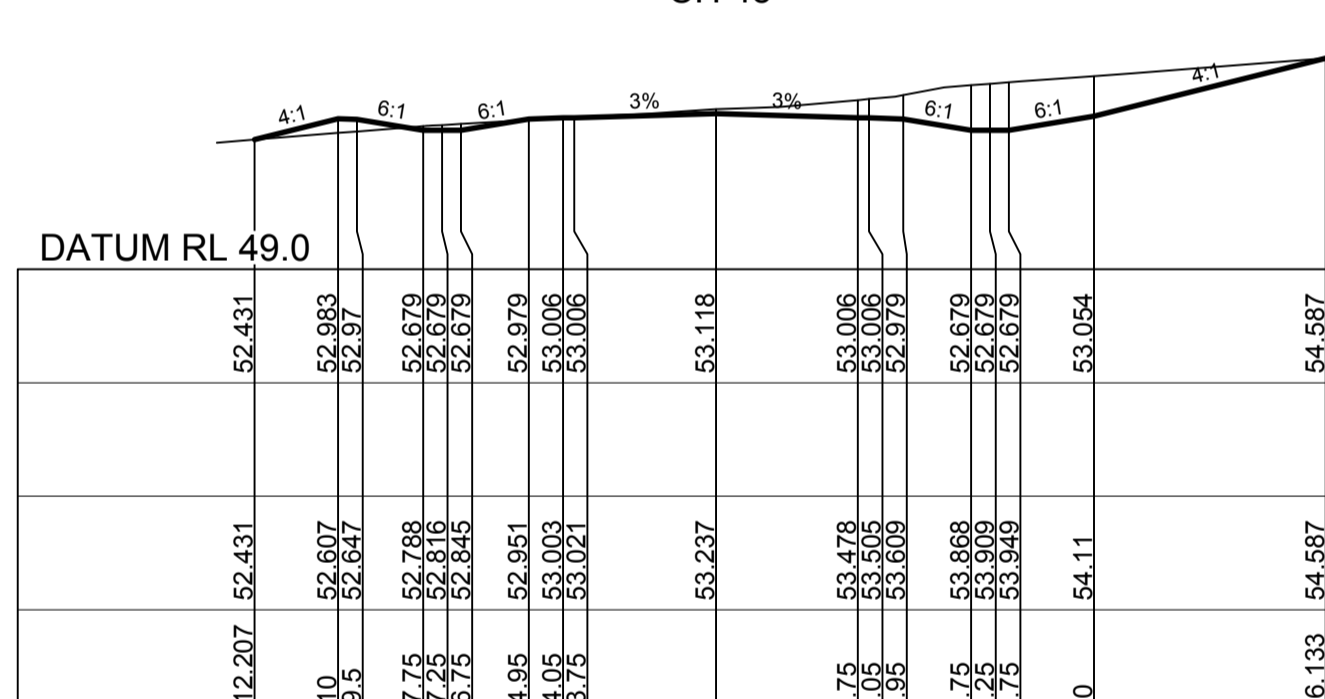
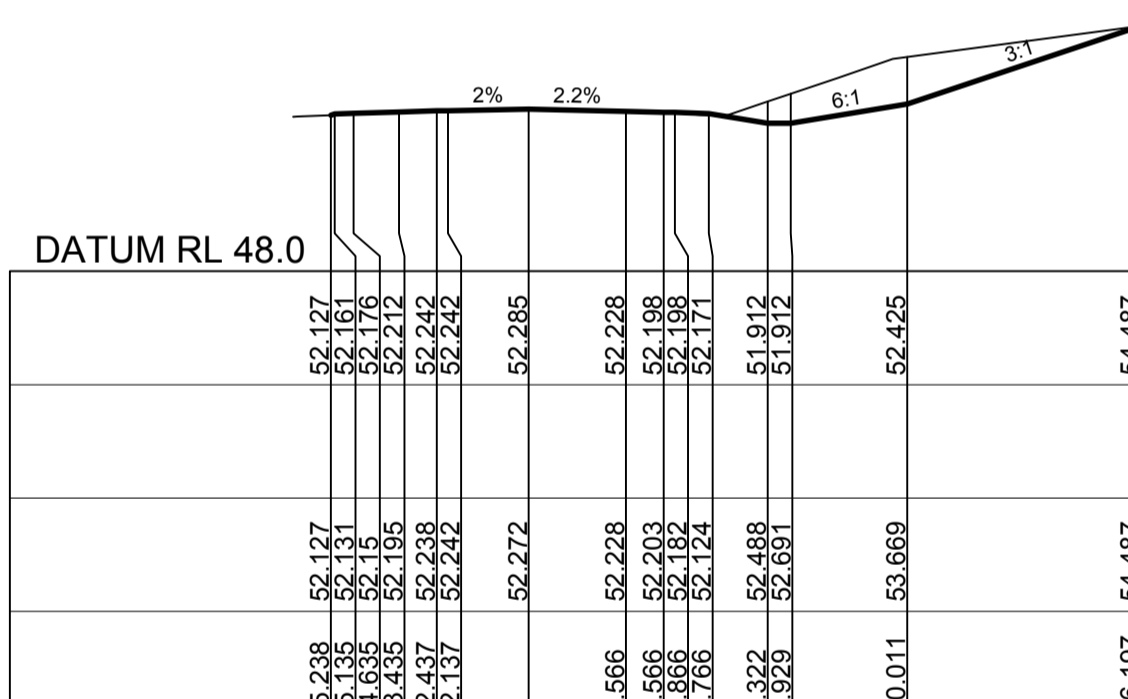
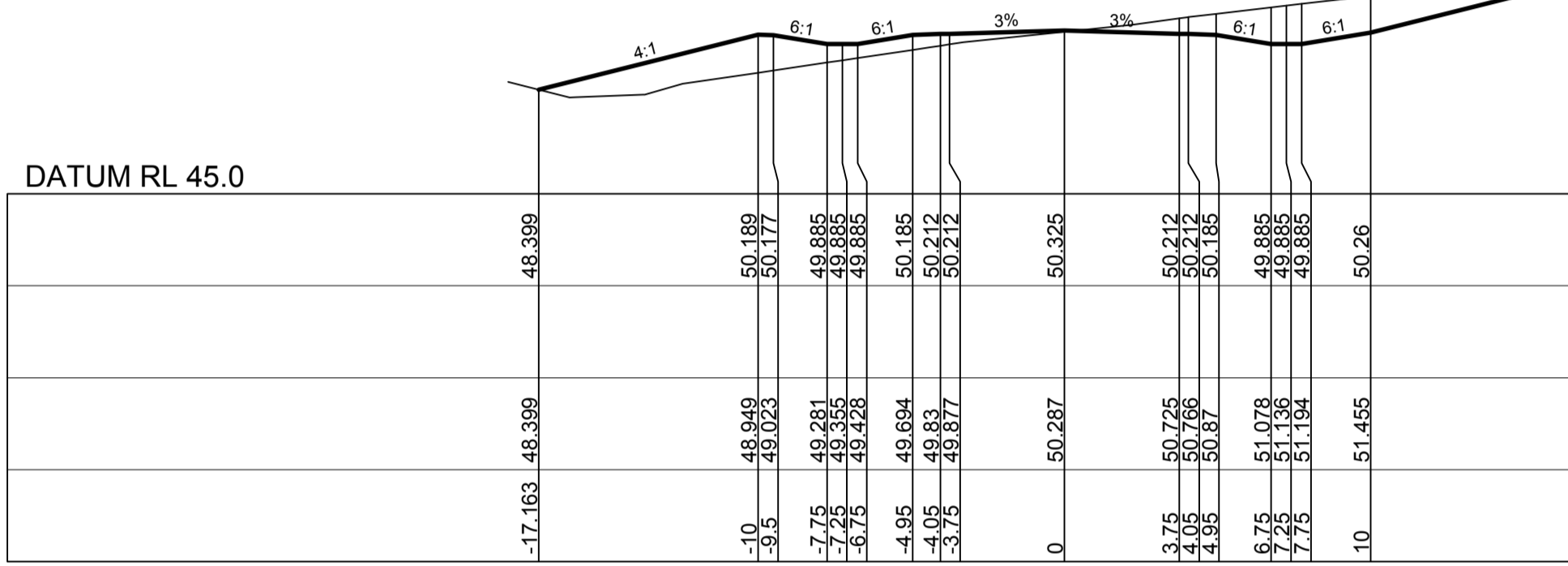
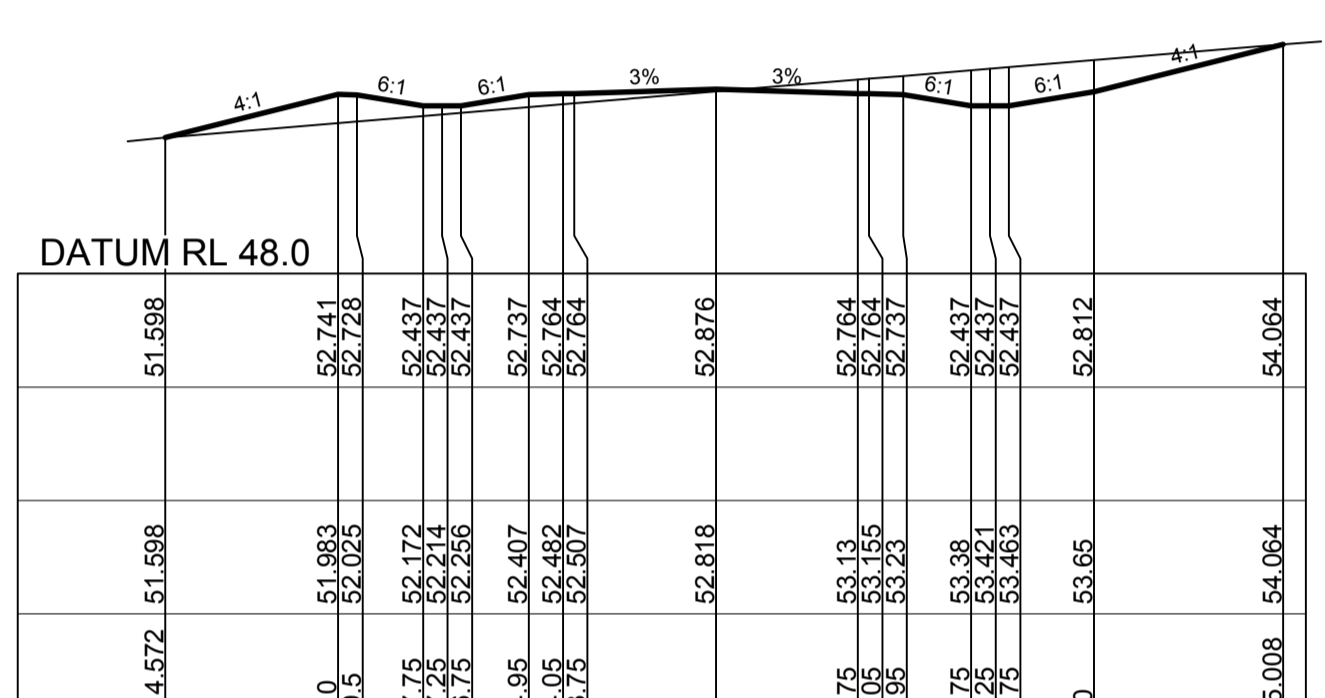
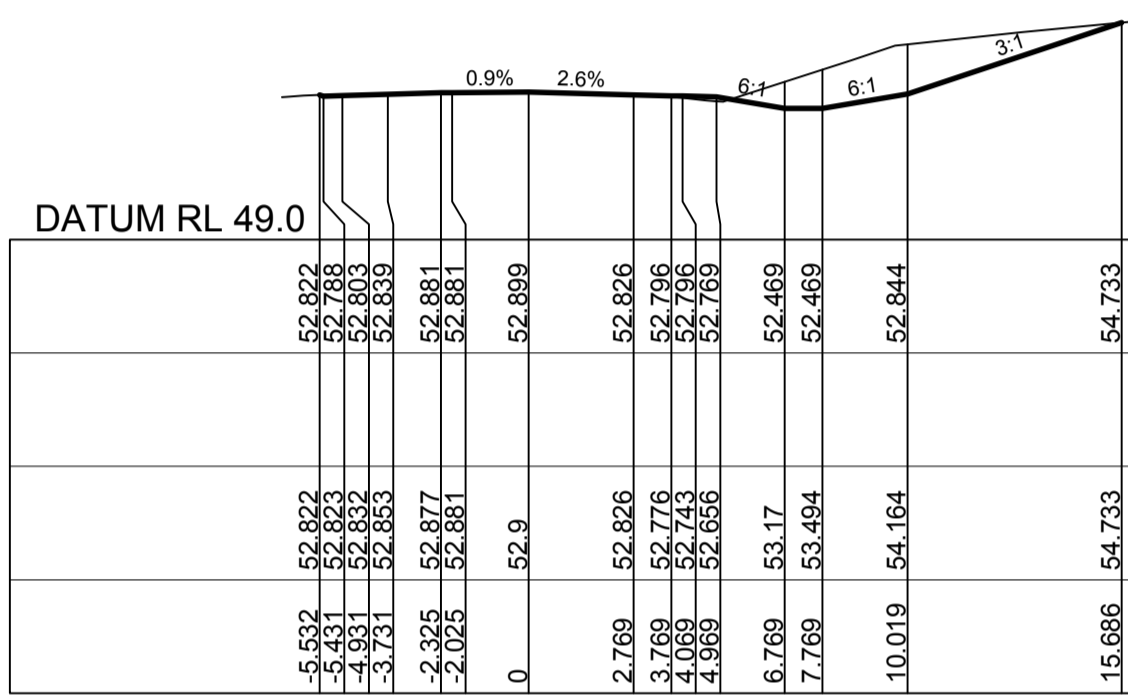
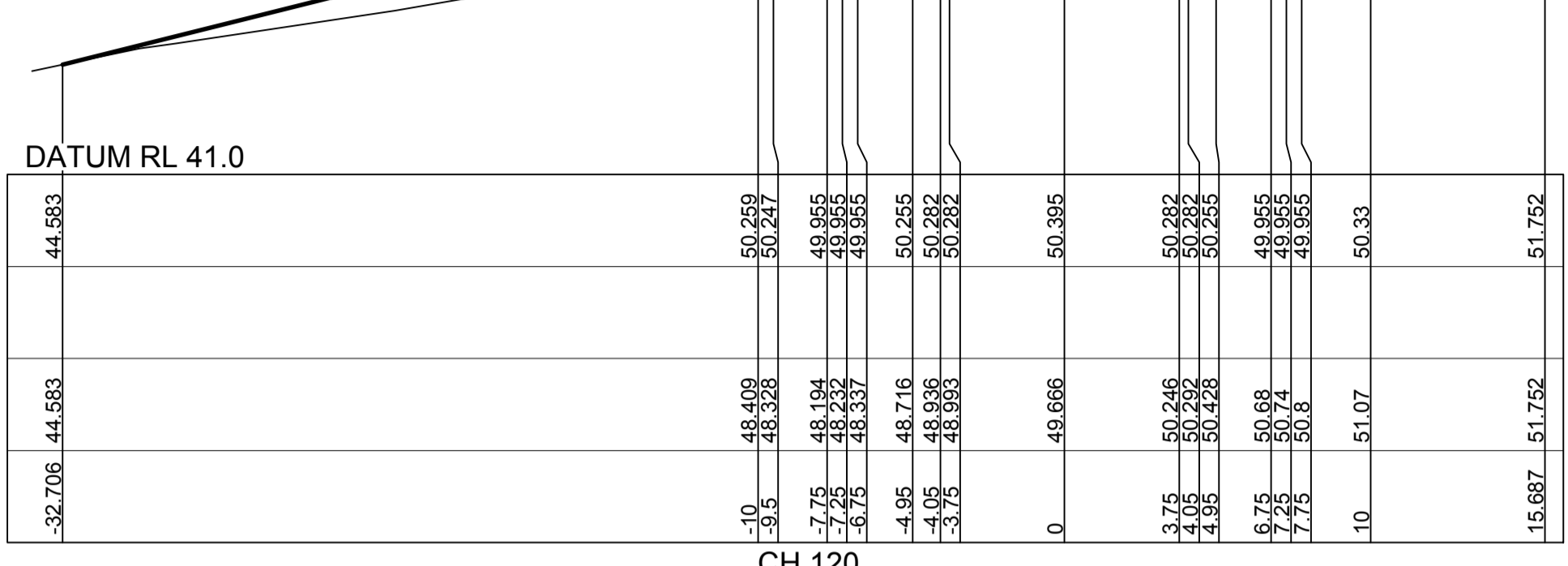
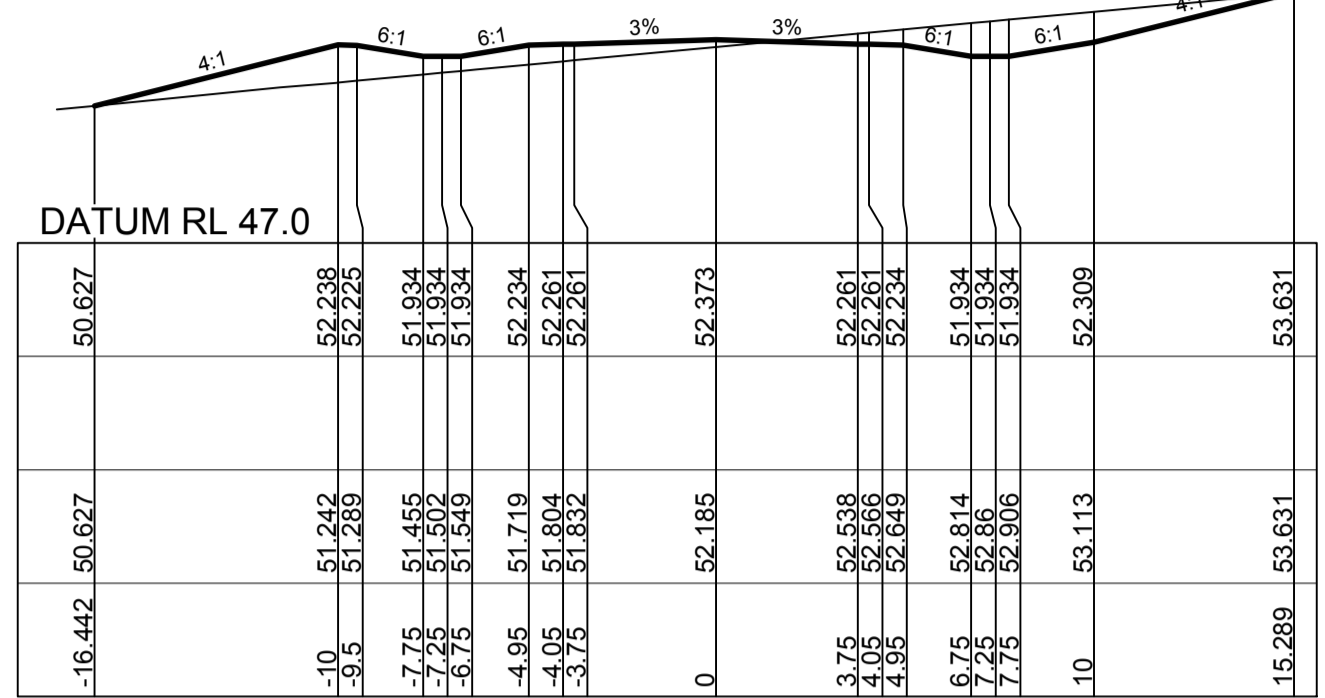
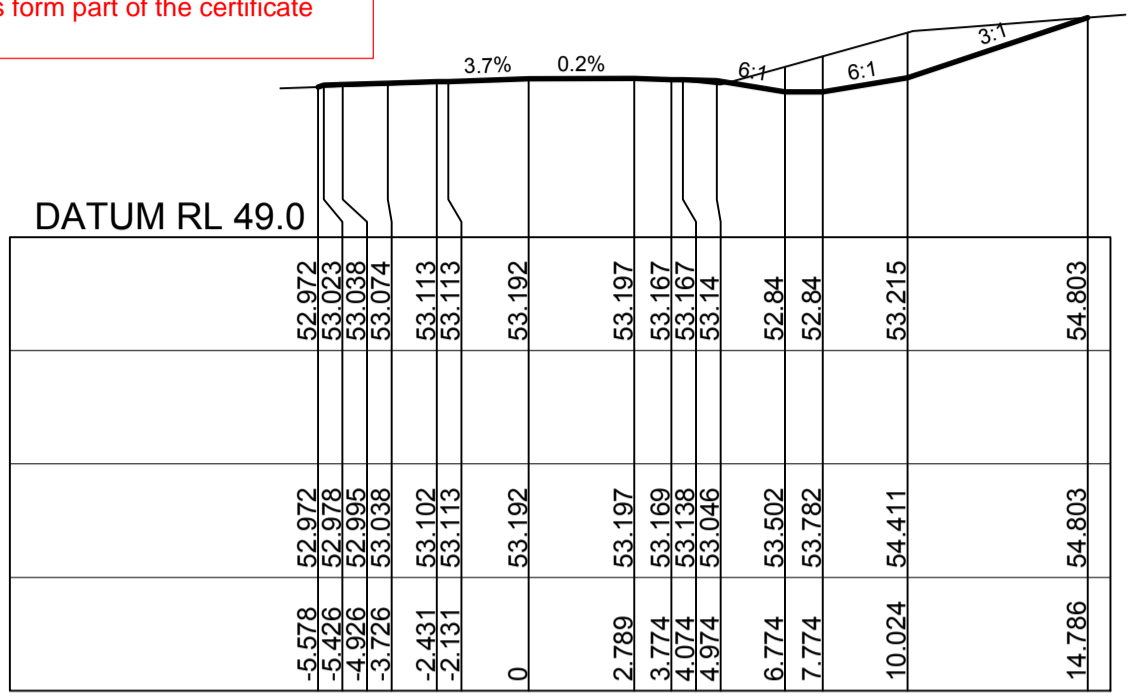
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.



CONSTRUCTION CERTIFICATE

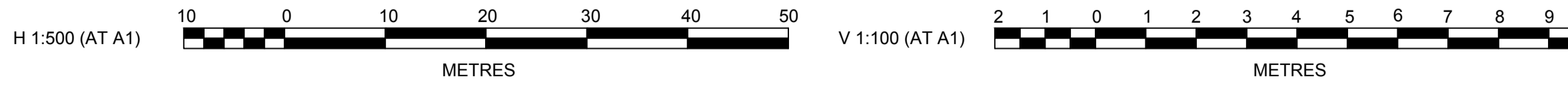
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017



	DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
1	51.683		51.563	-0.964
2	51.679		51.572	-0.766
3	51.685		51.595	-0.706
4	51.685		51.604	-0.666
5	51.685		51.618	-0.630
6	51.685		51.635	-0.597
7	51.685		51.655	-0.557
8	51.713		51.695	-0.357
9	51.662		51.708	0.046
10	51.632			
11	51.605			
12	51.443			
13	52.157			
14	53.976			

REVISION E  
ROAD BEL01 CROSS SECTIONS  
AMENDED



ROAD BEL01

CLIENT: REDBANK NORTH RICHMOND

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK, NORTH RICHMOND BELMONT ROAD CROSS SECTIONS SHEET 1

PLAN No: 110185BEL/CC21 E  
FILE No: 110185BELCC21  
SHEET SIZE: A1 ORIGINAL

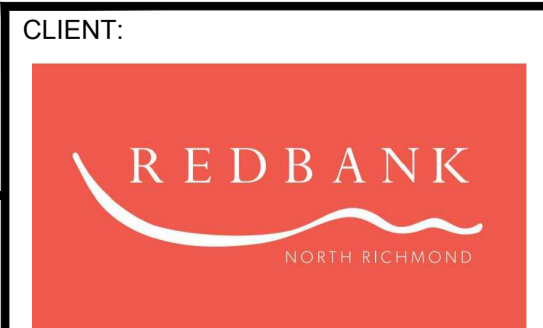
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AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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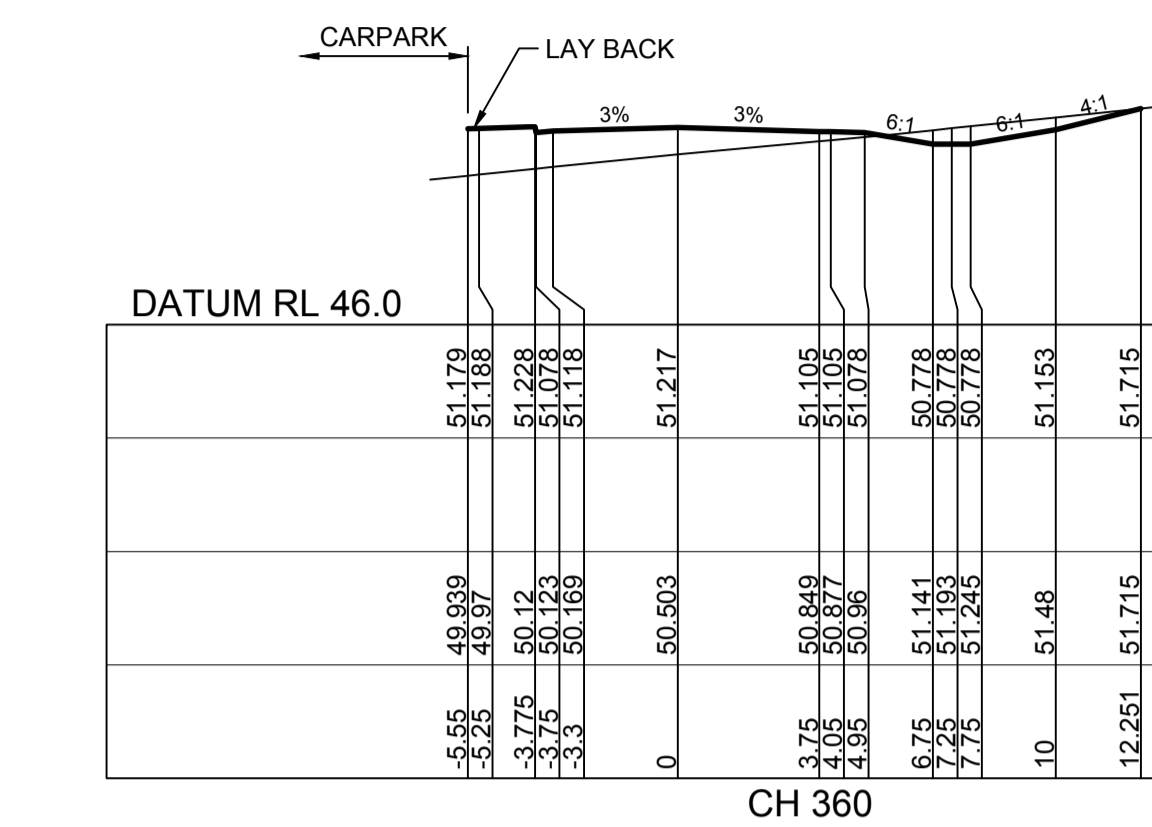
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DATUM: AHD  
ORIGIN:



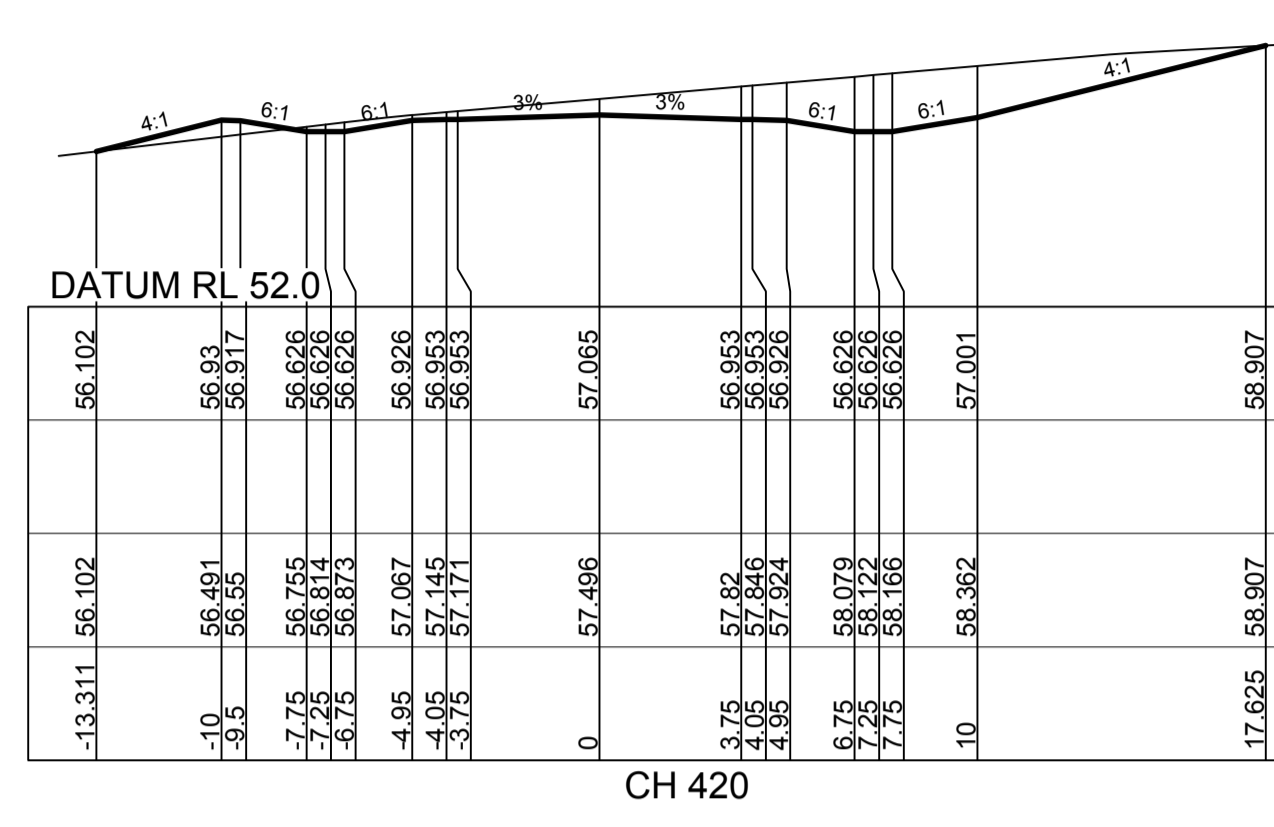
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.



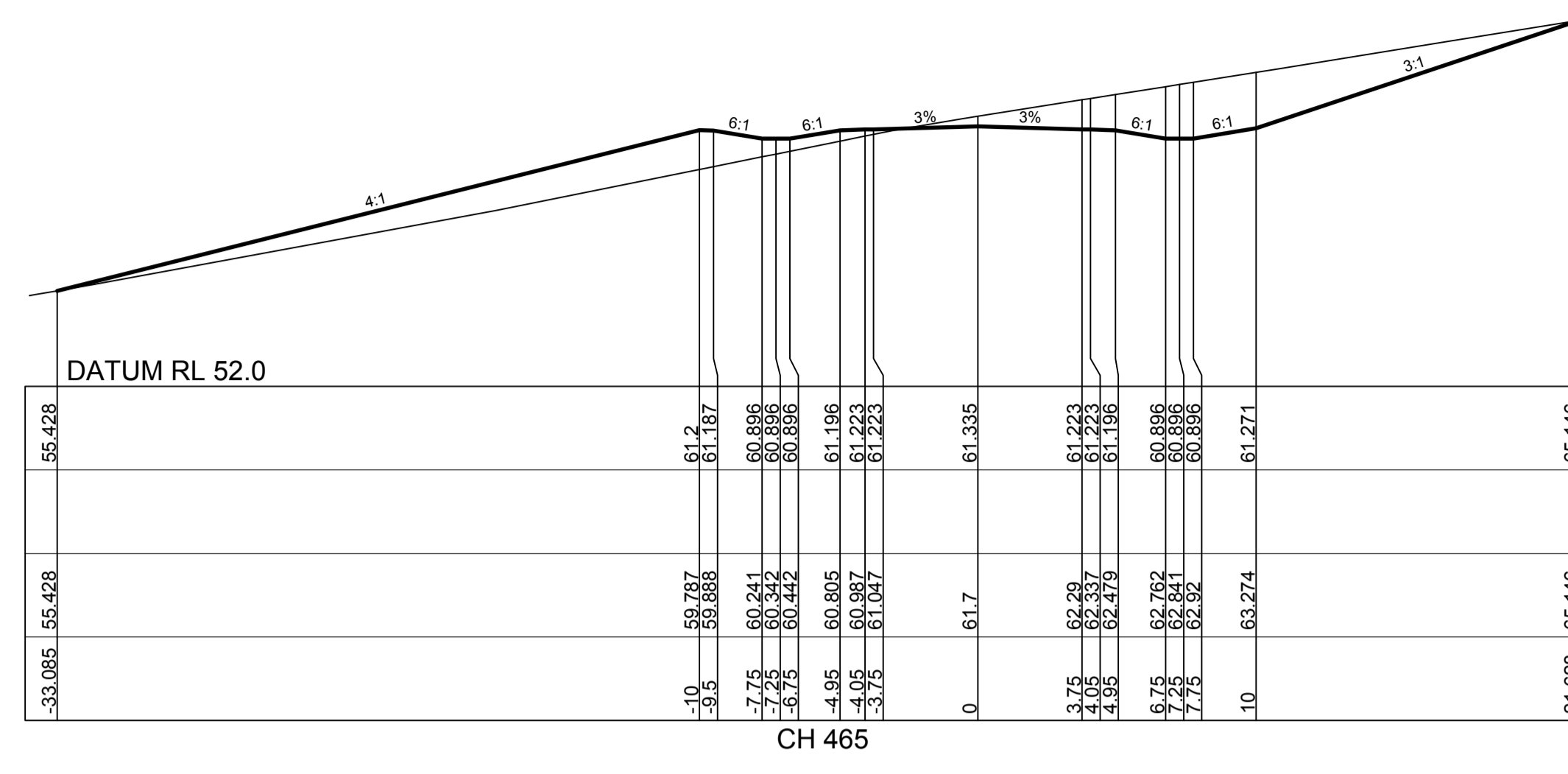
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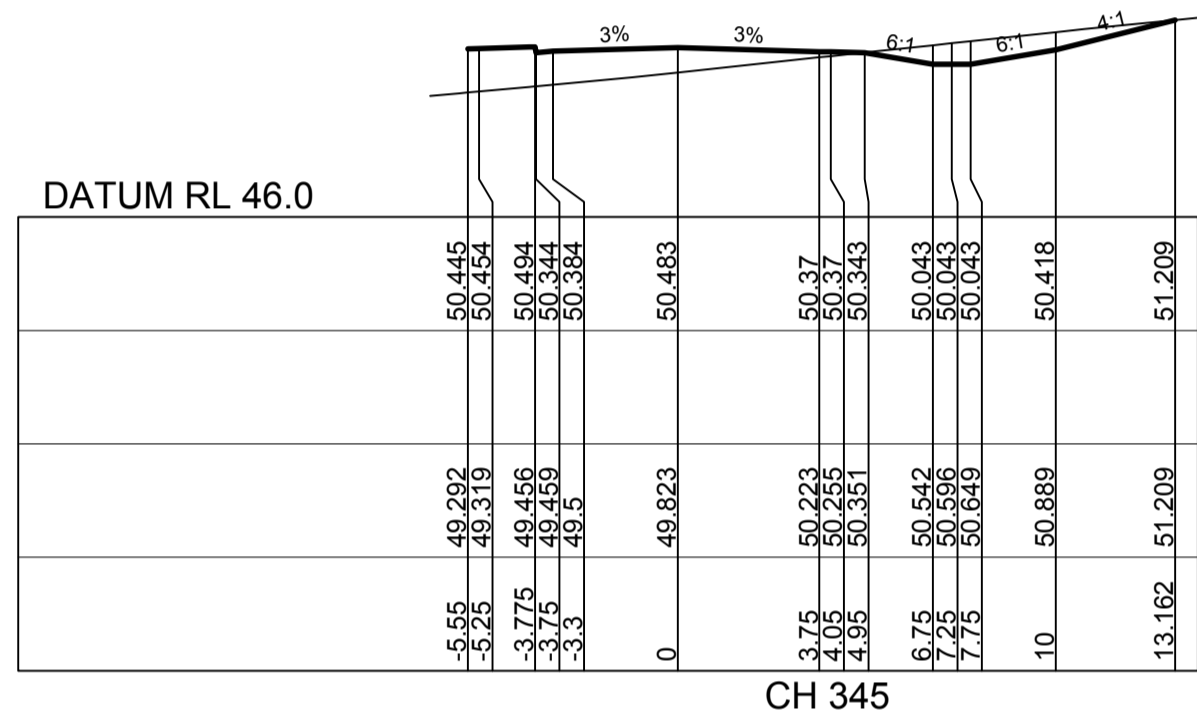
CH 360



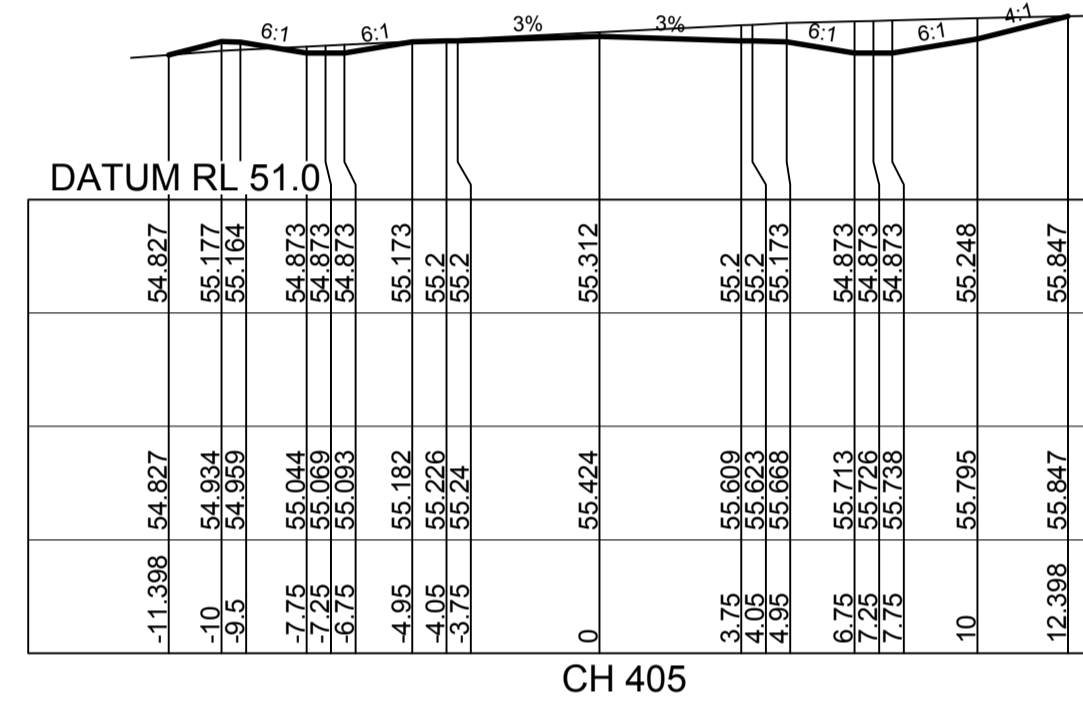
CH 420



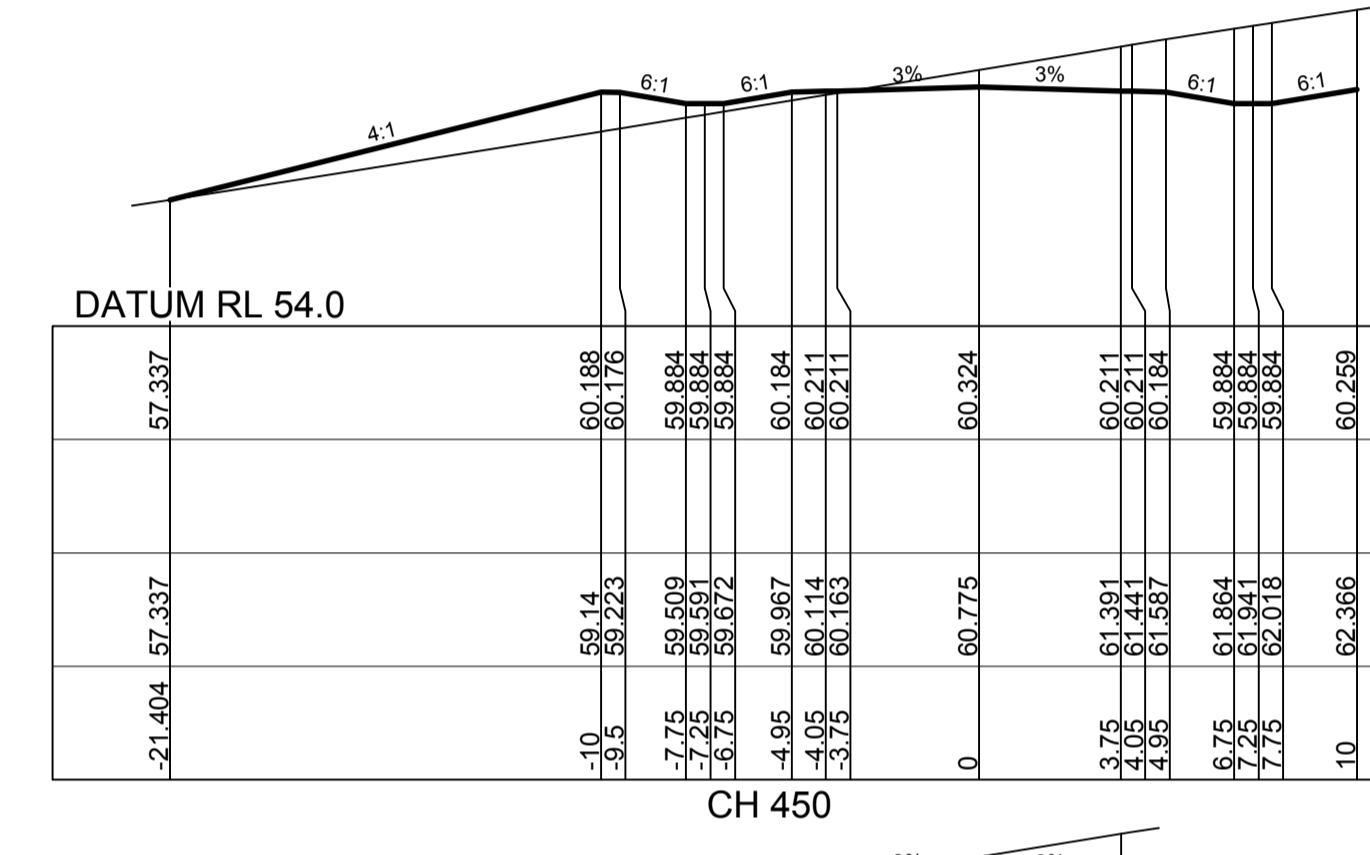
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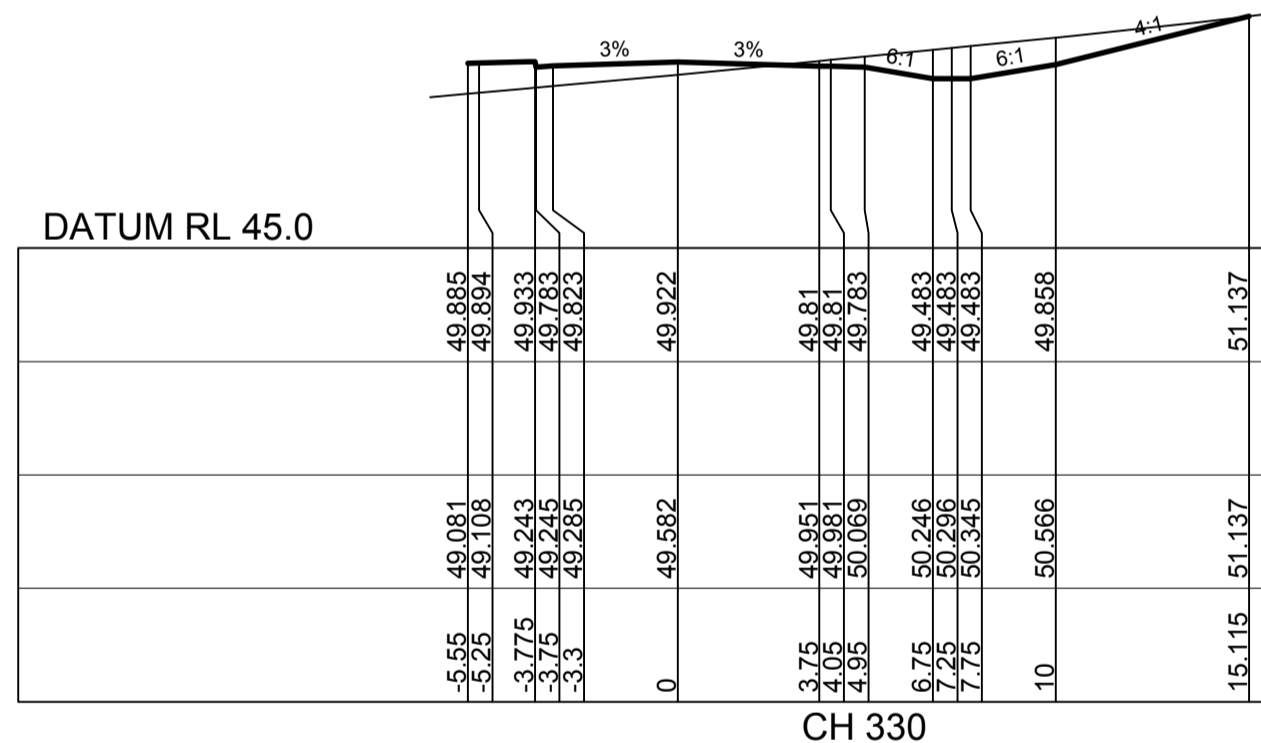
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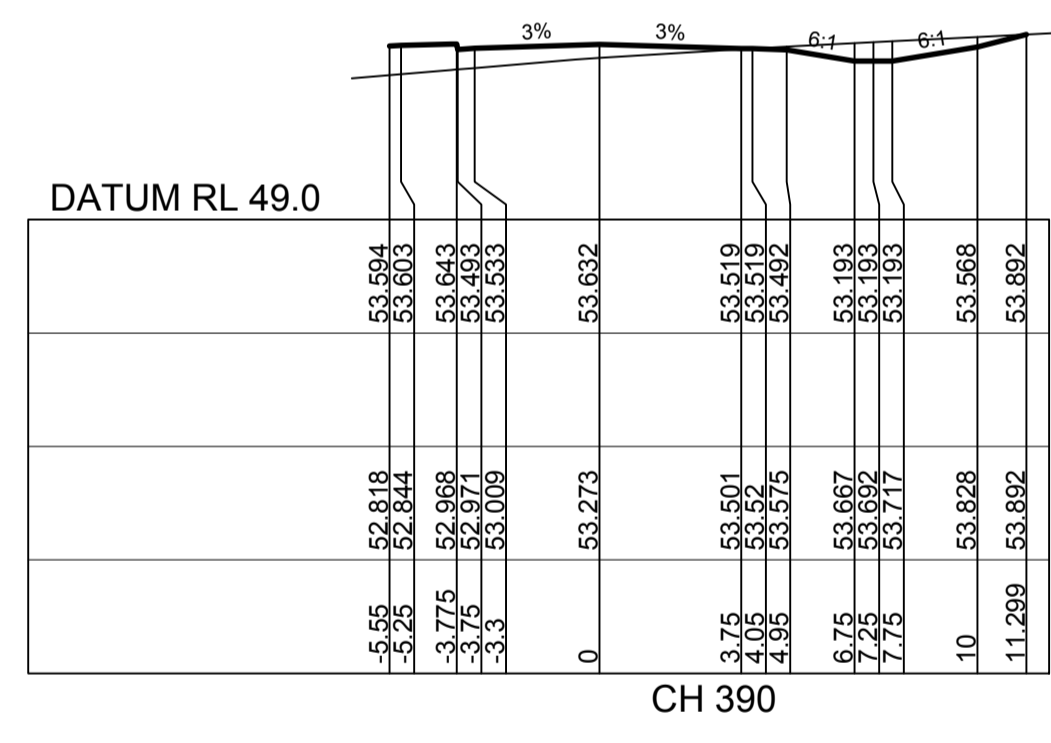
CH 405



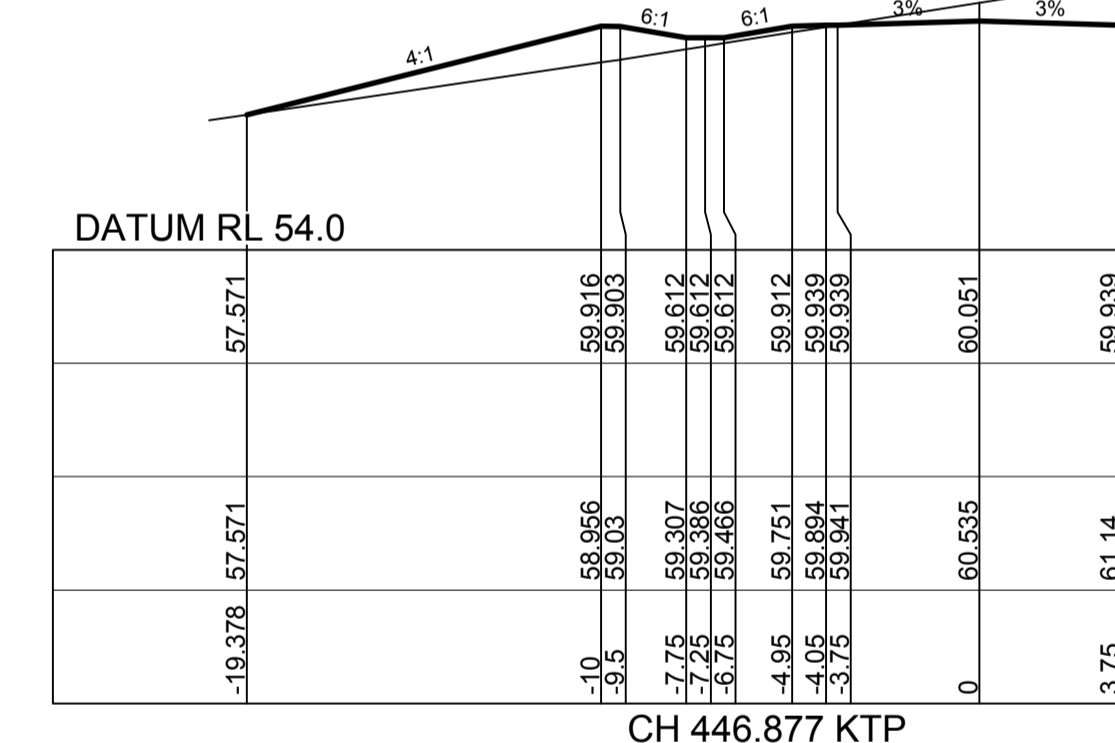
CH 450



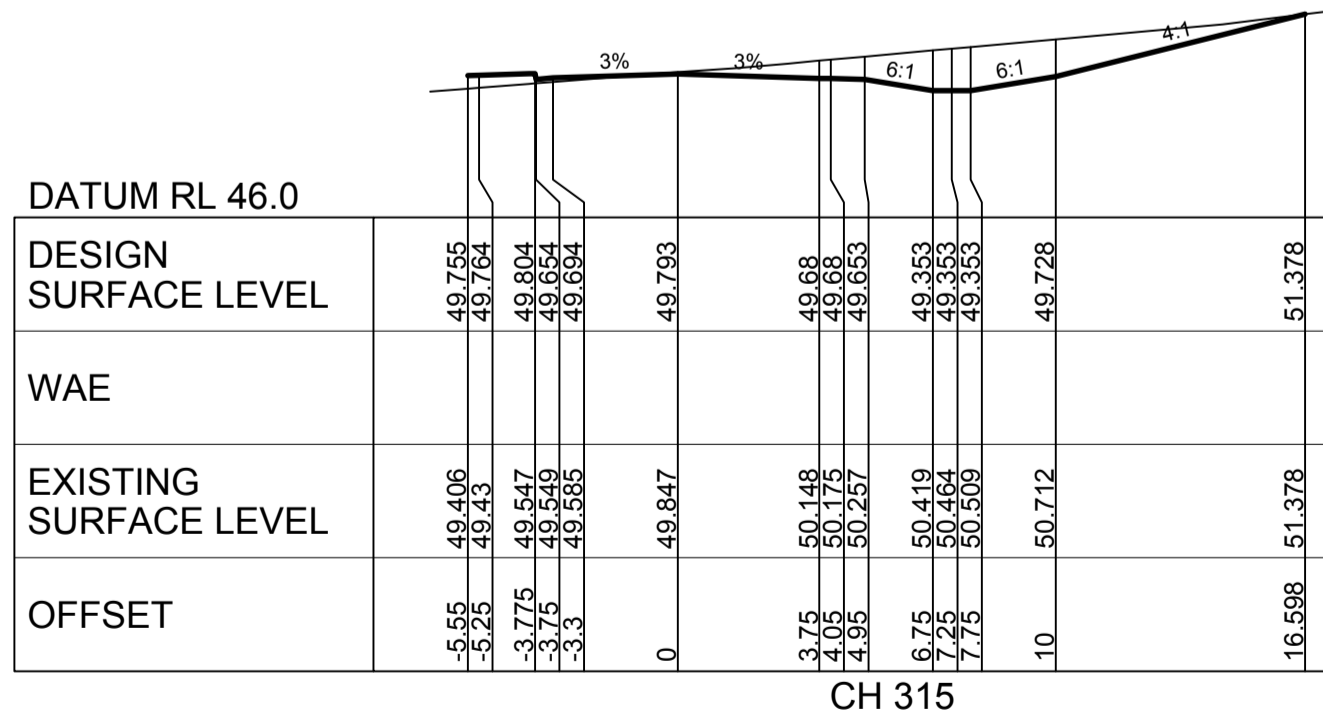
CH 330



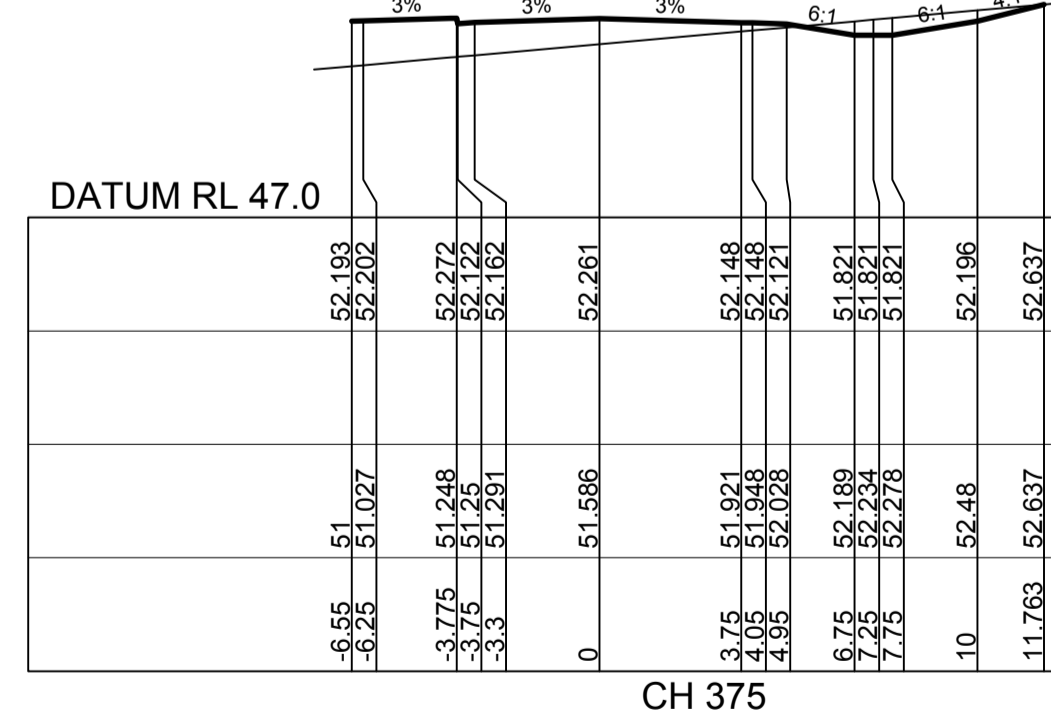
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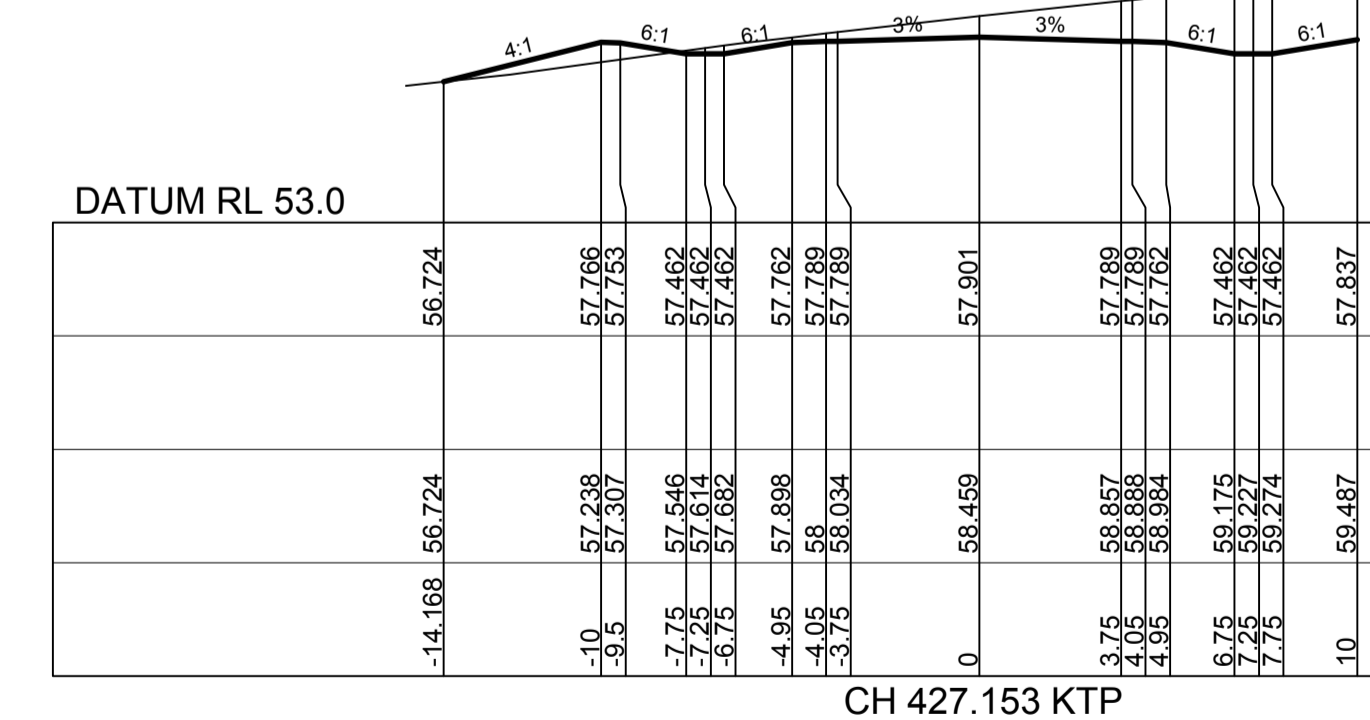
CH 446.877 KTP



CH 315



CH 375



CH 427.153 KTP

REVISION E  
ROAD BEL01 CROSS SECTIONS  
AMENDED



ROAD BEL01

Revision and Issue Log Table with columns: F, E, D, C, B, A, AMENDMENT, MP, MG, RO, MS, DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS. Includes contact info: PO Box 4366 PENRITH WESTFIELD NSW 2750.

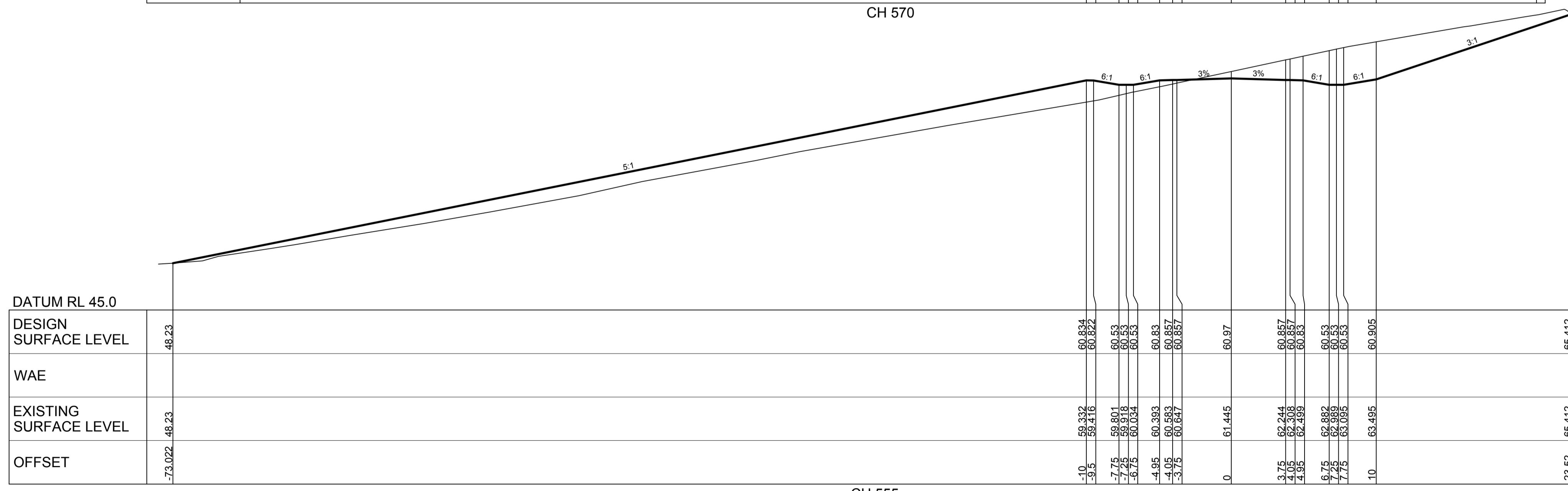
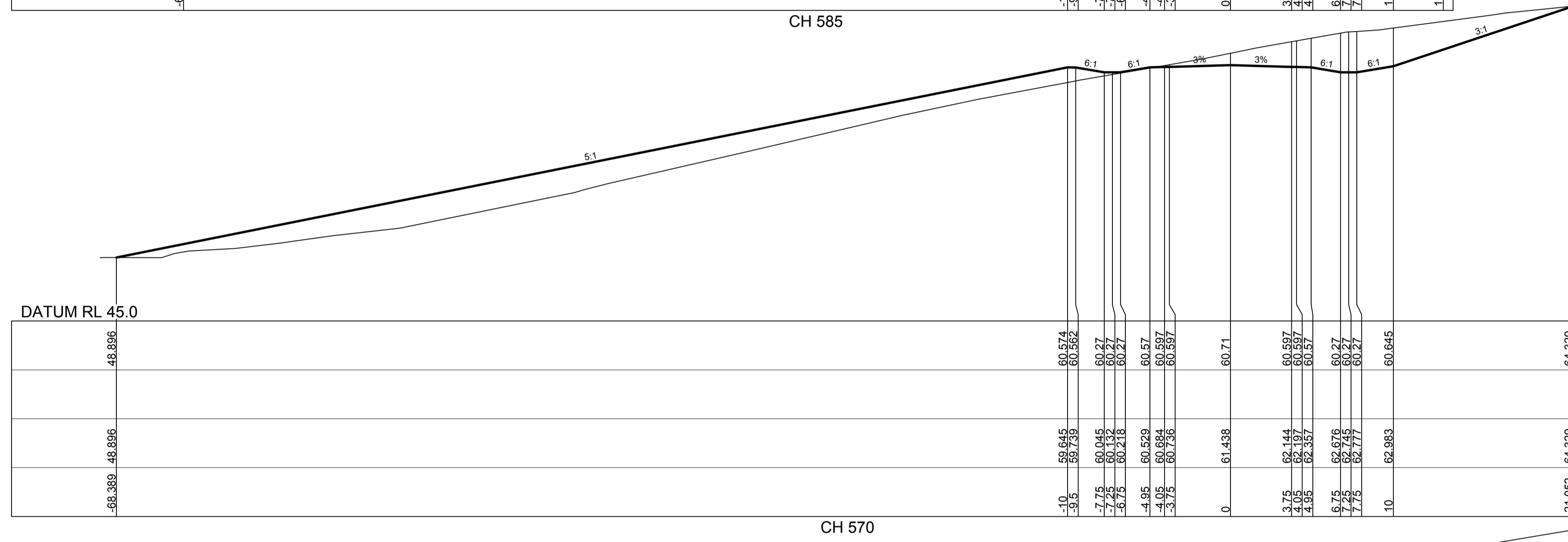
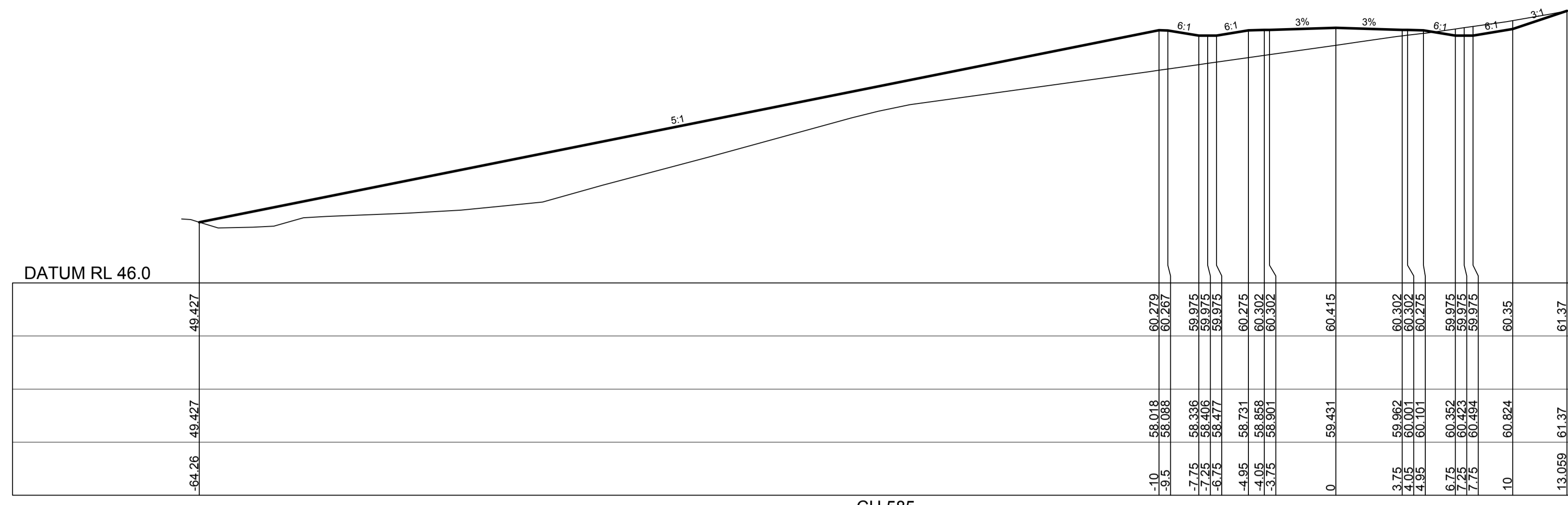
CLIENT: REDBANK NORTH RICHMOND. THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL. REDBANK, NORTH RICHMOND BELMONT. ROAD CROSS SECTIONS SHEET 3. Includes Construction Certificate info and plan details.



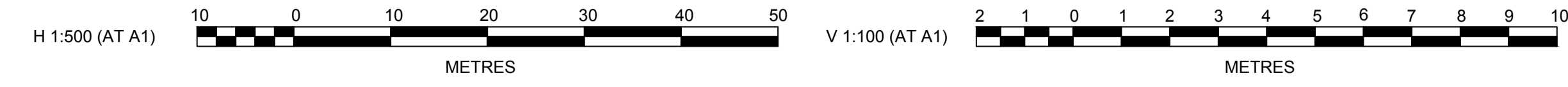


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ROAD BEL01

REVISION F  
 ROAD BEL01 CROSS SECTIONS  
 AMENDED



**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017

F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO		21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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**ISSUED FOR CONSTRUCTION APPROVAL**

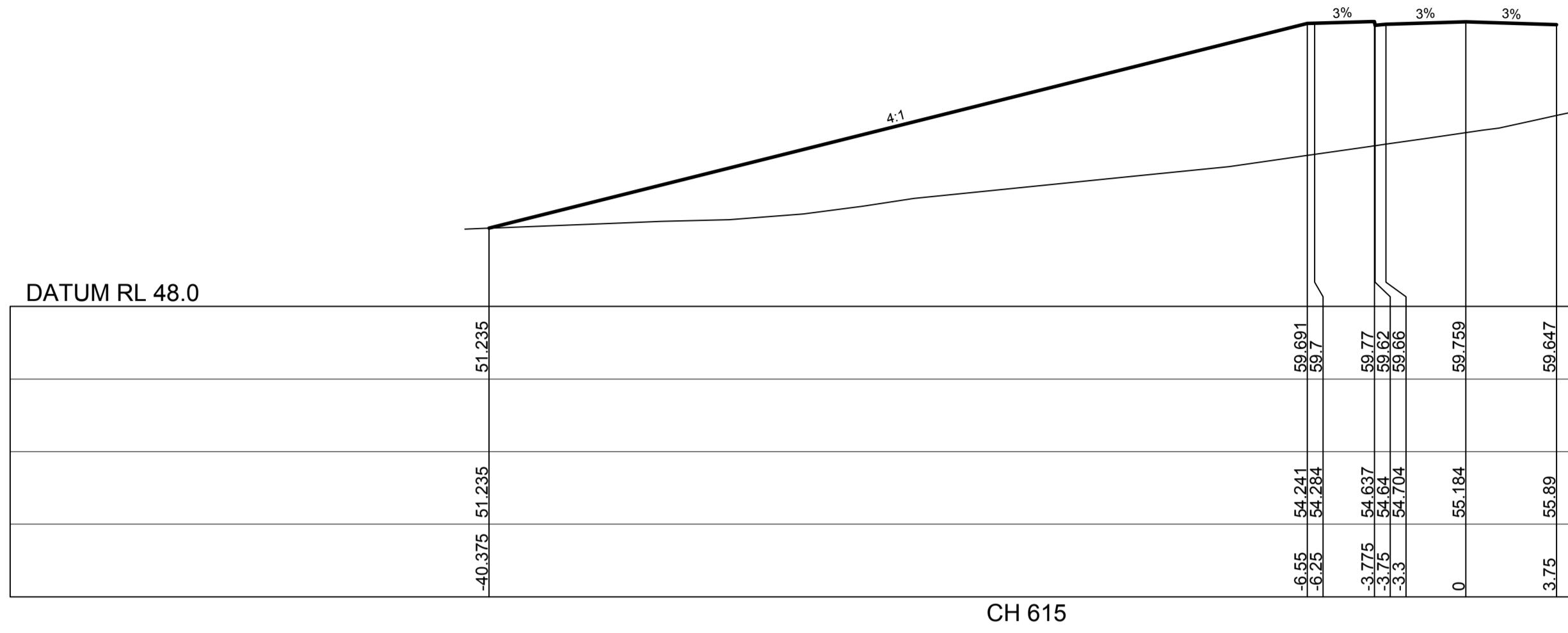
REDBANK, NORTH RICHMOND  
 BELMONT  
 ROAD CROSS SECTIONS  
 SHEET 5

PLAN No: 110185BEL/CC25 **F**  
 FILE No: 110185BELCC25  
 SHEET SIZE: A1 ORIGINAL

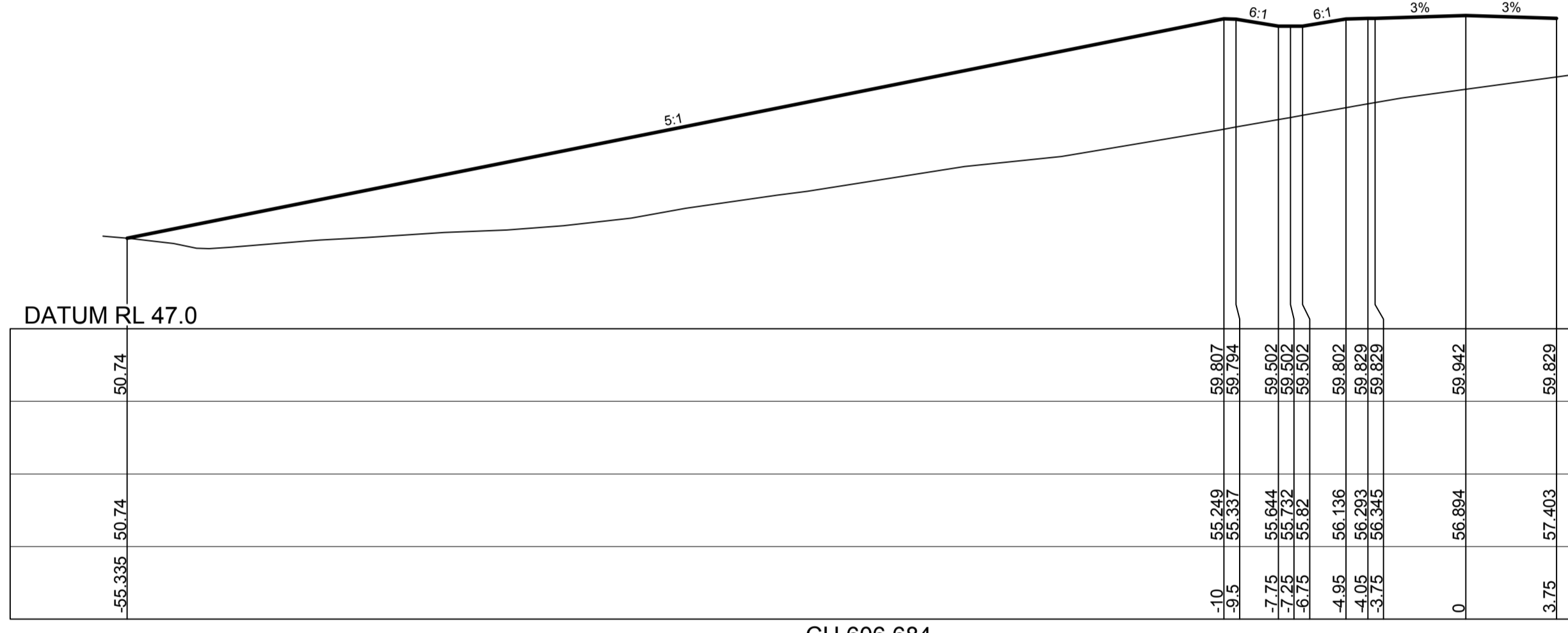
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

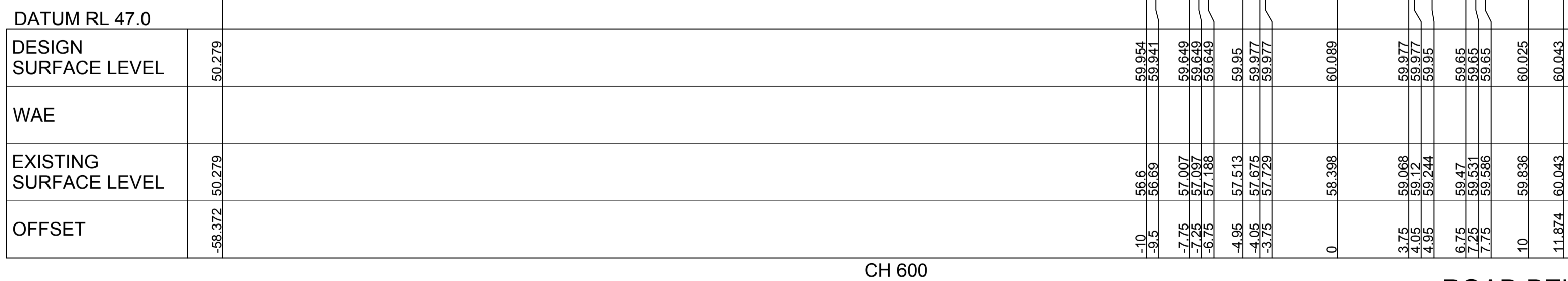
These plans/specifications form part of the certificate issued 31 July 2017



CH 615

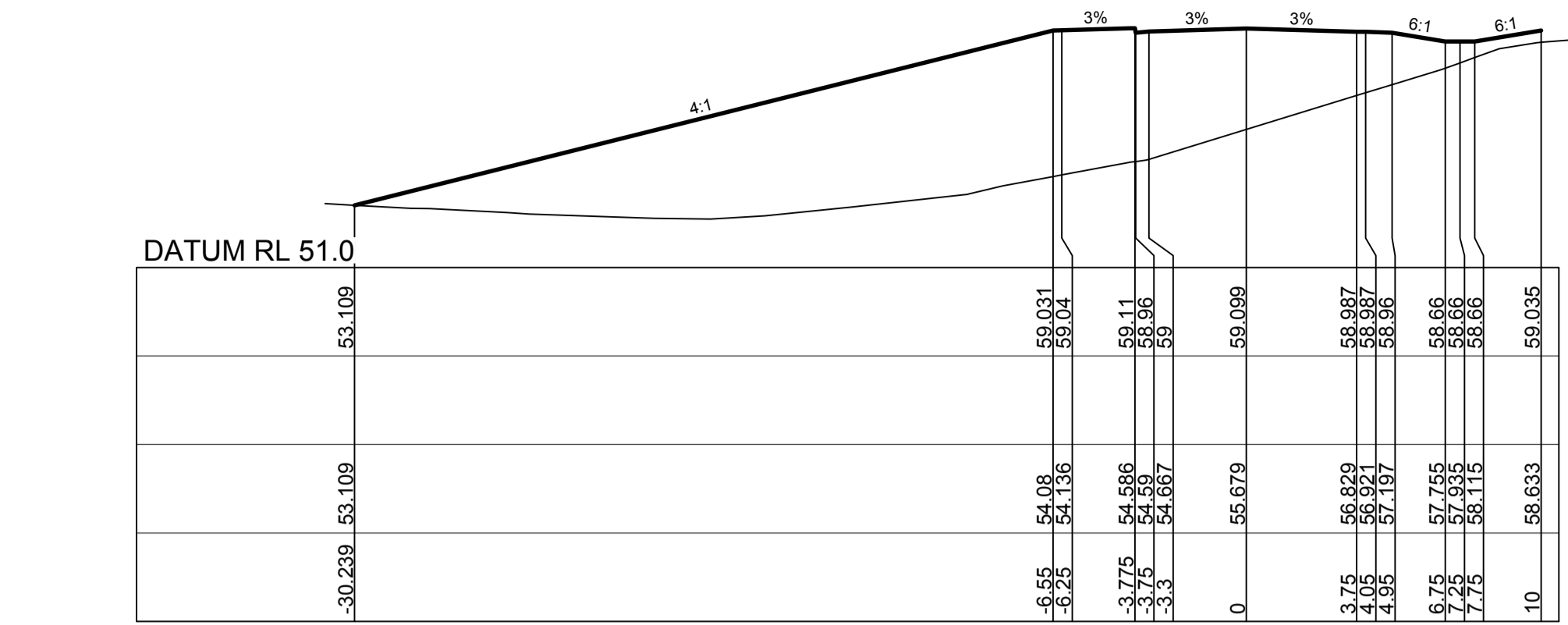


CH 606.684

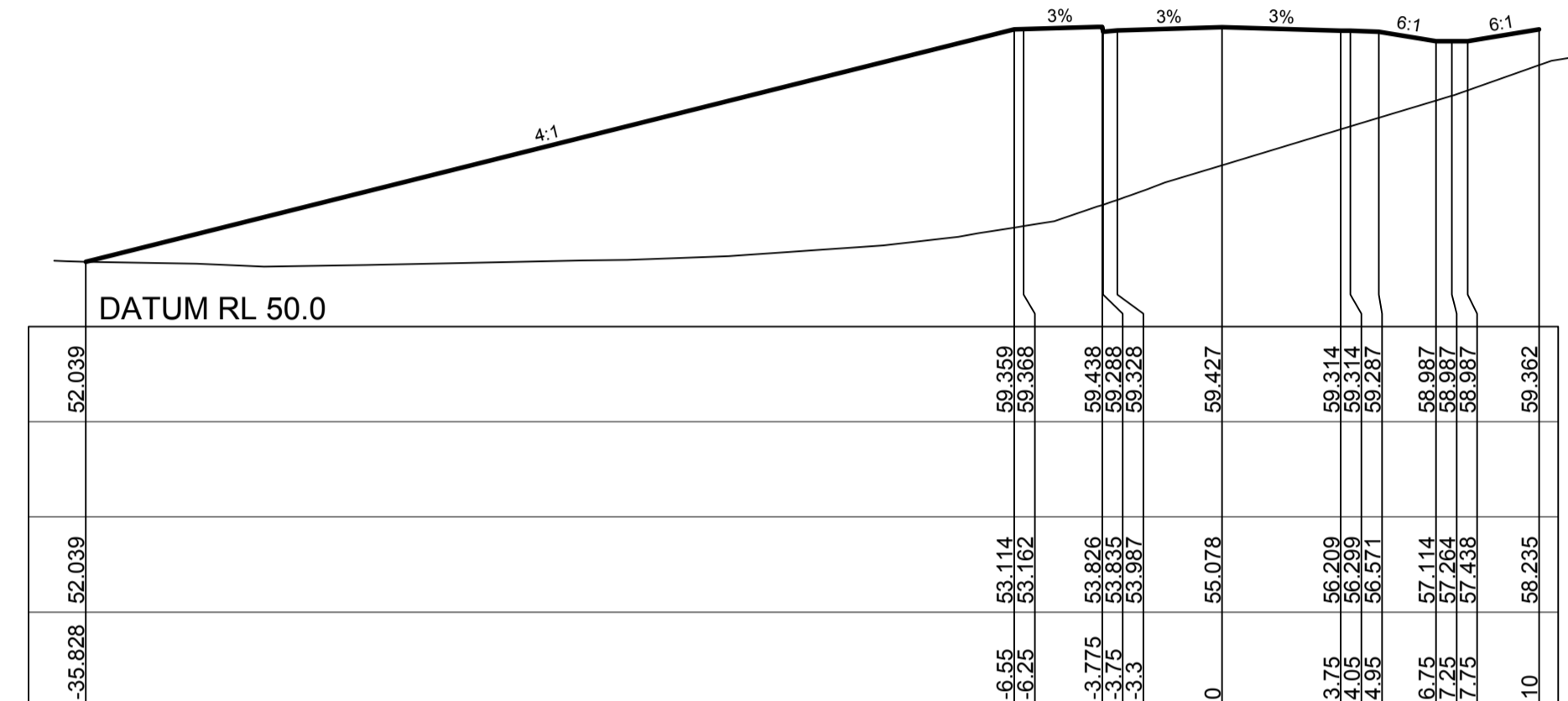


CH 600

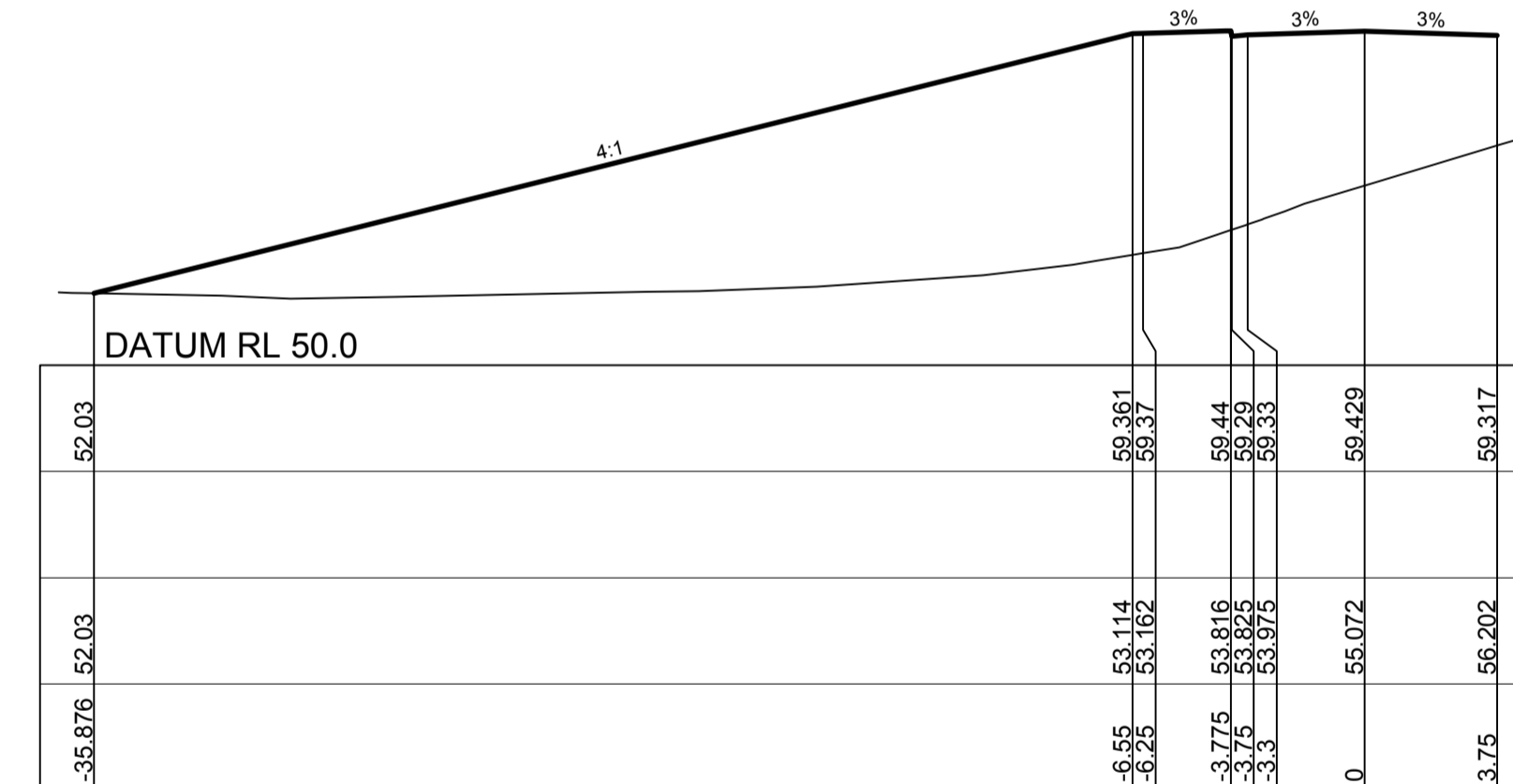
**ROAD BEL01**



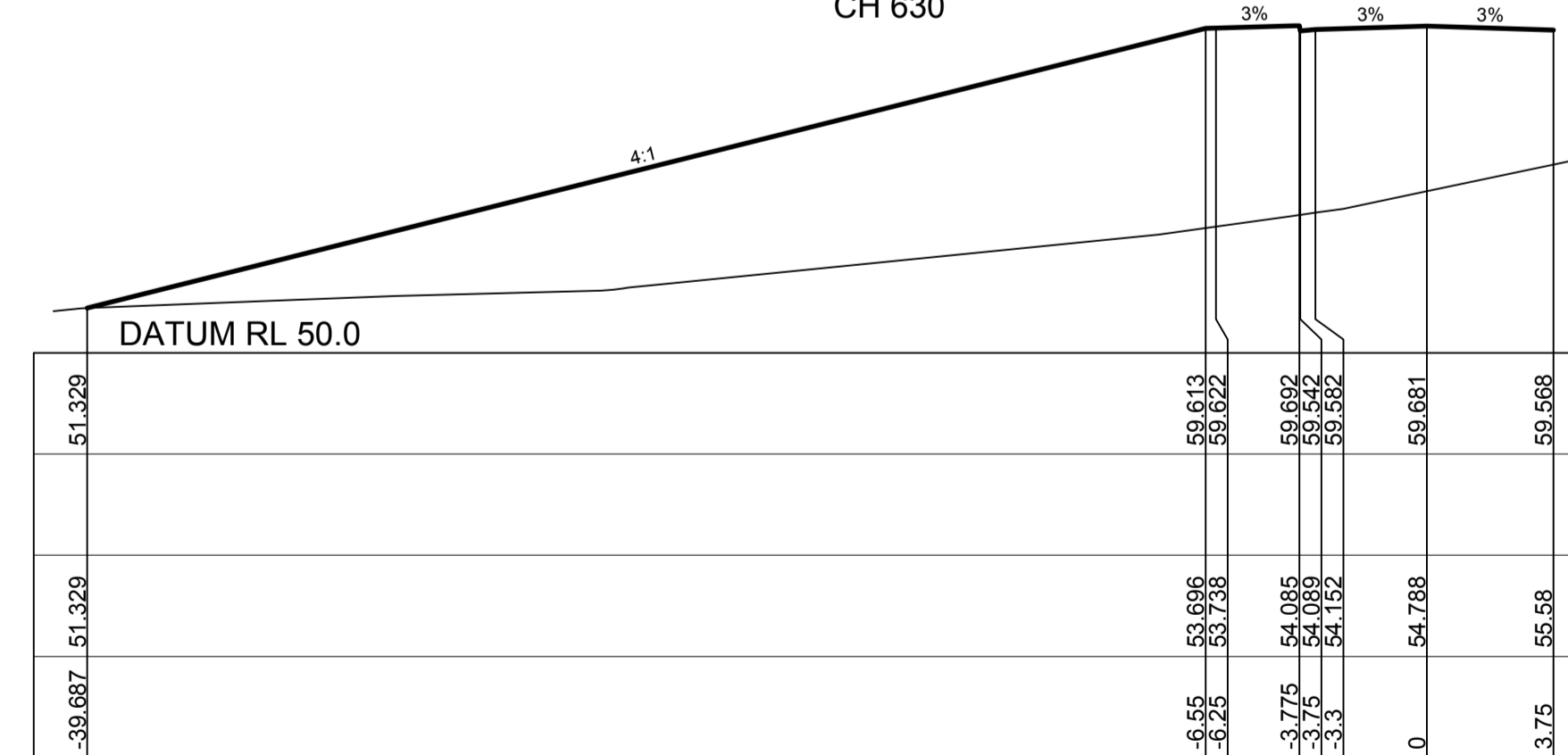
CH 645



CH 630.11 KTP



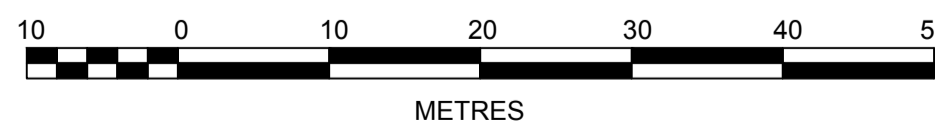
CH 630



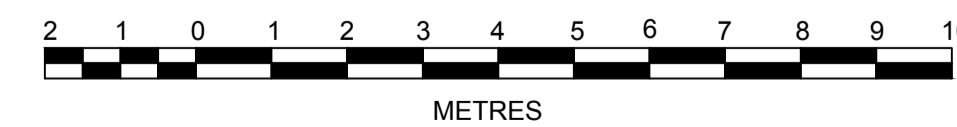
CH 618.559

REVISION F  
 ROAD BEL01 CROSS SECTIONS AMENDED

H 1:500 (AT A1)



V 1:100 (AT A1)



F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT: **REDBANK** NORTH RICHMOND

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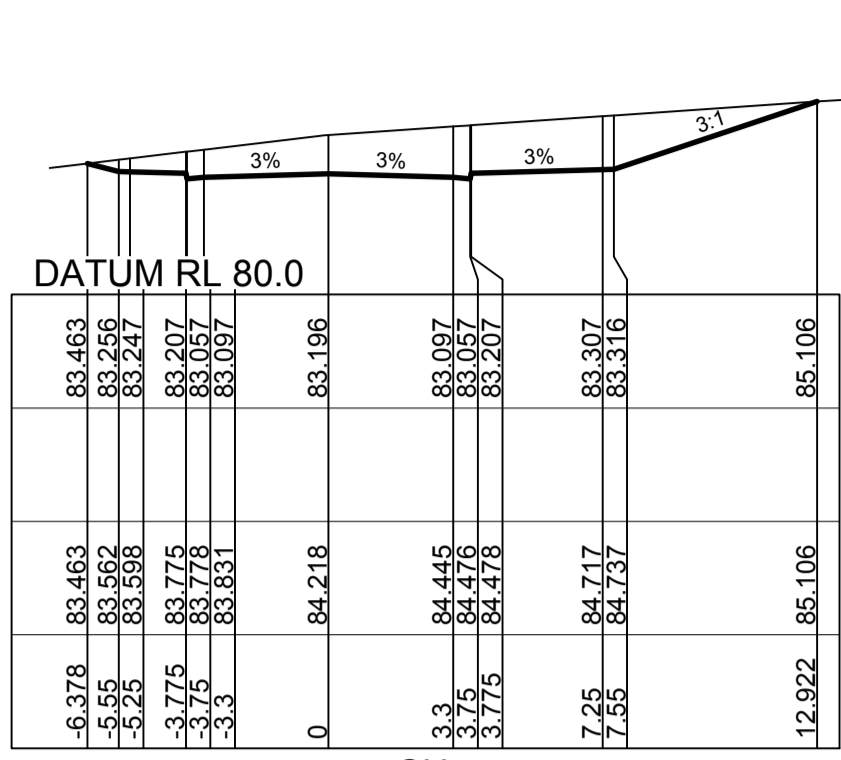
**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**  
 ROAD CROSS SECTIONS  
 SHEET 6

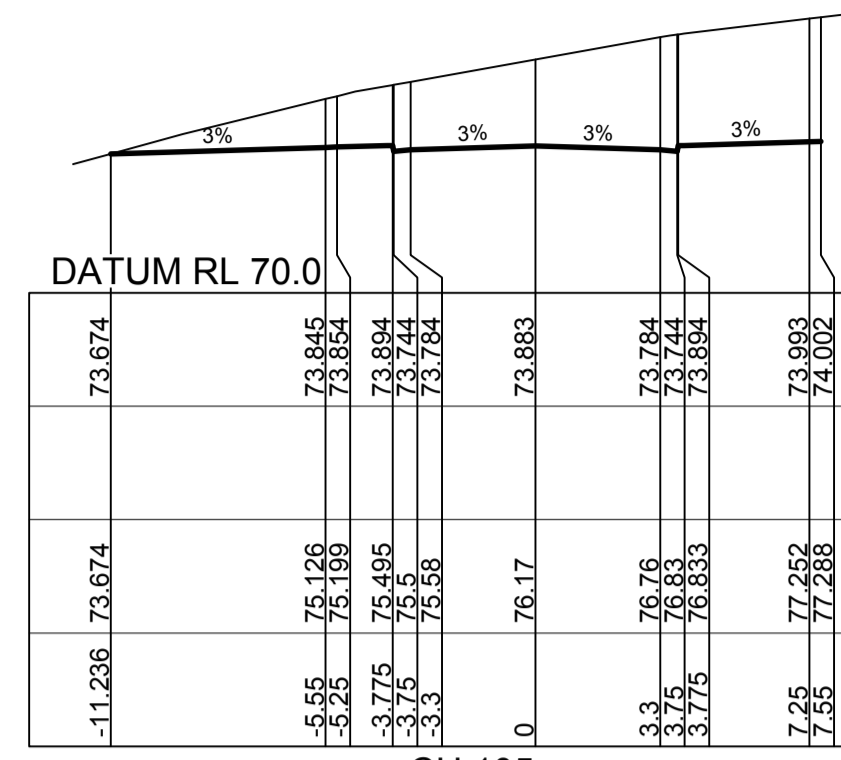
PLAN No: 110185BEL/CC26 **F**  
 FILE No: 110185BELCC26  
 SHEET SIZE: A1 ORIGINAL



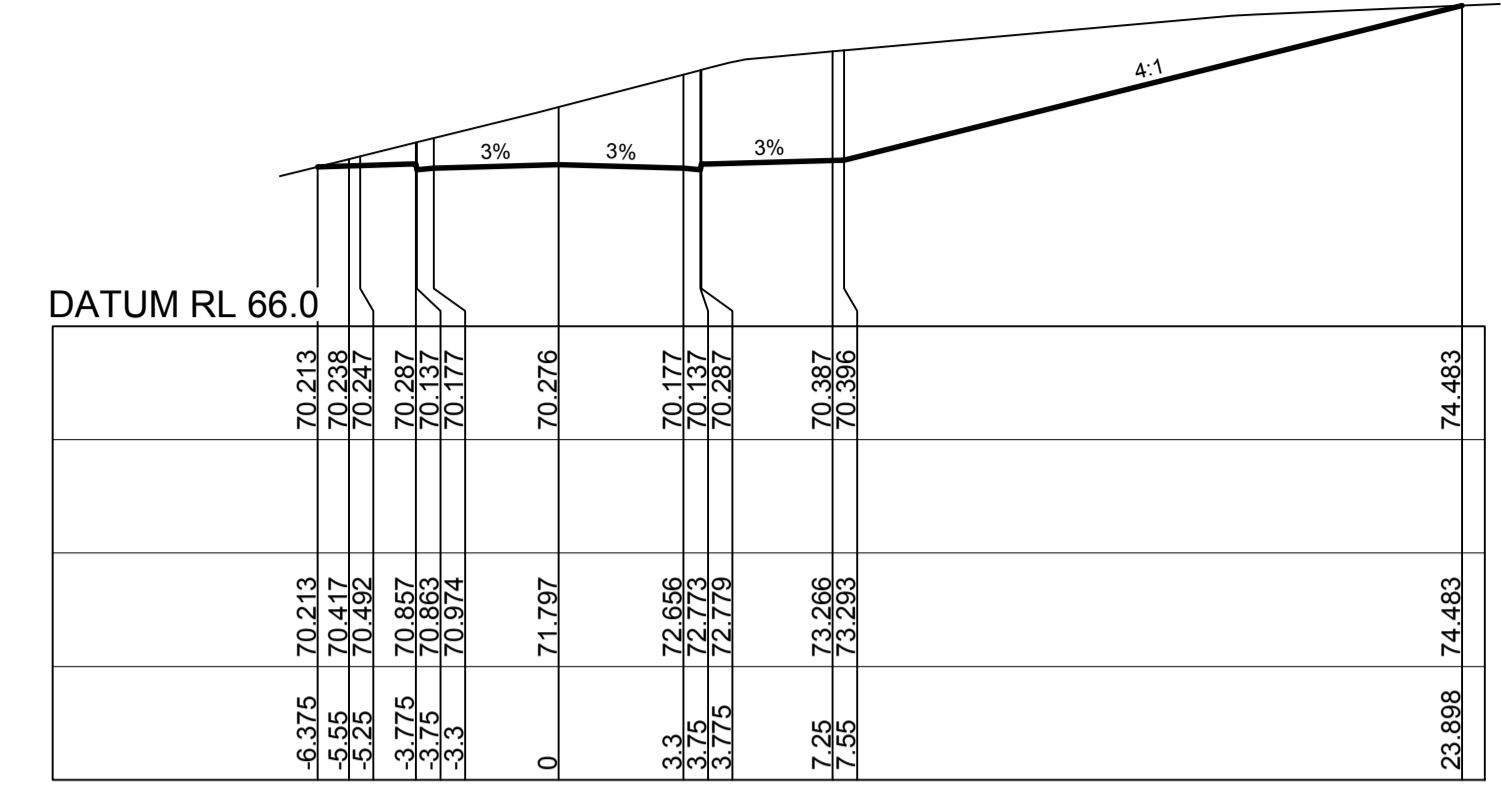




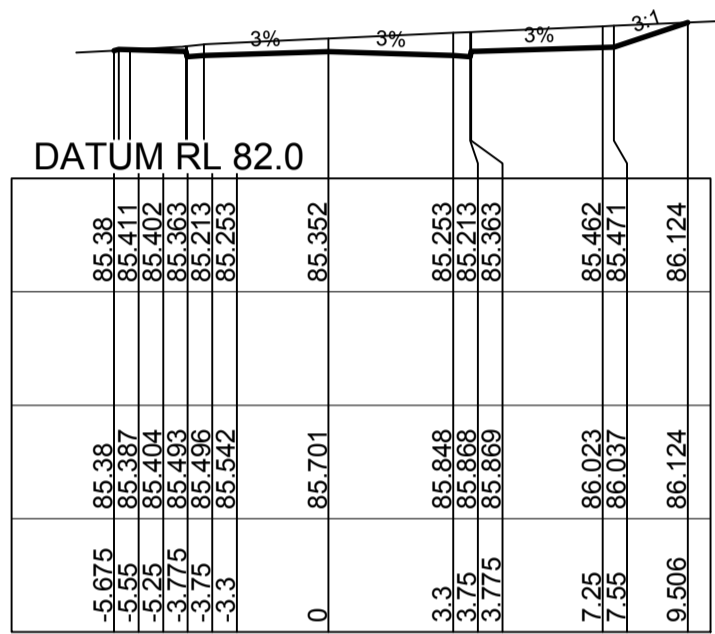
CH 45



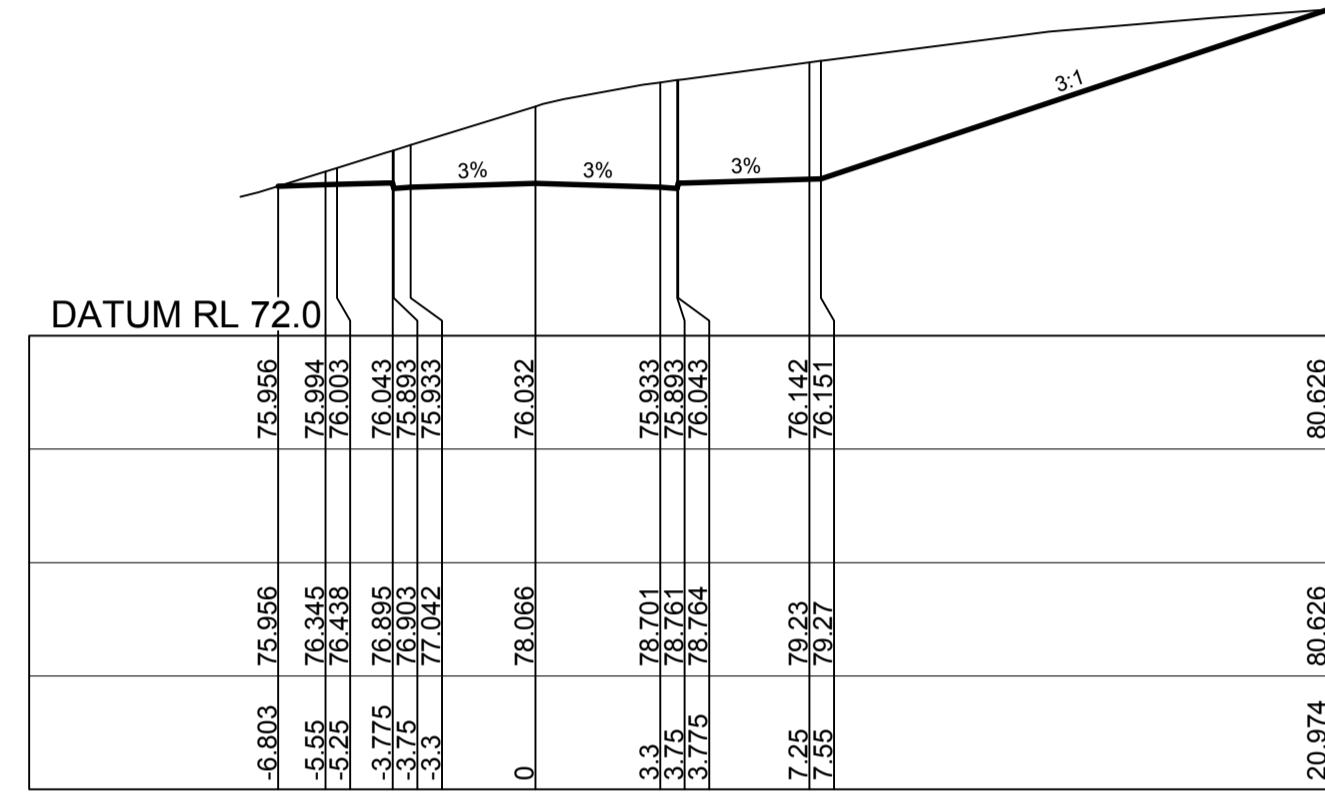
CH 105



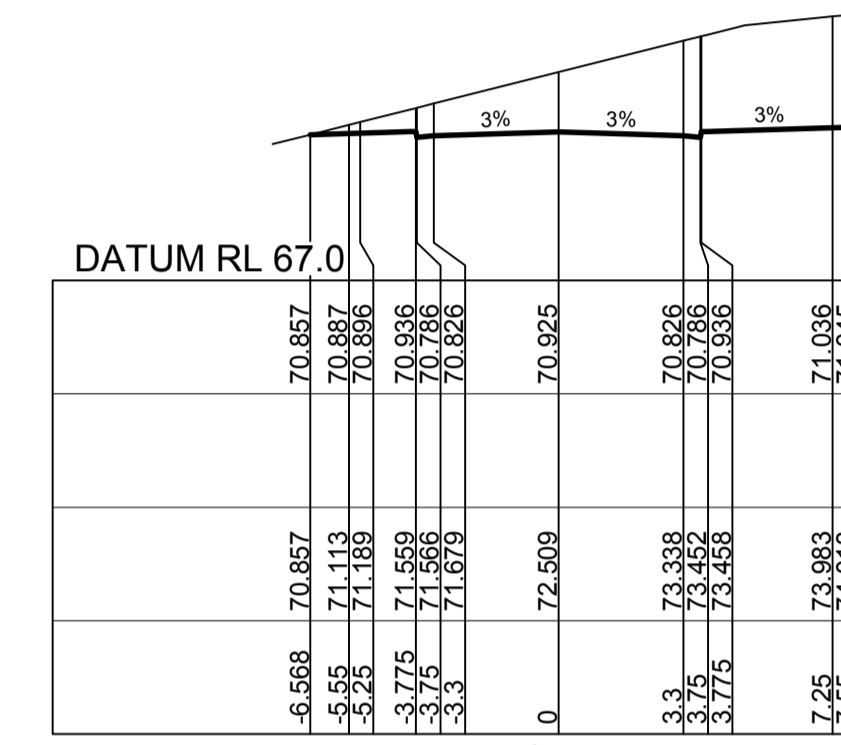
CH 135



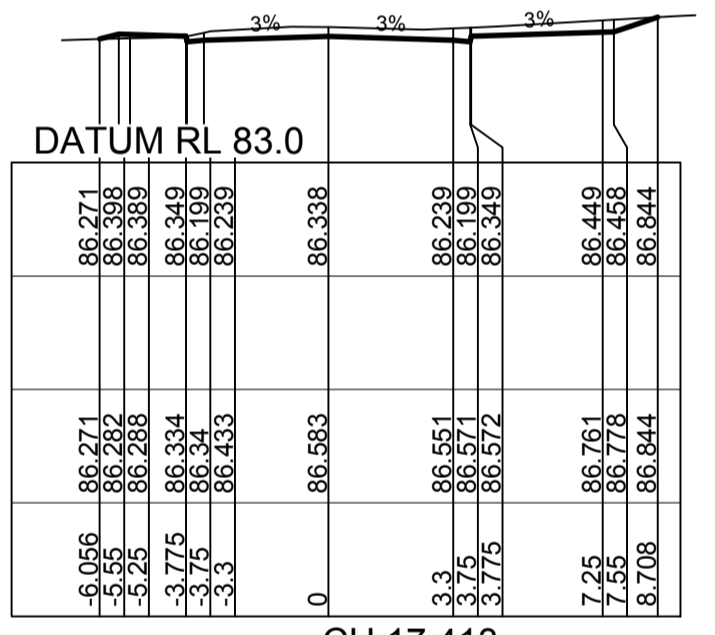
CH 30



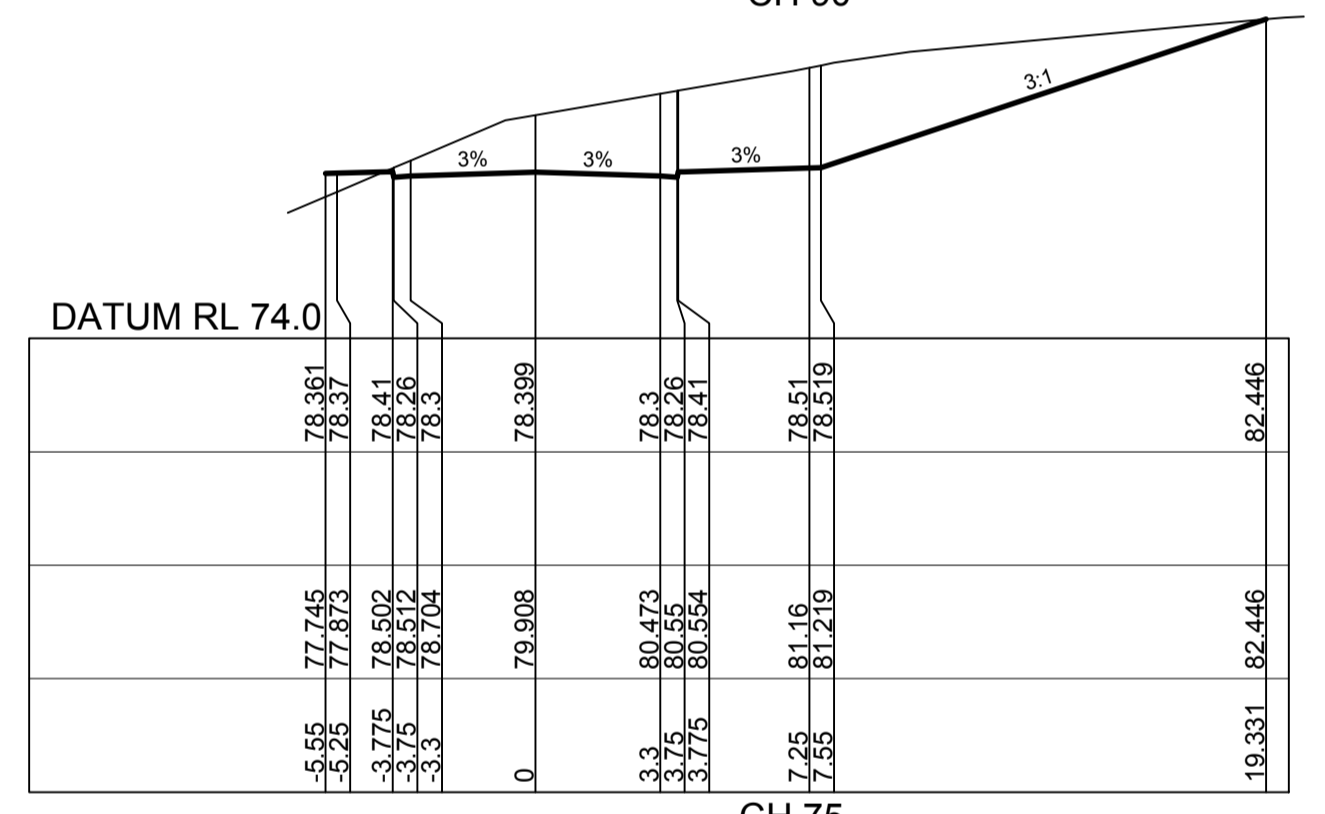
CH 90



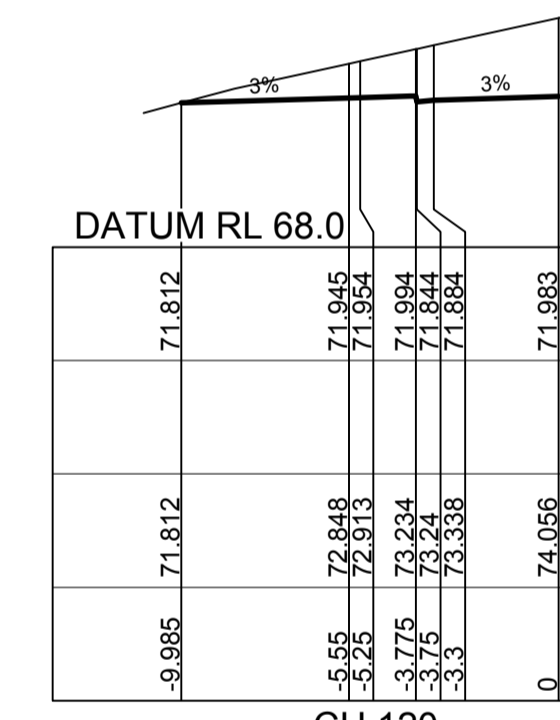
CH 129.321 KTP



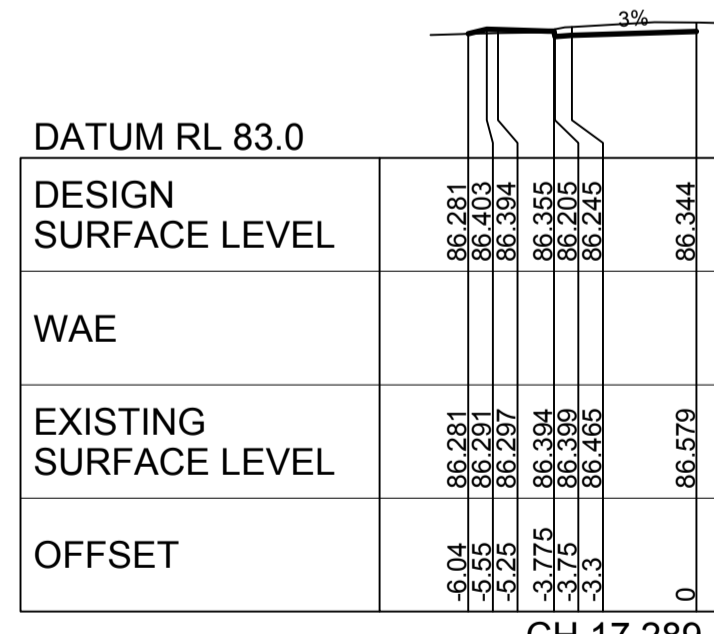
CH 17.413



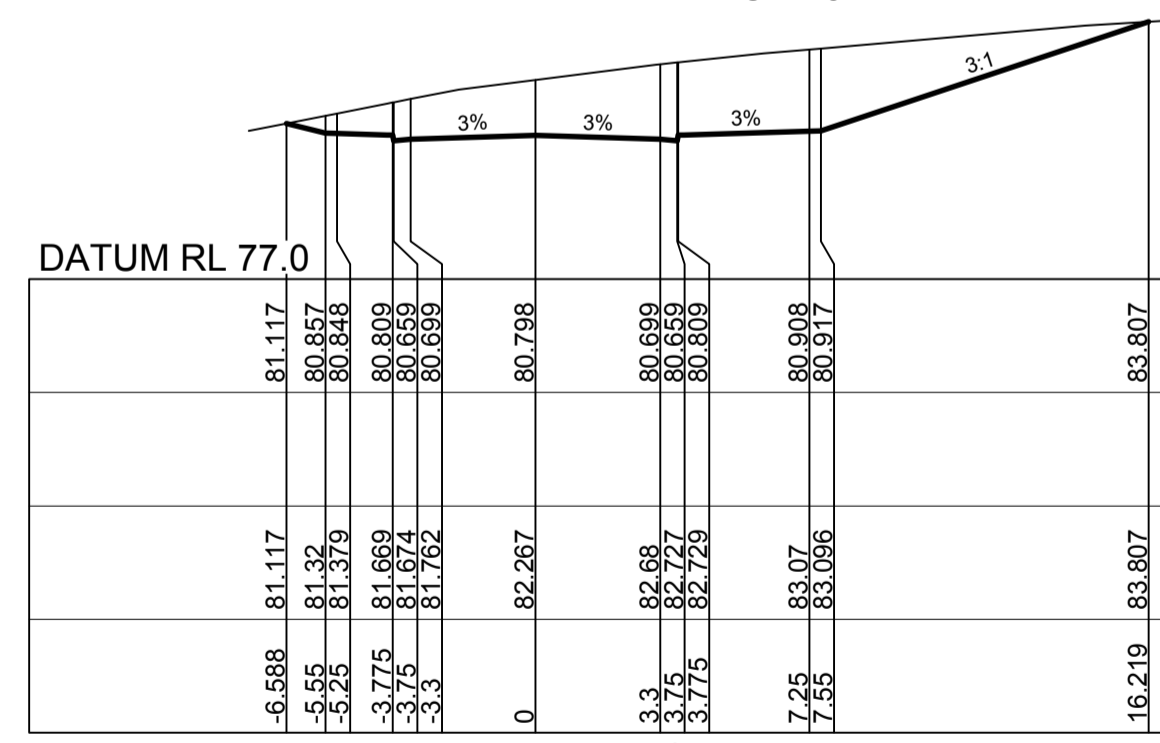
CH 75



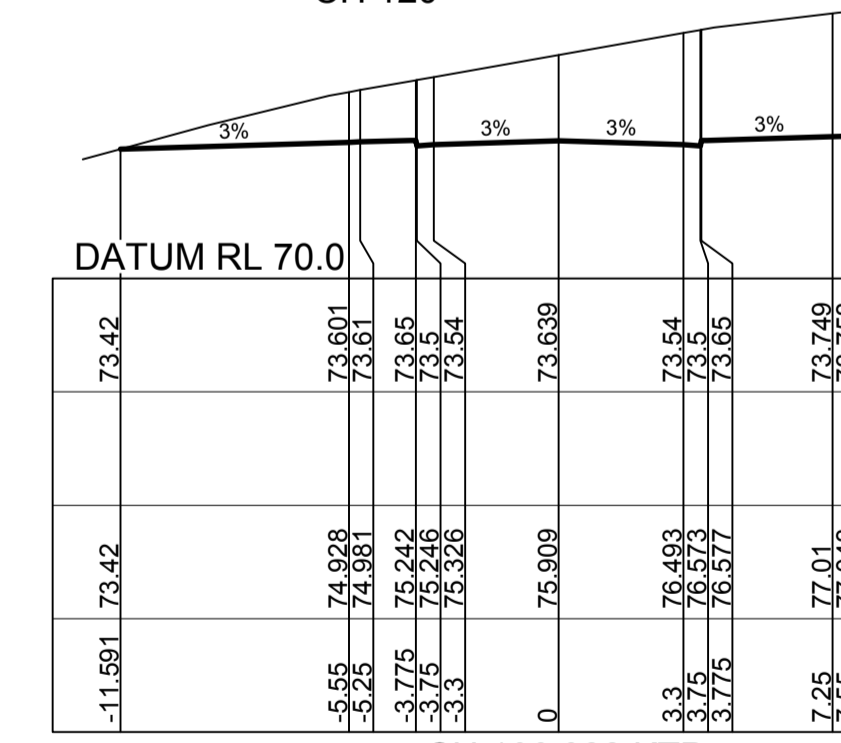
CH 120



CH 17.289



CH 60

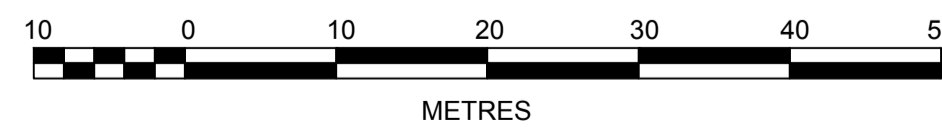


CH 106.822 KTP

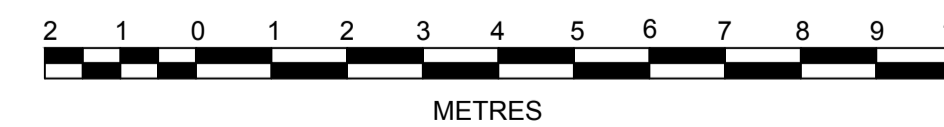
ROAD BEL02

REVISION E  
ROAD BEL02 CROSS SECTIONS  
AMENDED

H 1:500 (AT A1)



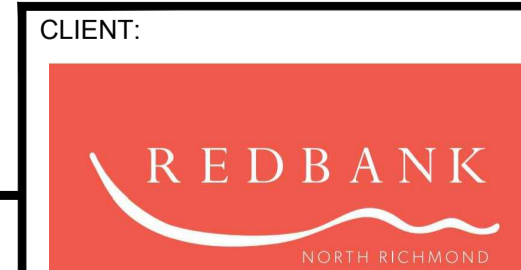
V 1:100 (AT A1)



DES	DRN	CKD	APR	DATE	
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:



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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK, NORTH RICHMOND  
BELMONT  
ROAD CROSS SECTIONS  
SHEET 9

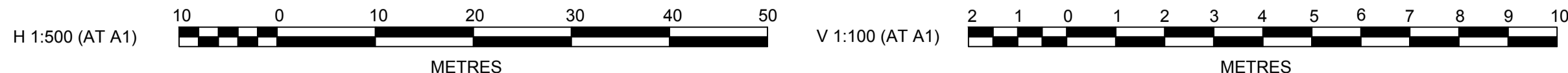
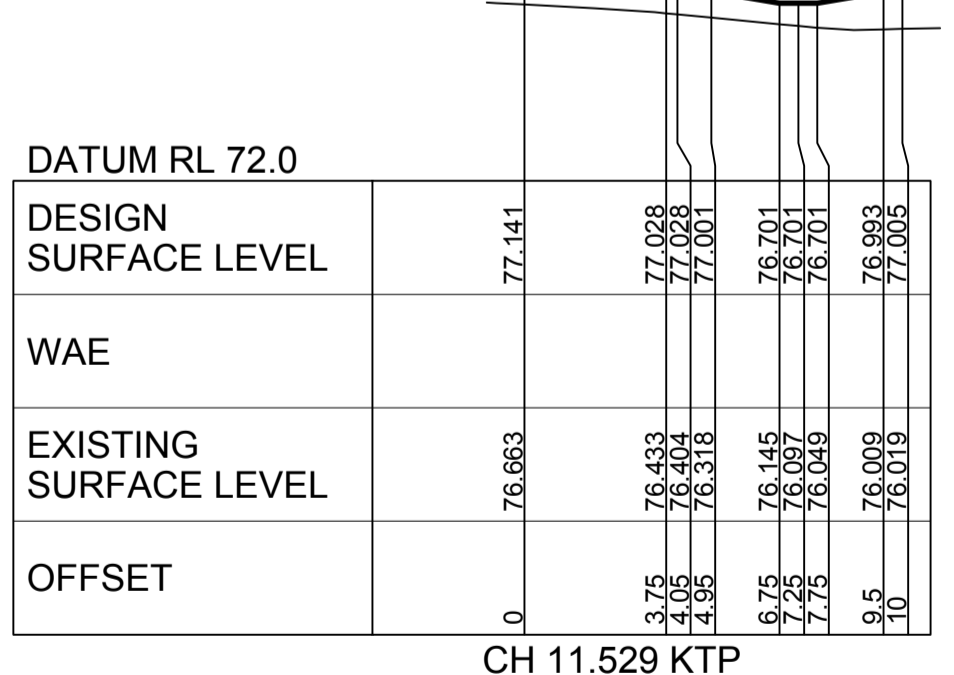
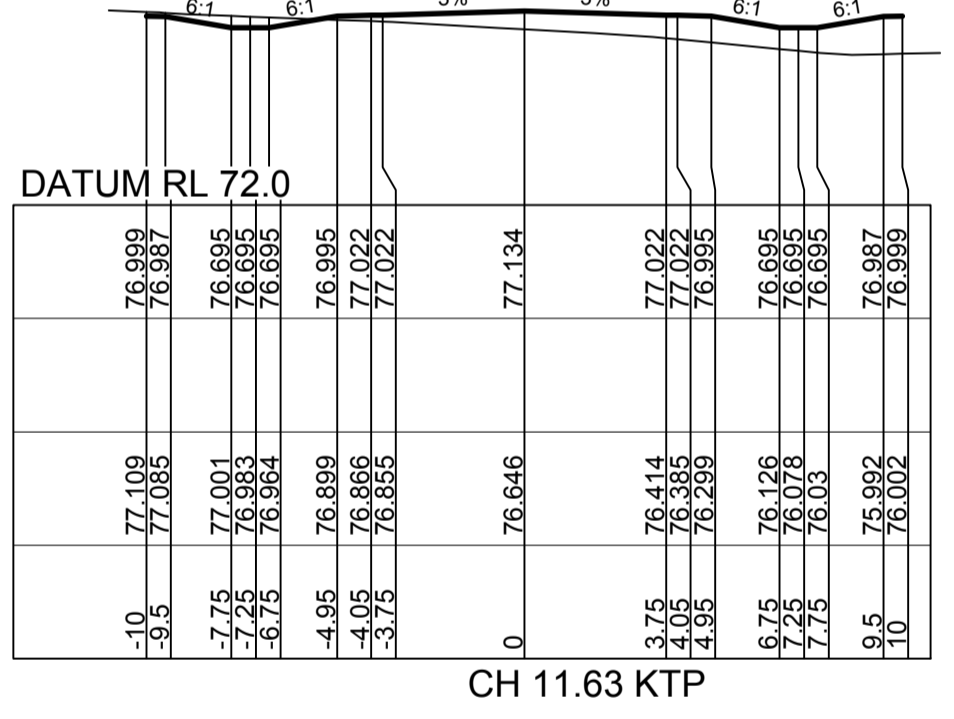
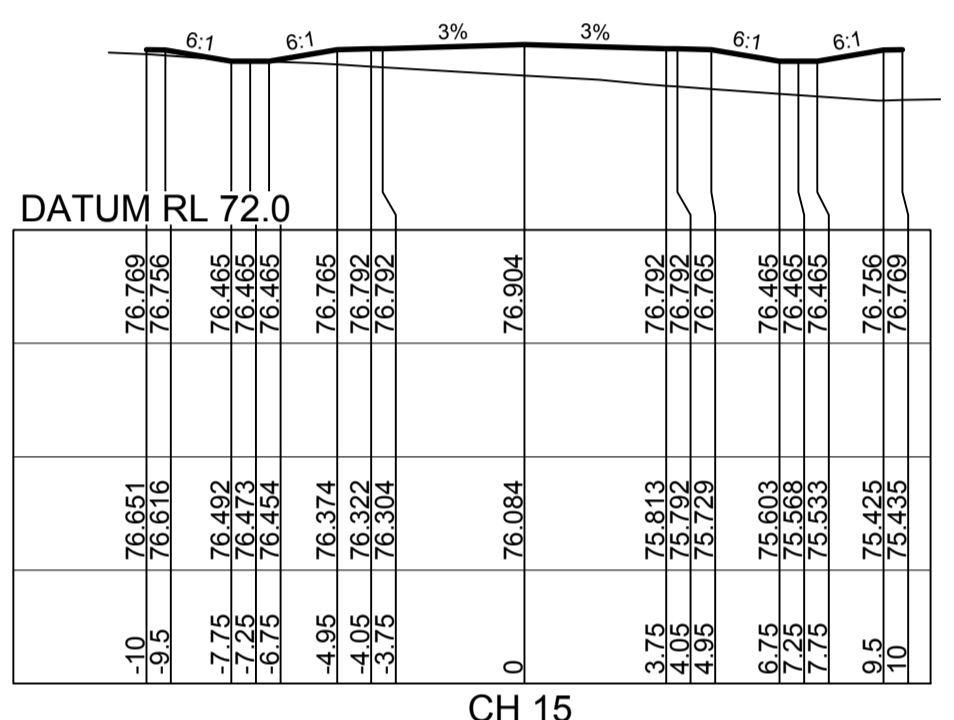
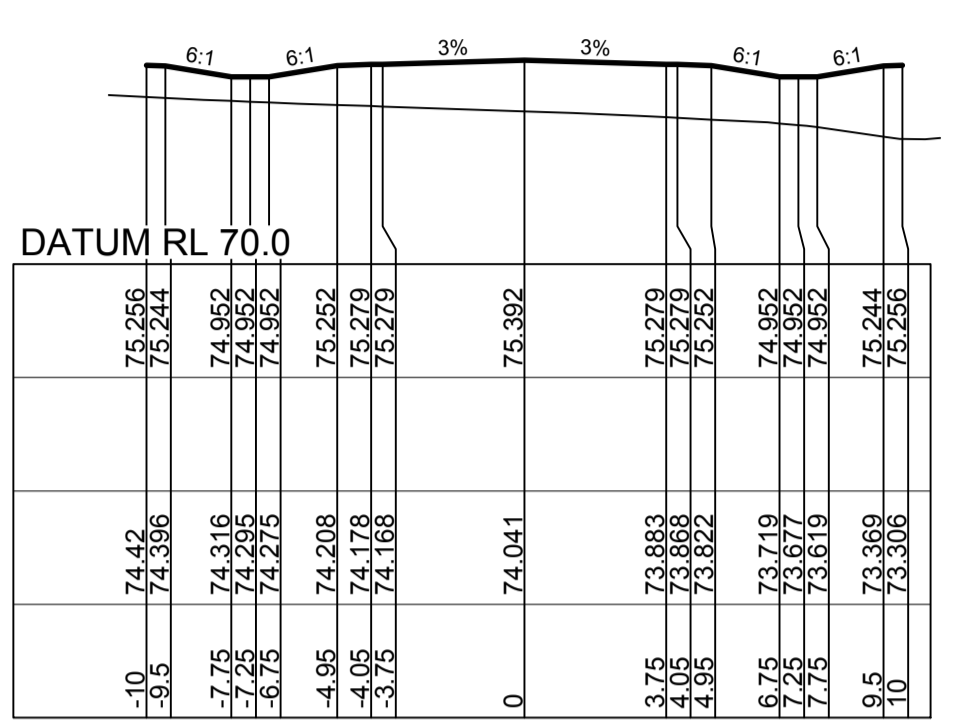
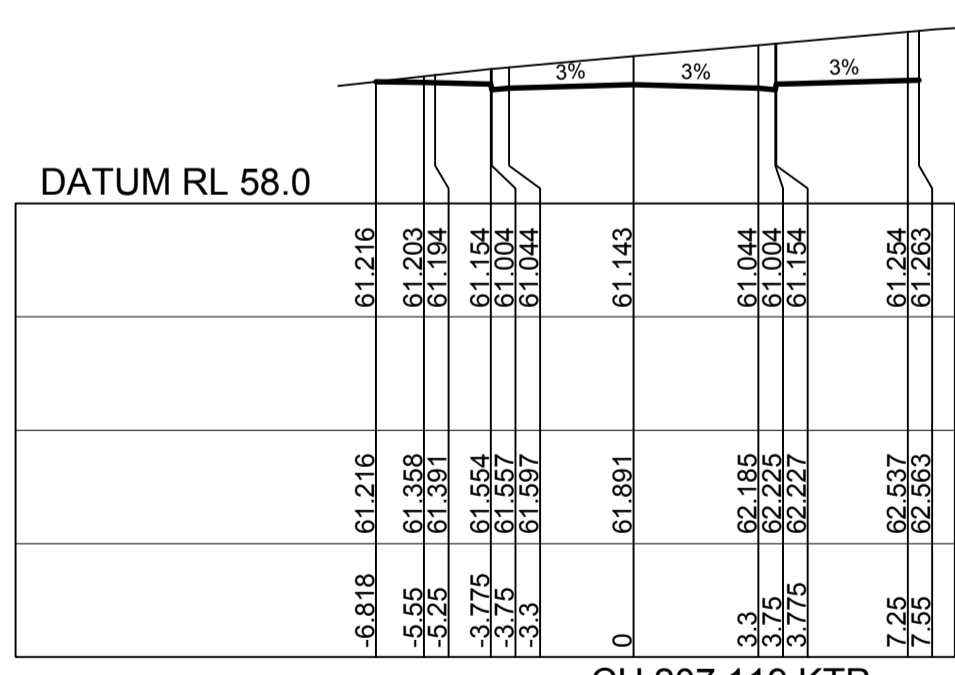
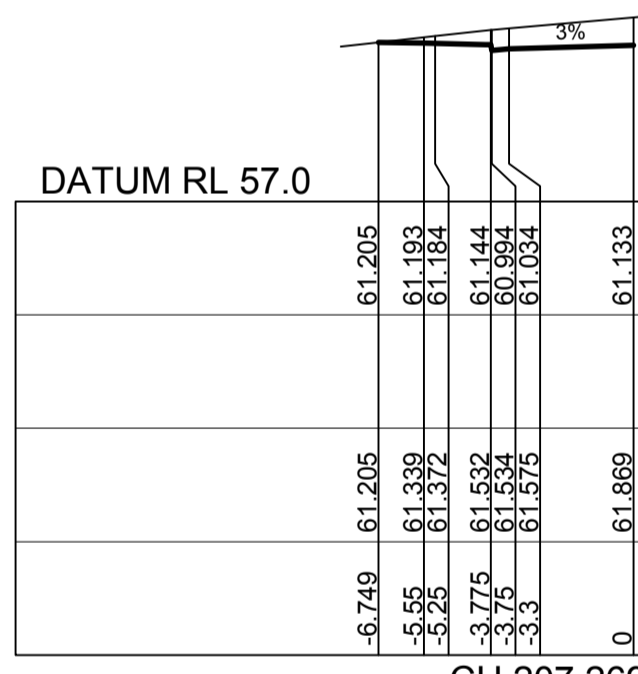
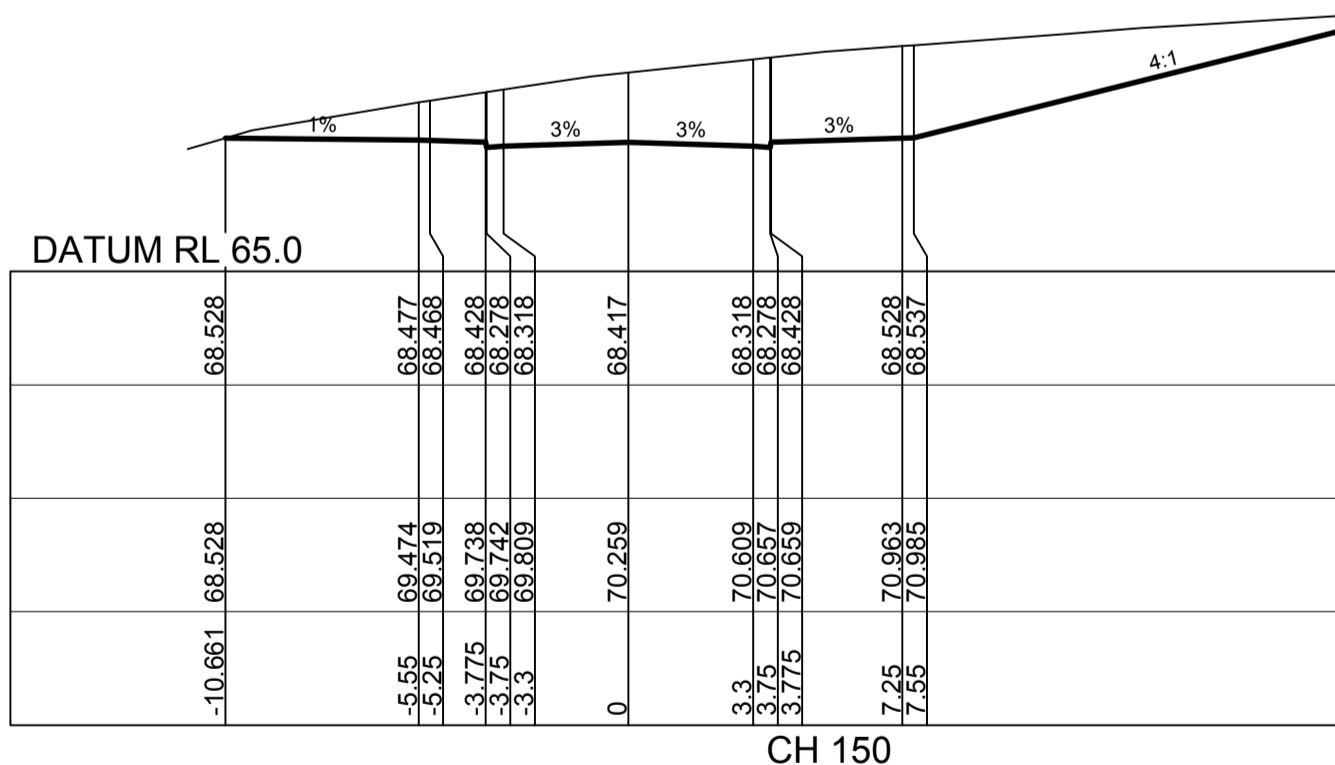
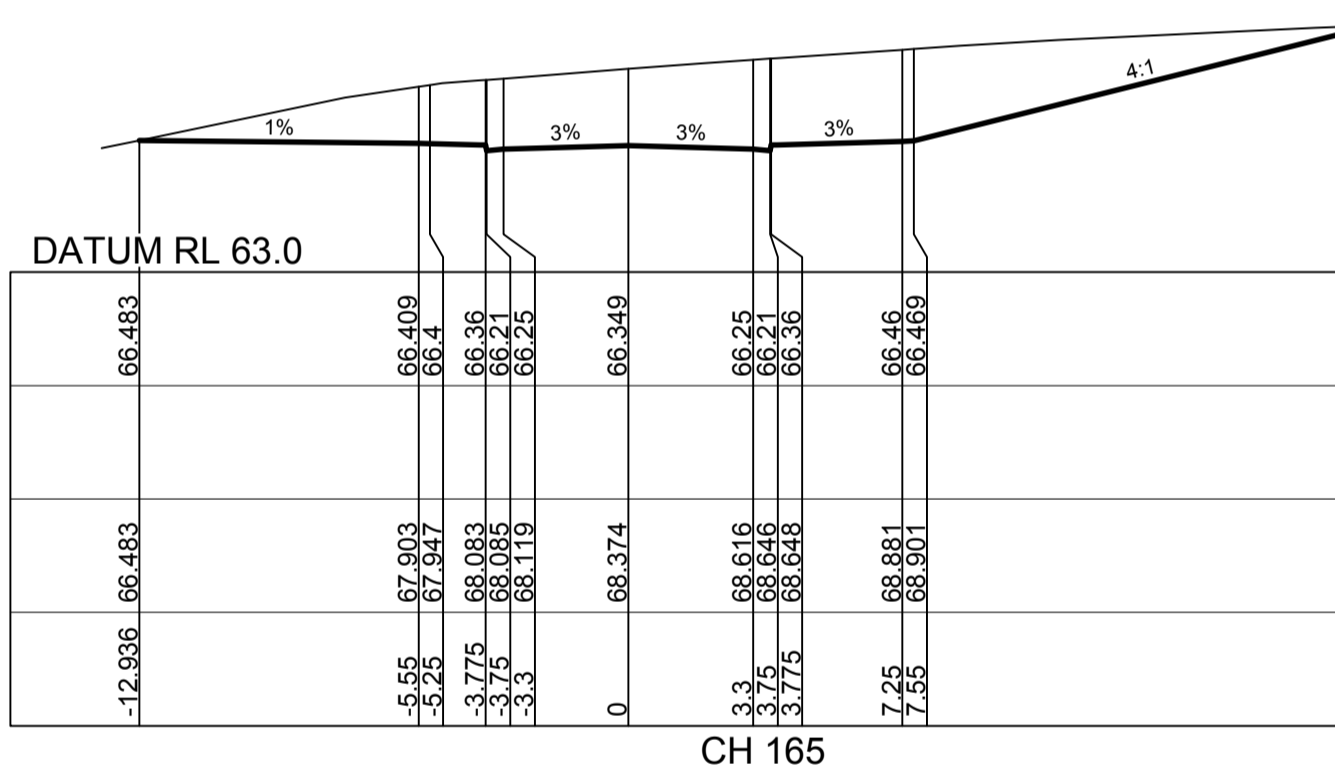
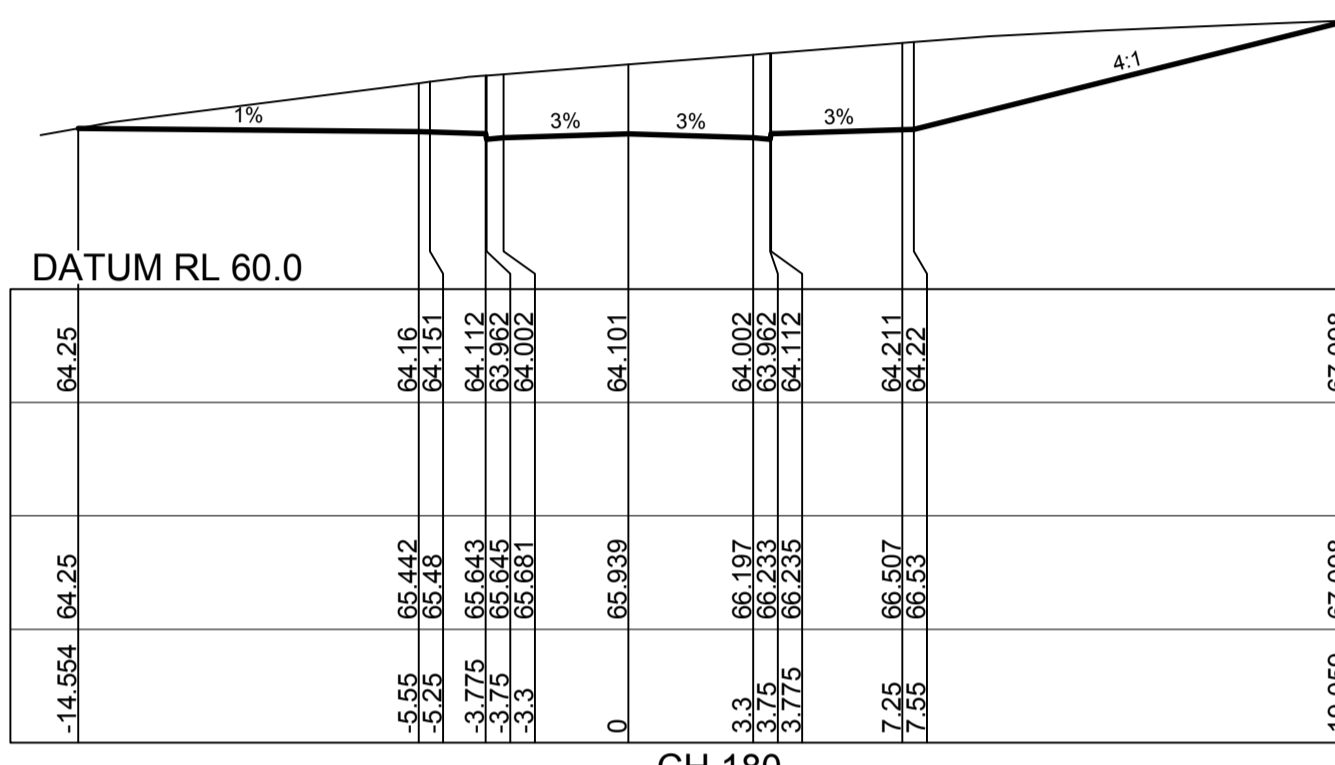
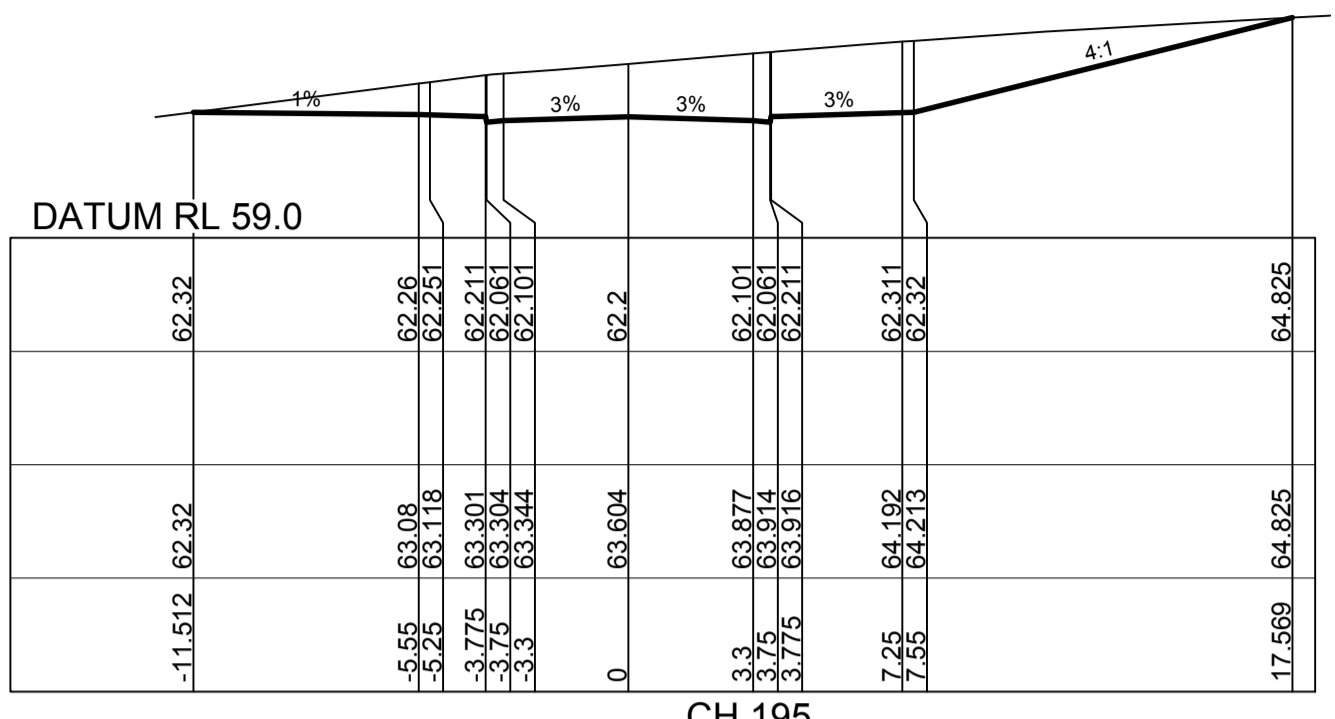
**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017

PLAN No:	110185BEL/CC29	E
FILE No:	110185BELCC29	
SHEET SIZE:	A1 ORIGINAL	

**CONSTRUCTION CERTIFICATE**

Certificate No. : 20130299C36  
Date of Issue : 31 July 2017  
Issuing Officer : *[Signature]*  
Accreditation No. : BPP0565

These plans/specifications form part of the certificate issued 31 July 2017



ROAD BEL02

ROAD BEL03

Plotfile: 18 July, 2017 5:07:36 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC30.dwg

F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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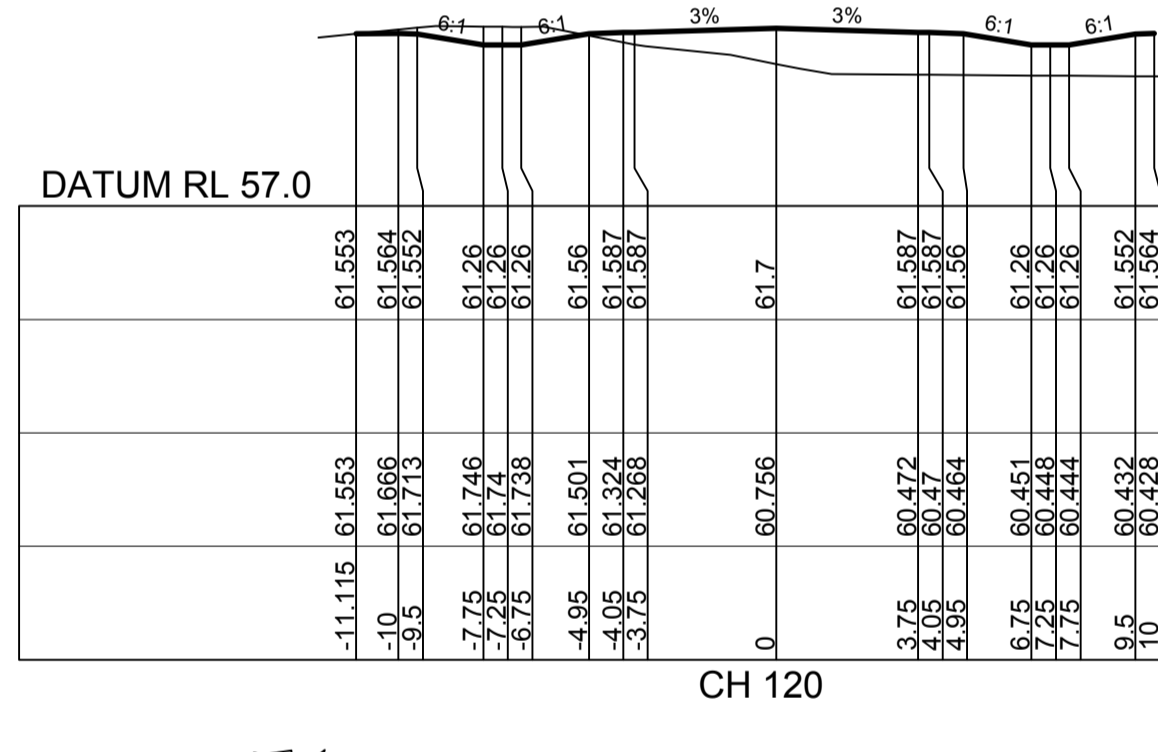
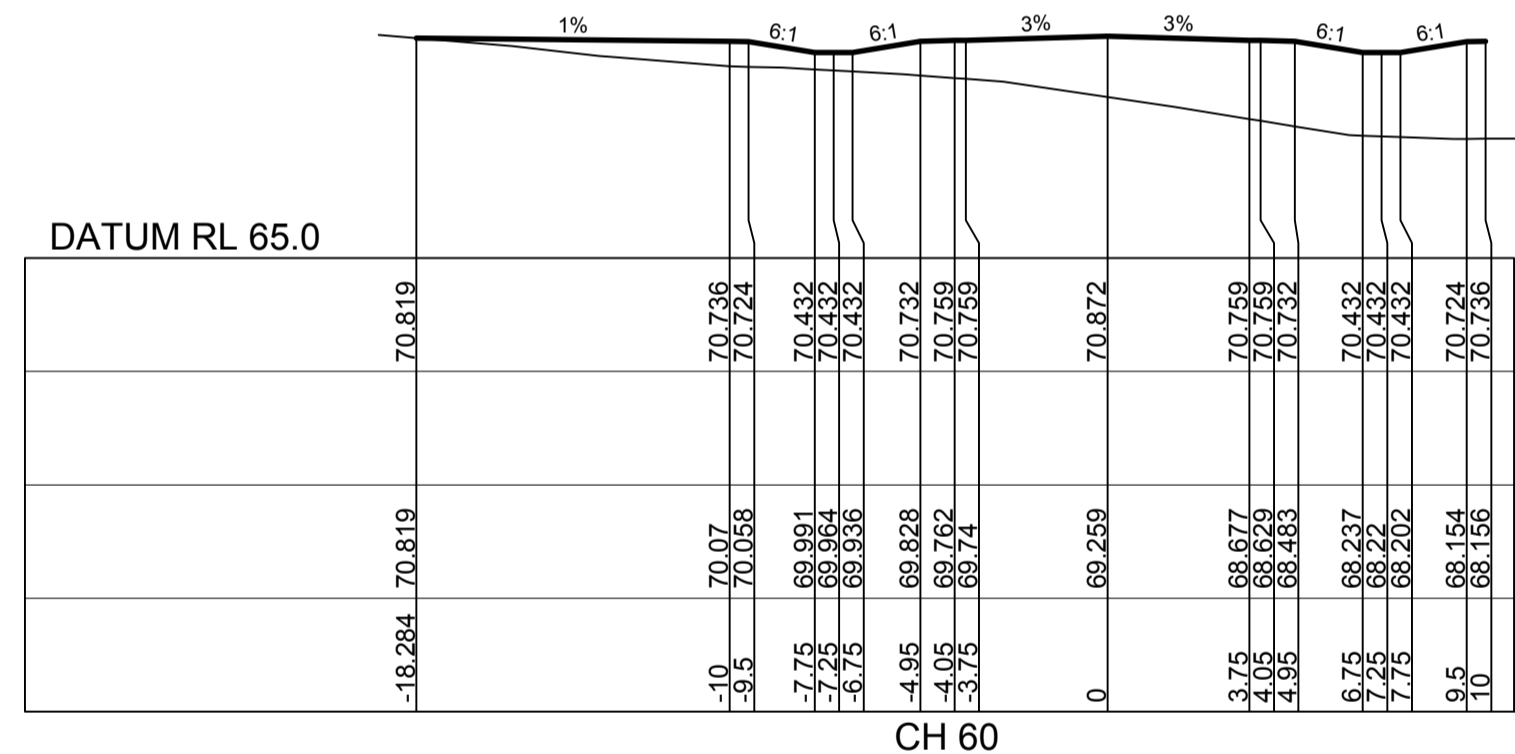
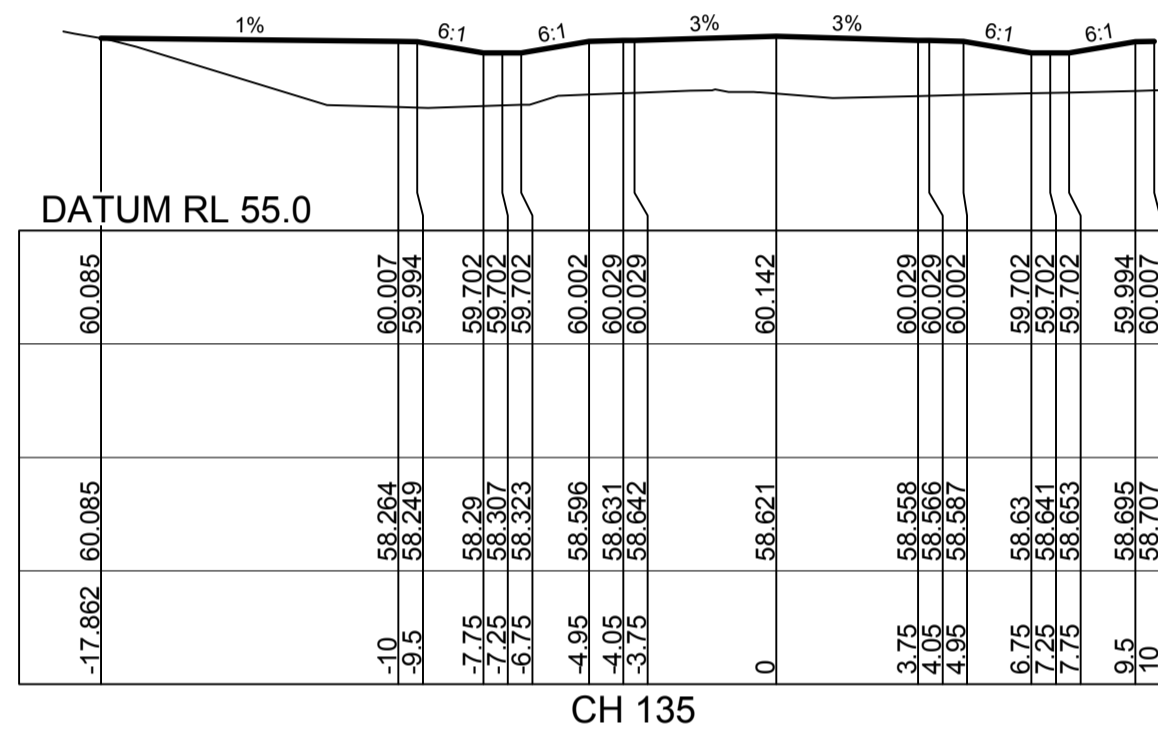
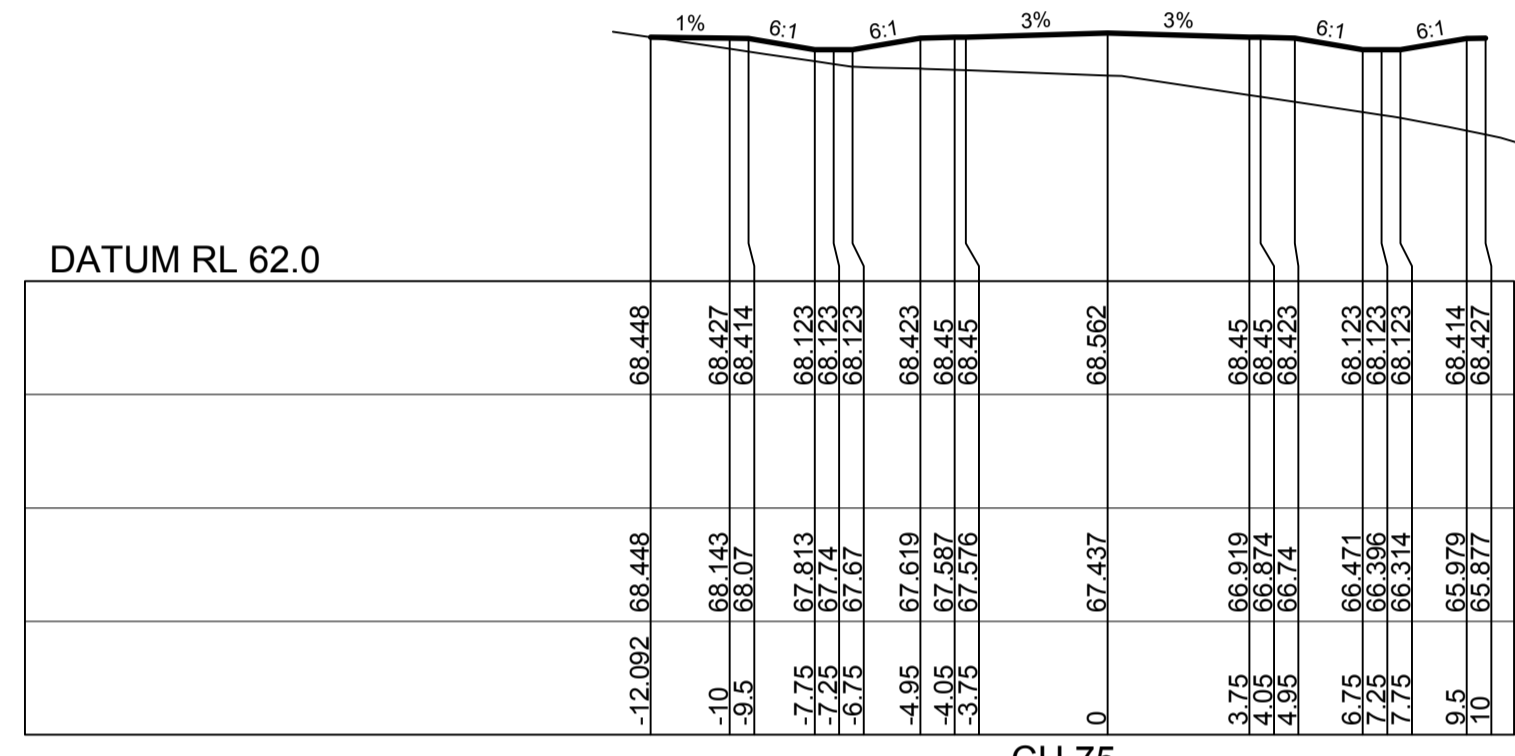
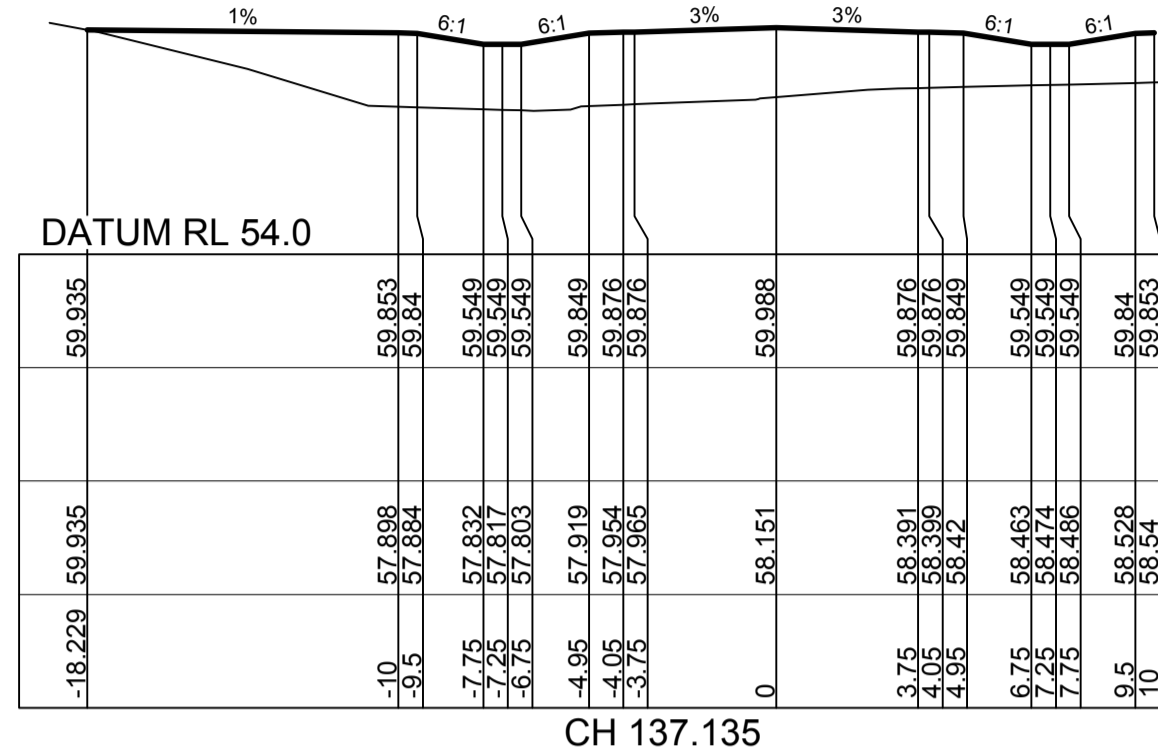
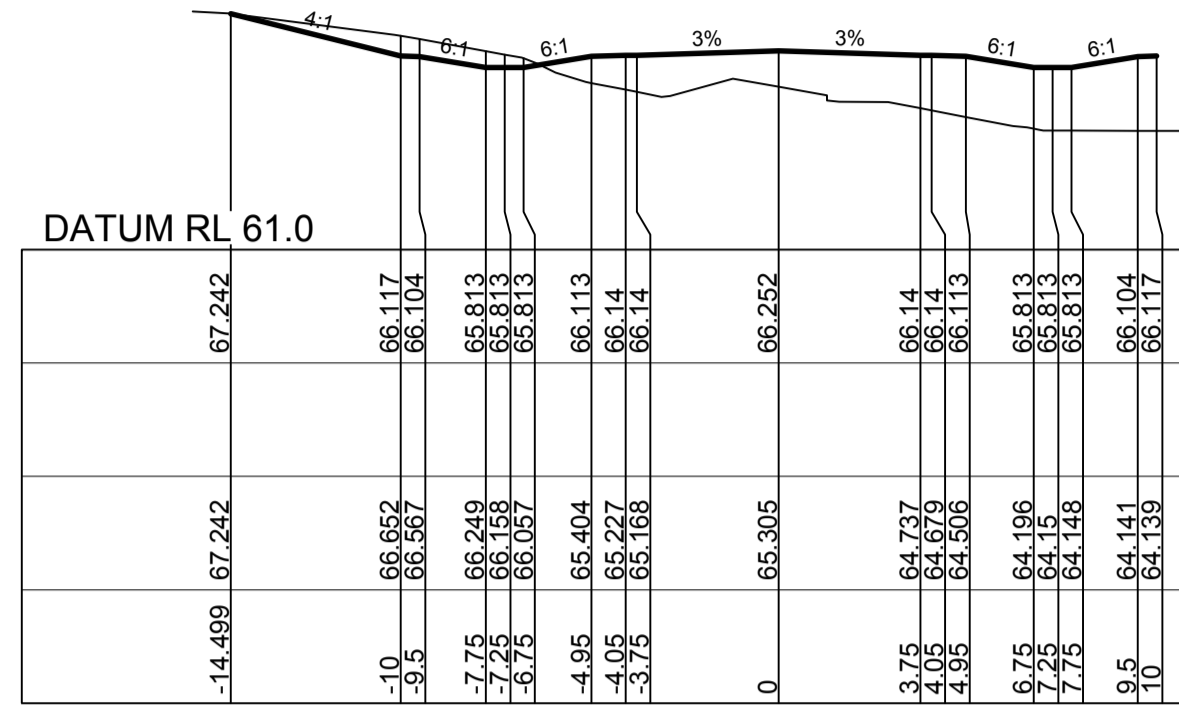
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT:  
  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

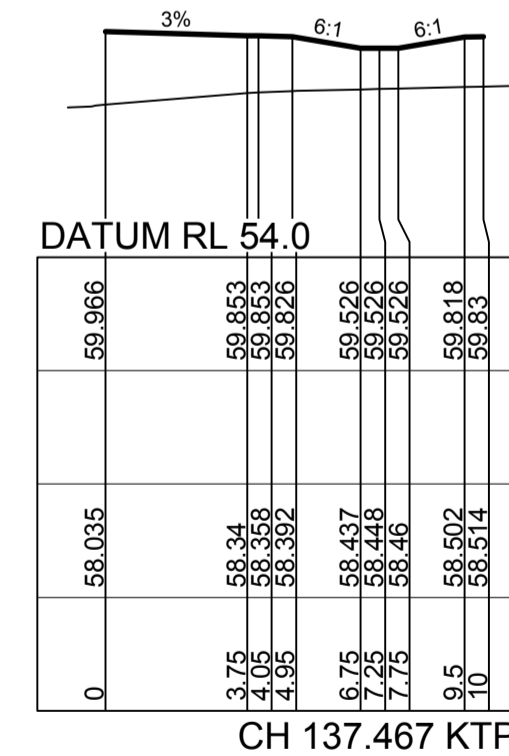
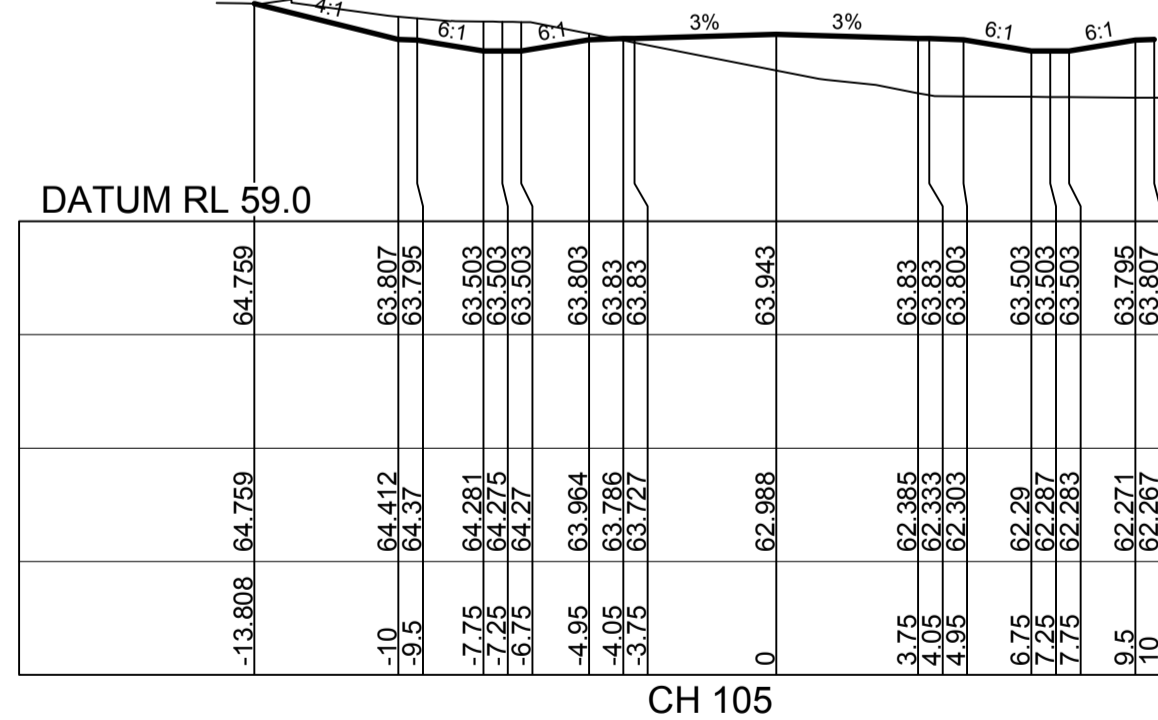
**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND  
BELMONT**  
ROAD CROSS SECTIONS  
SHEET 10

PLAN No:	110185BEL/CC30	<b>F</b>
FILE No:	110185BELCC30	
SHEET SIZE:	A1 ORIGINAL	



DATUM RL 67.0	73.215
DESIGN SURFACE LEVEL	73.046
WAE	
EXISTING SURFACE LEVEL	73.034
OFFSET	
-26.841	73.215
-10	72.193
-9.5	72.088
-7.75	71.945
-7.25	71.875
-6.75	71.875
-4.95	71.717
-4.05	71.687
-3.75	71.687
0	71.261
3.75	71.04
4.05	71.02
4.95	70.973
6.75	70.874
7.25	70.847
7.75	70.82
9.5	70.794
10	70.696

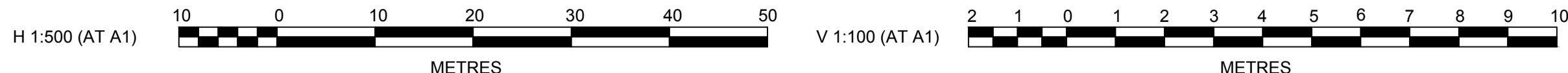


**CONSTRUCTION CERTIFICATE**

Certificate No. 20130292C36.....  
 Date of Issue 31 July 2017.....  
 Issuing Officer [Signature].....  
 Accreditation No. BPP0565.....

These plans/specifications form part of the certificate issued 31 July 2017

REVISION F  
 ROAD BEL03 CROSS SECTIONS AMENDED



F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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CLIENT: REDBANK NORTH RICHMOND

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**ISSUED FOR CONSTRUCTION APPROVAL**

RED BANK NORTH RICHMOND

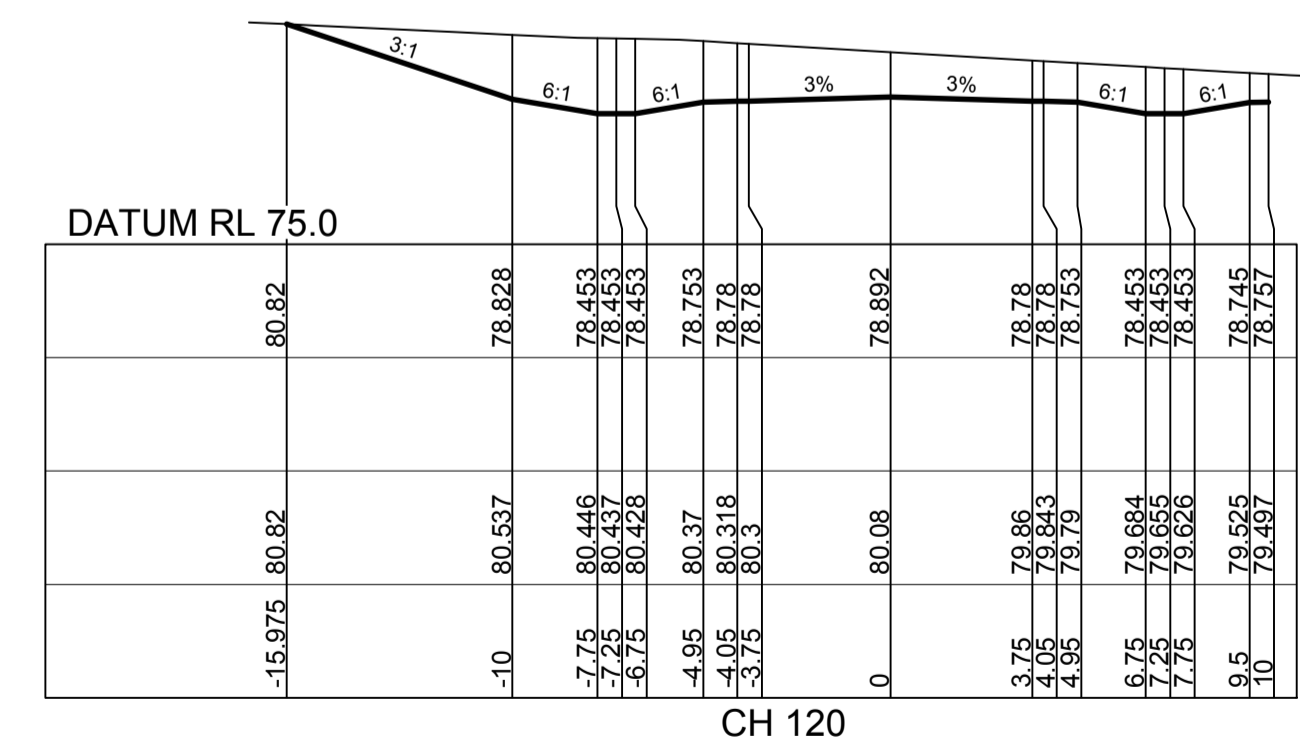
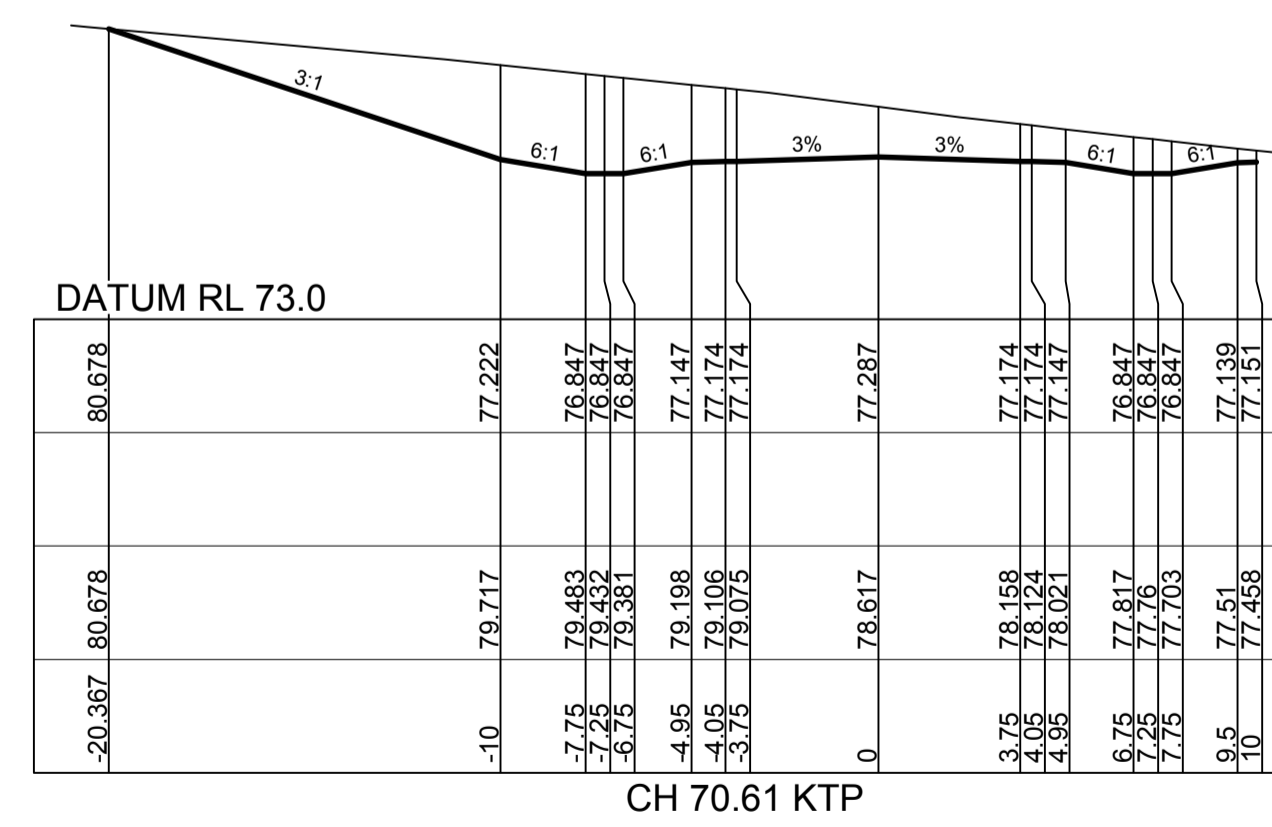
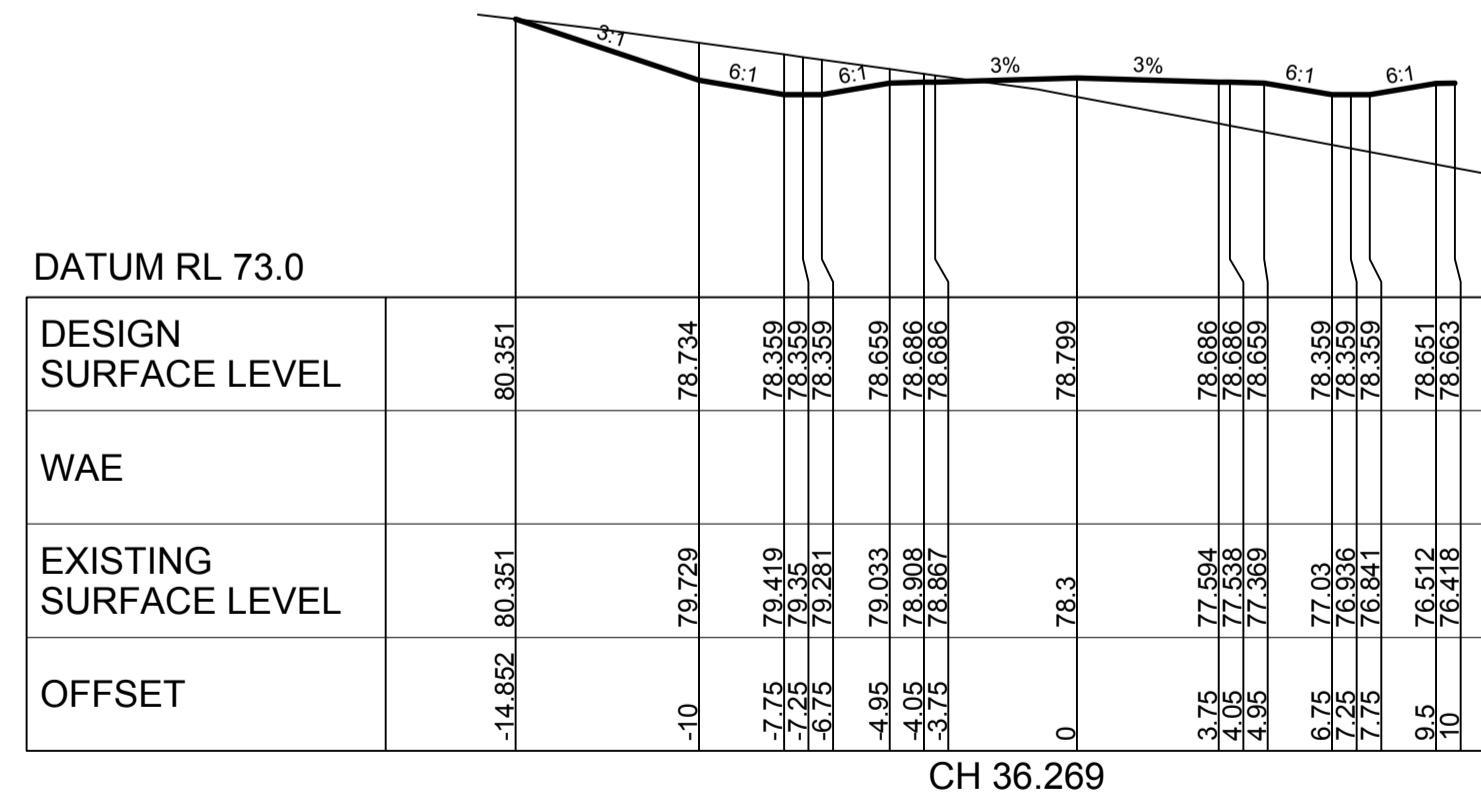
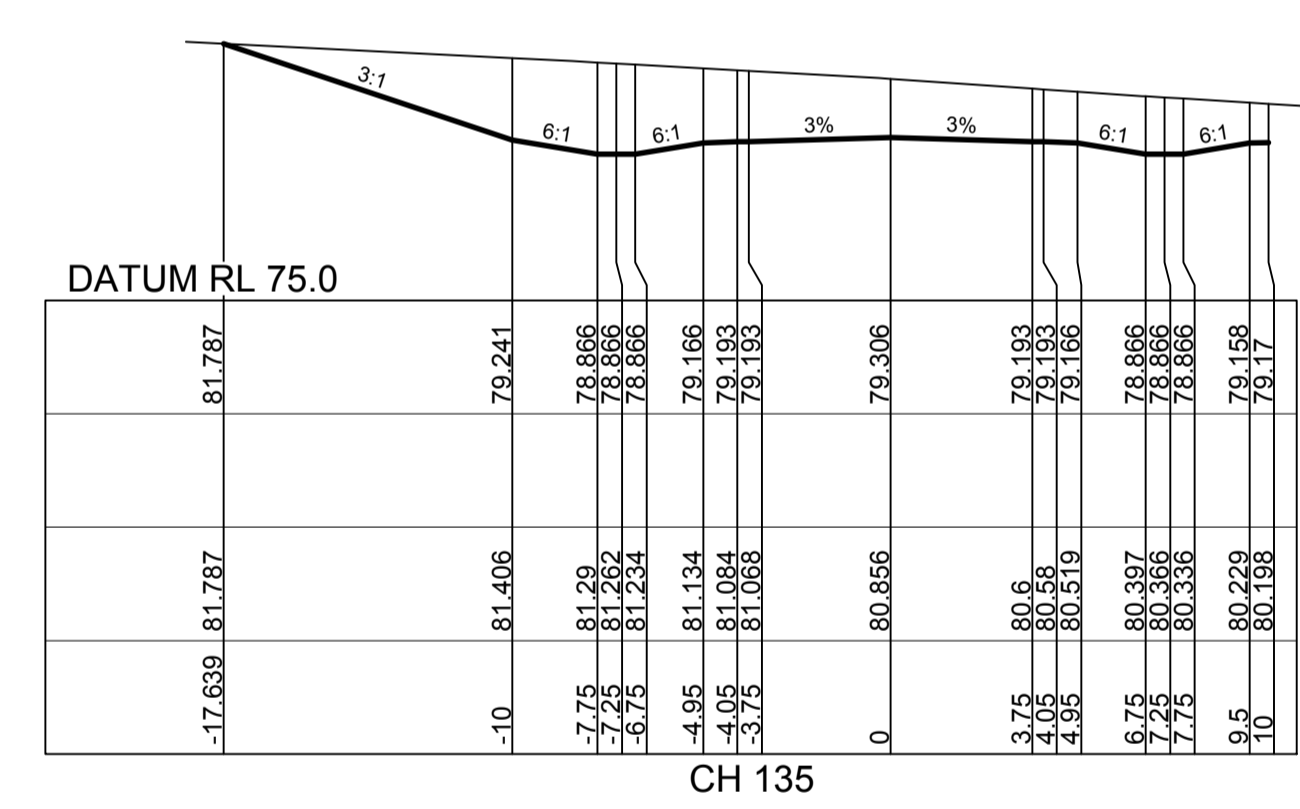
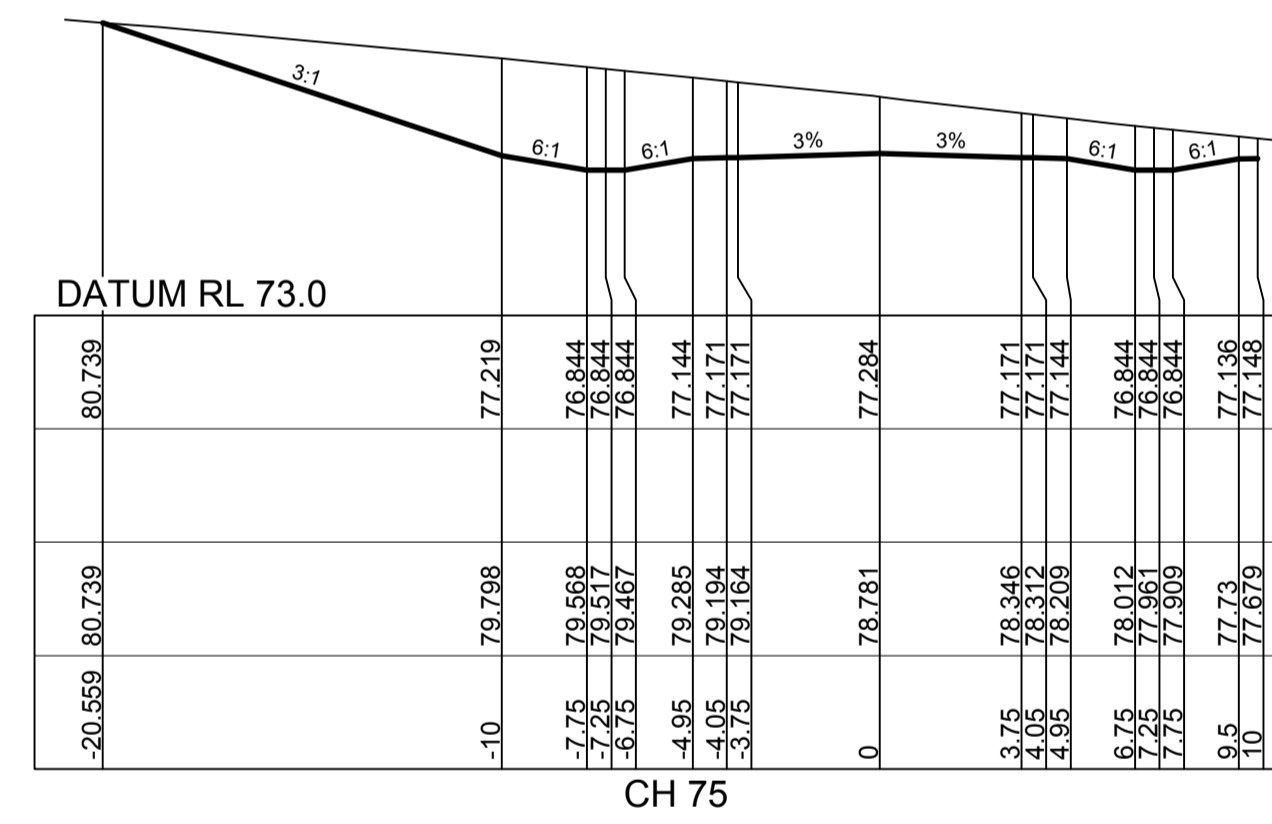
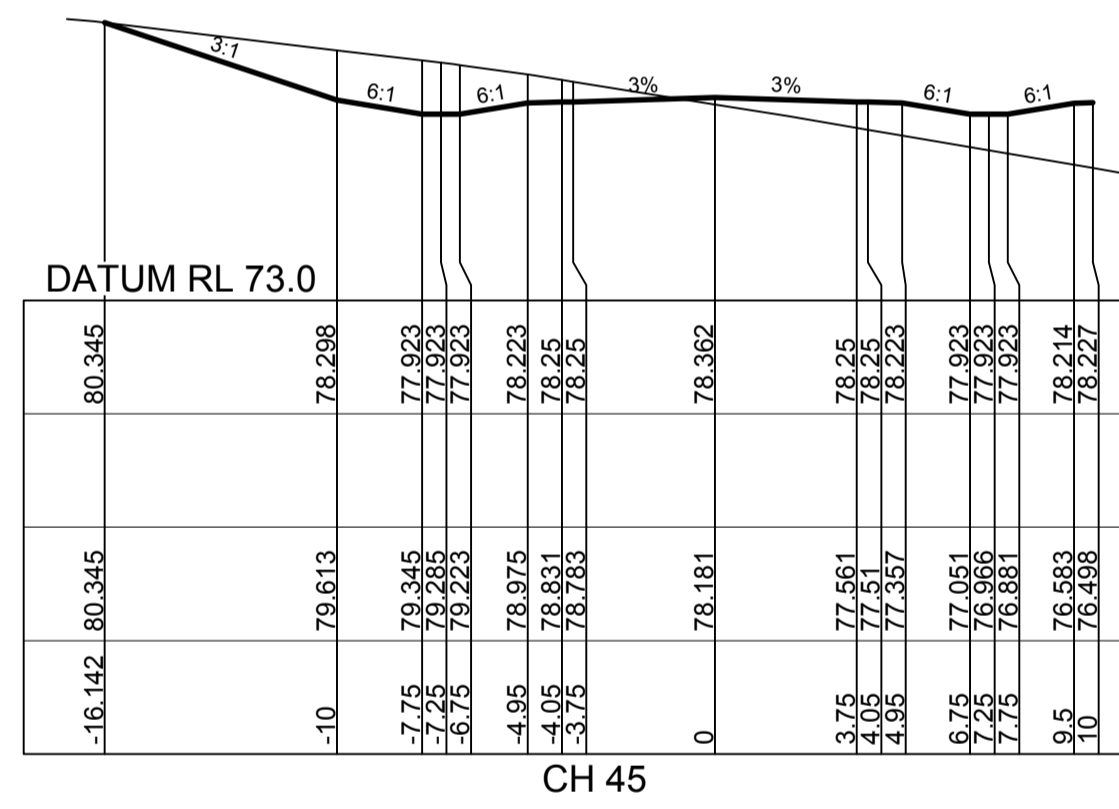
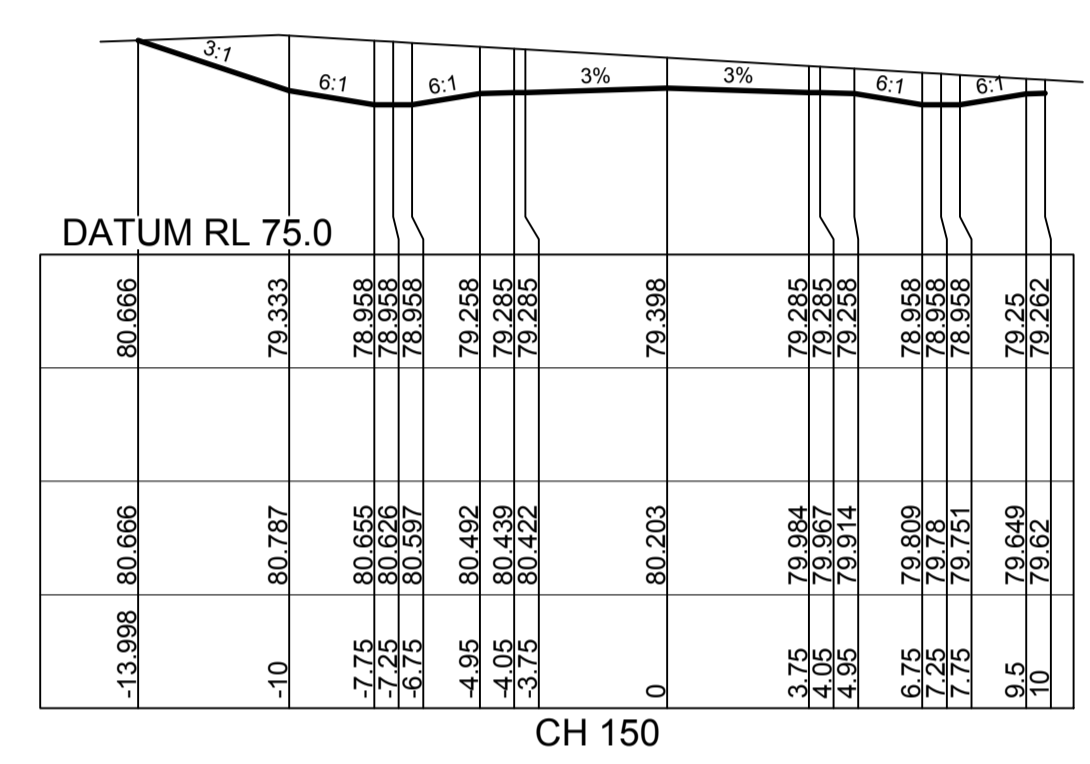
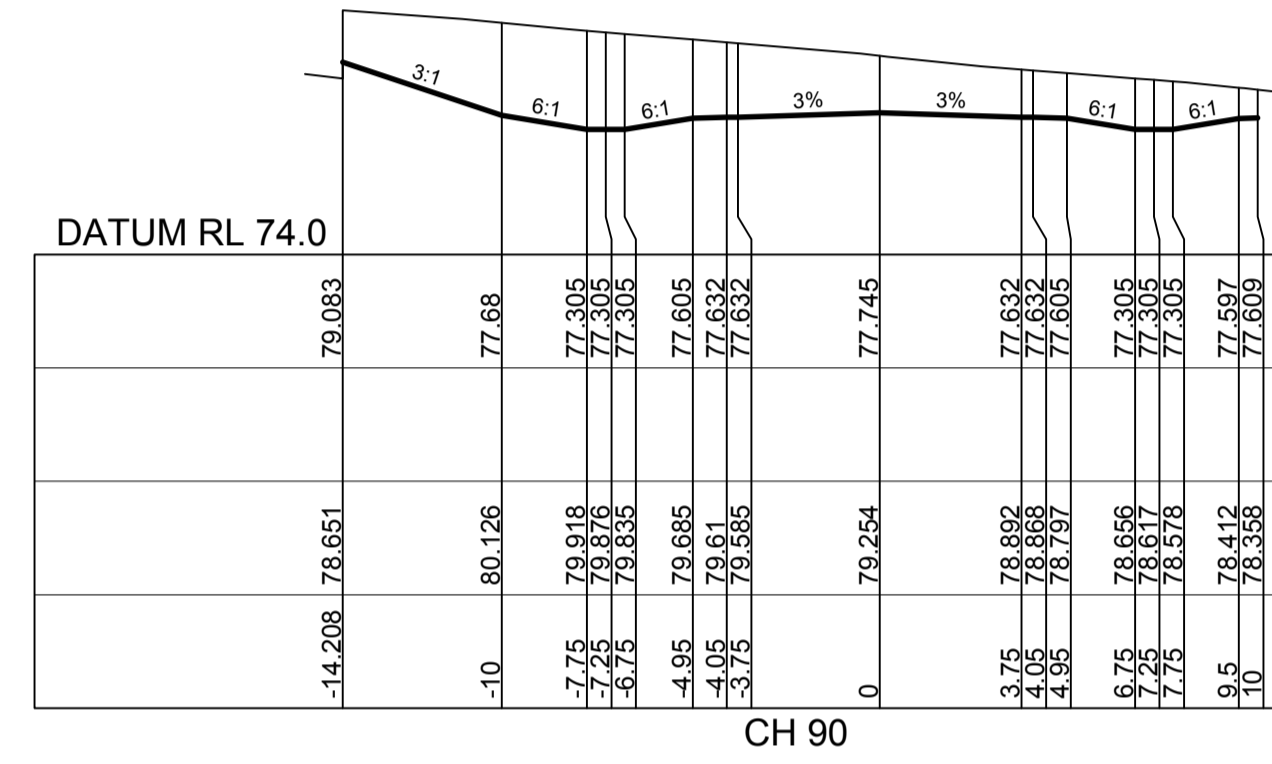
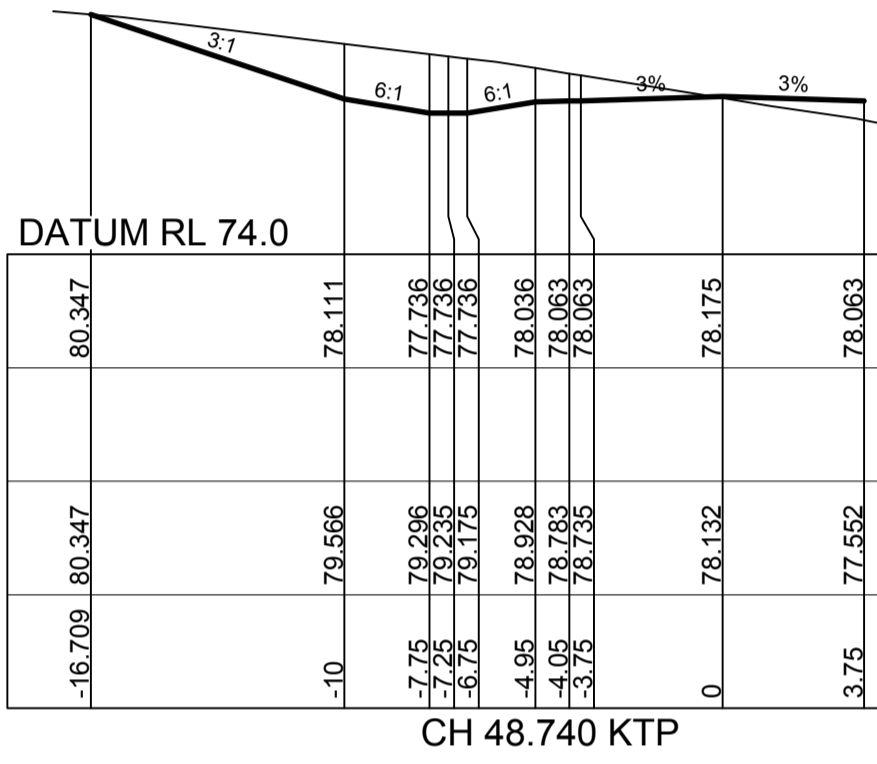
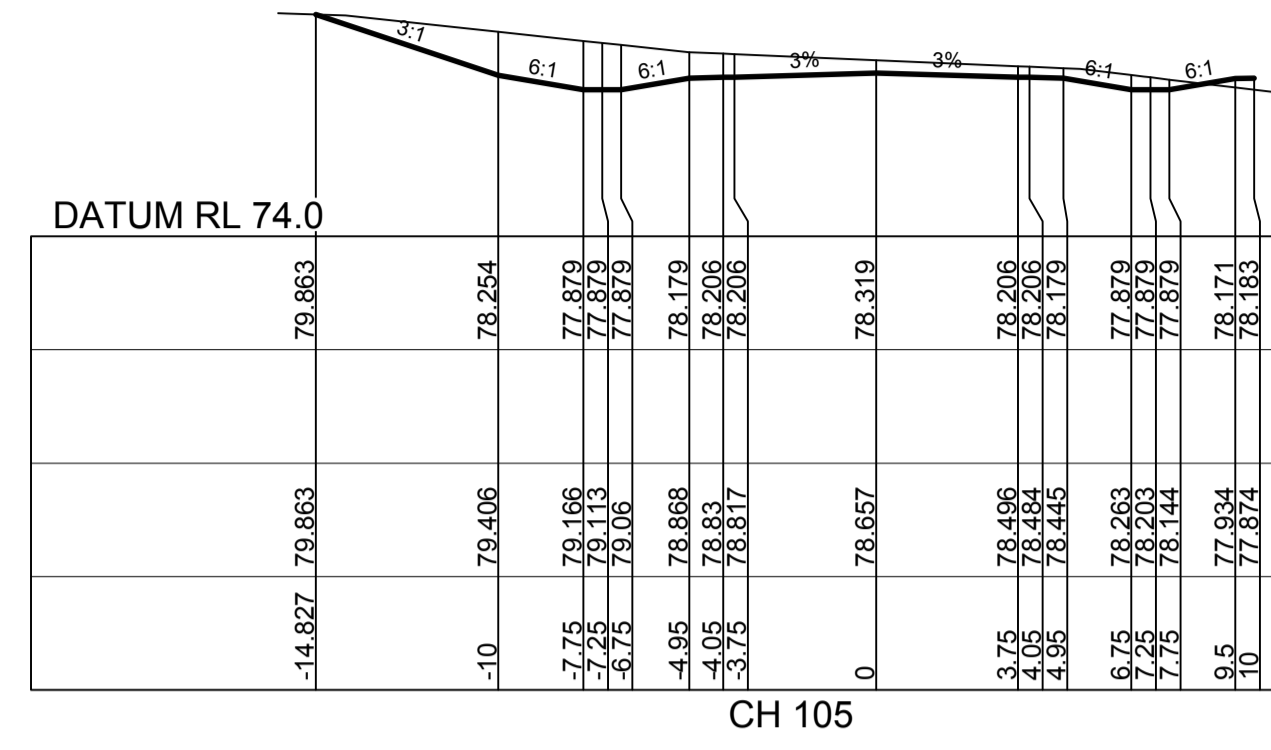
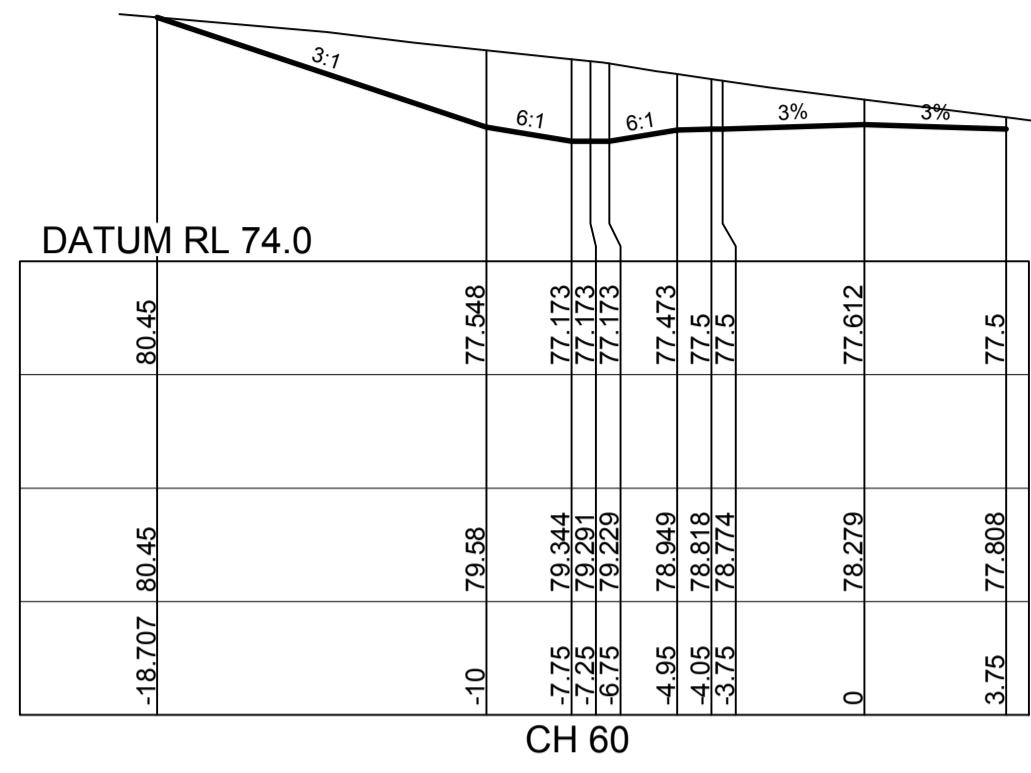
REDBANK, NORTH RICHMOND BELMONT  
 ROAD CROSS SECTIONS SHEET 11

PLAN No: 110185BEL/CC31 **F**  
 FILE No: 110185BELCC31  
 SHEET SIZE: A1 ORIGINAL



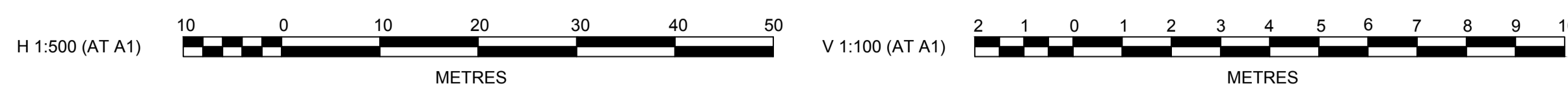
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *[Signature]*  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017



**ROAD BEL04**

REVISION F  
 ROAD BEL04 CROSS SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

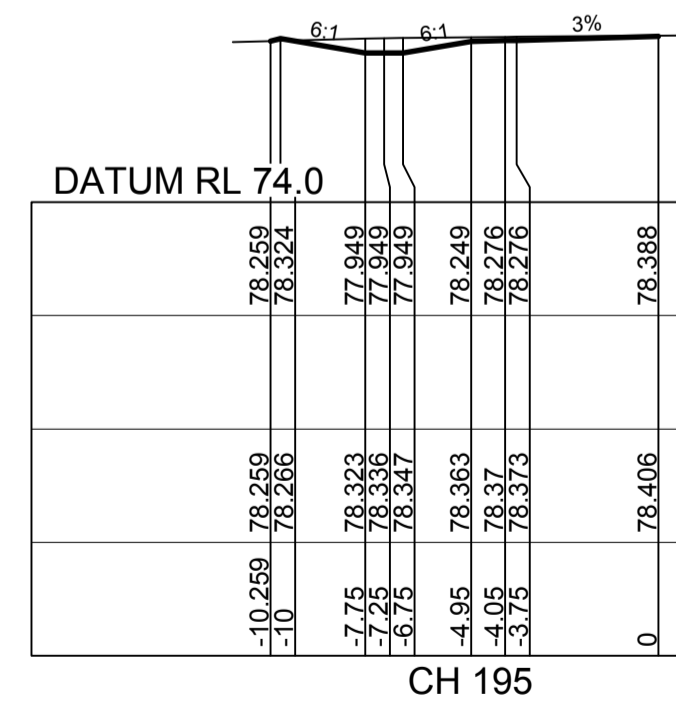
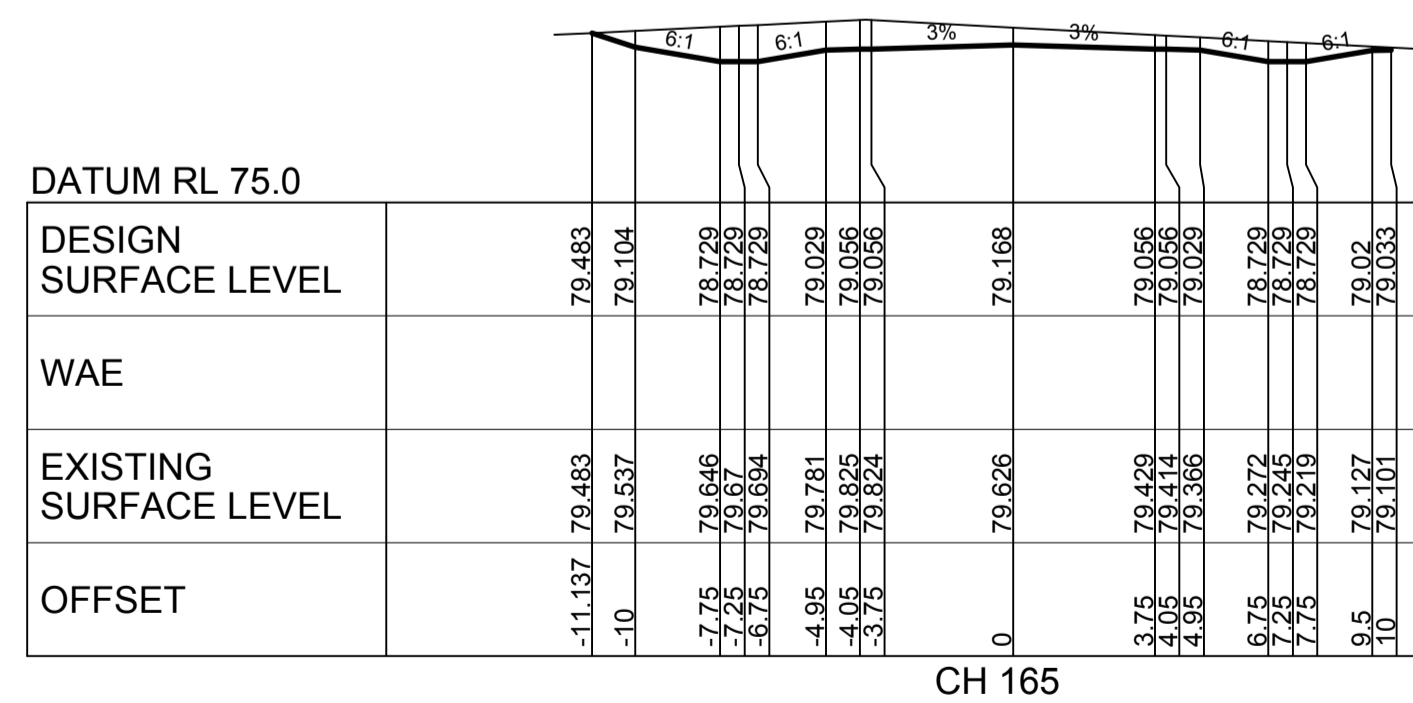
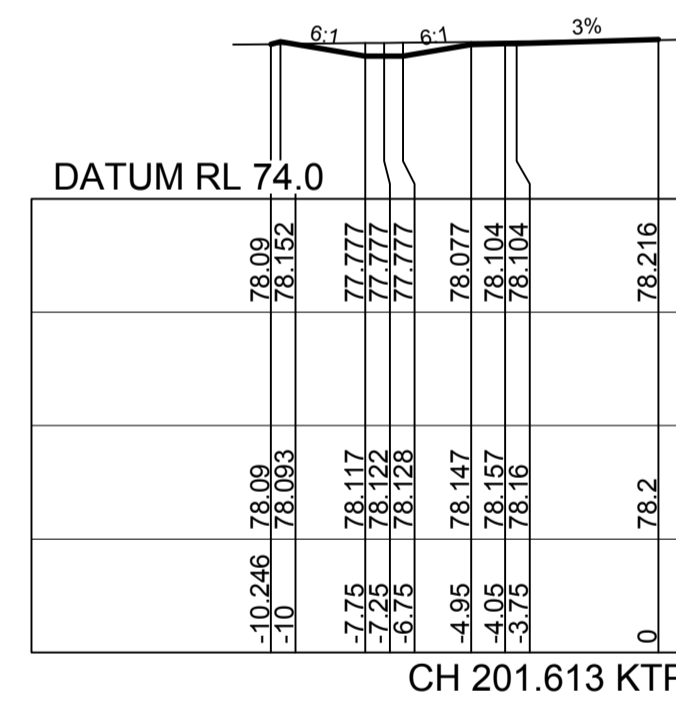
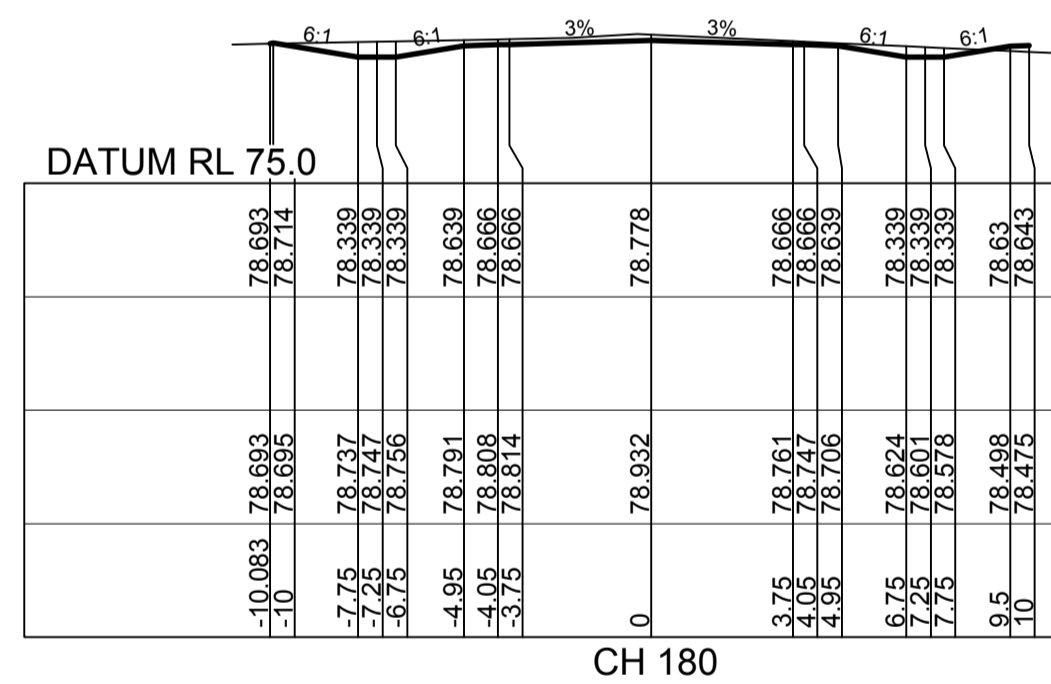
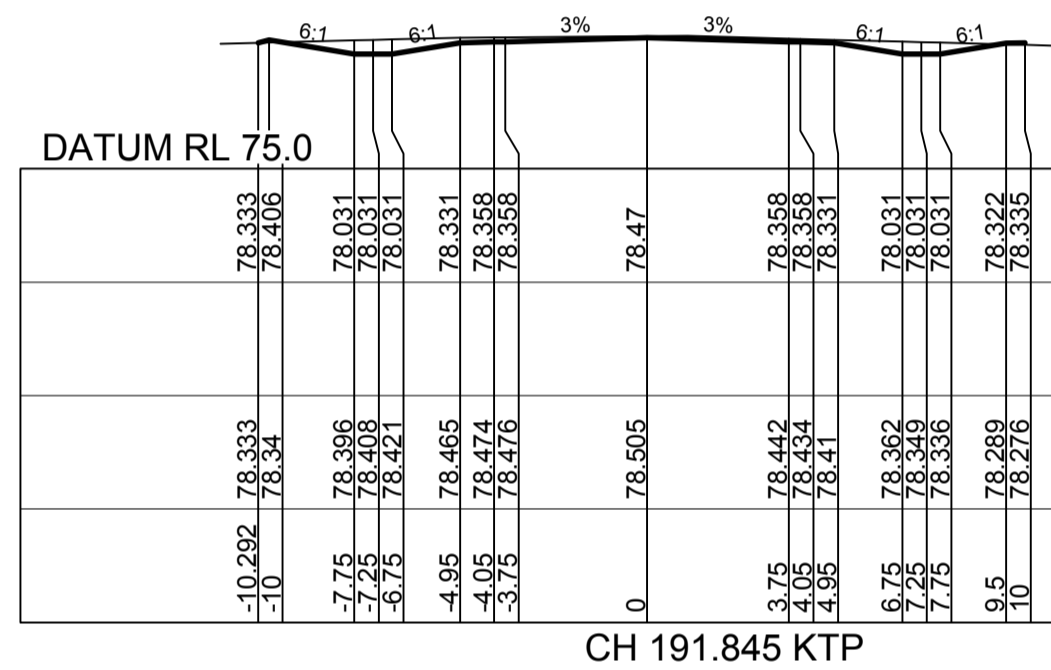
CLIENT: **REDBANK** NORTH RICHMOND

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**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**  
 ROAD CROSS SECTIONS SHEET 12

PLAN No:	110185BEL/CC32	F
FILE No:	110185BELCC32	
SHEET SIZE:	A1 ORIGINAL	



DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
79.483		79.483	-11.137
79.104		79.537	-10
79.729		79.646	-7.75
79.729		79.664	-6.75
79.029		79.781	-4.95
79.056		79.823	-4.05
79.056		79.824	-3.75
79.188		79.826	0
79.056		79.809	3.75
79.056		79.794	4.05
79.029		79.366	4.95
79.729		79.272	6.75
79.729		79.245	7.75
79.02		79.127	9.5
79.033		79.101	10

ROAD BEL04



REVISION F  
ROAD BEL04 CROSS SECTIONS AMENDED

NO	DESCRIPTION	MP	MG	RO	MS	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT: **REDBANK** NORTH RICHMOND

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND BELMONT  
ROAD CROSS SECTIONS SHEET 13

PLAN No: 110185BEL/CC33 **F**  
FILE No: 110185BELCC33  
SHEET SIZE: A1 ORIGINAL

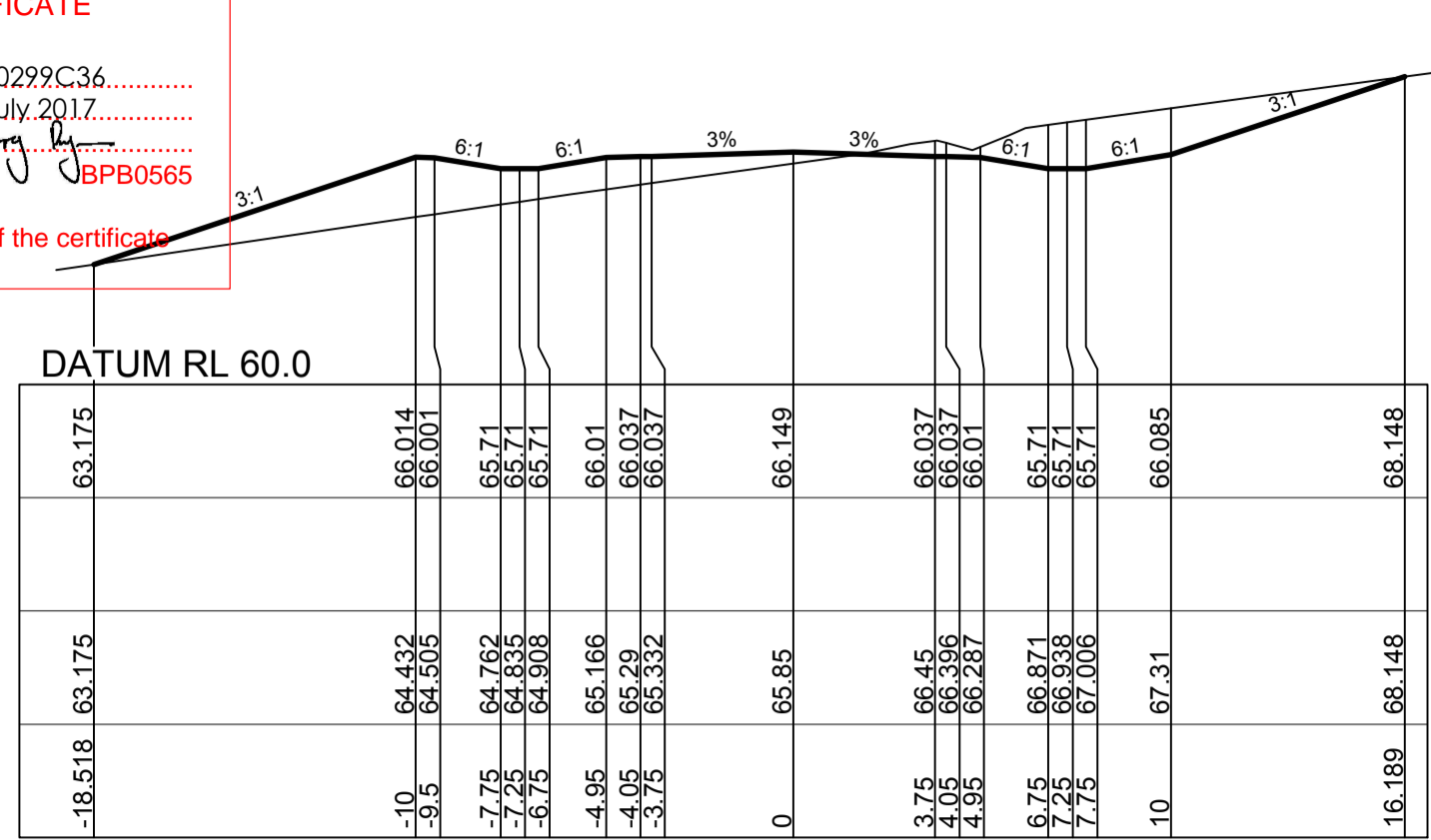
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

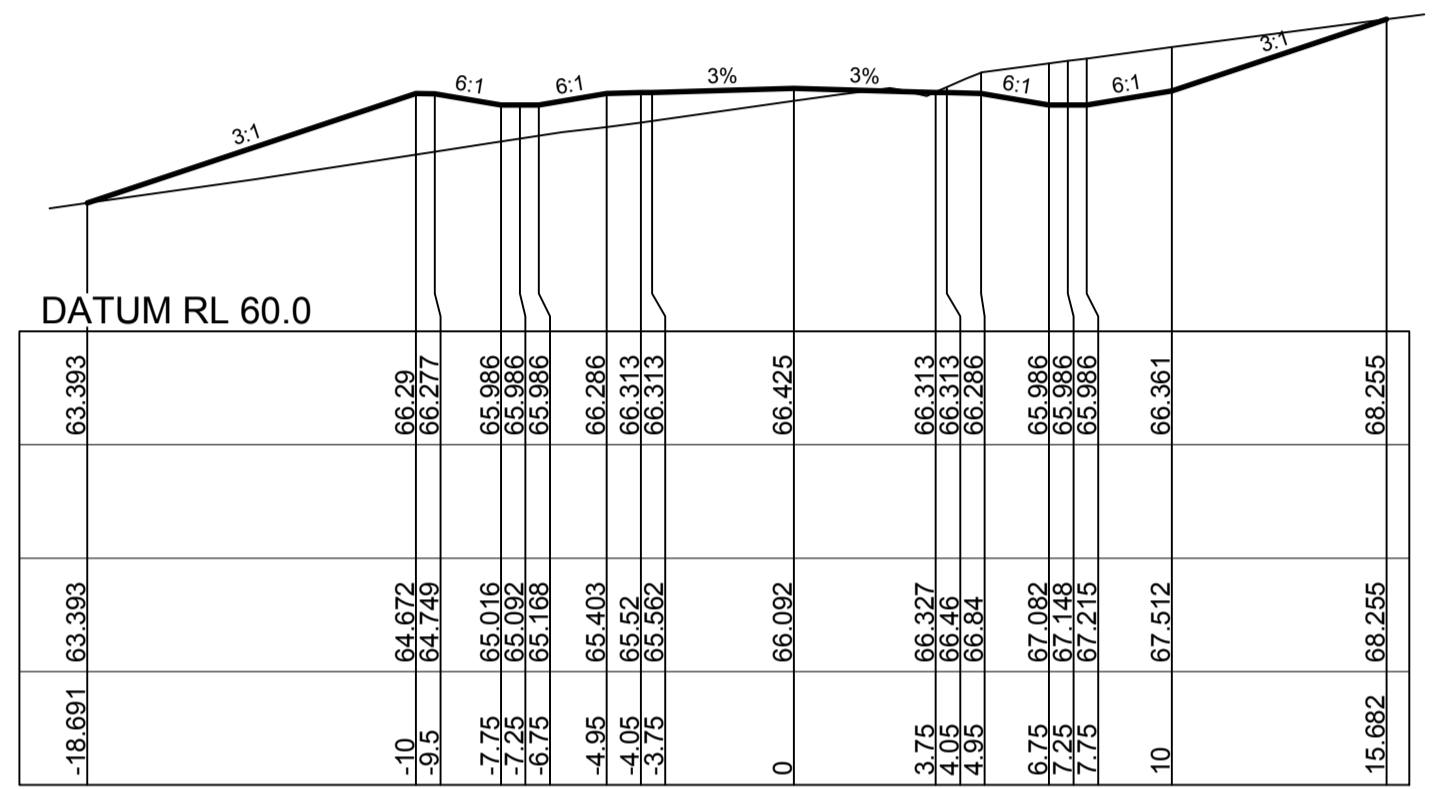
These plans/specifications form part of the certificate issued 31 July 2017

Plotted: 18 July 2017 5:12:00 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\BELMONT\110185BELCC34.dwg

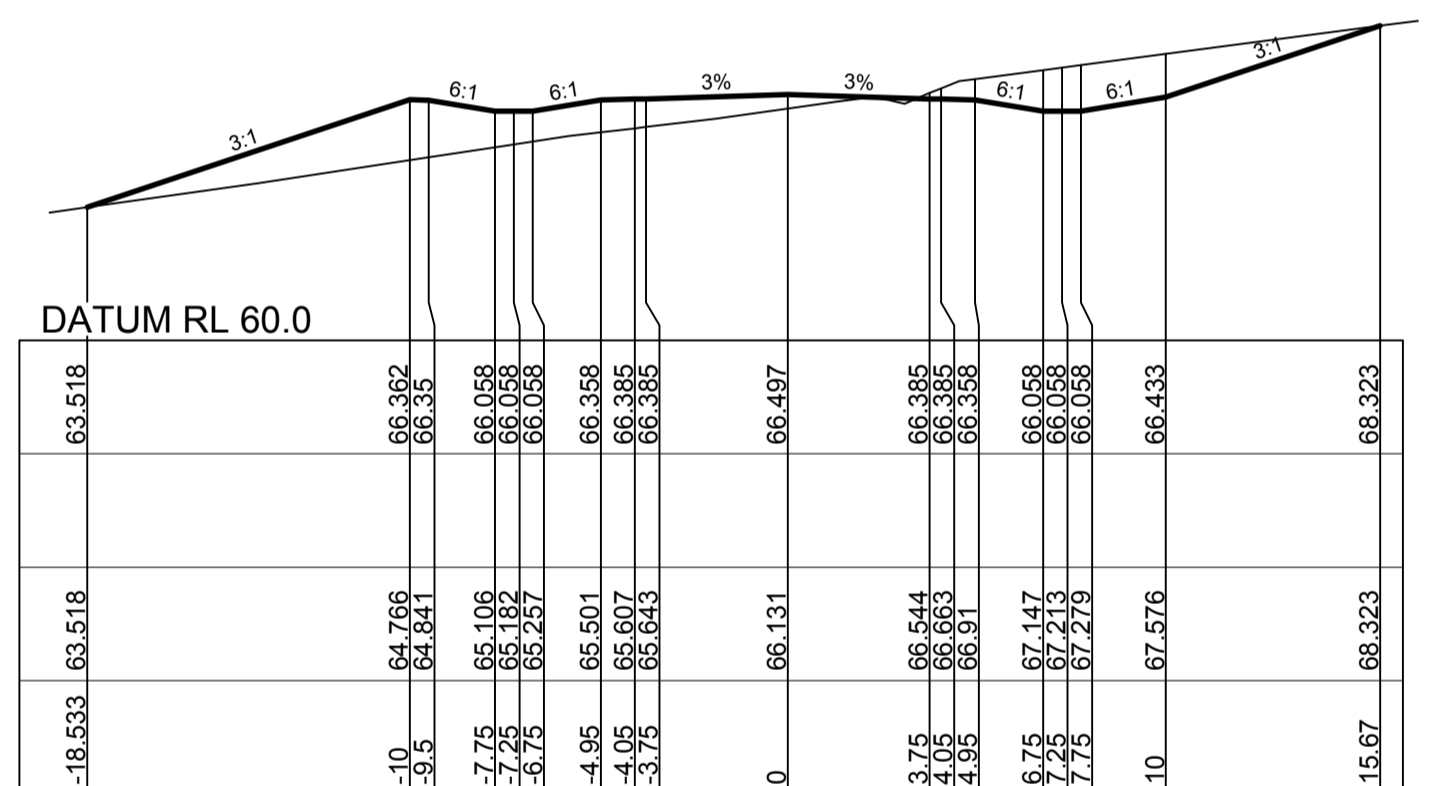
**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565  
These plans/specifications form part of the certificate issued 31 July 2017



CH 60



CH 45

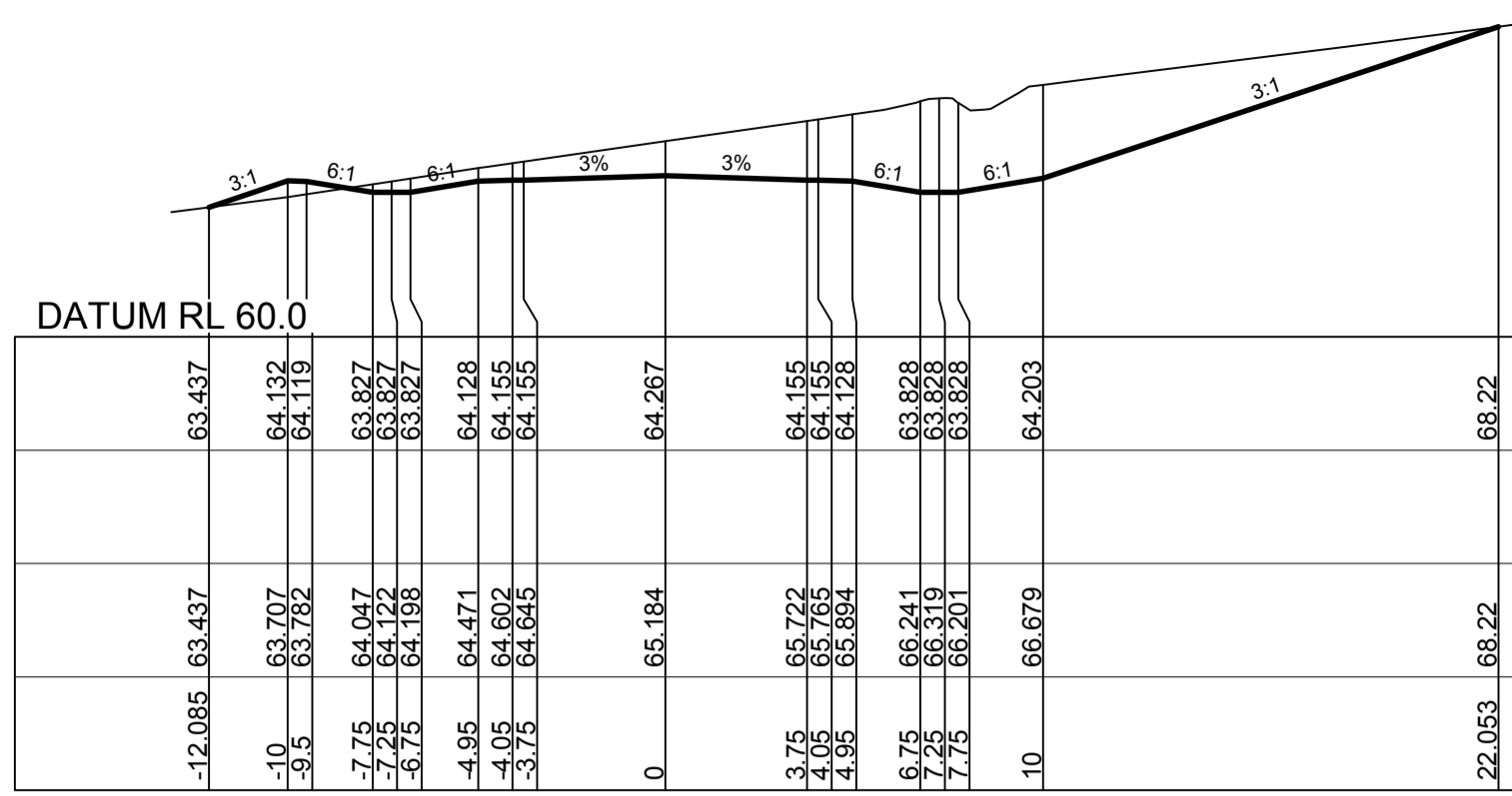


CH 41.059 KTP

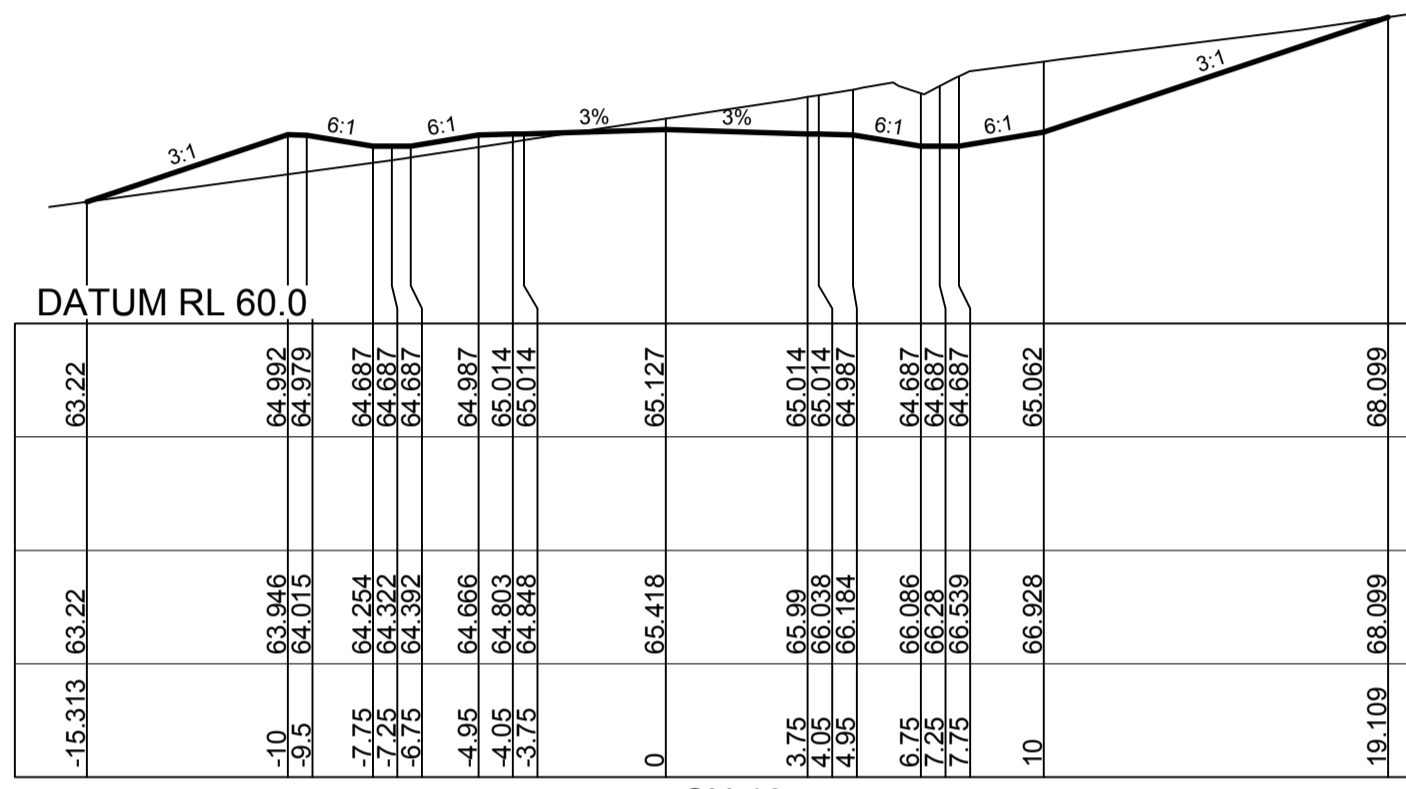
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66.493		65.065	-9.5
66.202		65.927	-7.75
66.202		65.402	-7.75
66.202		65.473	-6.75
66.502		65.236	-4.95
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66.502		66.584	-3.75
66.641		66.32	0

CH 33.249 KTP

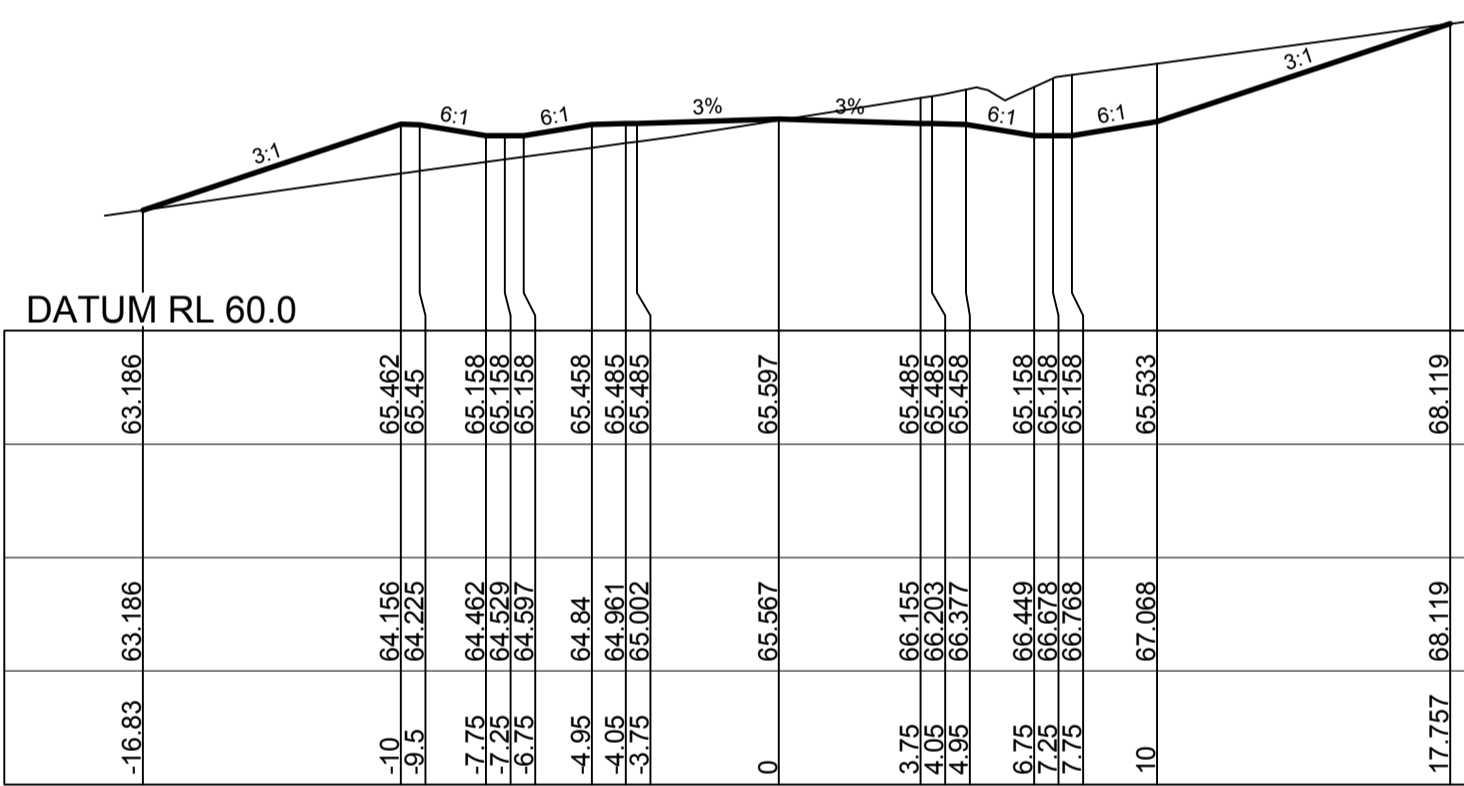
**ROAD BEL05**



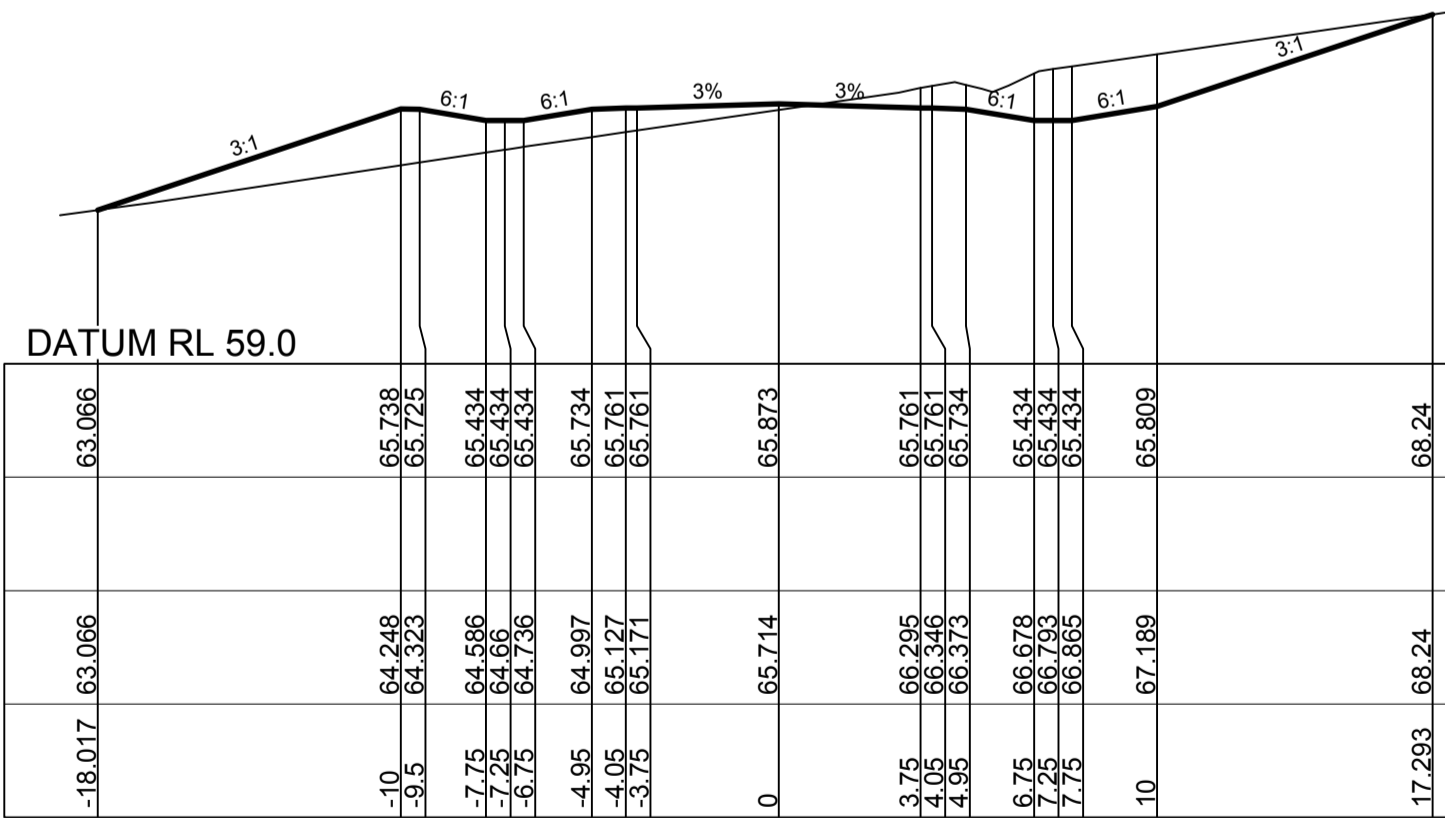
CH 120



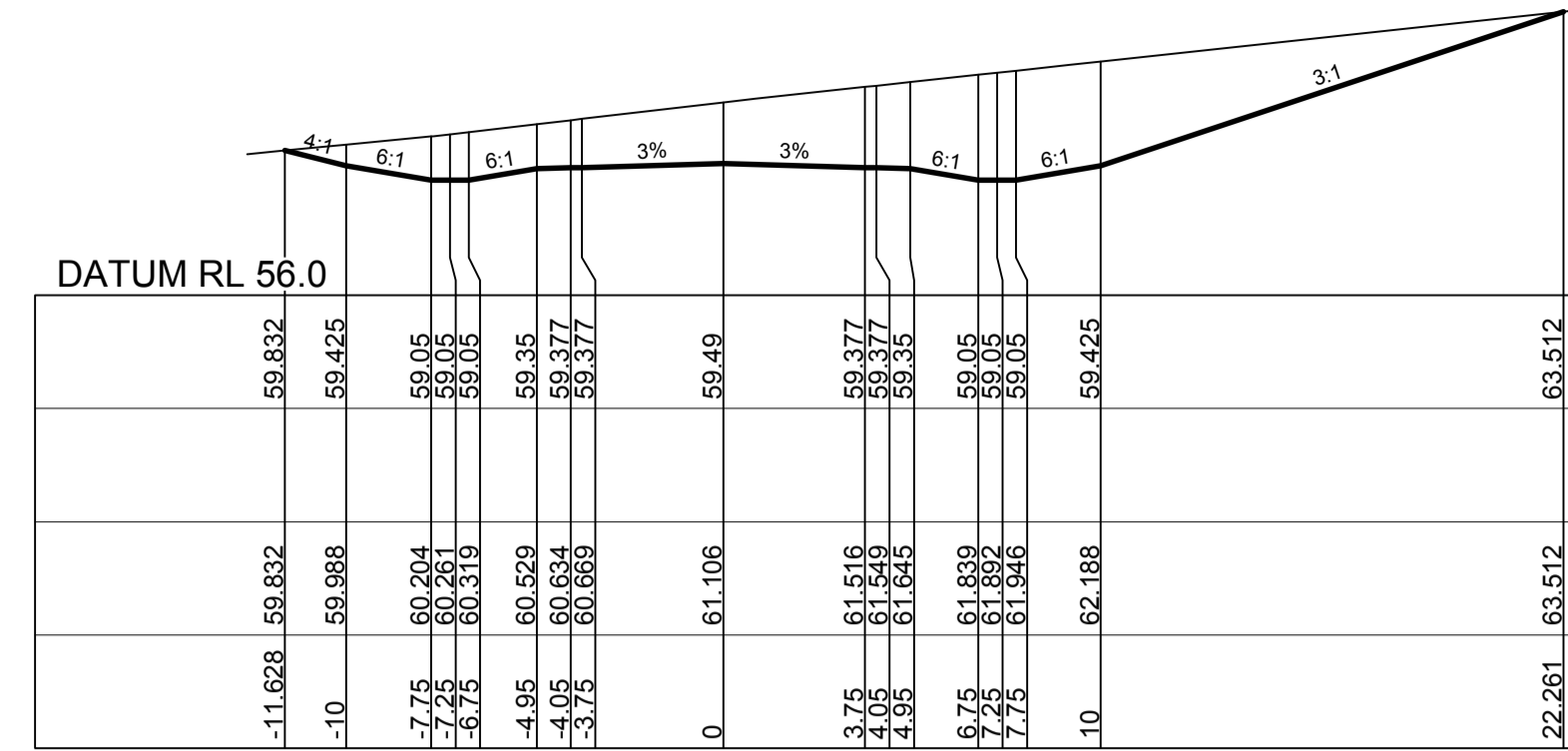
CH 105



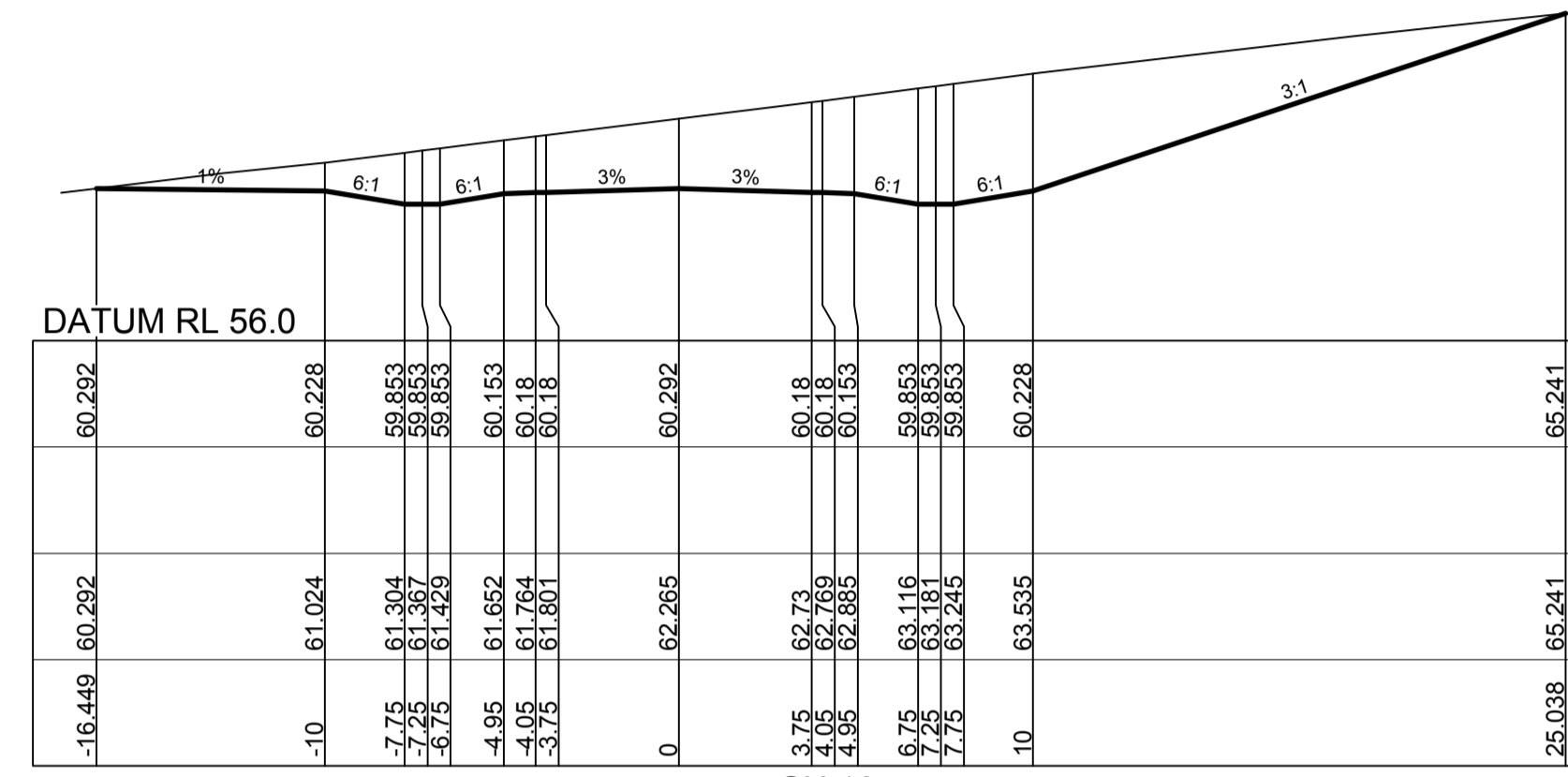
CH 90



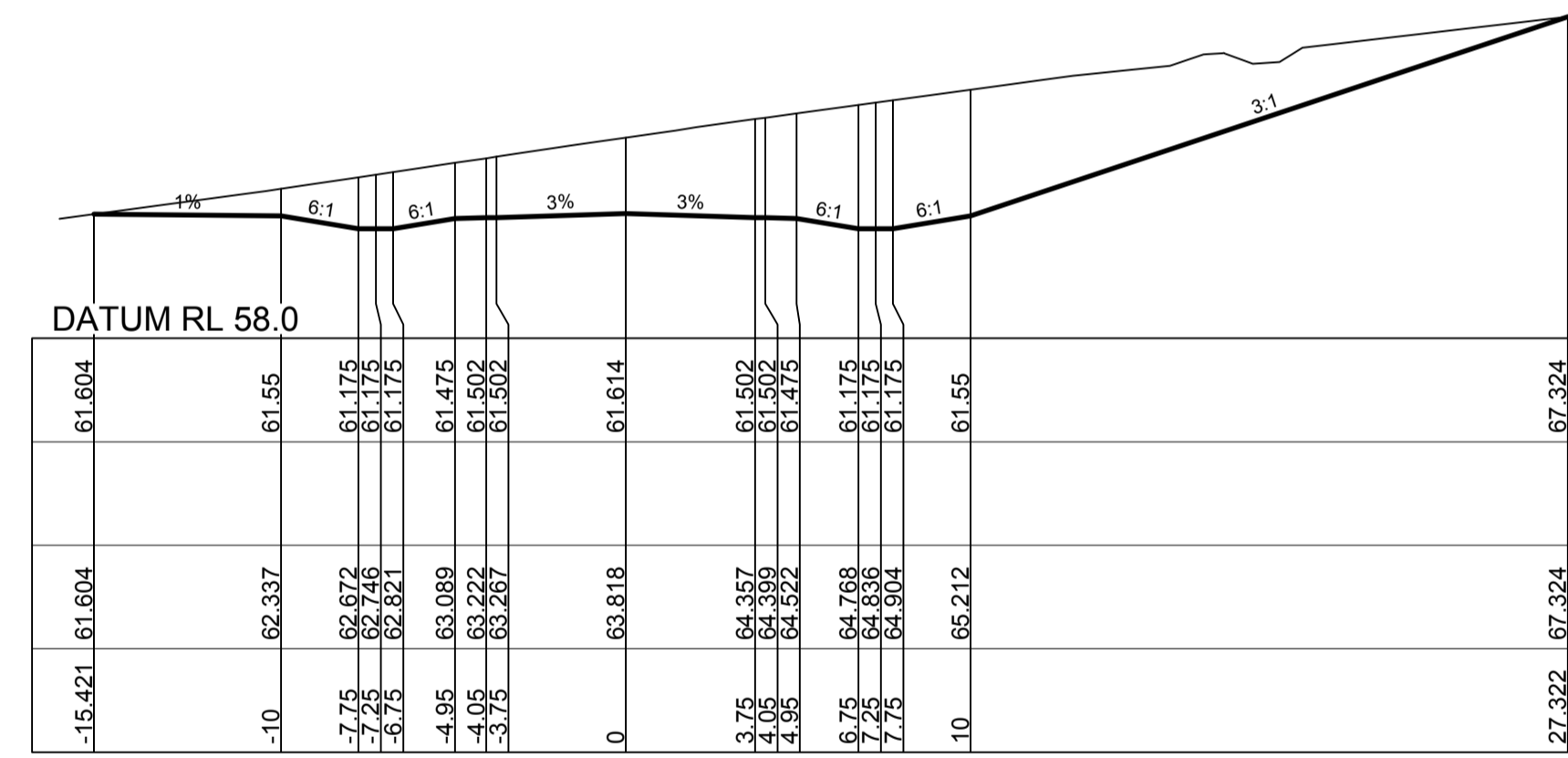
CH 75



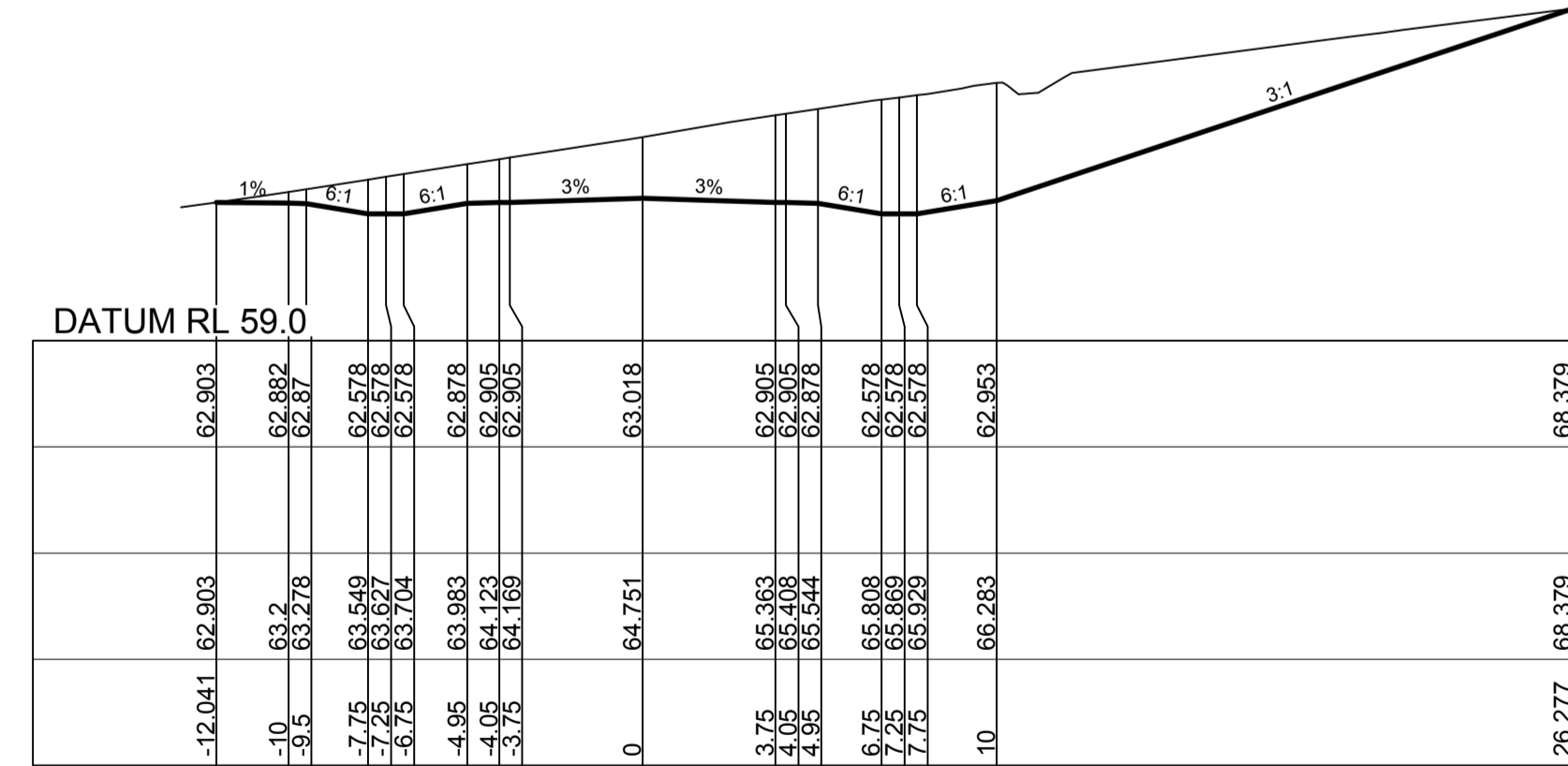
CH 174.593 KTP



CH 165

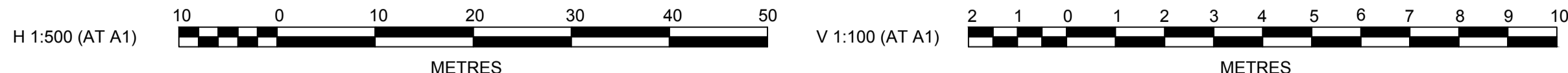


CH 150



CH 135

REVISION E  
ROAD BEL05 CROSS SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/08/16

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

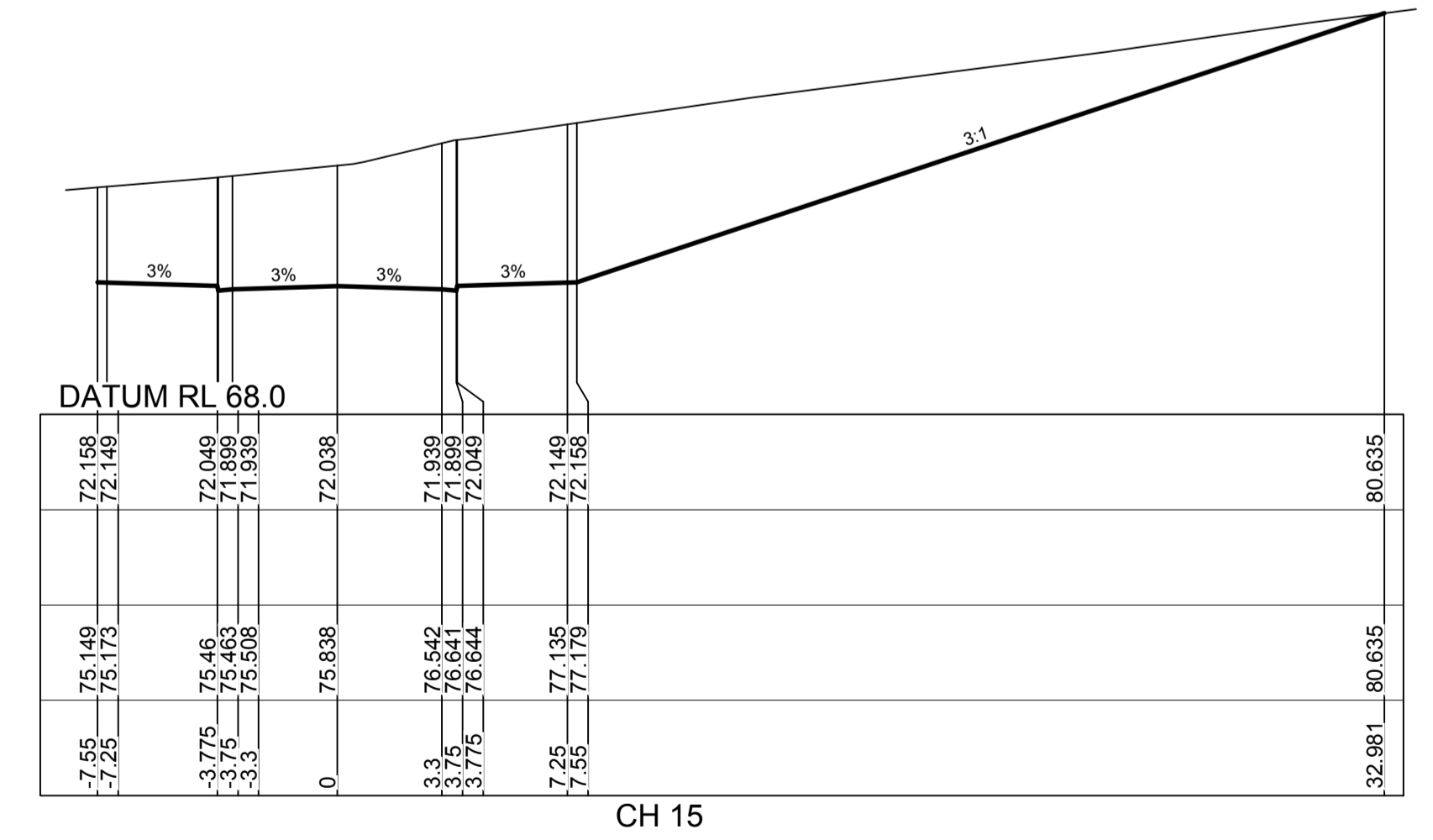
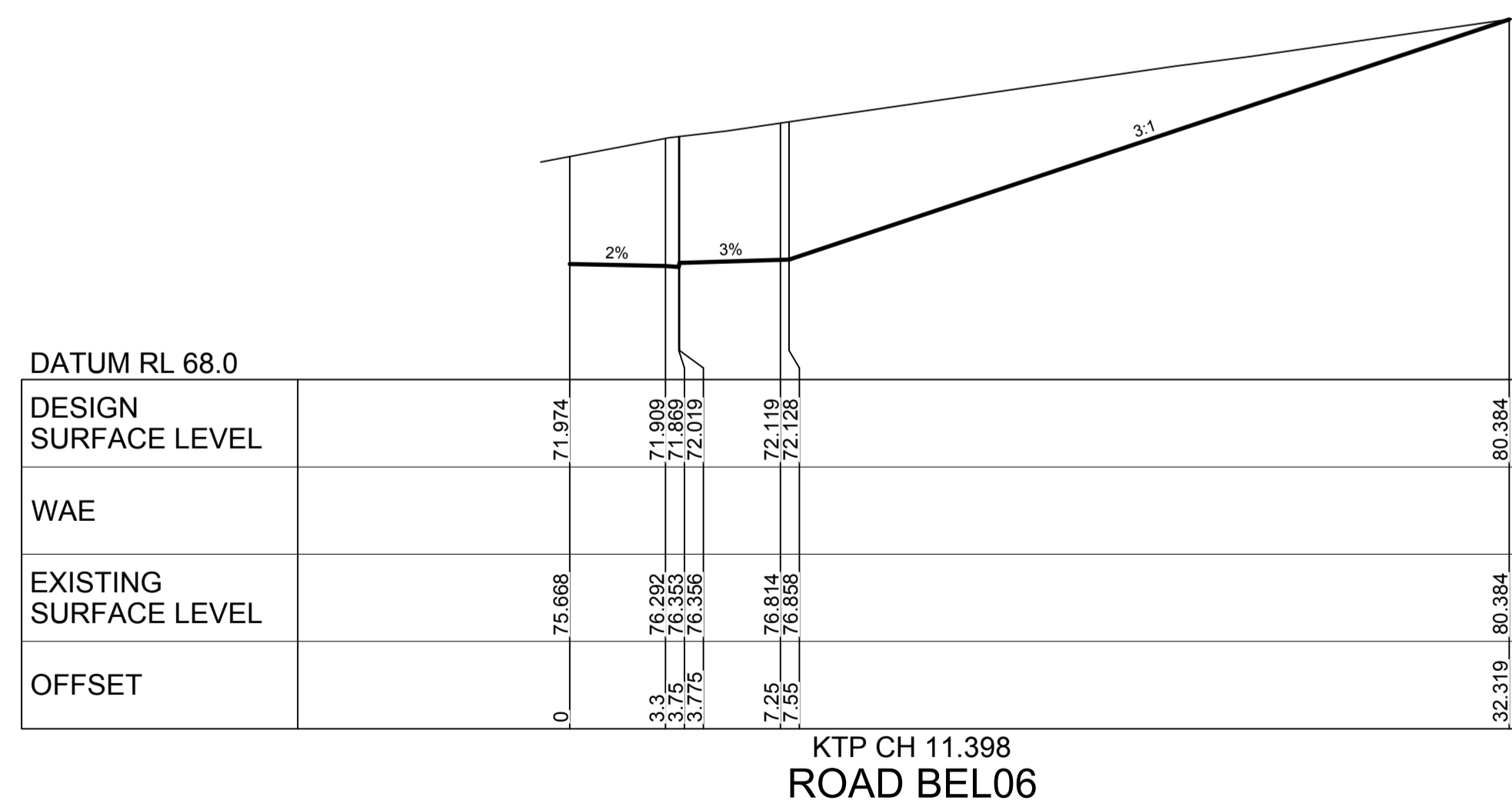
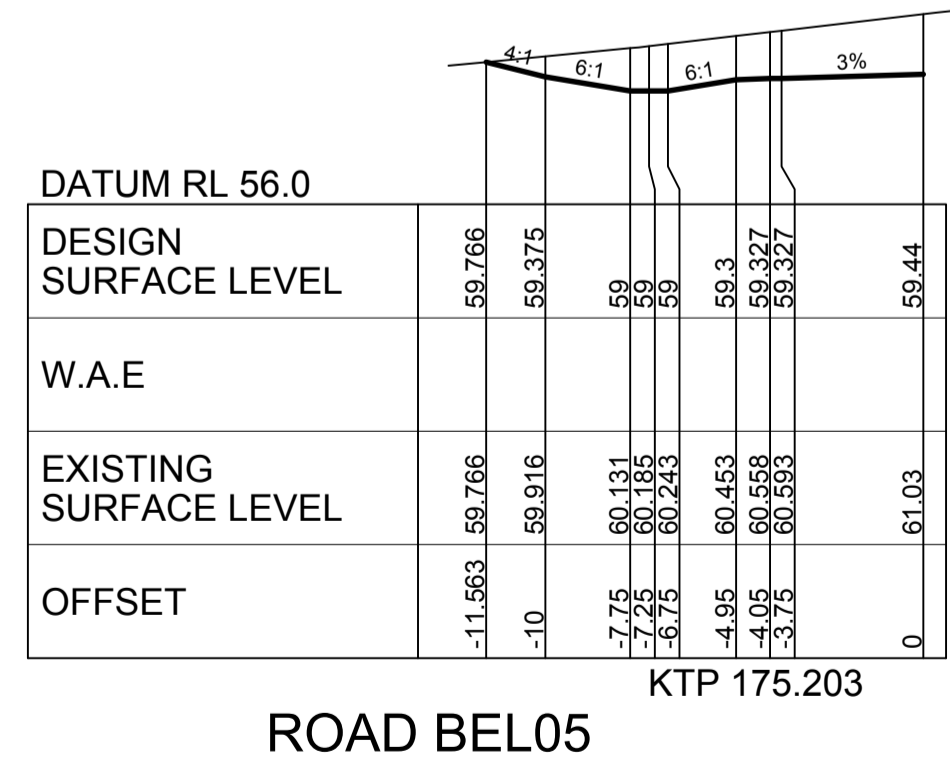
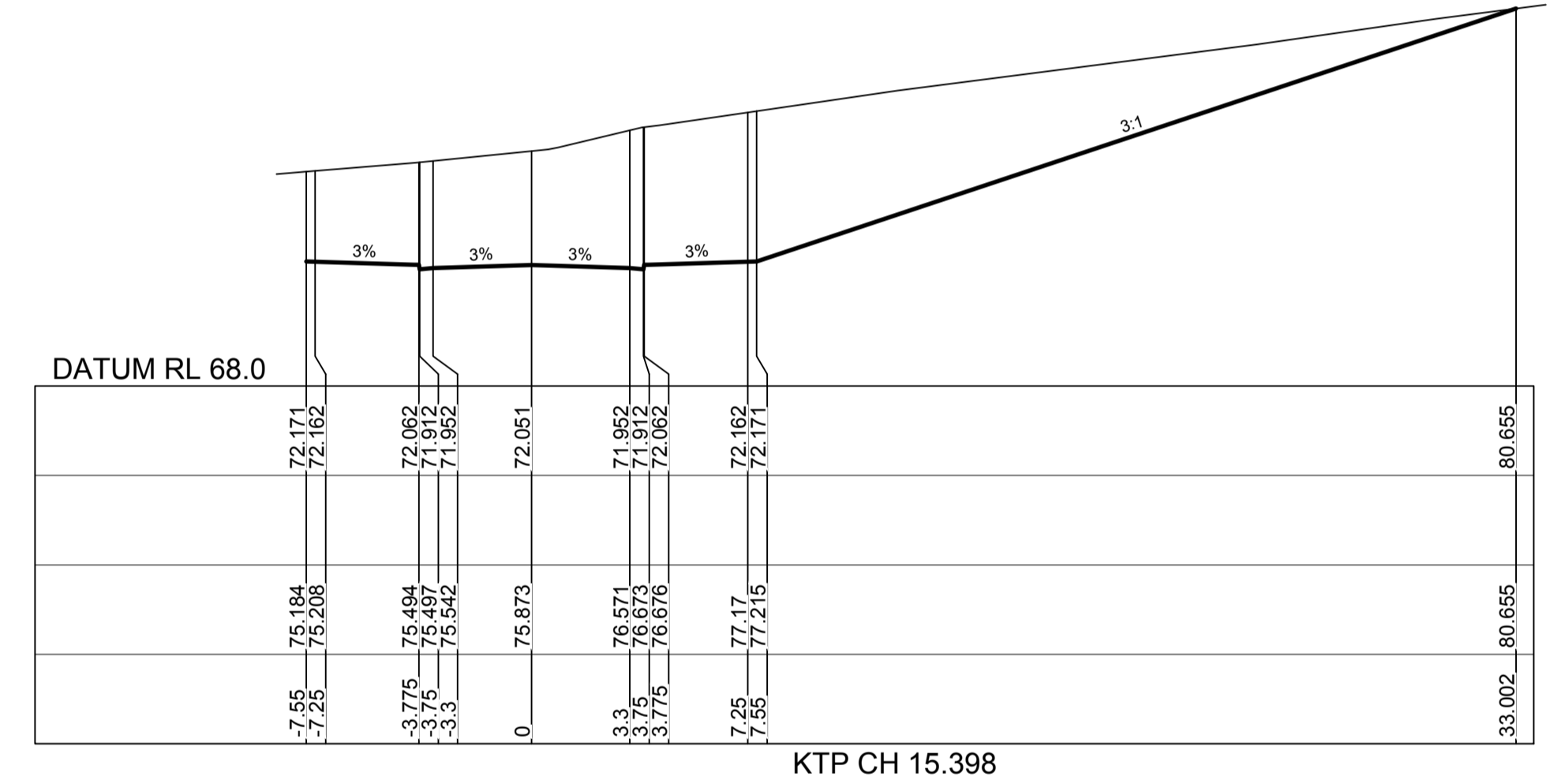
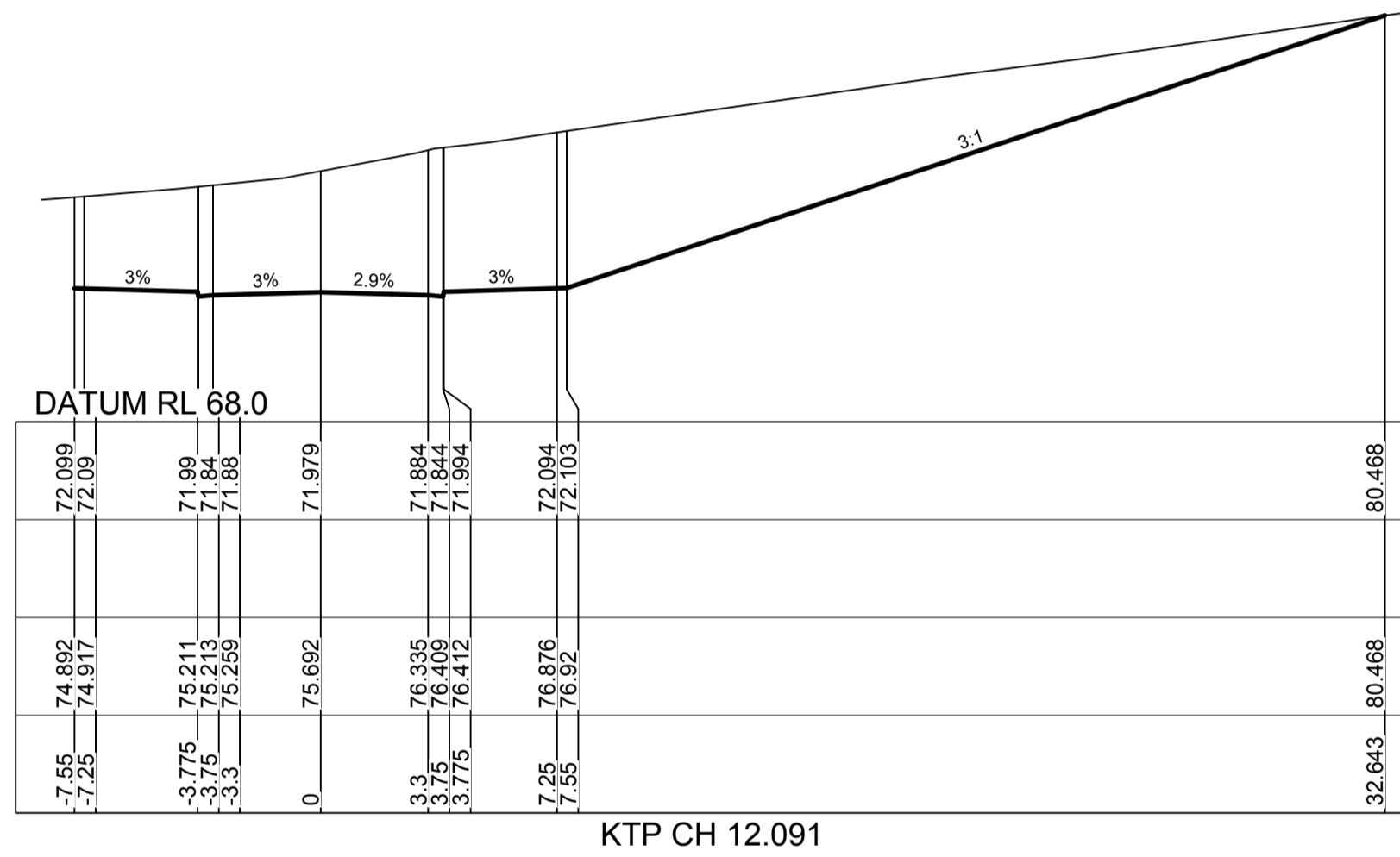
CLIENT: **REDBANK** NORTH RICHMOND  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**  
**REDBANK, NORTH RICHMOND BELMONT**  
ROAD CROSS SECTIONS SHEET 14  
PLAN No: 110185BEL/CC34 E  
FILE No: 110185BELCC34  
SHEET SIZE: A1 ORIGINAL

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36.....  
 Date of Issue 31 July 2017.....  
 Issuing Officer *[Signature]*.....  
 Accreditation No. BPB0565.....

These plans/specifications form part of the certificate issued 31 July 2017



Plotted: 18 July 2017 5:12:23 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC35.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

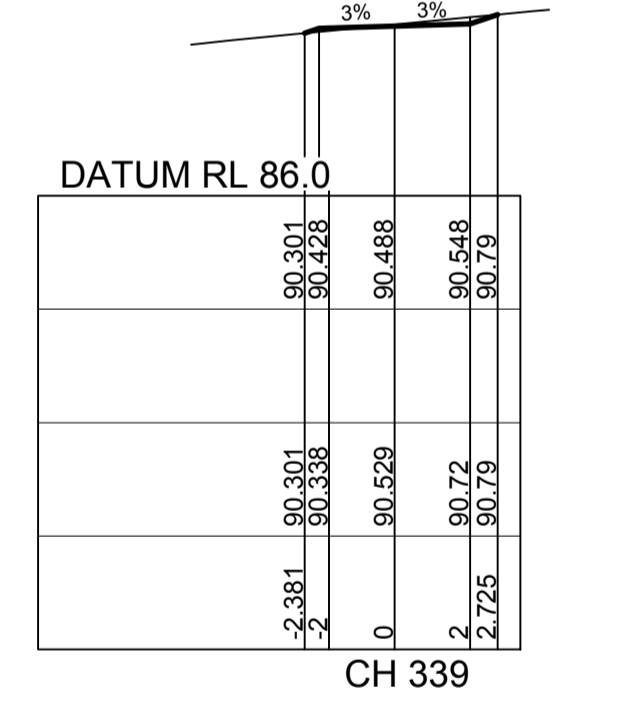
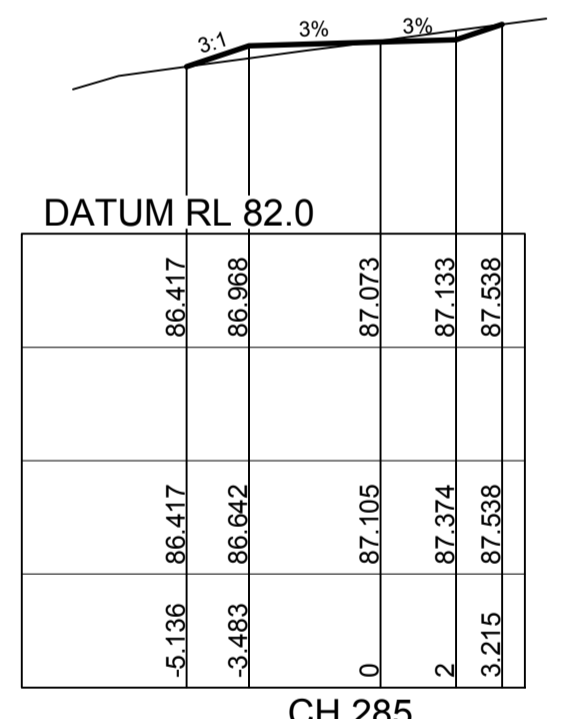
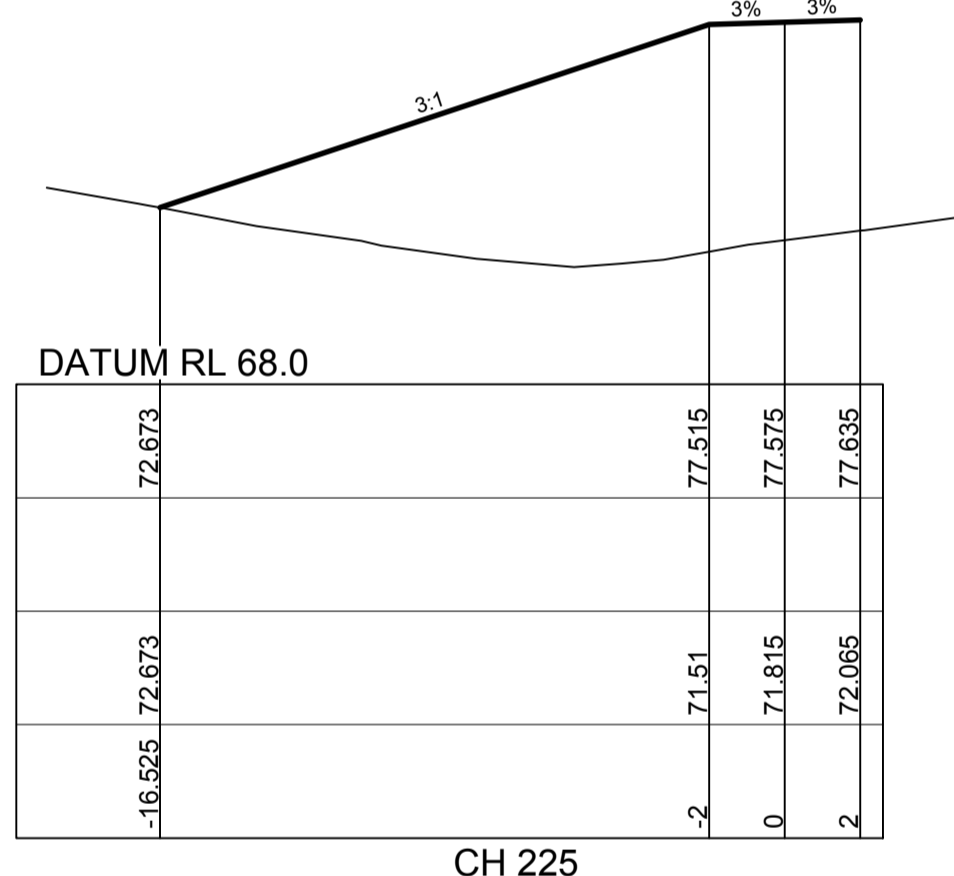
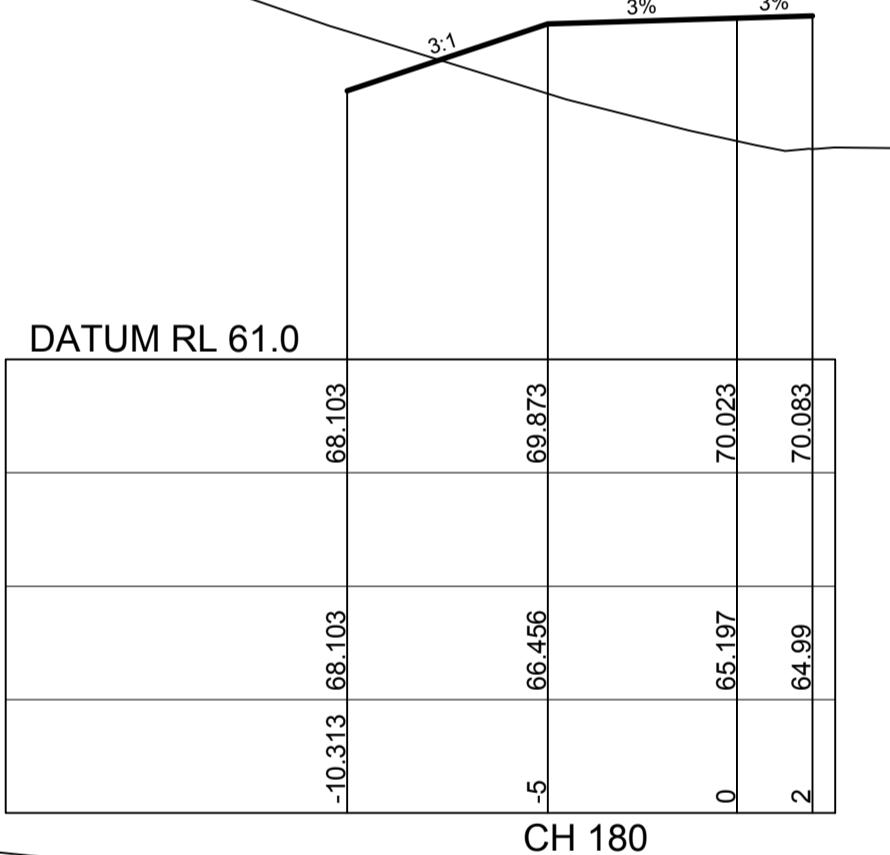
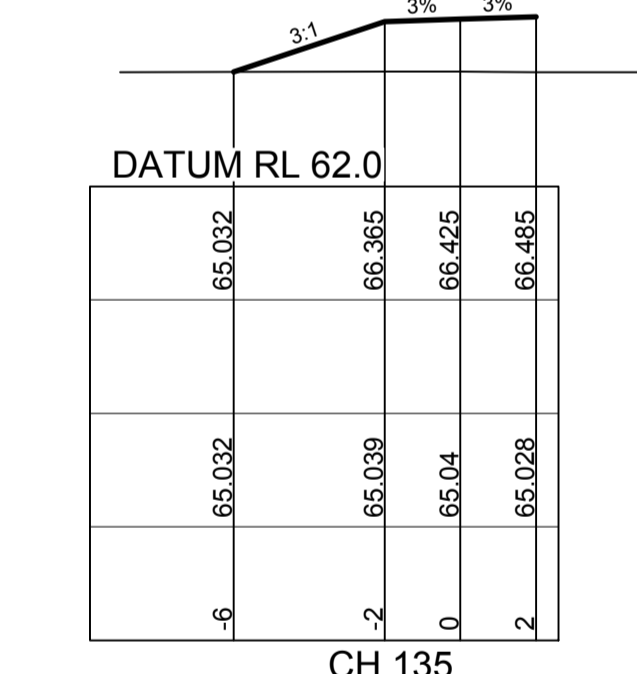
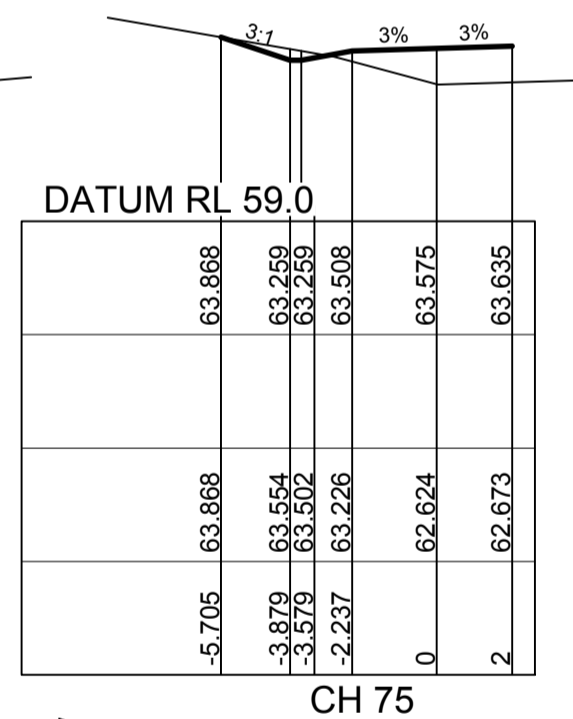
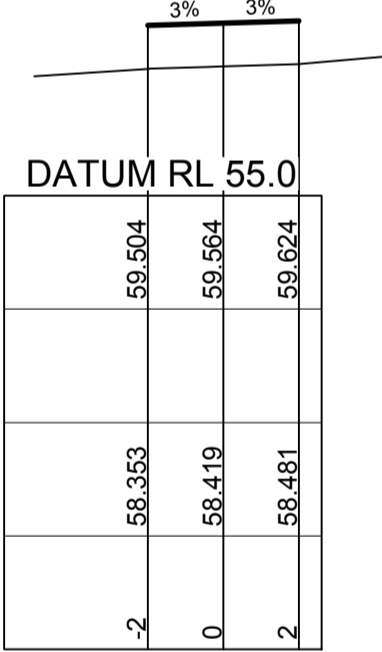
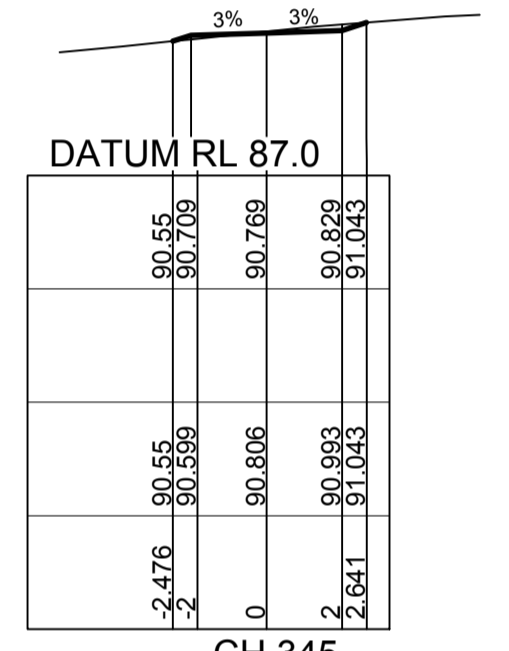
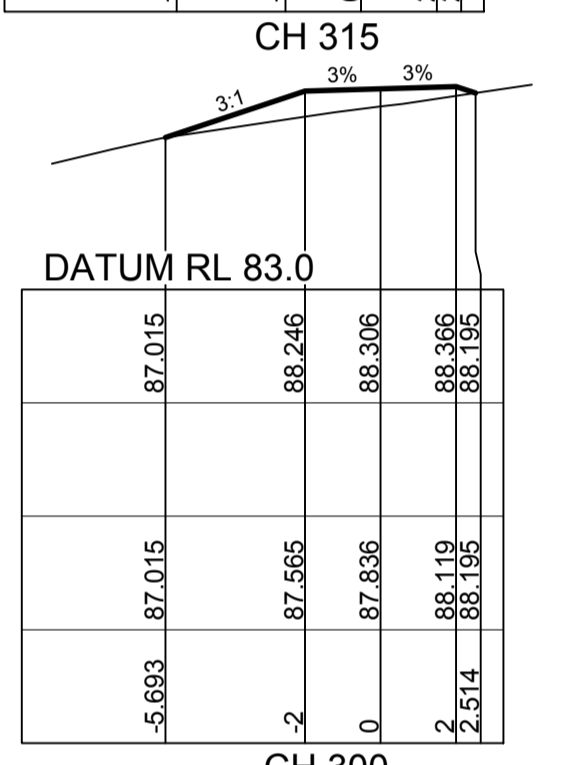
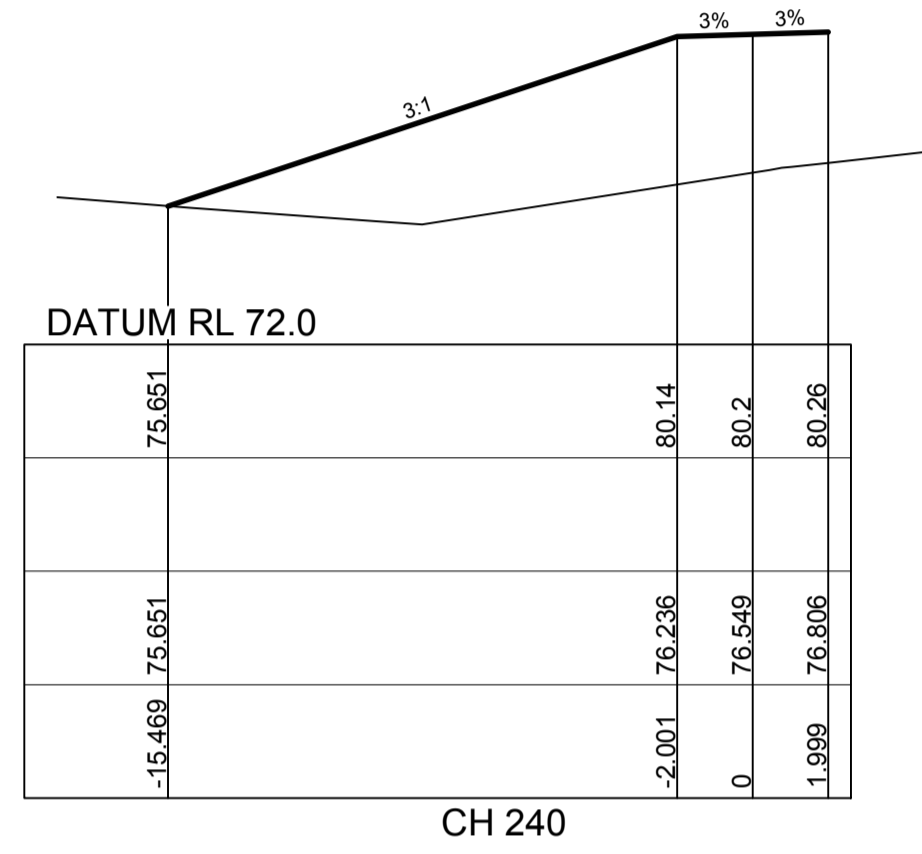
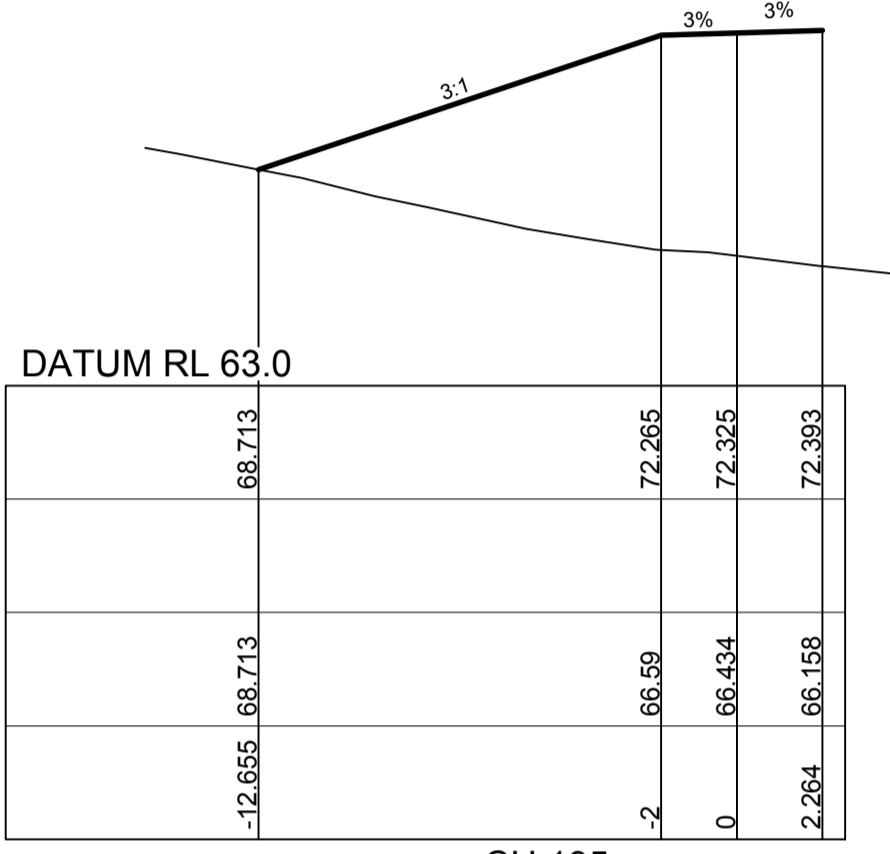
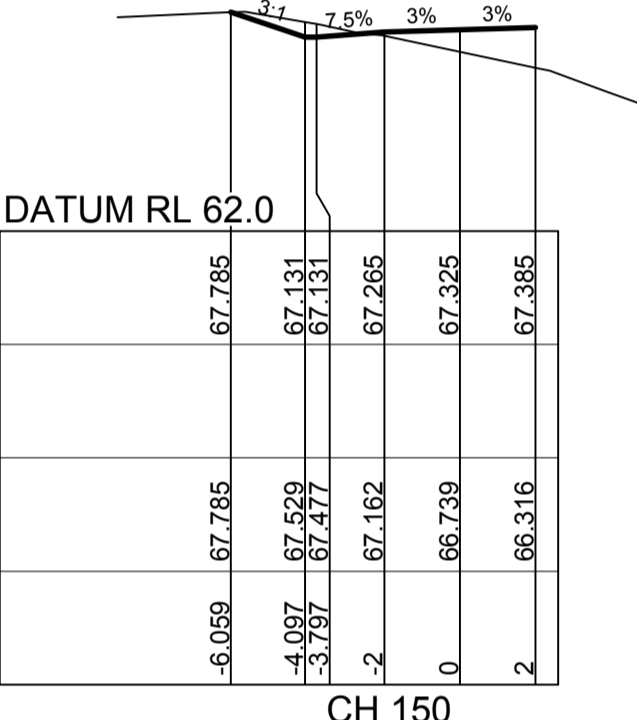
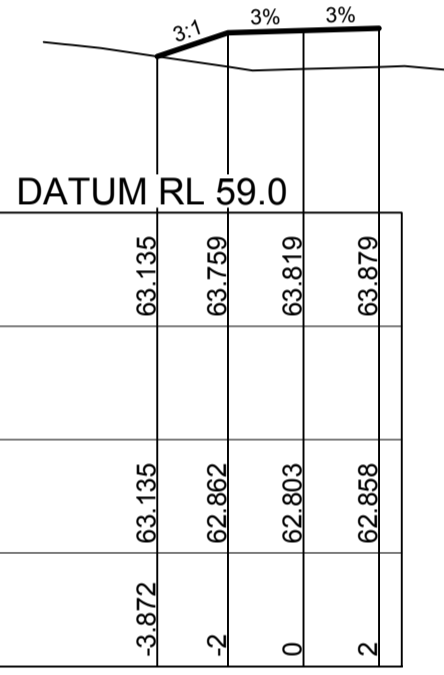
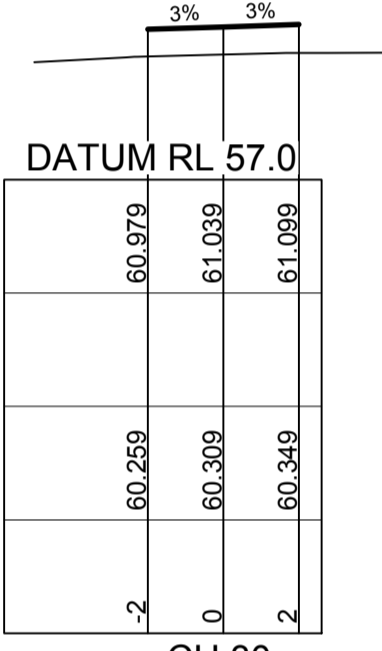
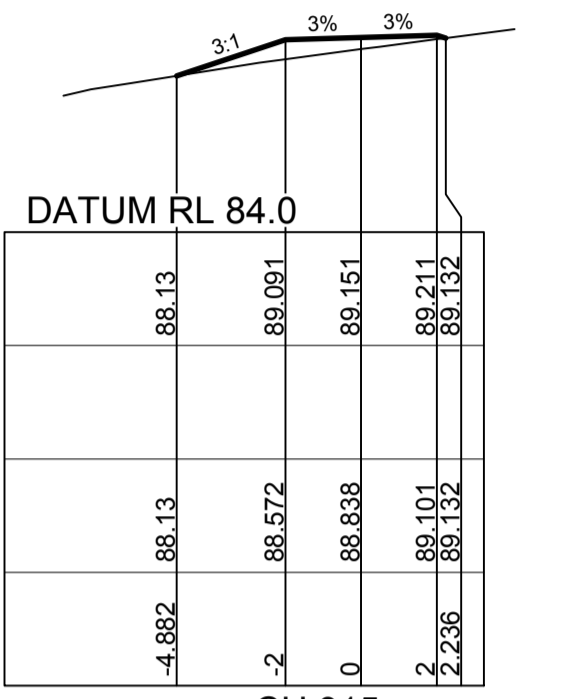
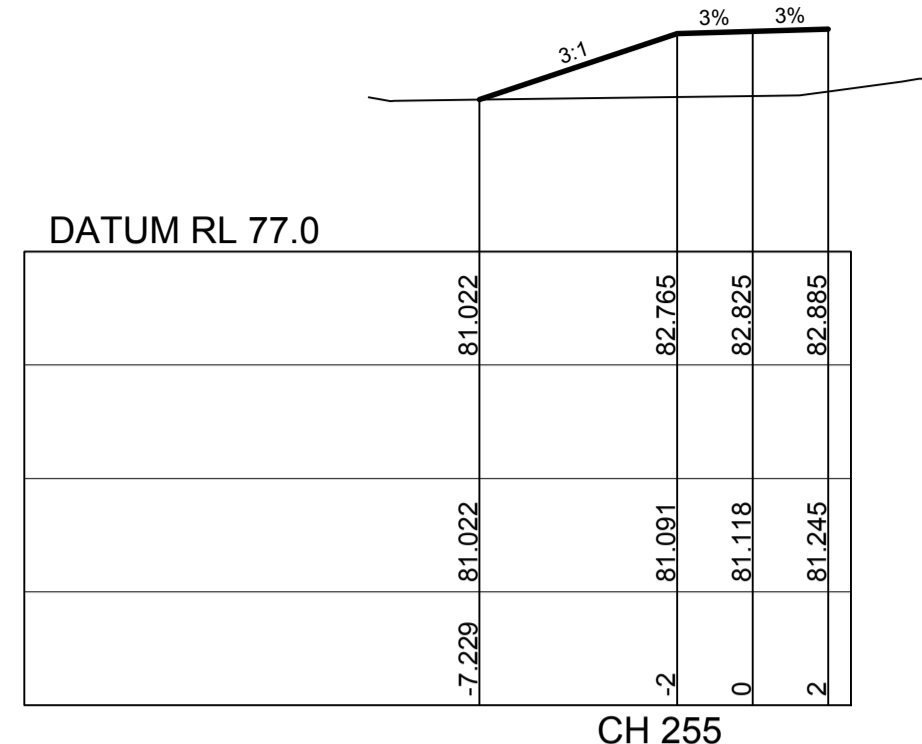
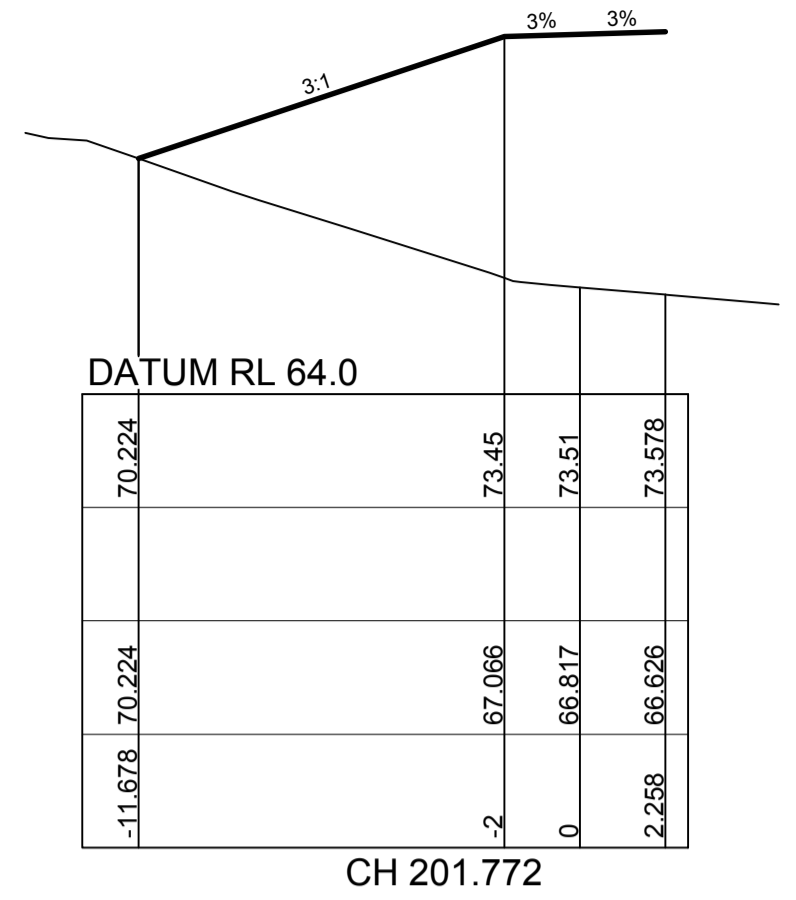
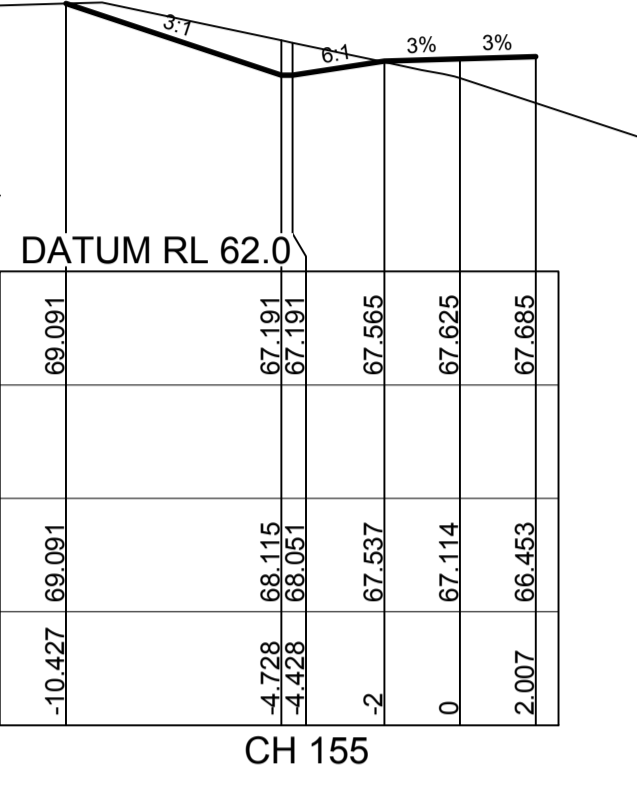
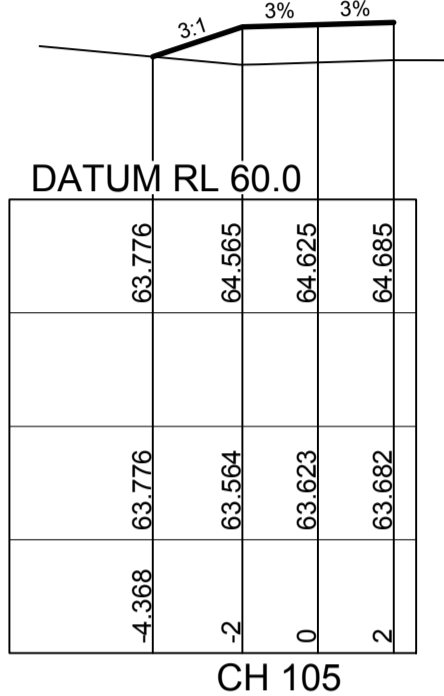
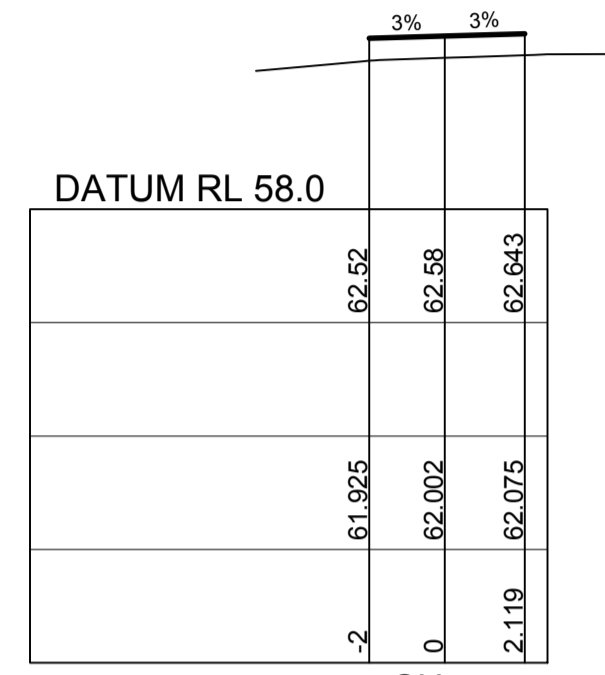
**REDBANK, NORTH RICHMOND BELMONT**  
 ROAD CROSS SECTIONS  
 SHEET 15

PLAN No:	110185BEL/CC35	<b>E</b>
FILE No:	110185BELCC35	
SHEET SIZE:	A1 ORIGINAL	

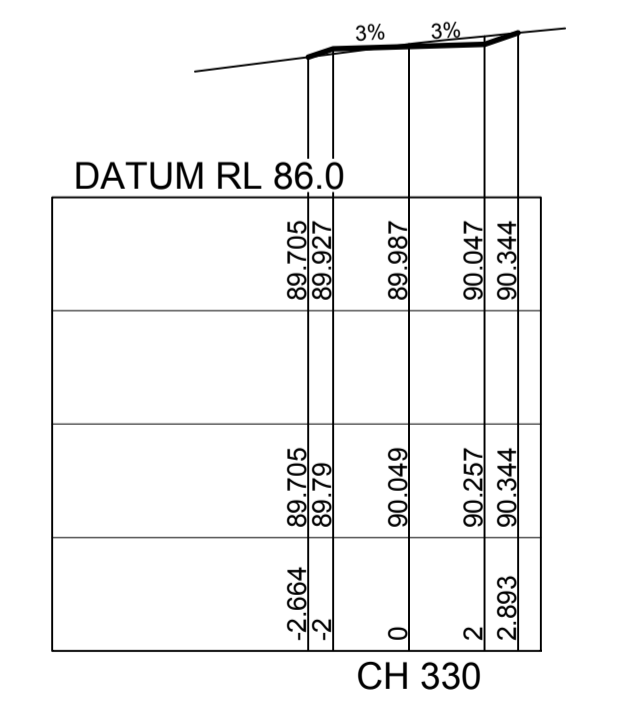
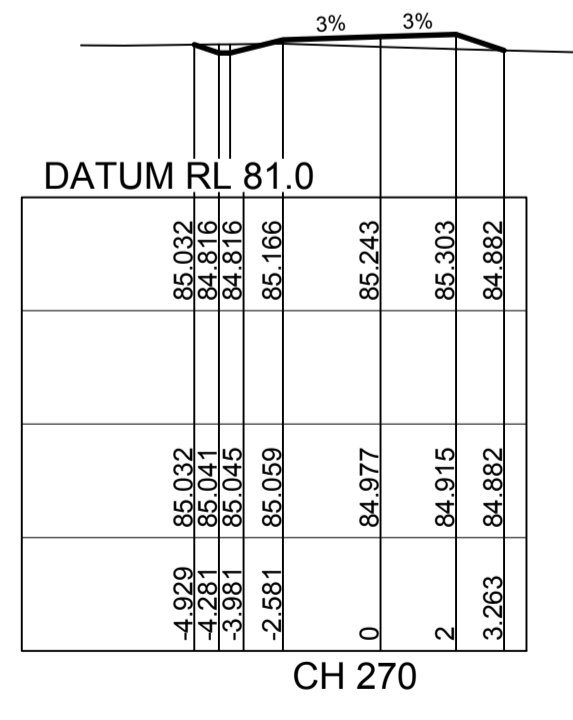
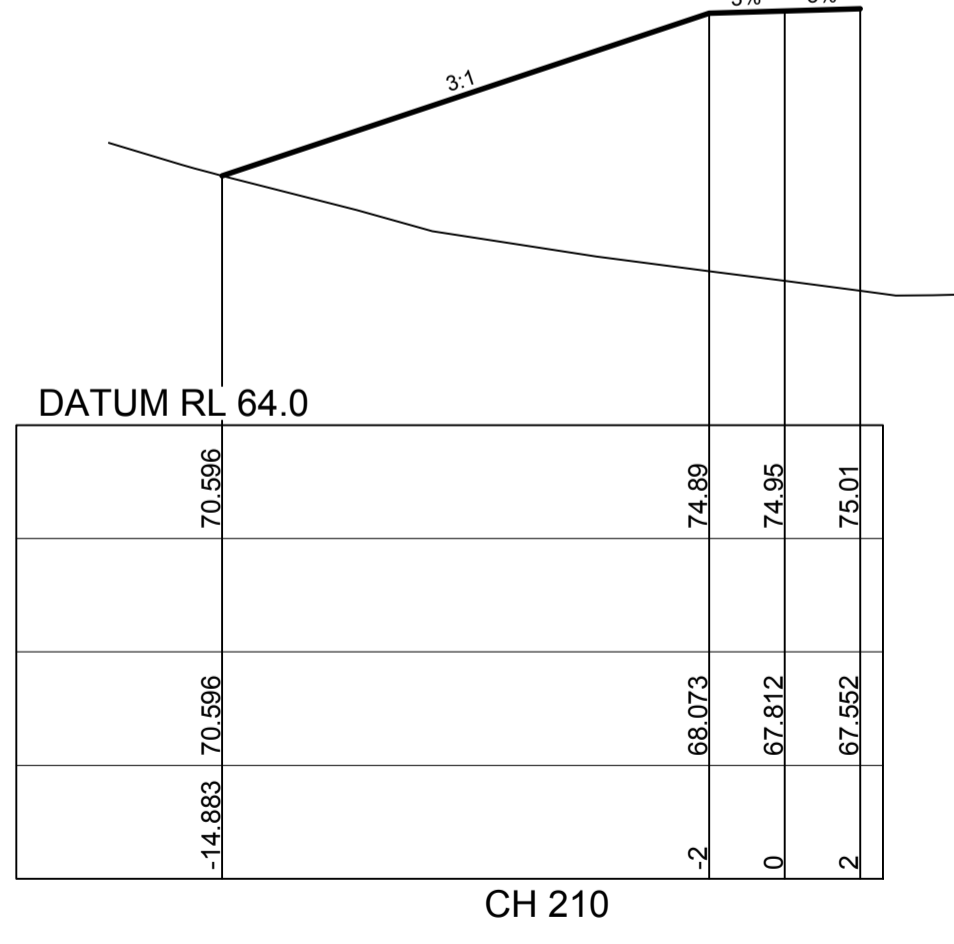
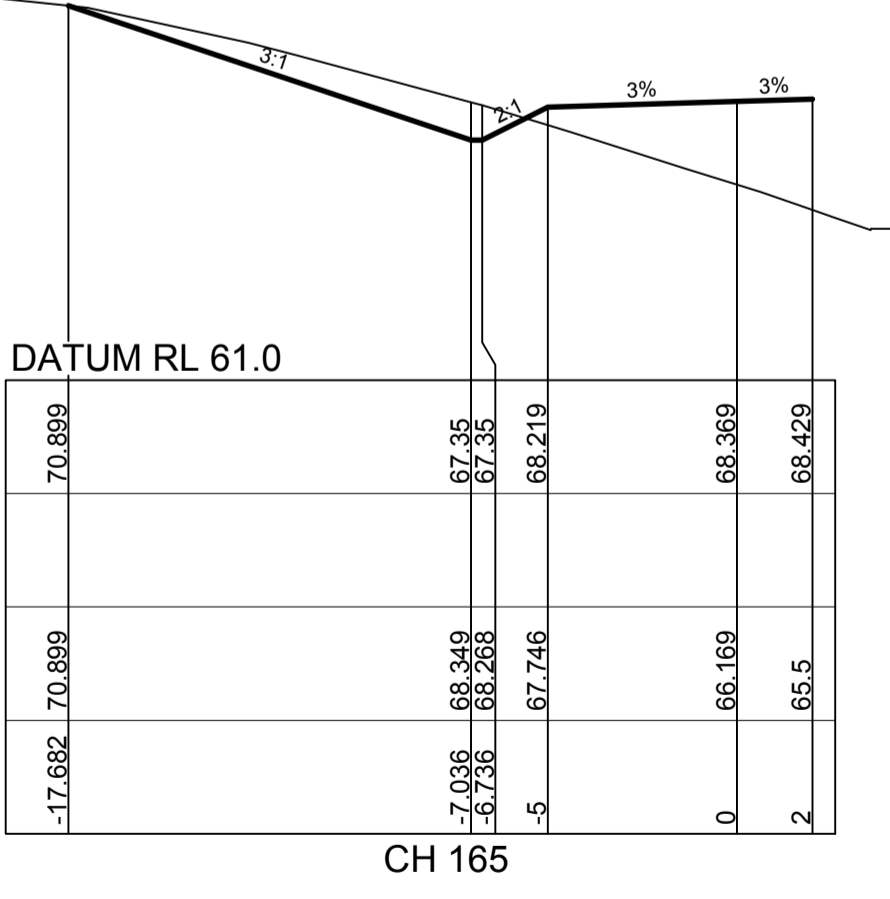
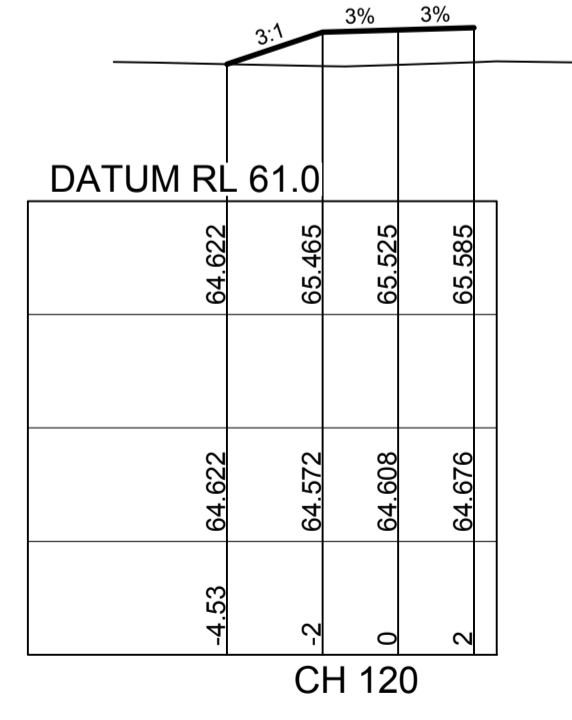
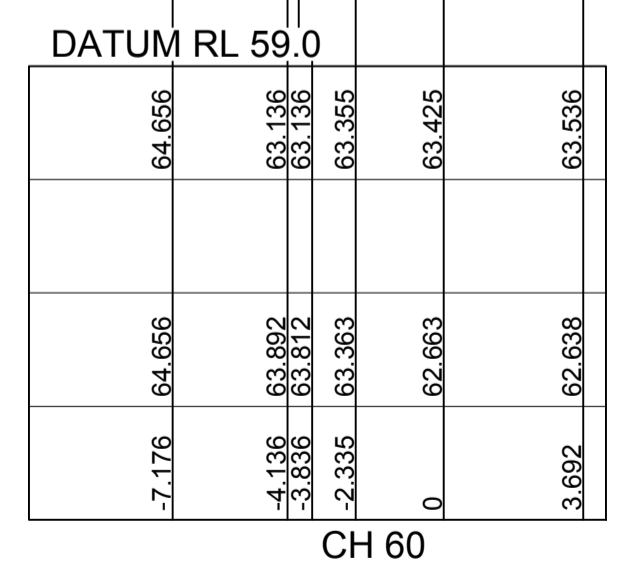
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *Jerry Prince*  
 Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017

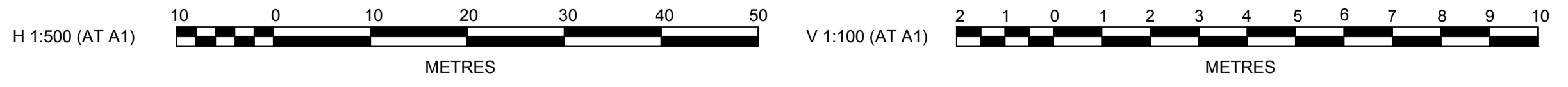


DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
59.197		57.554	-2
59.267		57.614	0
59.317		57.674	2



**FIRE TRAIL 1**

REVISION E  
 FIRE TRAIL 1 CROSS SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

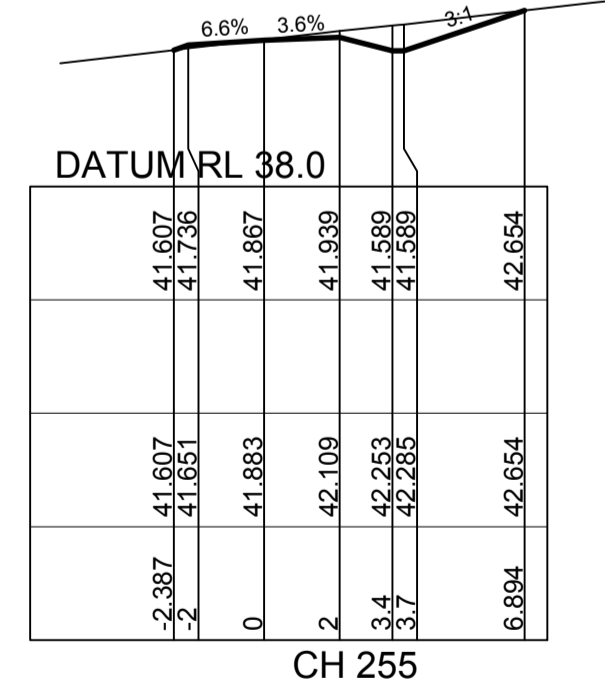
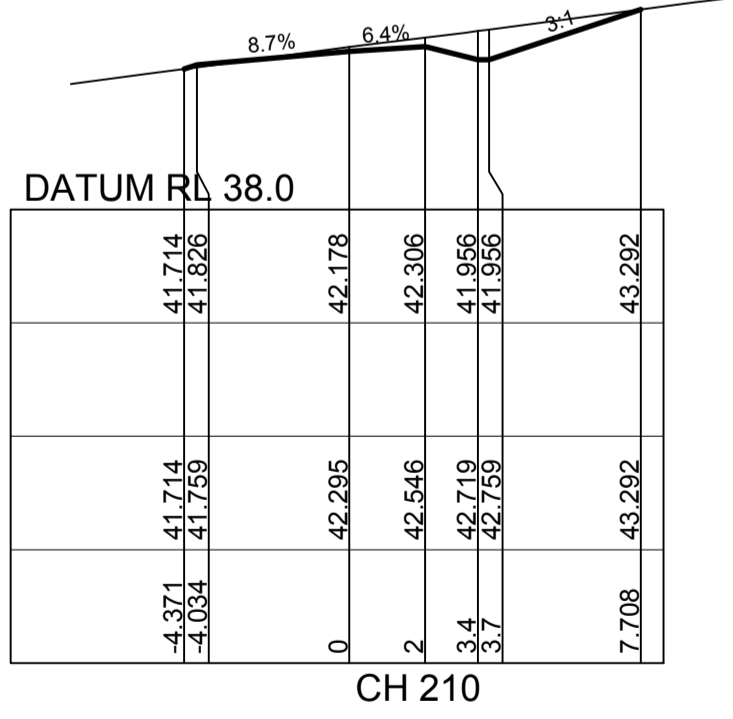
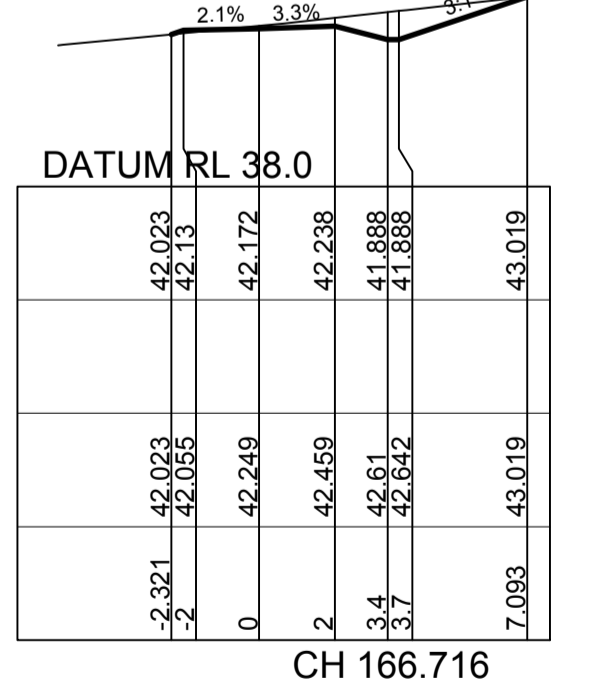
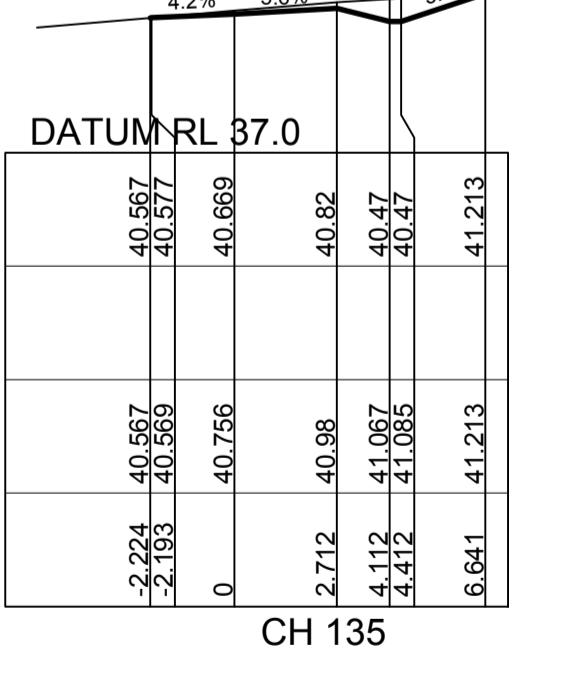
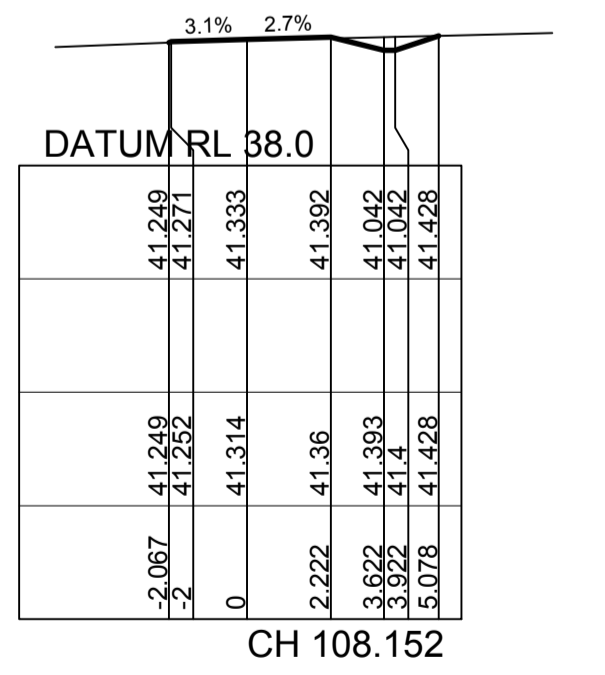
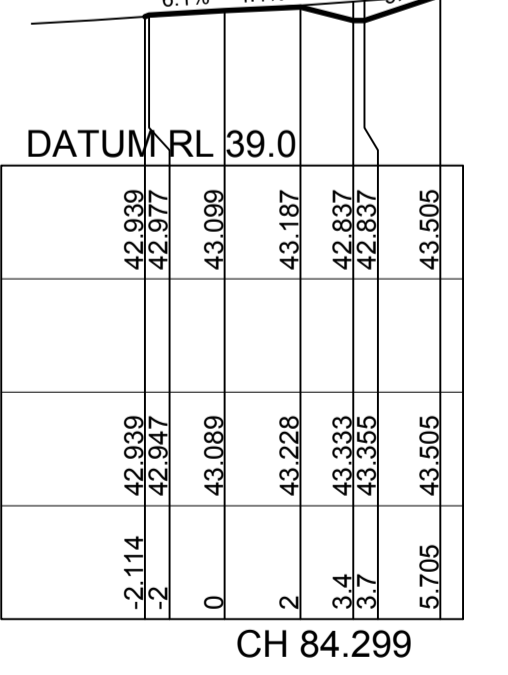
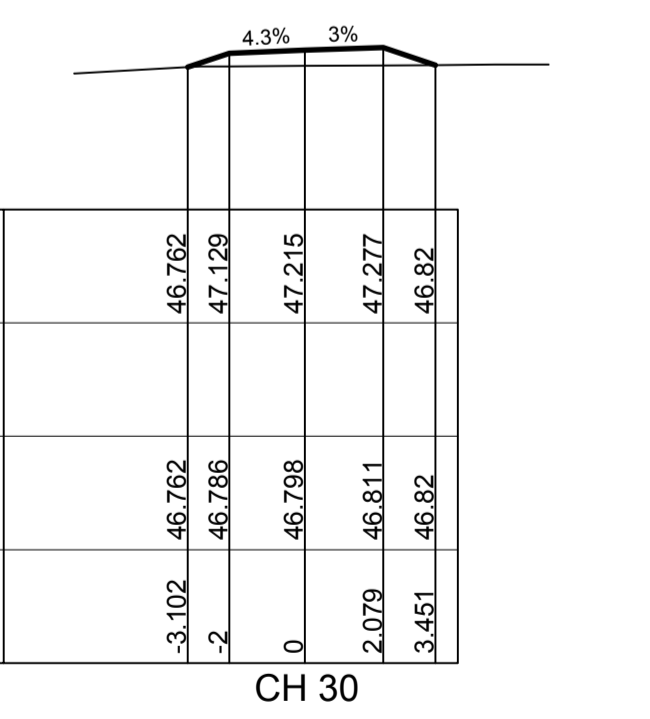
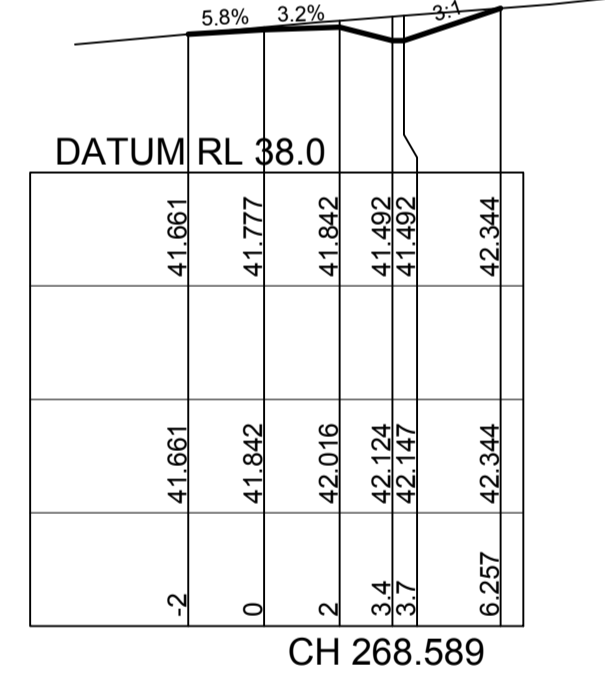
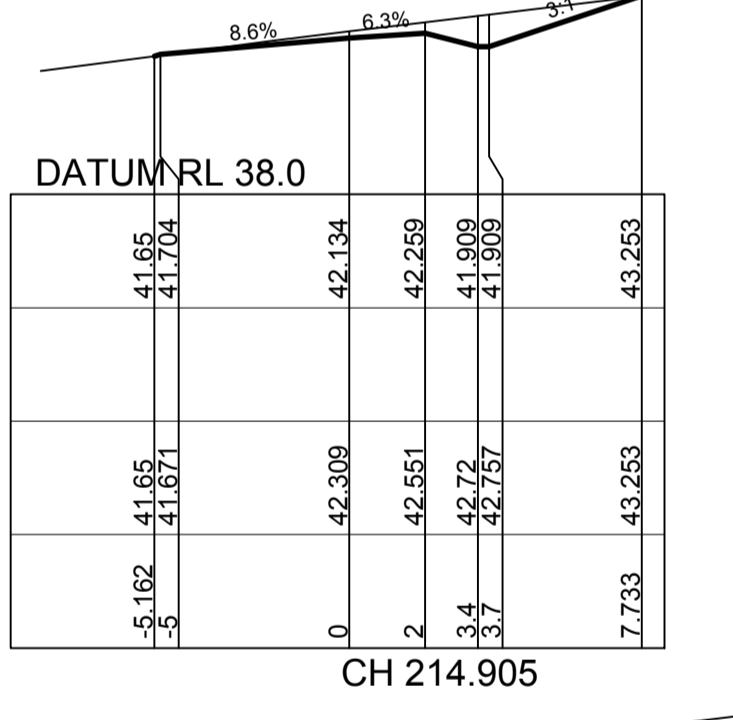
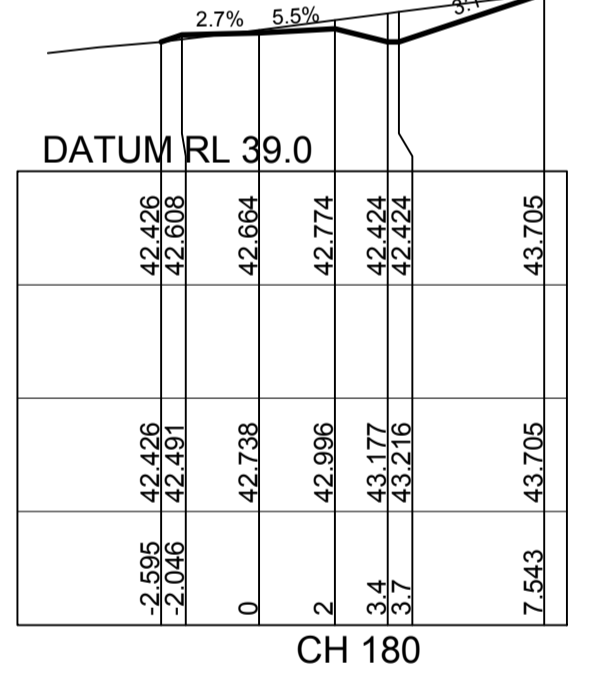
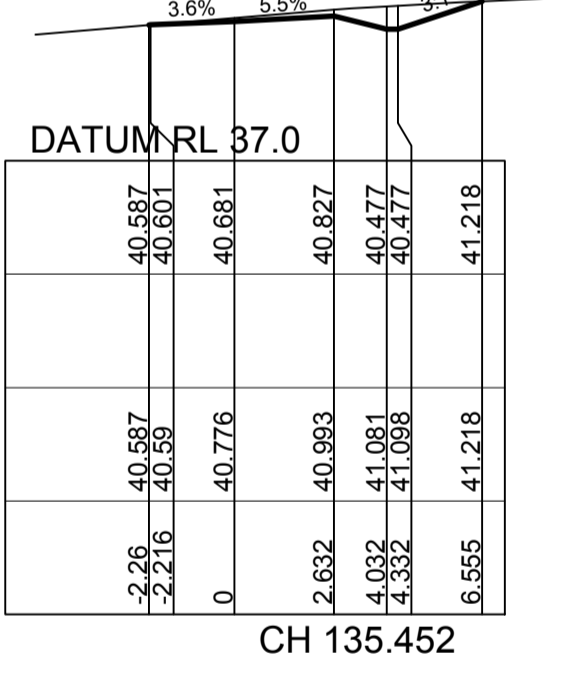
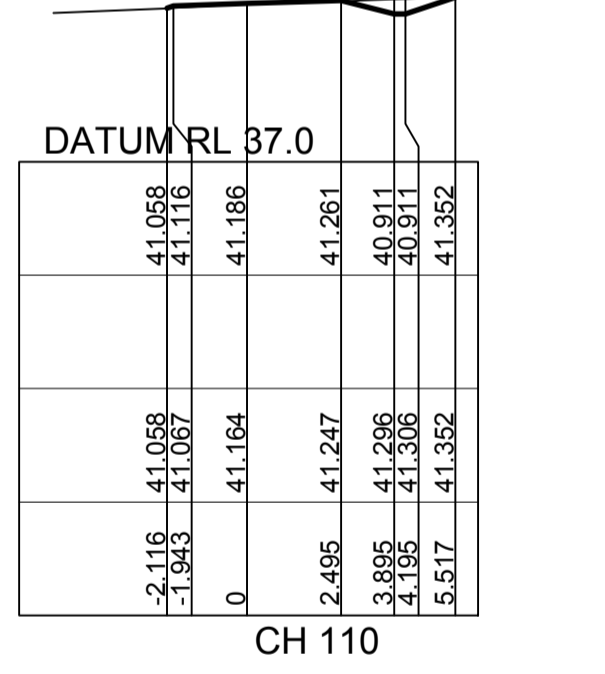
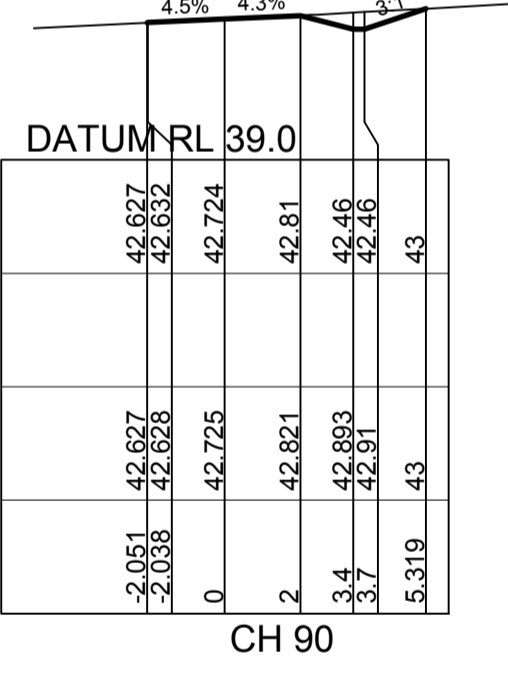
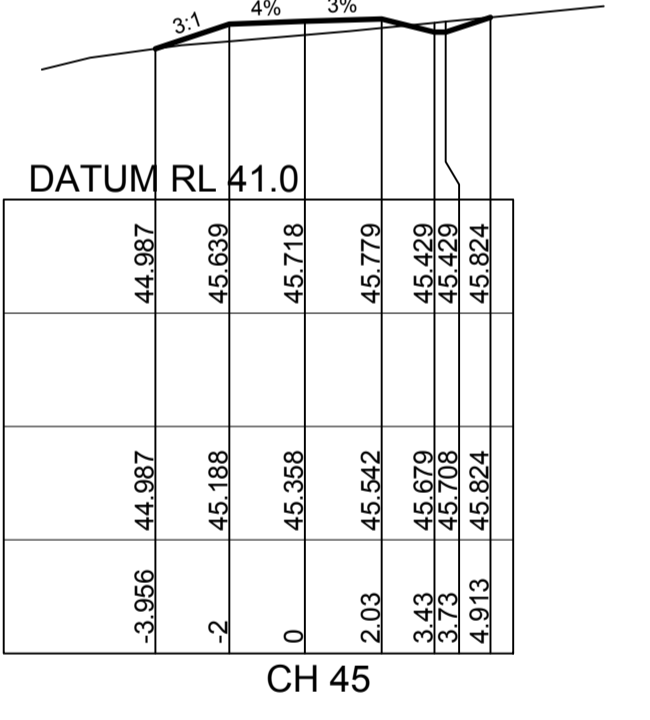
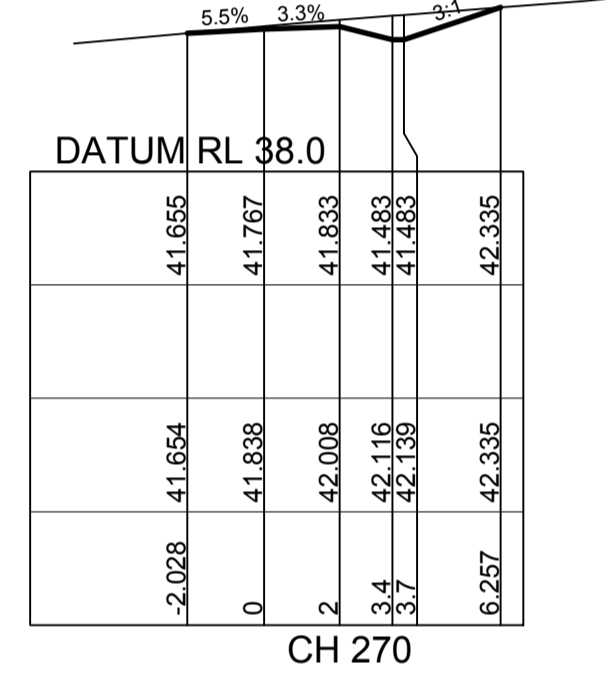
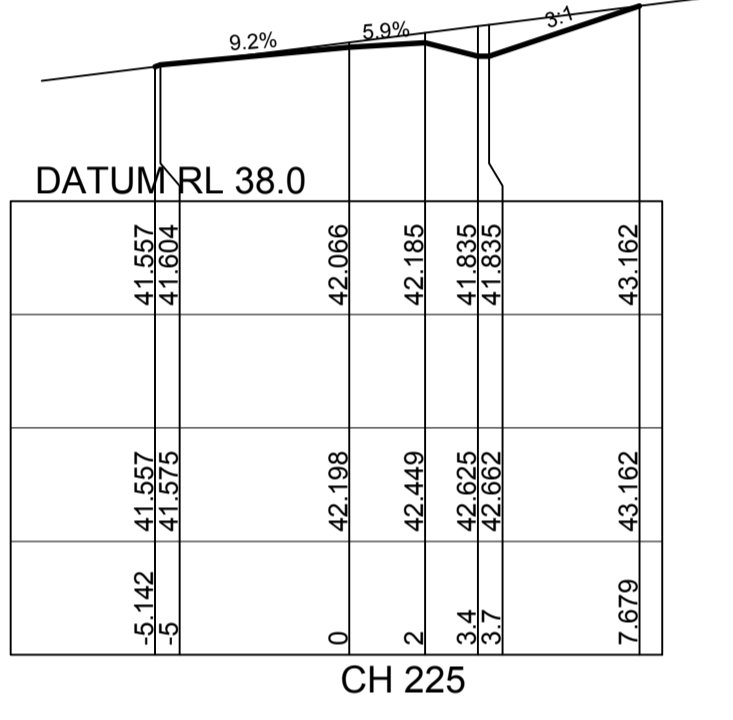
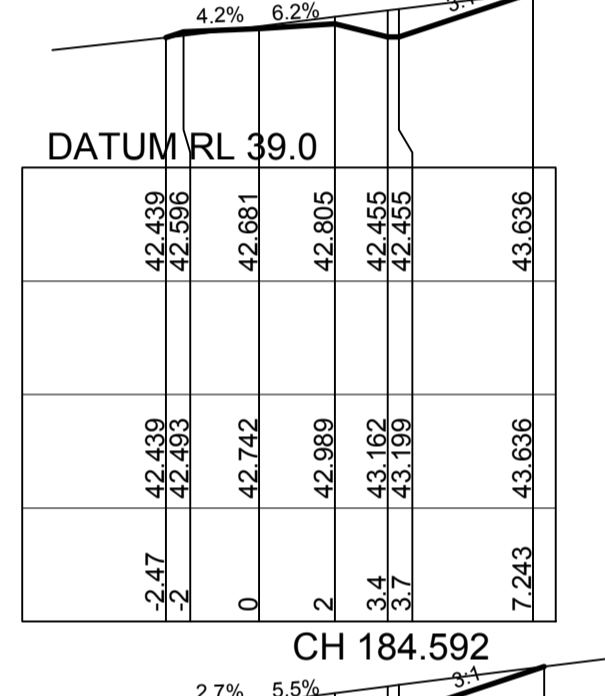
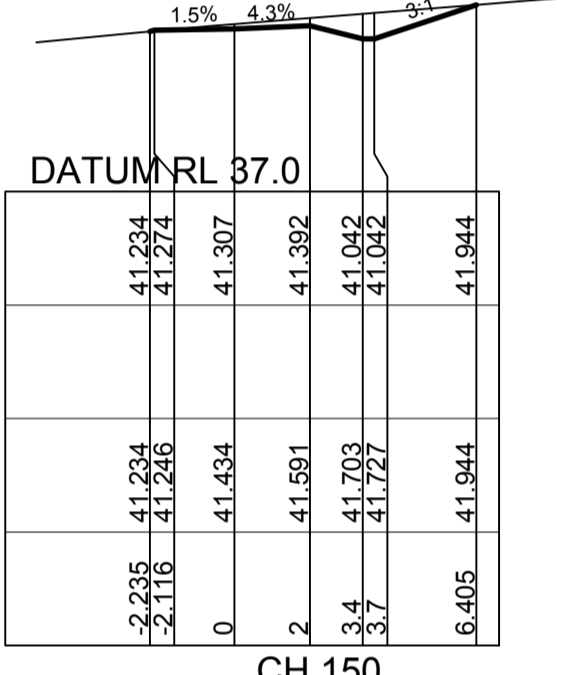
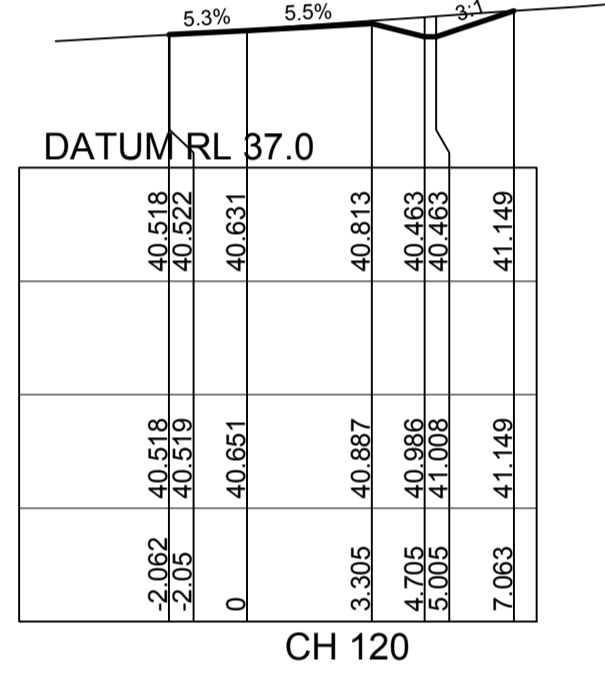
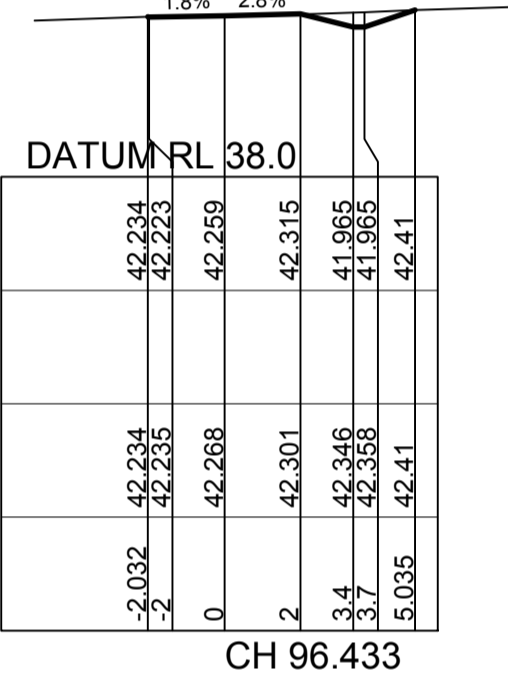
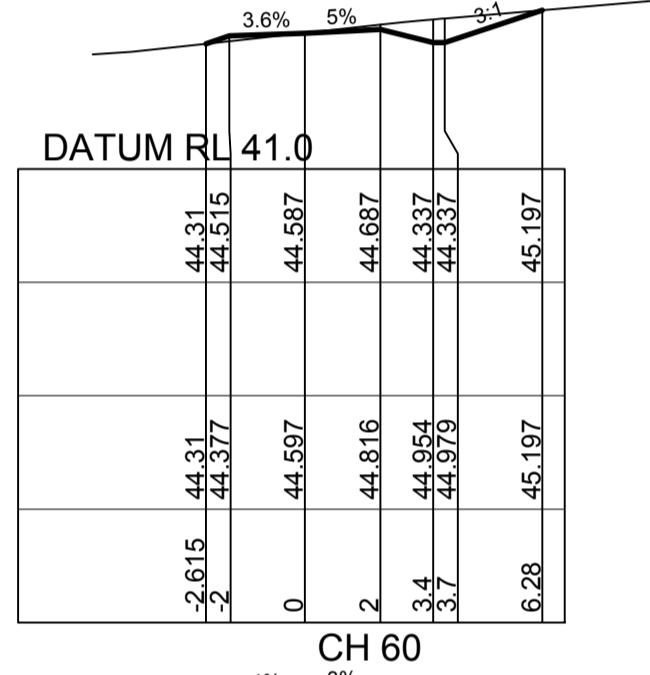
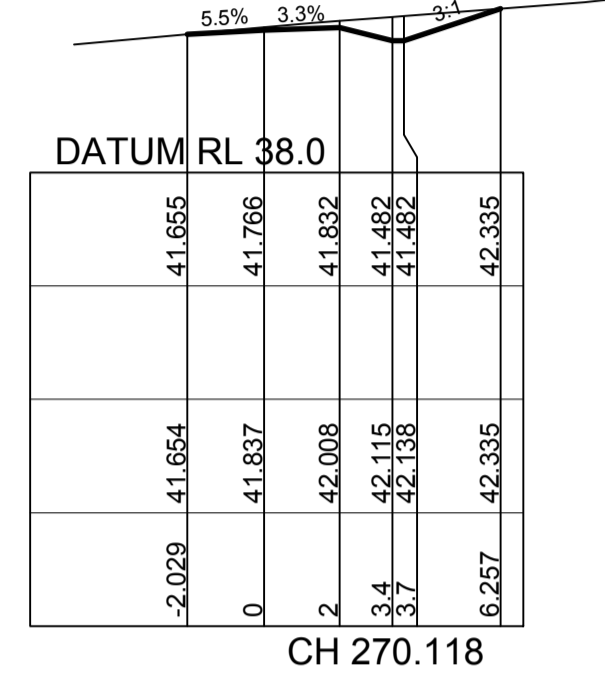
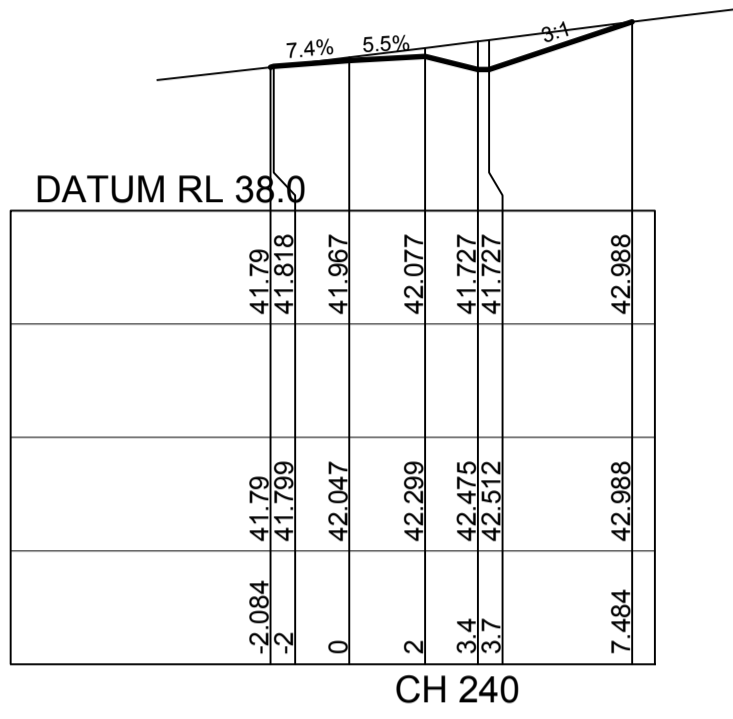
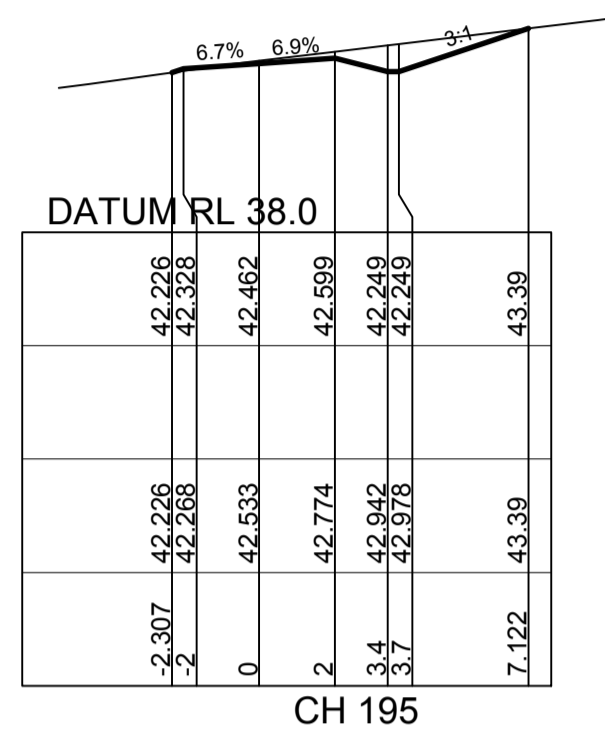
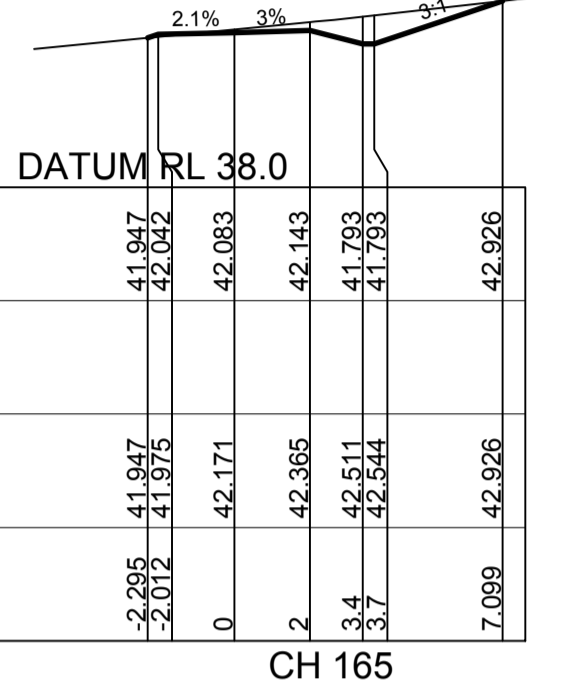
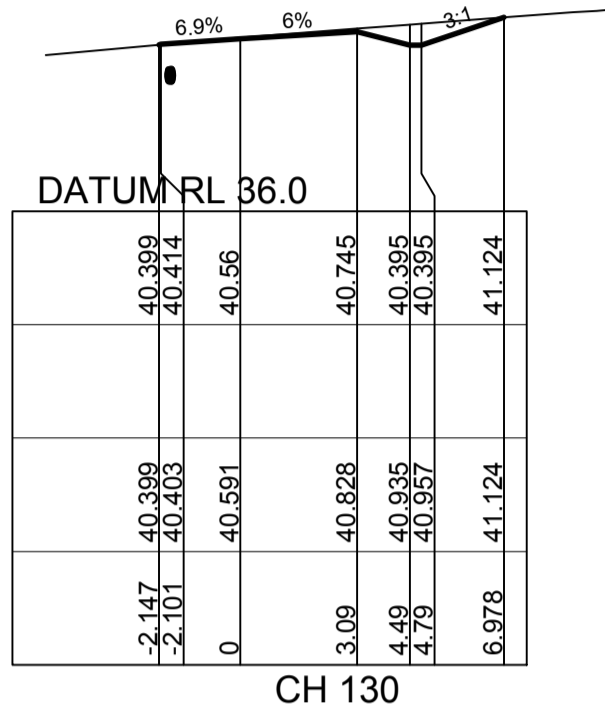
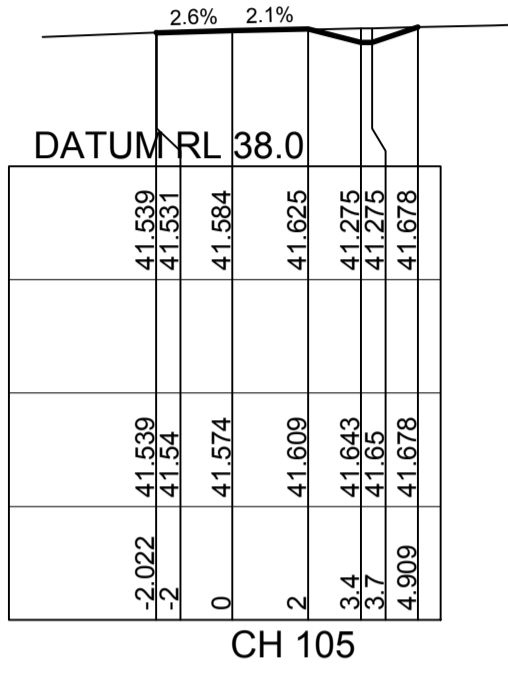
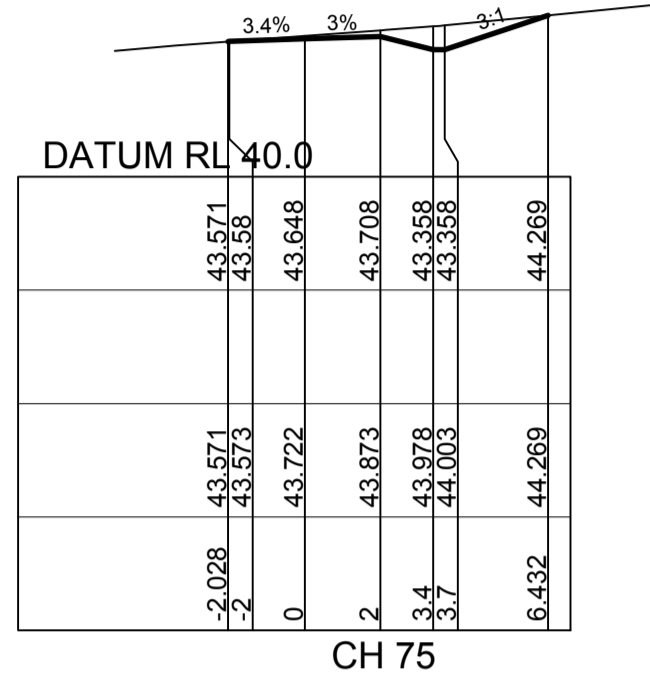
CLIENT:

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**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**  
 ROAD CROSS SECTIONS  
 SHEET 16

PLAN No:	110185BEL/CC36	<b>E</b>
FILE No:	110185BELCC36	
SHEET SIZE:	A1 ORIGINAL	



	DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
CH 30	46.762		46.762	-3.102
	47.129		46.786	-2
	47.215		46.798	0
	47.277		46.811	2.079
	46.82		46.82	3.451

**FIRE TRAIL 2**

REVISION F  
 FIRE TRAIL 2 CROSS SECTIONS AMENDED



DES	DRN	CKD	APR	DATE
MP	MG	RO	MS	18/07/17
MP	NA	MS	MS	13/02/17
D	MP	MG	RO	27/09/16
C	MP	MG	RO	29/07/16
B	MP	MG	MS	13/07/16
A	MP	MG	RO	21/06/16

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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: **REDBANK NORTH RICHMOND**  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**  
 ROAD CROSS SECTIONS  
 SHEET 17

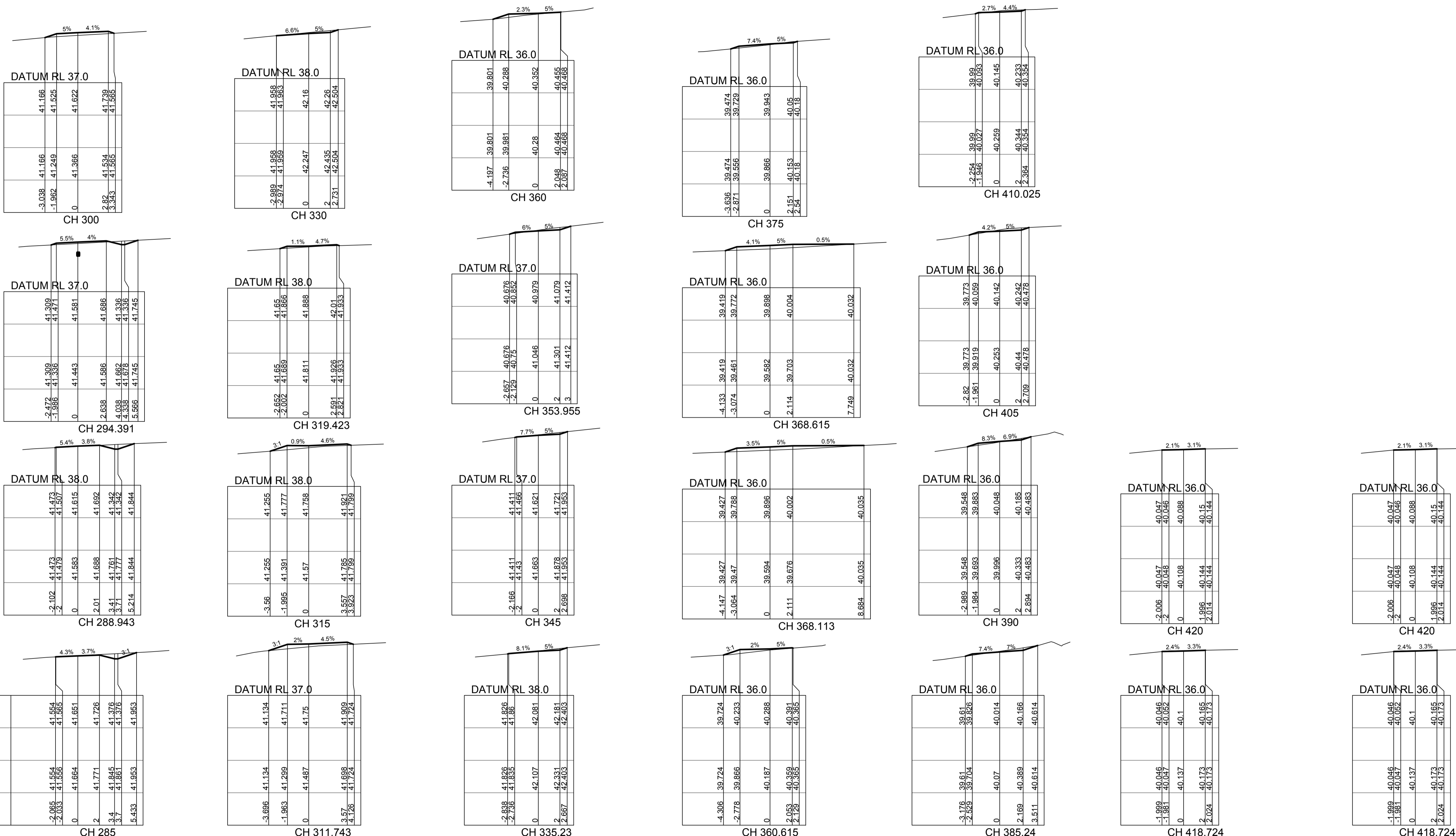
PLAN No: 110185BEL/CC37 **F**  
 FILE No: 110185BELCC37  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:13:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CBELMONT\110185BELCC37.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017



DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
41.554		41.554	-2.065
41.526		41.556	-2.033
41.622		41.684	0
41.622		41.771	2
41.739		41.845	3.4
41.688		41.861	3.7
41.688		41.953	5.433

FIRE TRAIL 2

REVISION F  
 FIRE TRAIL 2 CROSS SECTIONS AMENDED



Plotted: 18 July 2017 5:13:35 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC38.dwg

NO	DESCRIPTION	MP	MG	RO	MS	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
E	SECTION AMENDED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

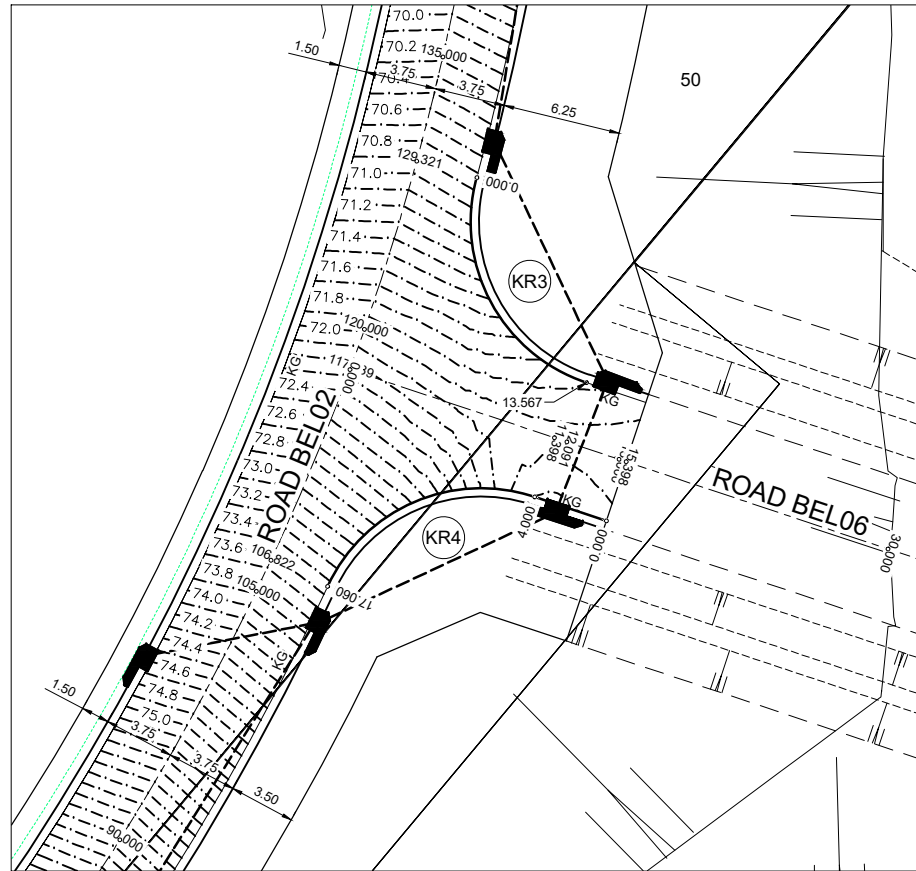
AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT: **REDBANK** NORTH RICHMOND  
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

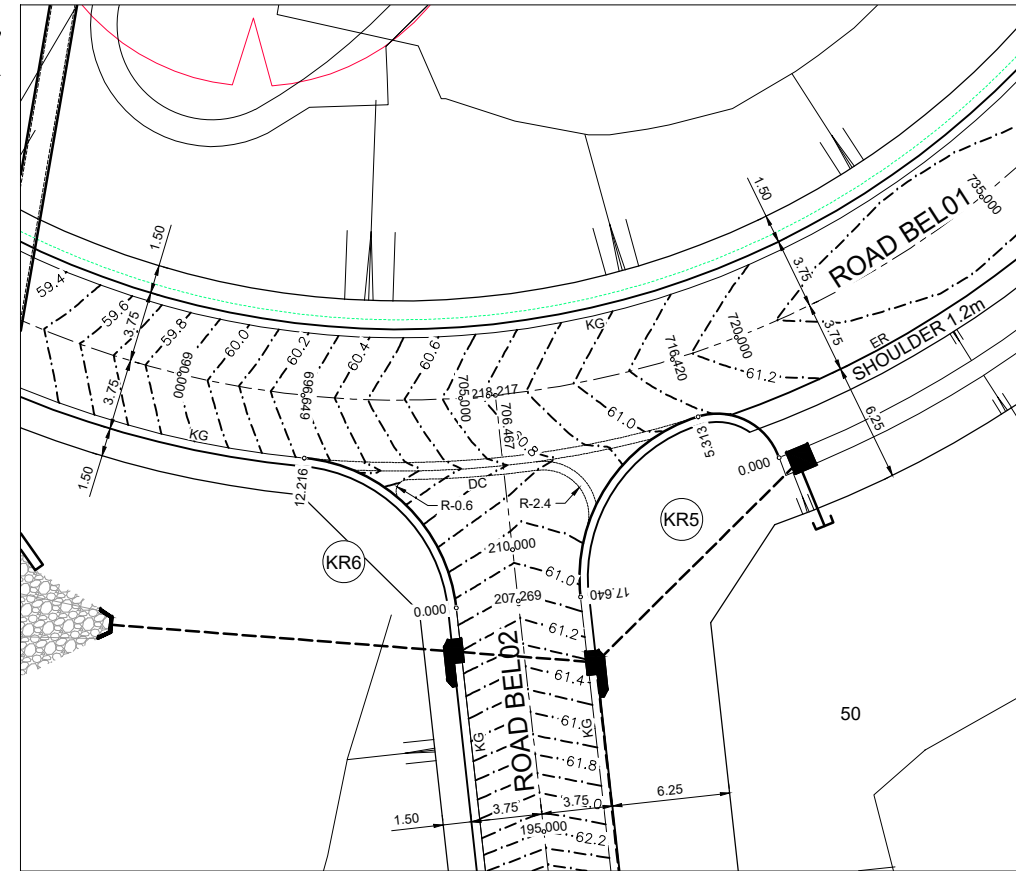
**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND BELMONT  
 ROAD CROSS SECTIONS SHEET 18

PLAN No: 110185BEL/CC38 **F**  
 FILE No: 110185BELCC38  
 SHEET SIZE: A1 ORIGINAL

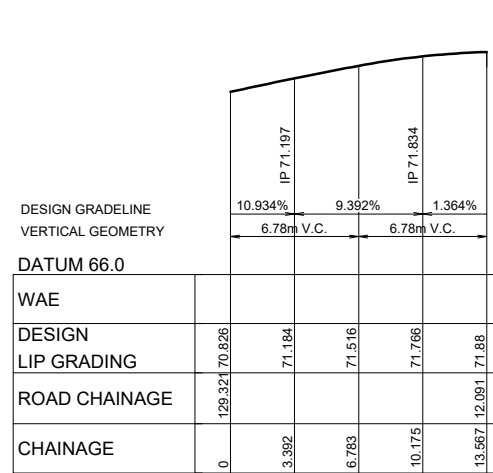


KR No.3 & 4  
SCALE 1:200

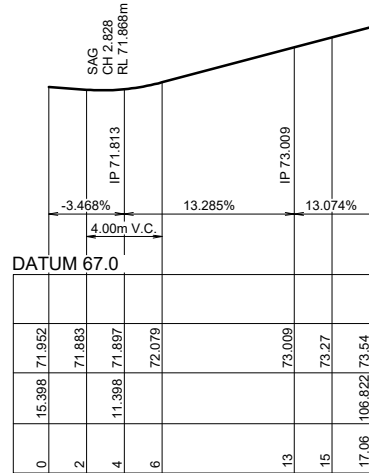


KR No.5 & 6  
SCALE 1:200

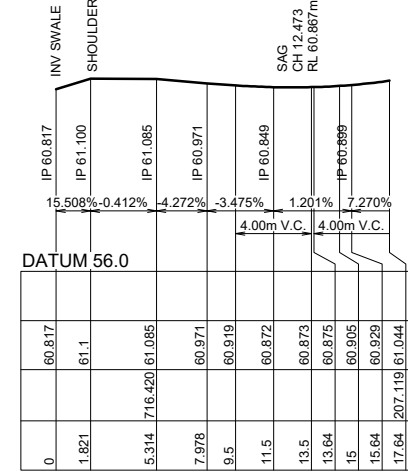
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• SETOUT TO LIP OF KERB.



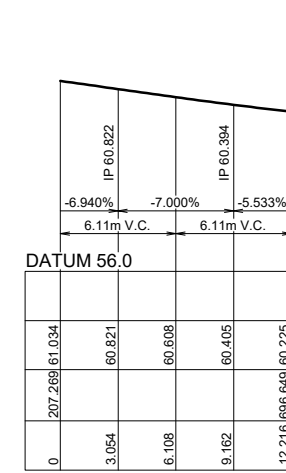
KR3  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



KR4  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



KR5  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



KR6  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

KR3						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH	D. ANGLE
0.00	285549.71	6282023.42	195°17'31.94"			
6.78	285547.48	6282018.25		-8.95	13.57	86°50'58.56"
13.57	285555.52	6282012.57	108°26'33.38"			

KR4						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH	D. ANGLE
0.00	285556.56	6282005.26	288°26'33.39"			
4.00	285552.77	6282006.53		-8.95	13.06	83°36'35.75"
10.53	285545.18	6282009.06				
17.06	285541.82	6282001.80	204°49'57.73"			

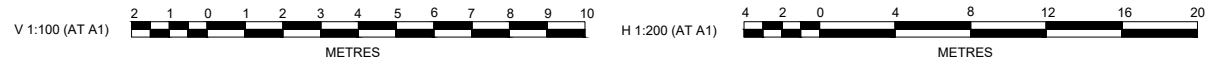
KR5						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH	D. ANGLE
0.00	285561.32	6282109.20	340°49'03.15"			
2.66	285560.22	6282112.36		-3.45	5.31	88°14'35.95"
5.31	285557.03	6282111.36				
11.48	285550.00	6282109.15		-8.95	12.33	78°54'34.27"
17.64	285550.81	6282101.83	173°39'54.15"			

KR6						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH	D. ANGLE
0.00	285544.24	6282101.25	353°39'54.15"			
6.11	285543.43	6282108.48		-8.95	12.22	78°12'19.78"
12.22	285536.19	6282109.18	275°27'34.38"			

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. JEPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017

REVISION E  
 • KERB RETURNS 3, 4, 5 & 6 PROFILES AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

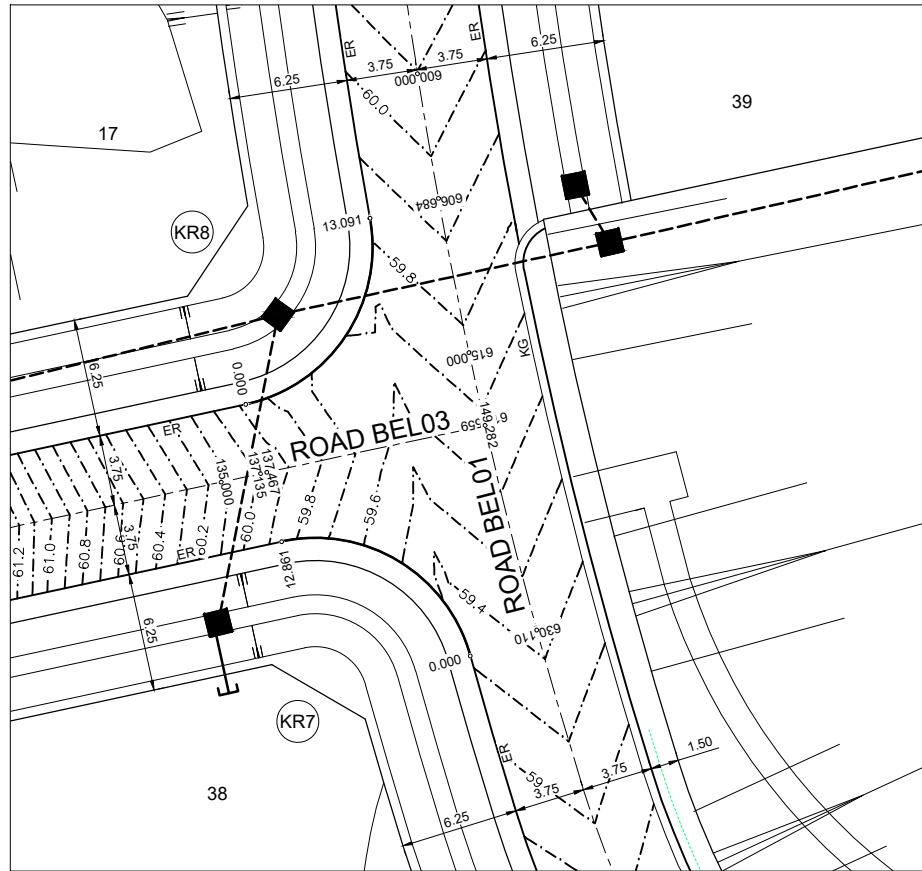
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: REDBANK NORTH RICHMOND  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

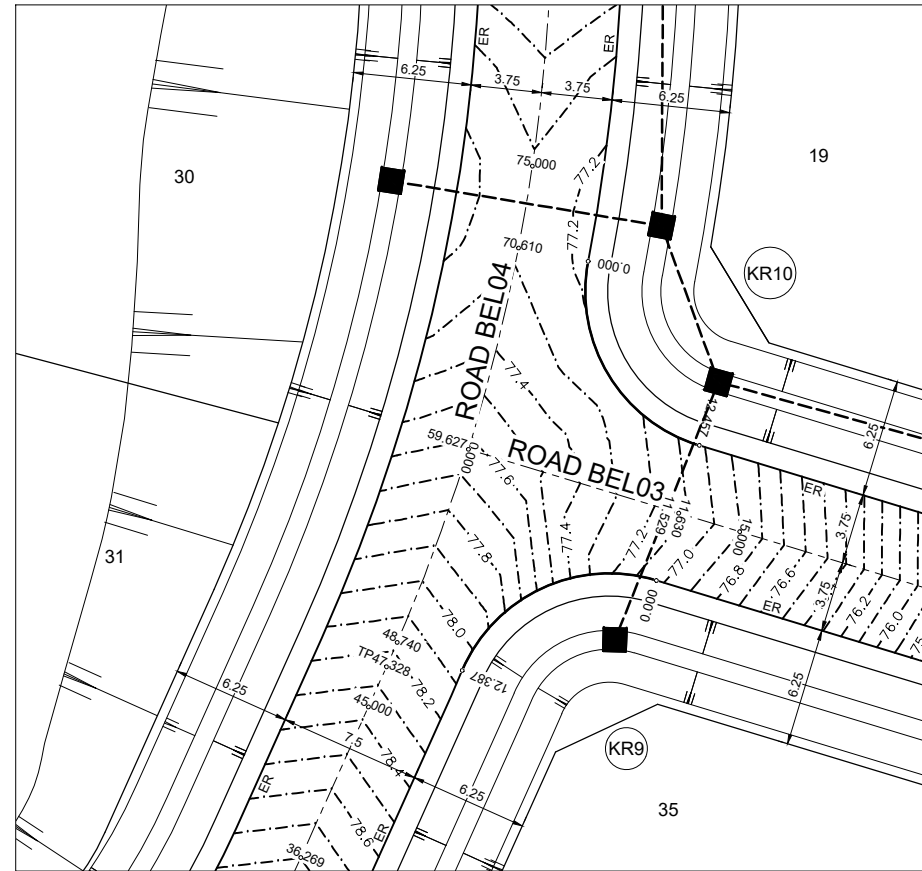
**ISSUED FOR CONSTRUCTION APPROVAL**  
 REDBANK, NORTH RICHMOND BELMONT  
 KERB RETURN PLAN & SECTIONS SHEET 1  
 PLAN No: 110185BEL/CC55 E  
 FILE No: 110185BELCC55  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:49:59 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC55.dwg

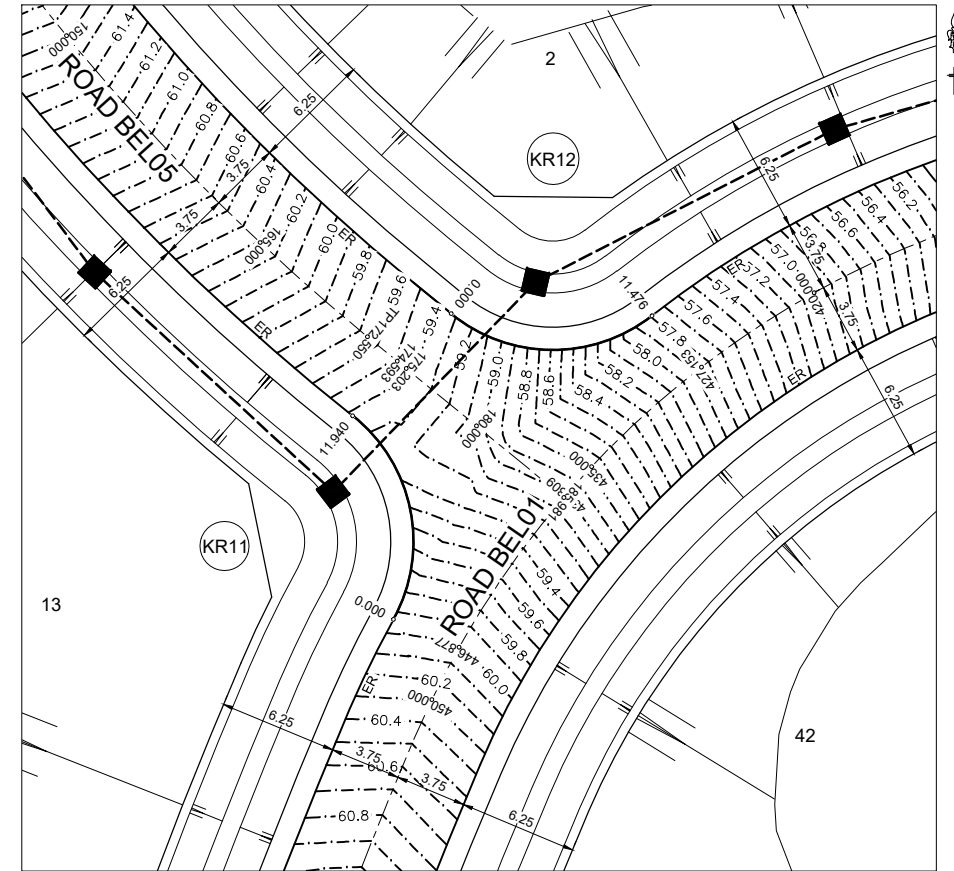




KR No.7 & 8  
SCALE 1:200



KR No.9 & 10  
SCALE 1:200



KR No.11 & 12  
SCALE 1:200

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017

**NOTES:**  
• SETOUT TO EDGE RESTRAINT FACE WITH PAVEMENT.

DESIGN GRADELINE	2.169%	3.928%	6.745%
VERTICAL GEOMETRY	6.43m V.C.		6.43m V.C.
DATUM 55.0			
WAE			
DESIGN			
LIP GRADING			
ROAD CHAINAGE			
CHAINAGE			

KR7  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285487.96	6282154.12	344°33'16.71"			
6.43	285485.82	6282161.85		-8.5	12.86	86°41'24.21"
12.86	285477.98	6282160.17	257°51'52.50"			

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285476.08	6282167.43	77°51'52.50"			
6.55	285484.14	6282169.16		-8.5	13.09	88°14'31.87"
13.09	285482.65	6282177.27	349°37'20.63"			

DESIGN GRADELINE	-7.203%	1.811%	2.169%
VERTICAL GEOMETRY	6.55m V.C.		6.55m V.C.
DATUM 55.0			
WAE			
DESIGN			
LIP GRADING			
ROAD CHAINAGE			
CHAINAGE			

KR8  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DESIGN GRADELINE	6.216%	11.182%	4.819%
VERTICAL GEOMETRY	6.19m V.C.		6.19m V.C.
DATUM 73.0			
WAE			
DESIGN			
LIP GRADING			
ROAD CHAINAGE			
CHAINAGE			

KR9  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285352.70	6282159.06	286°52'19.18"			
6.19	285345.44	6282161.26		-8.5	12.39	83°29'52.72"
12.39	285342.43	6282154.30	203°22'26.45"			

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285349.09	6282175.94	190°50'36.30"			
6.23	285347.65	6282168.43		-8.5	12.46	83°58'17.12"
12.46	285354.97	6282166.21	106°52'19.18"			

DESIGN GRADELINE	1.000%	-6.831%
VERTICAL GEOMETRY	6.00m V.C.	
DATUM 73.0		
WAE		
DESIGN		
LIP GRADING		
ROAD CHAINAGE		
CHAINAGE		

KR10  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DESIGN GRADELINE	-8.008%	-9.409%	8.210%
VERTICAL GEOMETRY	5.97m V.C.		5.97m V.C.
DATUM 55.0			
WAE			
DESIGN			
LIP GRADING			
ROAD CHAINAGE			
CHAINAGE			

KR11  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

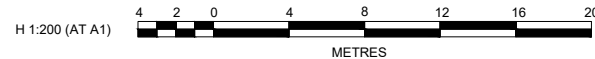
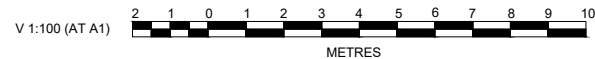
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285502.17	6282335.92	28°52'56.48"			
5.97	285505.64	6282342.22		-8.5	11.94	80°29'07.86"
11.94	285500.01	6282346.69	308°23'48.62"			

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285505.22	6282352.10	129°18'03.35"			
5.74	285510.49	6282347.79		-8.5	11.48	77°21'18.91"
11.48	285515.84	6282351.98	51°56'44.45"			

DESIGN GRADELINE	-8.177%	-17.296%	-10.856%
VERTICAL GEOMETRY	5.74m V.C.		5.74m V.C.
DATUM 53.0			
WAE			
DESIGN			
LIP GRADING			
ROAD CHAINAGE			
CHAINAGE			

KR12  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

REVISION F  
• KERB RETURNS 7, 8, 9, 10, 11 & 12 PROFILES AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:



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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
BELMONT

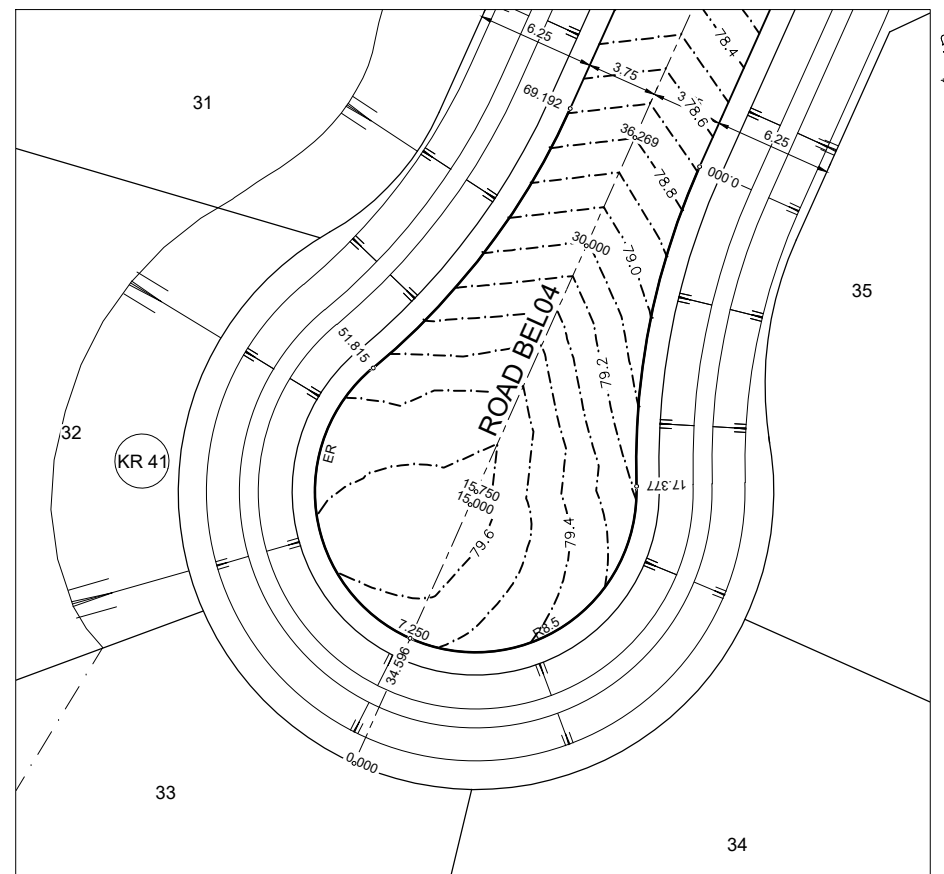
KERB RETURN PLAN  
& SECTIONS SHEET 2

PLAN No: 110185BEL/CC56 **F**

FILE No: 110185BELCC56

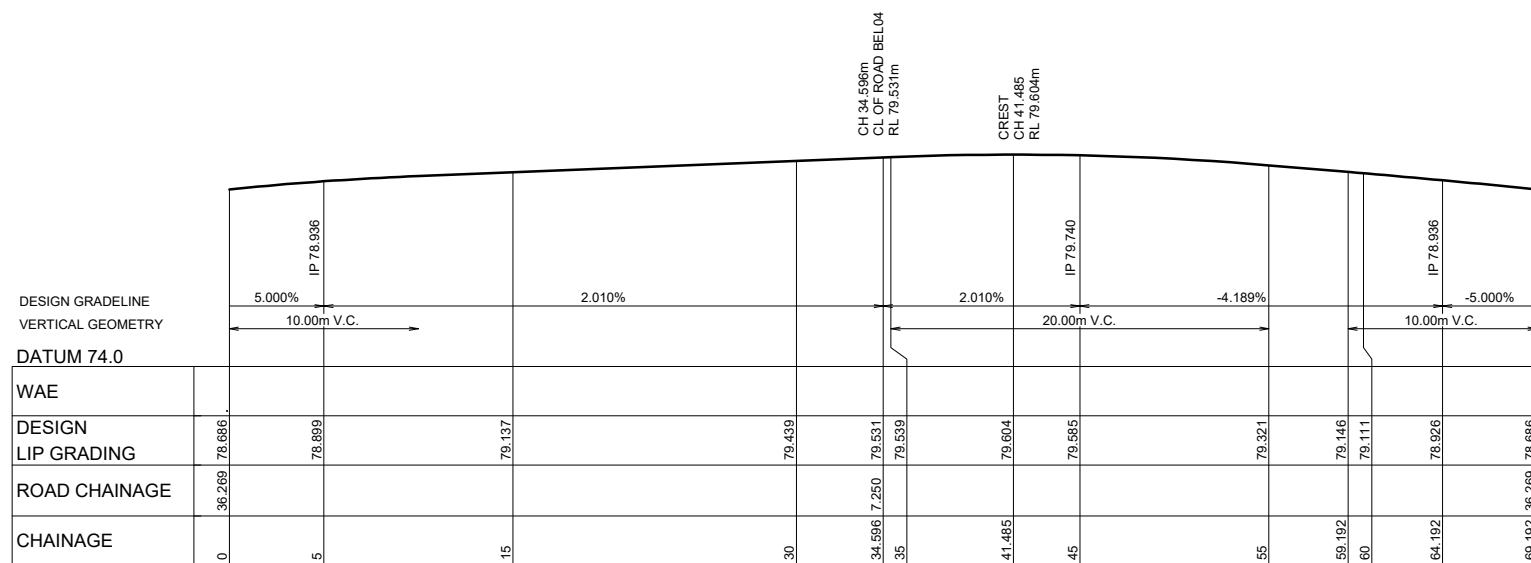
SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:48:24 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC57.dwg



KR No.41  
SCALE 1:200

NOTES:  
• SETOUT TO EDGE RESTRAINT FACE WITH PAVEMENT.



KR 41  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

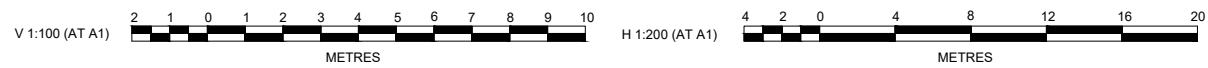
KR 41							
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D. ANGLE	
0.00	285337.31	6282142.87	204°10'58.08"				
8.69	285333.68	6282134.80		-38.19	17.38	26°04'04.31"	
17.38	285333.97	6282125.97					
25.99	285334.42	6282112.35		8.5	17.22	116°04'04.31"	
34.60	285322.00	6282117.93	294°10'58.17"				
43.21	285309.57	6282123.51		8.5	17.22	116°04'04.31"	
51.82	285320.04	6282132.22					
60.50	285326.84	6282137.68		-38.19	17.38	26°04'04.31"	
69.19	285330.46	6282145.94	24°10'58.27"				

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer *[Signature]*  
Accreditation No. BPB0565

These plans/specifications form part of the certificate  
issued 31 July 2017

REVISION F  
• KERB RETURN 41 PROFILE AMENDED



NO.	DESCRIPTION	MP	MG	RO	MS	DATE
F	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
	KERB RETURN 41 UPDATED	MP	NA	MS	MS	13/02/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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CLIENT: **REDBANK** NORTH RICHMOND

AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

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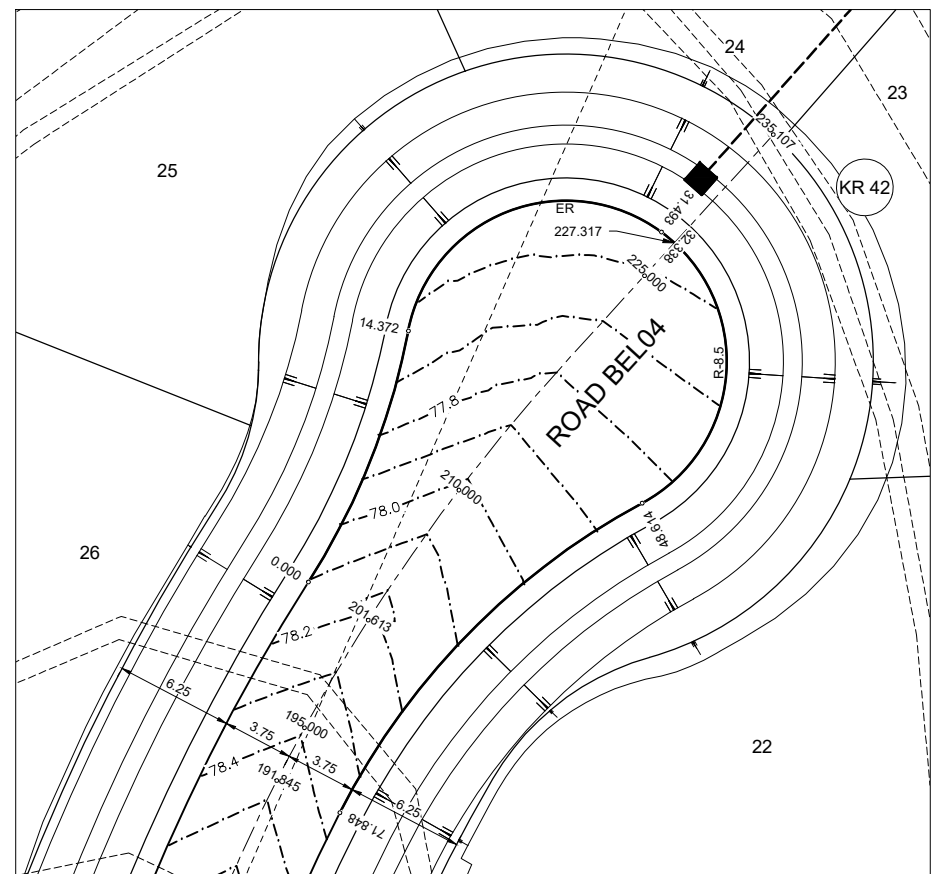
ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND  
BELMONT**

KERB RETURN PLAN  
& SECTIONS SHEET 3

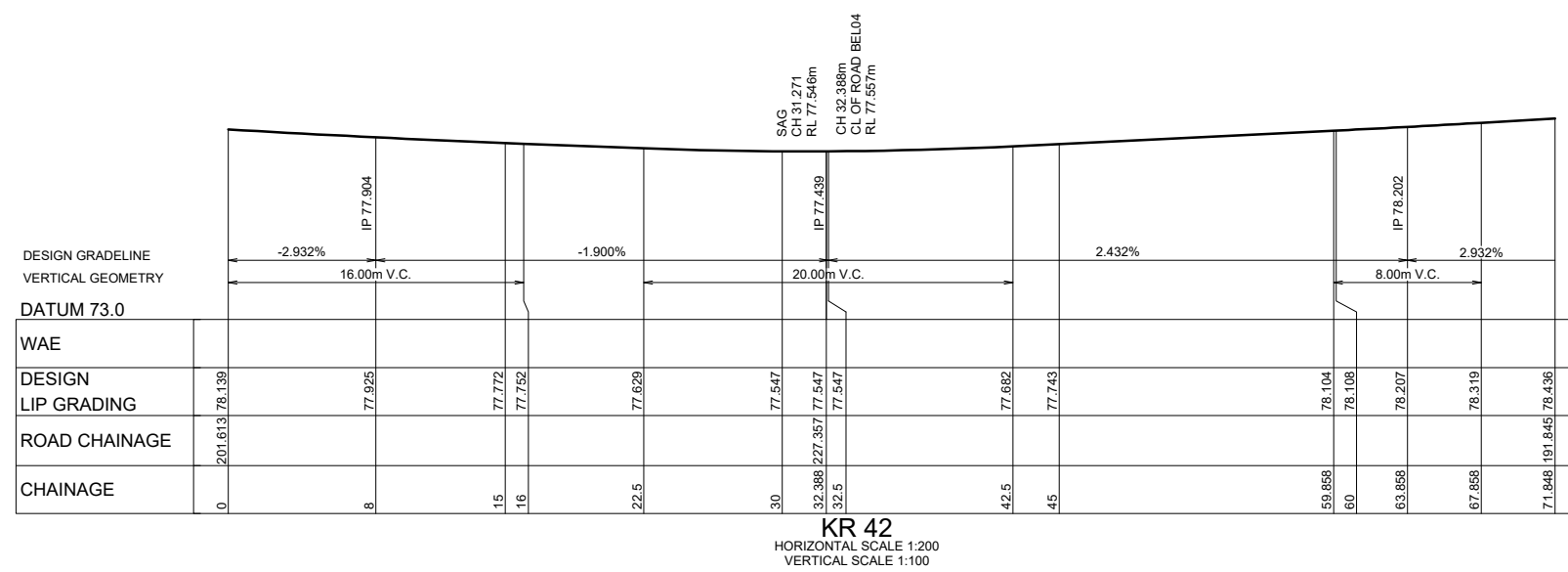
PLAN No: <b>110185BEL/CC57</b>	<b>F</b>
FILE No: 110185BELCC57	
SHEET SIZE: A1 ORIGINAL	

Plotted: 18 July 2017 5:47:56 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC58.dwg



KR No.42  
SCALE 1:200

NOTES:  
• SETOUT TO EDGE RESTRAINT FACE WITH PAVEMENT.



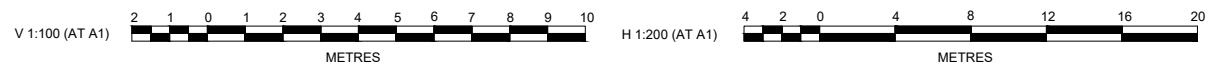
KR 42  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DESIGN GRADELINE	VERTICAL GEOMETRY	WAE	DESIGN LIP GRADING	ROAD CHAINAGE	CHAINAGE
-2.932%	16.00m V.C.			0	0
		77.925		8	8
		77.772		15	15
		77.752		16	16
-1.900%		77.629		22.5	22.5
		77.547		30	30
		77.547		32.388	32.388
		77.547		32.5	32.5
2.432%		77.682		42.5	42.5
		77.743		45	45
		78.104		59.658	59.658
		78.108		60	60
		78.207		63.658	63.658
2.932%	8.00m V.C.	78.219		67.658	67.658
		78.436		71.848	71.848

KR 42						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D ANGLE
0.00	285352.10	6282305.85	32°30'46.69"			
7.19	285356.00	6282311.98		-38.19	14.37	21°33'34.63"
14.37	285357.39	6282319.12	10°57'12.05"			
22.93	285359.94	6282332.33		8.5	17.12	115°24'29.40"
31.49	285370.77	6282324.35	126°21'41.45"			
40.05	285381.60	6282316.38		8.5	17.12	115°24'29.40"
48.61	285369.75	6282310.02	241°46'10.85"			
60.23	285359.19	6282304.35		-38.19	23.23	34°51'11.93"
71.85	285353.76	6282293.66	206°54'58.92"			

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017

REVISION E  
• KERB RETURN 42 PROFILE AMENDED



REVISION	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

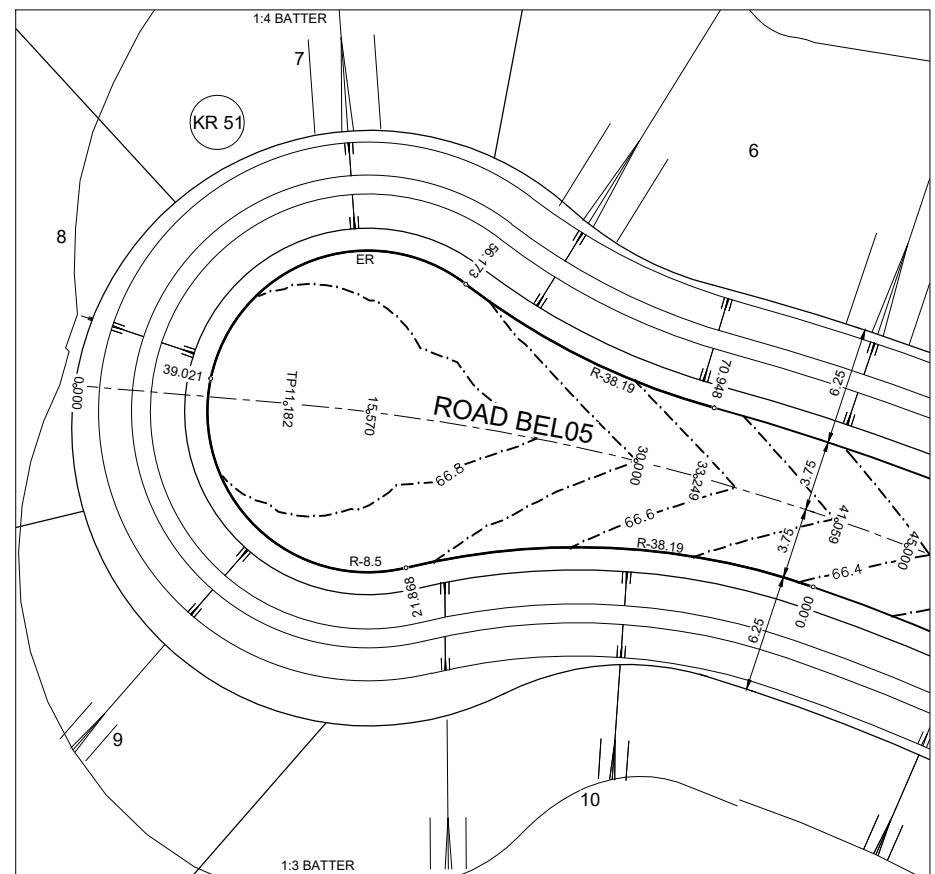
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT: **REDBANK** NORTH RICHMOND  
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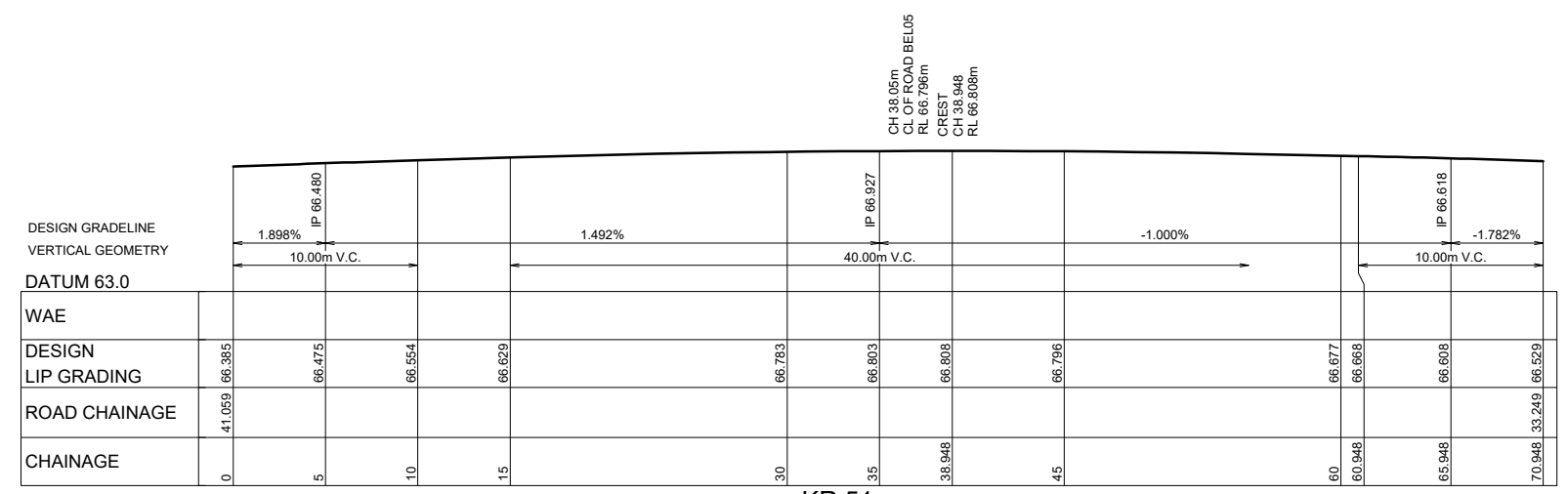
**ISSUED FOR CONSTRUCTION APPROVAL**  
 REDBANK, NORTH RICHMOND BELMONT  
 KERB RETURN PLAN & SECTIONS SHEET 4  
 PLAN No: 110185BEL/CC58  
 FILE No: 110185BELCC58  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:47:36 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC59.dwg

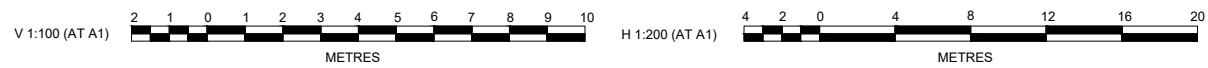


**KR No.51**  
SCALE 1:200

**NOTES:**  
• SETOUT TO EDGE RESTRAINT FACE WITH PAVEMENT.



KR 51						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285406.08	6282435.97	289°05'04.87"			
10.93	285395.46	6282439.64		-38.19	21.87	32°48'17.44"
21.87	285384.54	6282436.98	256°16'47.42"			
30.44	285371.42	6282433.77		8.5	17.15	115°37'11.19"
39.02	285374.20	6282446.99	11°53'58.62"			
47.60	285376.99	6282460.20		8.5	17.15	115°37'11.19"
56.17	285387.70	6282451.98	127°31'09.81"			
63.56	285393.63	6282447.42		-38.19	14.77	22°09'48.93"
70.95	285400.84	6282445.44	105°21'20.88"			



**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPPB0565  
These plans/specifications form part of the certificate  
Issued 31 July 2017

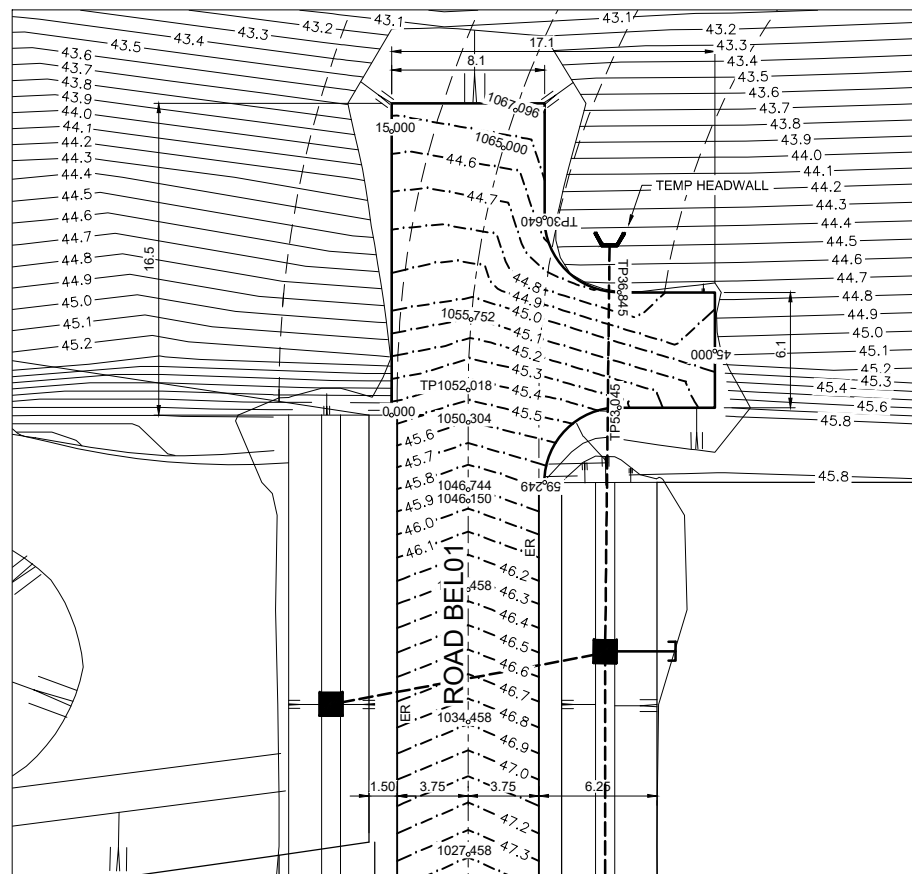
AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND  
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

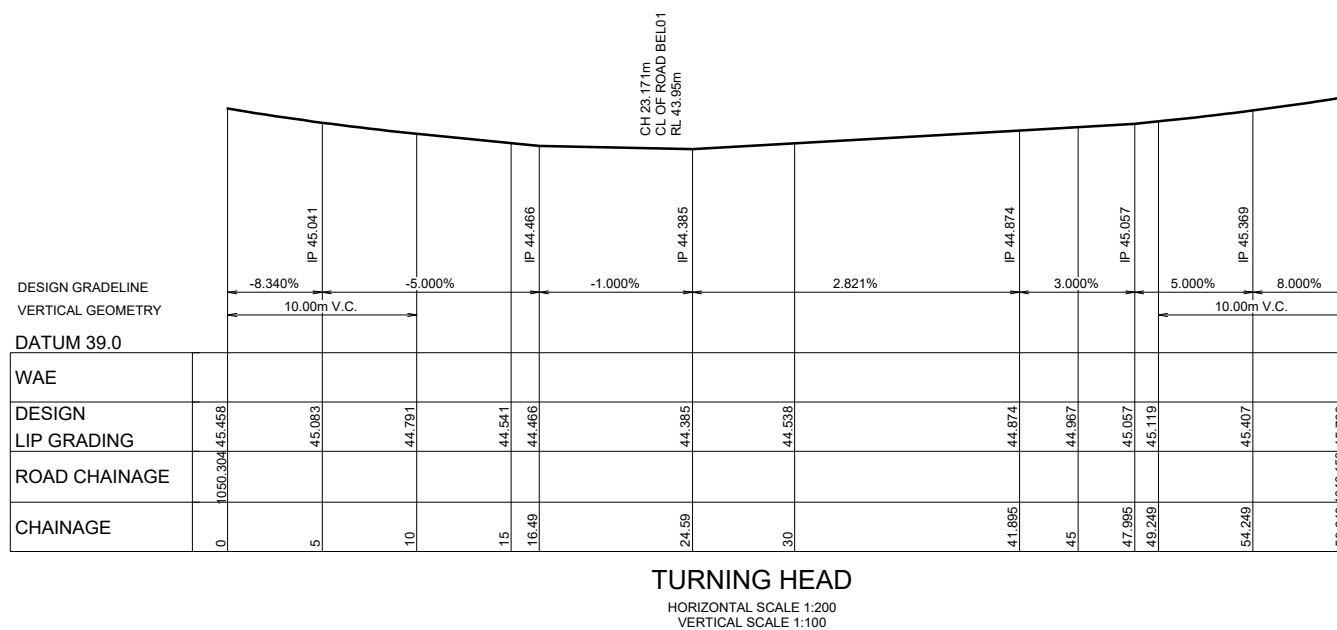
**ISSUED FOR CONSTRUCTION APPROVAL**  
**REDBANK, NORTH RICHMOND BELMONT**  
KERB RETURN PLAN & SECTIONS SHEET 5  
PLAN No: **110185BEL/CC59** E  
FILE No: 110185BELCC59  
SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:47:15 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC60.dwg



**TURNING HEAD**  
SCALE 1:200

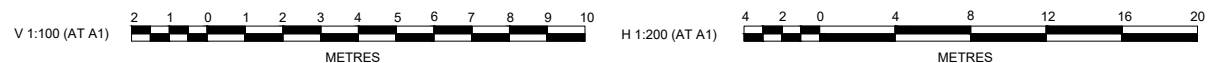
**NOTES:**  
• SETOUT TO EDGE RESTRAINT FACE WITH PAVEMENT.



**TURNING HEAD**  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

TURNING HEAD						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH	D. ANGLE
0.00	285772.09	6282367.11	39°53'15.04"			
16.49	285782.67	6282379.77				
24.59	285788.88	6282374.57				
30.64	285785.00	6282369.93	219°53'15.04"			
33.74	285782.47	6282366.90				
36.84	285785.50	6282364.37	129°53'13.00"			
41.89	285789.37	6282361.13				
47.99	285785.46	6282356.45				
53.04	285781.59	6282359.69	309°53'13.00"			
56.15	285778.56	6282362.22				
59.25	285776.02	6282359.19	219°53'13.00"			

**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130292C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BP80565  
These plans/specifications form part of the certificate issued 31 July 2017



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

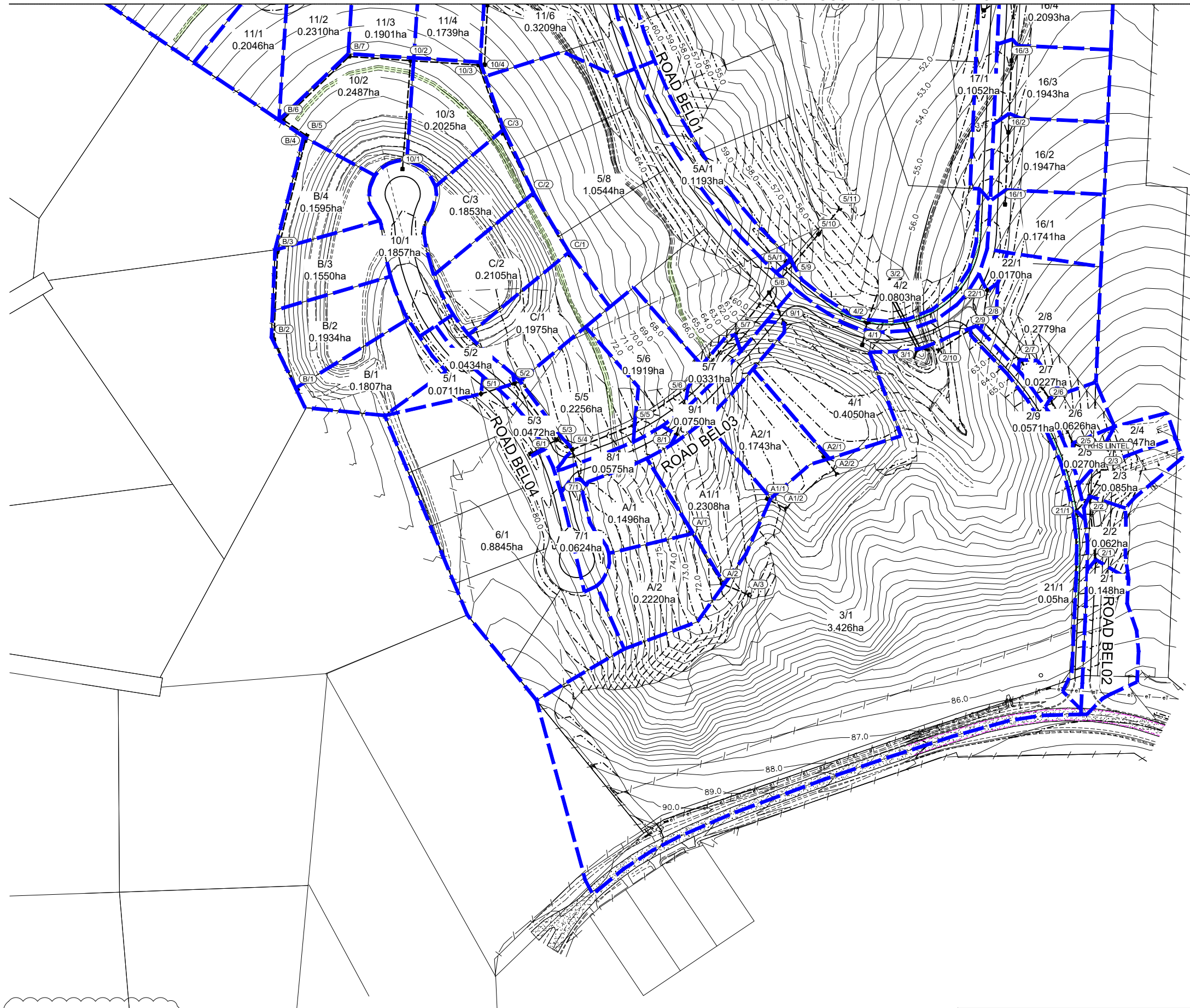
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

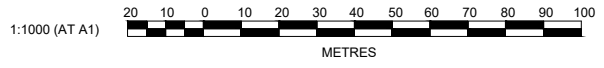
CLIENT: **REDBANK** NORTH RICHMOND  
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**ISSUED FOR CONSTRUCTION APPROVAL**  
REDBANK, NORTH RICHMOND BELMONT  
KERB RETURN PLAN & SECTIONS SHEET 6  
PLAN No: 110185BEL/CC60 [E]  
FILE No: 110185BELCC60  
SHEET SIZE: A1 ORIGINAL

REFER TO DRAWING 110185BELCC62 FOR CONTINUATION



REVISION E  
 • FIRE TRAIL 1 ALIGNMENT AMENDED  
 • DESIGN SURFACE & BATTER INTERFACE AMENDED



**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPP0565  
 These plans/specifications form part of the certificate issued 31 July 2017

Plotted: 18 July 2017 5:49:28 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC61.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

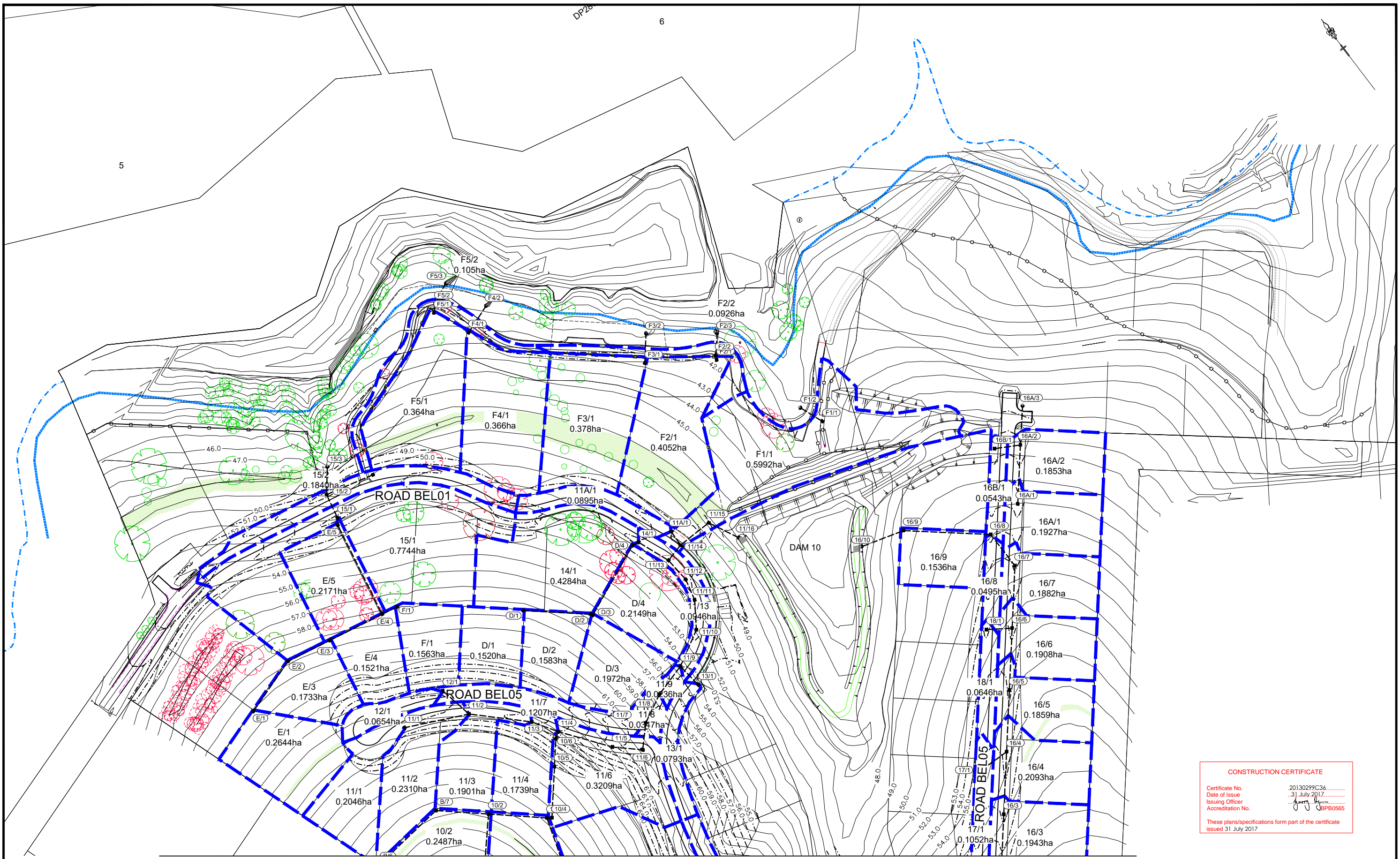
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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**ISSUED FOR CONSTRUCTION APPROVAL**  
 REDBANK, NORTH RICHMOND  
 BELMONT  
 CATCHMENT PLAN  
 SHEET 1

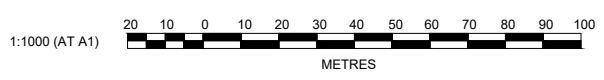
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FILE No:	110185BELCC61	
SHEET SIZE:	A1 ORIGINAL	



REFER TO DRAWING 110185BELCC61 FOR CONTINUATION

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 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
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 Accreditation No. BPB0565  
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**REVISION E**  
 • FIRE TRAIL 2 ALIGNMENT AMENDED  
 • DESIGN SURFACE & BATTER INTERFACE AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND  
 AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 CATCHMENT PLAN  
 SHEET 2

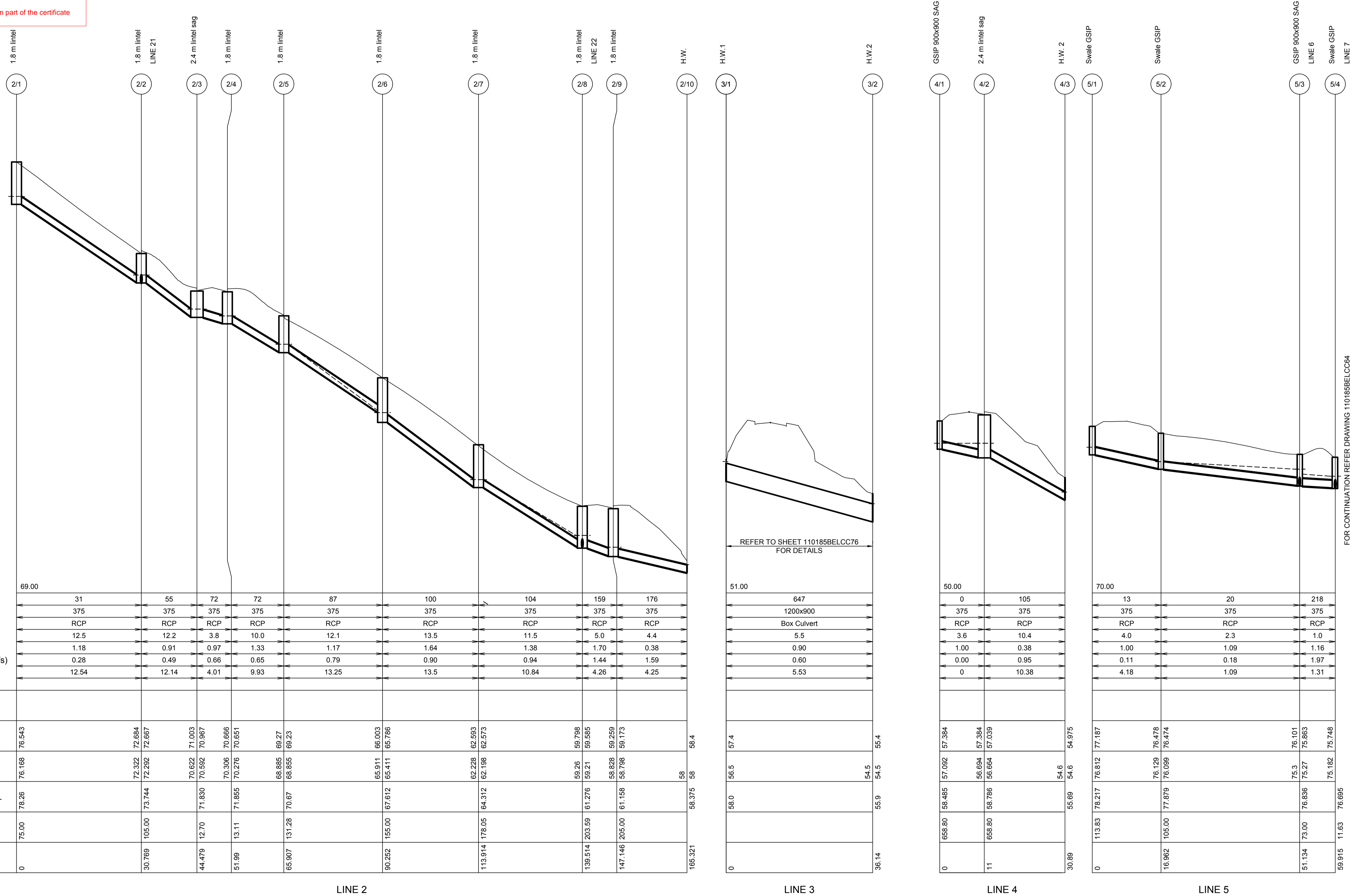
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 FILE No: 110185BELCC62  
 SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:51:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC62.dwg

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Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

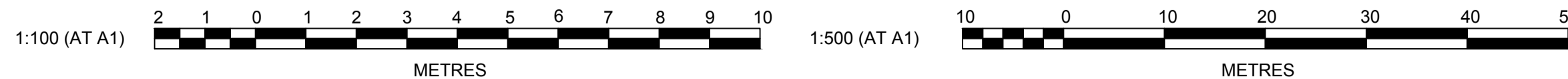
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DATUM (m)	69.00
PEAK FLOW (L/s)	31
PIPE SIZE (mm)	375
PIPE CLASS	RCP
PIPE GRADE (%)	12.5
PIPE COVER MINIMUM	1.18
FULL PIPE VELOCITY (m/s)	0.28
HGL GRADE (%)	12.54

WAE	2/1	2/2	2/3	2/4	2/5	2/6	2/7	2/8	2/9	2/10	3/1	3/2	4/1	4/2	4/3	5/1	5/2	5/3	5/4	
HYDRAULIC GRADE LINE	76.543	72.684	71.003	70.666	69.27	66.003	62.593	59.798	59.585	59.26	57.4	54.5	57.384	57.039	54.6	54.975	77.187	76.478	76.101	75.748
INVERT LEVEL	76.168	72.322	70.622	70.306	68.885	65.411	62.228	59.26	59.21	58.828	56.5	54.5	57.092	56.684	54.6	54.6	76.812	76.129	75.3	75.182
DESIGN SURFACE LEVEL	78.26	73.744	71.830	70.276	70.87	67.812	64.312	61.276	61.158	58.375	58.0	55.9	58.485	58.786	55.89	55.89	78.217	77.979	76.836	76.895
ROAD CHAINAGE	75.00	105.00	12.70	13.11	131.28	155.00	178.05	203.59	205.00	58.375	58.0	55.9	658.80	658.80	77.979	105.00	113.83	111.63	111.63	111.63
PIPE CHAINAGE	0	30.769	44.479	51.99	65.907	90.252	113.914	139.514	147.146	165.321	0	36.14	0	11	30.89	0	16.962	51.134	59.915	59.915

REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



Plotted: 18 July 2017 5:19:28 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC63.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
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D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 DRAINAGE LONGITUDINAL SECTIONS  
 SHEET 1

PLAN No:	110185BEL/CC63 E
FILE No:	110185BELCC63
SHEET SIZE:	A1 ORIGINAL

FOR CONTINUATION REFER DRAWING 110185BELCC64

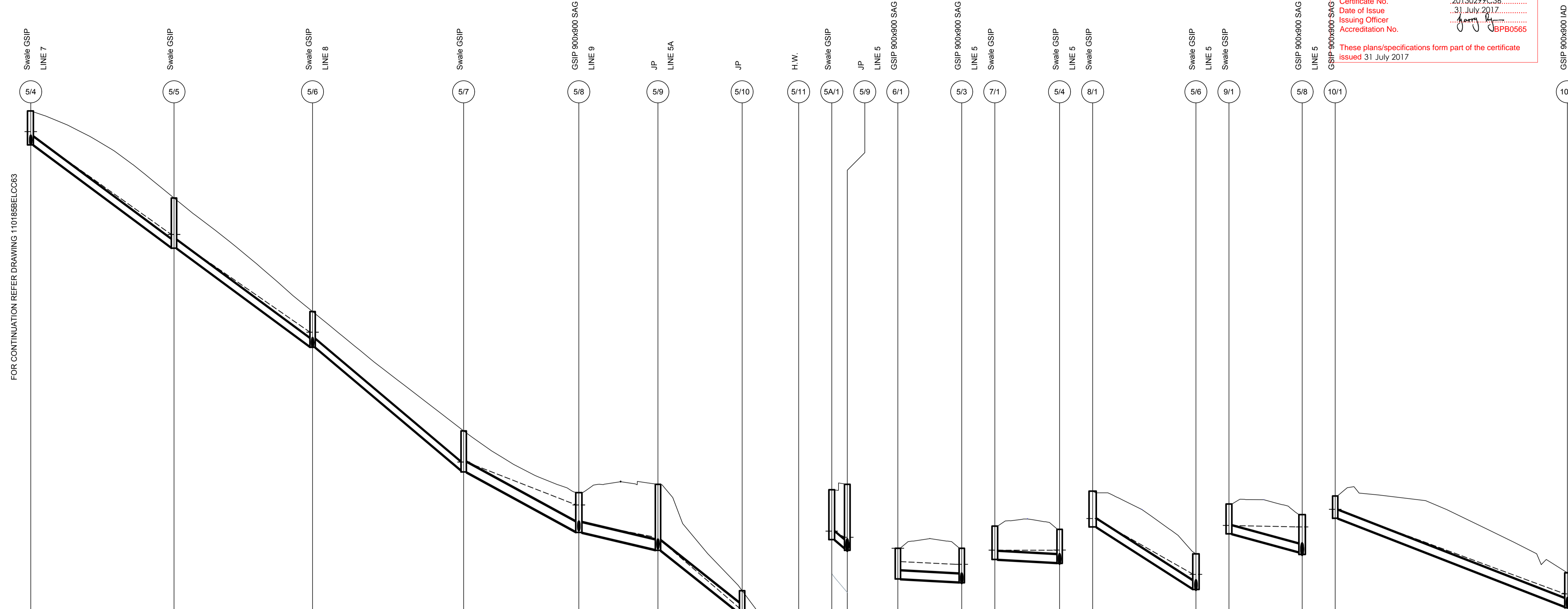


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**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *Harry J. Prince*  
 Accreditation No. JPB0565

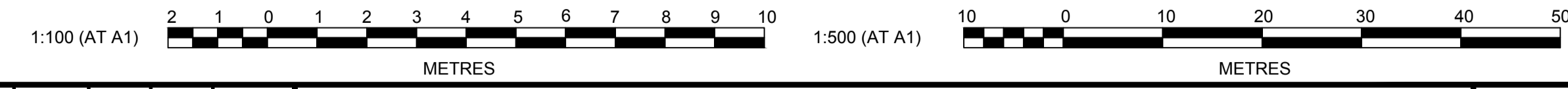
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	5/4	5/5	5/6	5/7	5/8	5/9	5/10	5/11	5A/1	5/9	6/1	5/3	7/1	5/4	8/1	5/6	9/1	5/8	10/1	10/2
DATUM (m)	65.00									51.00		71.00		70.00		62.00		52.00		69.00
PEAK FLOW (L/s)		228	262	311	326	561	583	582	25		180	11		12		15		39		
PIPE SIZE (mm)		375	375	375	450	450	450	525	375		375	375		375		375		375		375
PIPE CLASS		RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP		RCP	RCP		RCP		RCP		RCP		RCP
PIPE GRADE (%)		14.3	14.2	16.3	10.4	4.4	14.9	5.0	10.8		1.0	1.0		12.0		5.0		7.6		
PIPE COVER MINIMUM		1.09	1.28	1.11	1.03	1.31	0.69	0.52	1.85		1.00	1.10		1.14		0.94		0.62		
FULL PIPE VELOCITY (m/s)		2.06	2.38	2.82	2.05	3.53	3.67	2.69	0.23		1.63	0.10		0.11		0.14		0.36		
HGL GRADE (%)		13.67	13.32	16.29	7.45	3.74	16.09	5	7.57		0.89	0		10.8		0.37		7.23		

WAE	5/4	5/5	5/6	5/7	5/8	5/9	5/10	5/11	5A/1	5/9	6/1	5/3	7/1	5/4	8/1	5/6	9/1	5/8	10/1	10/2	
HYDRAULIC GRADE LINE	75.182 75.182 75.527	71.084 70.839	66.65 66.339	60.378 60.303 60.753	57.588 57.588 58.008	56.772 57.337 57.192	55.896 54.118 52.69	51.523 51.523 52.048	57.228 57.603	56.847 57.337	56.742 57.192	76.23 76.445 76.23	75.3 76.101	75.182 75.748	75.182 75.527	68.807 69.182	66.984 66.65	66.984 66.339	58.493 58.868	57.663 58.807	57.588 58.008
INVERT LEVEL	75.182 75.182 75.527	70.494 70.839	66.984 66.339	60.378 60.303 60.753	57.588 57.588 58.008	56.772 57.337 57.192	55.896 54.118 52.69	51.523 51.523 52.048	57.228 57.603	56.847 57.337	56.742 57.192	76.23 76.445 76.23	75.3 76.101	75.182 75.748	75.182 75.527	68.807 69.182	66.984 66.65	66.984 66.339	58.493 58.868	57.663 58.807	57.588 58.008
DESIGN SURFACE LEVEL	76.695 11.63	72.742 45.00	67.563 78.51	62.167 113.68	59.363 139.80	59.741 810.34	54.913 348	52.048 184	59.497 606.94	59.741 610.34	59.741 610.34	76.836 73.00	76.836 75.27	76.845 10.34	76.695 11.63	70.432 60.00	67.563 78.51	67.563 78.51	59.849 133.29	57.663 16.602	57.588 139.80
ROAD CHAINAGE	59.915	92.422	123.869	184.287	202.248	221.348	234.184		606.94	610.34	610.34	73.00	73.00	10.34	11.63	60.00	78.51	78.51	133.29	16.602	139.80
PIPE CHAINAGE	59.915	92.422	123.869	184.287	202.248	221.348	234.184		606.94	610.34	610.34	73.00	73.00	10.34	11.63	60.00	78.51	78.51	133.29	16.602	139.80

REVISION F  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



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CLIENT: **REDBANK** NORTH RICHMOND

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

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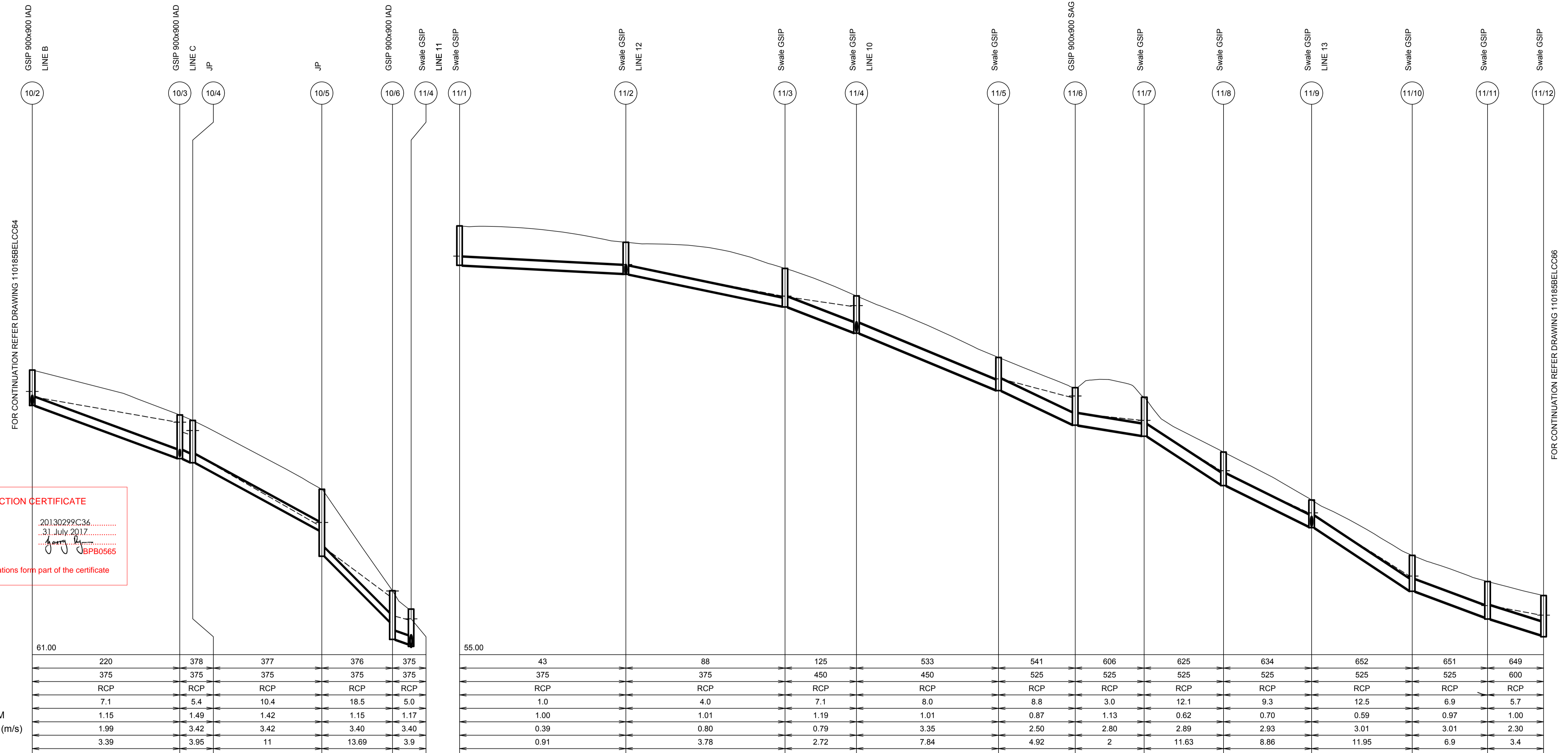
ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND BELMONT**  
 DRAINAGE LONGITUDINAL SECTIONS SHEET 2

PLAN No: **110185BEL/CC64 F**  
 FILE No: 110185BELCC64  
 SHEET SIZE: A1 ORIGINAL

AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

Plotfile: 18 July 2017 5:20:09 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC65.dwg



**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

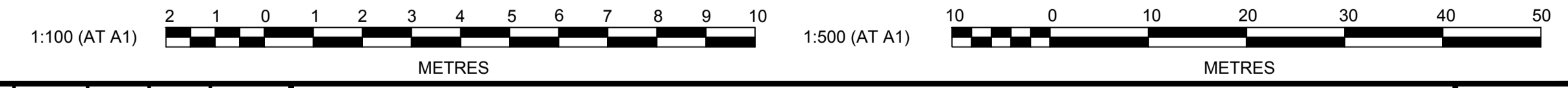
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DATUM (m)	61.00					55.00																
PEAK FLOW (L/s)	220	378	377	376	375	43	88	125	533	541	606	625	634	652	651	649						
PIPE SIZE (mm)	375	375	375	375	375	375	375	450	450	525	525	525	525	525	525	600						
PIPE CLASS	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP	RCP						
PIPE GRADE (%)	7.1	5.4	10.4	18.5	5.0	1.0	4.0	7.1	8.0	8.8	3.0	12.1	9.3	12.5	6.9	5.7						
PIPE COVER MINIMUM	1.15	1.49	1.42	1.15	1.17	1.00	1.01	1.19	1.01	0.87	1.13	0.62	0.70	0.59	0.97	1.00						
FULL PIPE VELOCITY (m/s)	1.99	3.42	3.42	3.40	3.40	0.39	0.80	0.79	3.35	2.50	2.80	2.89	2.93	3.01	3.01	2.30						
HGL GRADE (%)	3.39	3.95	11	13.69	3.9	0.91	3.78	2.72	7.84	4.92	2	11.63	8.86	11.95	6.9	3.4						
WAE																						
HYDRAULIC GRADE LINE	72.187 72.137	71.392 70.943	70.929 69.951	66.773 65.775	63.612 62.717	64.031 64.376	63.029 62.99	62.57 62.54	61.397 61.367	58.832 59.327	58.864 57.781	57.473 57.288	55.223 55.082	53.337 53.202	50.514 50.356	48.193 47.877						
INVERT LEVEL	72.187 72.137	69.792 69.762	69.606 69.576	66.56 65.4	62.476 61.68	64.001 64.376	62.57 62.54	61.397 61.367	58.832 59.327	57.286 57.286	56.793 56.763	54.607 54.557	52.727 52.677	49.861 49.831	48.688 48.593	47.877 47.877						
DESIGN SURFACE LEVEL	73.723	71.714	71.469	68.393	63.857	65.432	64.264	63.035	60.284	58.936	58.505	56.055	53.911	51.437	50.268	49.641						
ROAD CHAINAGE					130.28																	
PIPE CHAINAGE	52.684	85.704	88.595	117.475	133.275	137.499	130.03	63.035	61.367	120.554	137.705	153.127	170.88	190.985	213.082	229.947	242.475	335.35	49.641			

LINE 10

LINE 11

REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



CLIENT:

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ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND  
BELMONT**

DRAINAGE LONGITUDINAL SECTIONS  
SHEET 3

PLAN No: <b>110185BEL/CC65 E</b>
FILE No: 110185BELCC65
SHEET SIZE: A1 ORIGINAL

E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO		21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

Plotted: 18 July 2017 5:20:29 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC66.dwg

**CONSTRUCTION CERTIFICATE**

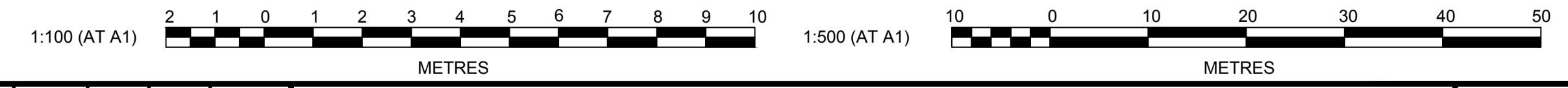
Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

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FOR CONTINUATION REFER DRAWING 110185BELCC65

	11/12	11/13	11/14	11/15	11/16	11A/1	11/14	12/1	11/12	13/1	11/9	14/1	11/13	15/1	15/2	15/3	15A/1	15/2	16/1	16/2	16/3	16/4	
DATUM (m)	42.00				42.00			59.00		47.00		43.00		42.00		43.00			51.00				
PEAK FLOW (L/s)	648	895	908	904	15		12		14		209		359	396		17			37			103	
PIPE SIZE (mm)	675	675	750	750	375		375		375		375		450	450		375			375			375	
PIPE CLASS	RCP	RCP	RCP	RCP	RCP		RCP		RCP		RCP		RCP	RCP		RCP			RCP			RCP	
PIPE GRADE (%)	2.2	2.4	2.0	1.0	7.2		1.2		1.0		4.0		1.0	11.0		2.0			6.9			3.4	
PIPE COVER MINIMUM	1.06	1.19	0.54	0.75	0.83		1.01		0.76		0.73		1.02	0.45		1.03			1.03			1.10	
FULL PIPE VELOCITY (m/s)	1.81	2.50	2.05	2.05	0.14		0.11		0.13		1.89		2.26	2.49		0.15			0.33			0.94	
HGL GRADE (%)	0.51	1.94	0.57	1	6.68		1.02		0.01		1.24		1.35	10.97		1.43			6.93			3.07	
WAE																							
HYDRAULIC GRADE LINE	47.877	47.802	47.477	47.742	46.711	47.742	47.447	47.909	64.031	64.438	64.001	64.376	52.772	53.337	52.772	53.202	48.511	48.966	48.277	48.827	48.277	48.622	52.966
INVERT LEVEL	47.877	47.802	47.477	47.742	46.711	47.742	47.447	47.909	64.031	64.438	64.001	64.376	52.772	53.337	52.772	53.202	48.511	48.966	48.277	48.827	48.277	48.622	52.966
DESIGN SURFACE LEVEL	49.841	49.343	49.343	48	47.50	47.25	49.643	49.643	65.682	64.641	65.432	64.376	49.725	49.843	49.843	47.447	48.122	49.234	56.389	56.771	56.724	54.158	54.653
ROAD CHAINAGE	335.35	318.24	318.24		47.50	47.25	318.24	318.24	61.49	65.682	64.641	64.376	297.38	49.725	49.843	47.447	48.122	49.234	794.60	57.989	56.359	54.158	54.653
PIPE CHAINAGE	242.475	256.993	267.993	286.247	306.336		318.24	318.24	0	398.29	52.918	53.338	0	297.38	49.725	49.843	47.447	48.122	34.943	794.60	57.989	56.359	54.158

REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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ISSUED FOR CONSTRUCTION APPROVAL

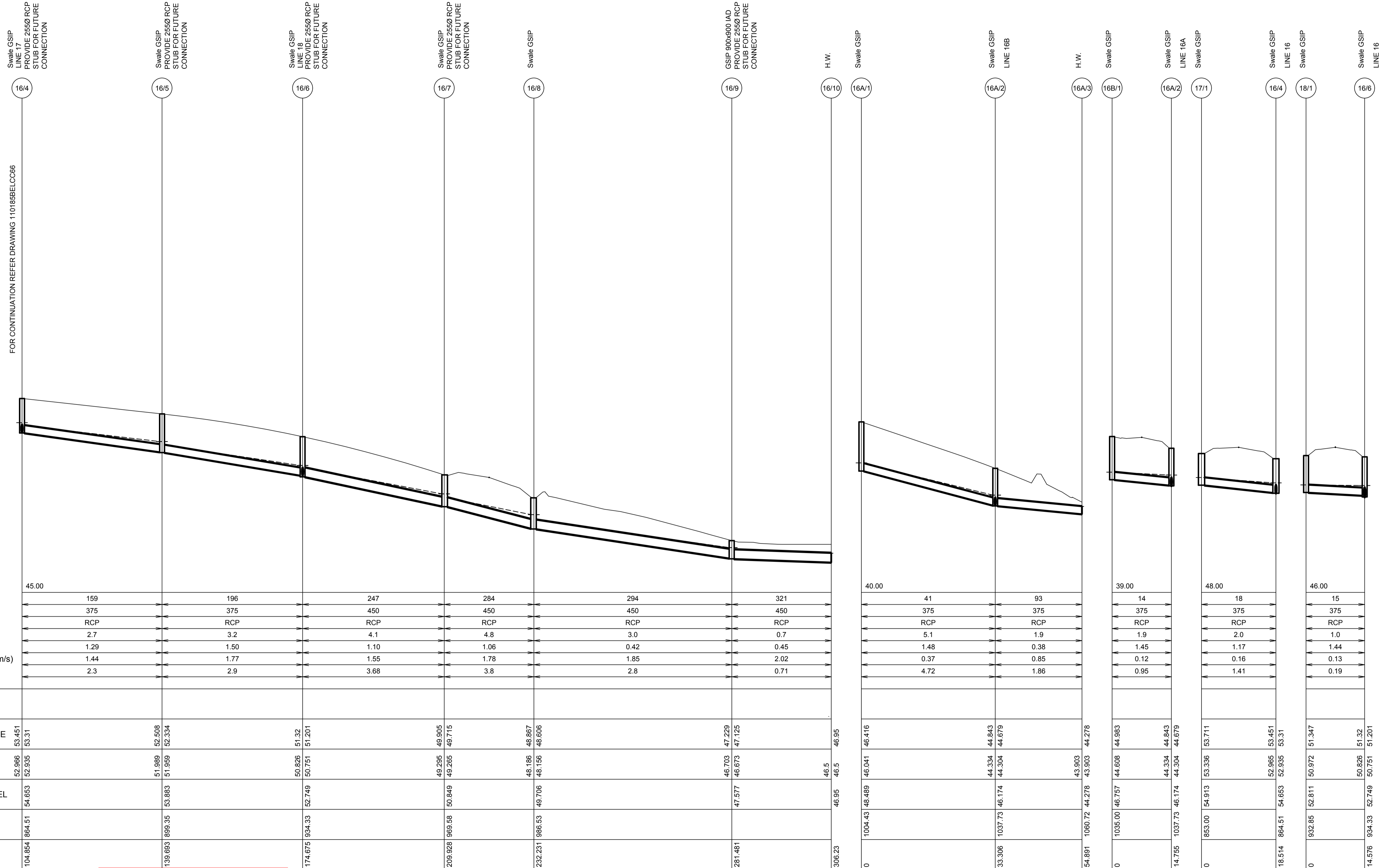
**REDBANK, NORTH RICHMOND BELMONT**  
 DRAINAGE LONGITUDINAL SECTIONS SHEET 4

PLAN No: 110185BEL/CC66 E  
 FILE No: 110185BELCC66  
 SHEET SIZE: A1 ORIGINAL

FOR CONTINUATION REFER DRAWING 110185BELCC67

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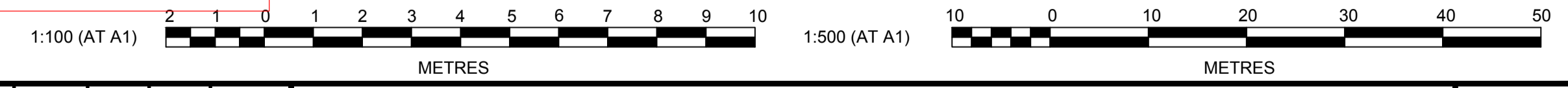
FOR CONTINUATION REFER DRAWING 110185BELCC66



LINE	MANHOLE	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)	DATUM (m)	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
16	16/4	159	375	RCP	2.7	1.29	1.44	2.3	45.00		52.966	52.966	54.653	104.854	104.854
	16/5	196	375	RCP	3.2	1.50	1.77	2.9			51.989	51.989	53.883	138.693	138.693
	16/6	247	450	RCP	4.1	1.10	1.55	3.68			50.826	50.751	52.749	174.675	174.675
	16/7	284	450	RCP	4.8	1.06	1.78	3.8			49.295	49.265	50.849	209.928	209.928
	16/8	294	450	RCP	3.0	0.42	1.85	2.8			48.186	48.156	49.706	232.231	232.231
	16/9	321	450	RCP	0.7	0.45	2.02	0.71			46.703	46.673	47.577	281.481	281.481
16A	16A/1	41	375	RCP	5.1	1.48	0.37	4.72	40.00		46.041	46.041	48.489	1004.43	1004.43
	16A/2	93	375	RCP	1.9	0.38	0.85	1.86			44.334	44.304	46.174	33.306	33.306
16B	16B/1	14	375	RCP	1.9	1.45	0.12	0.95	39.00		44.608	44.608	46.757	1035.00	1035.00
	17/1	18	375	RCP	2.0	1.17	0.16	1.41	48.00		53.336	53.336	54.913	853.00	853.00
18	18/1	15	375	RCP	1.0	1.44	0.13	0.19	46.00		50.972	50.972	52.811	932.85	932.85
	18/6	15	375	RCP	1.0	1.44	0.13	0.19			50.826	50.826	52.749	14.576	14.576

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 Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
 These plans/specifications form part of the certificate issued 31 July 2017

REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

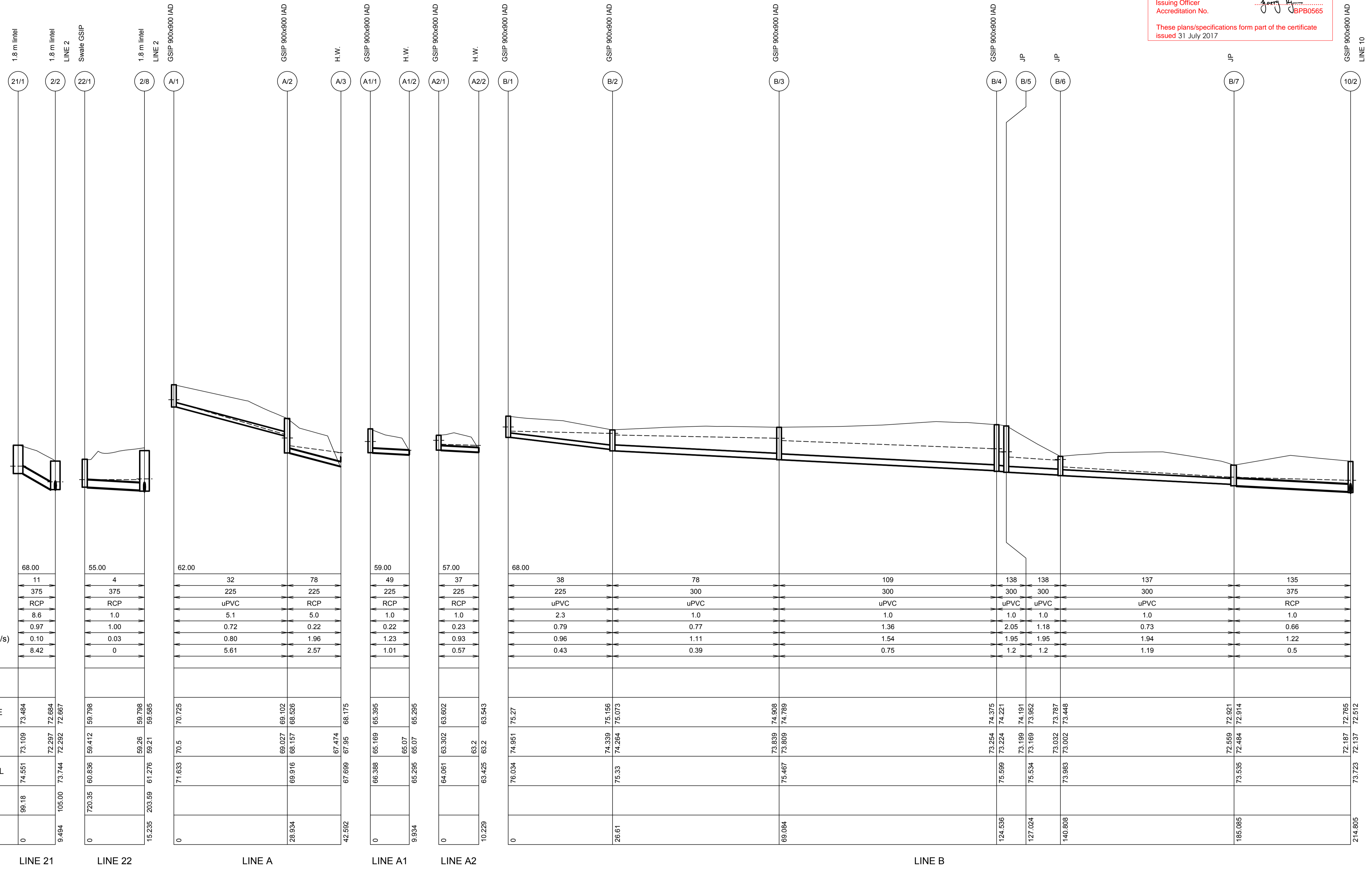
CLIENT:  
  
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**REDBANK, NORTH RICHMOND  
 BELMONT**  
 DRAINAGE LONGITUDINAL SECTIONS  
 SHEET 5

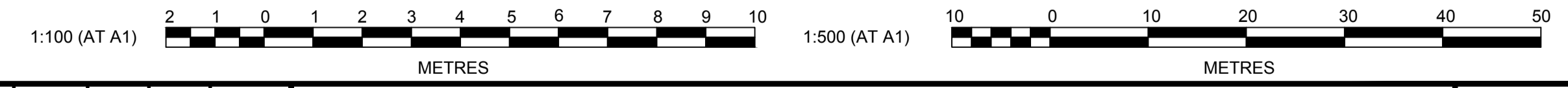
PLAN No: **110185BEL/CC67 E**  
 FILE No: 110185BELCC67  
 SHEET SIZE: A1 ORIGINAL

**CONSTRUCTION CERTIFICATE**  
 Certificate No. 20130299C36.....  
 Date of Issue 31 July 2017.....  
 Issuing Officer *Jerry Byrnes*.....  
 Accreditation No. BPB0565.....  
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LINE	21	22	A	A1	A2	B
DATUM (m)	68.00	55.00	62.00	59.00	57.00	68.00
PEAK FLOW (L/s)	11	4	32	49	37	38
PIPE SIZE (mm)	375	375	225	225	225	225
PIPE CLASS	RCP	RCP	uPVC	RCP	RCP	uPVC
PIPE GRADE (%)	8.6	1.0	5.1	1.0	1.0	2.3
PIPE COVER MINIMUM	0.97	1.00	0.72	0.22	0.23	0.79
FULL PIPE VELOCITY (m/s)	0.10	0.03	0.80	1.23	0.93	0.96
HGL GRADE (%)	8.42	0	5.61	1.01	0.57	0.43
WAE						
HYDRAULIC GRADE LINE						
INVERT LEVEL						
DESIGN SURFACE LEVEL						
ROAD CHAINAGE						
PIPE CHAINAGE						

REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



REV	DESCRIPTION	DES	DRN	CKD	APR	DATE
E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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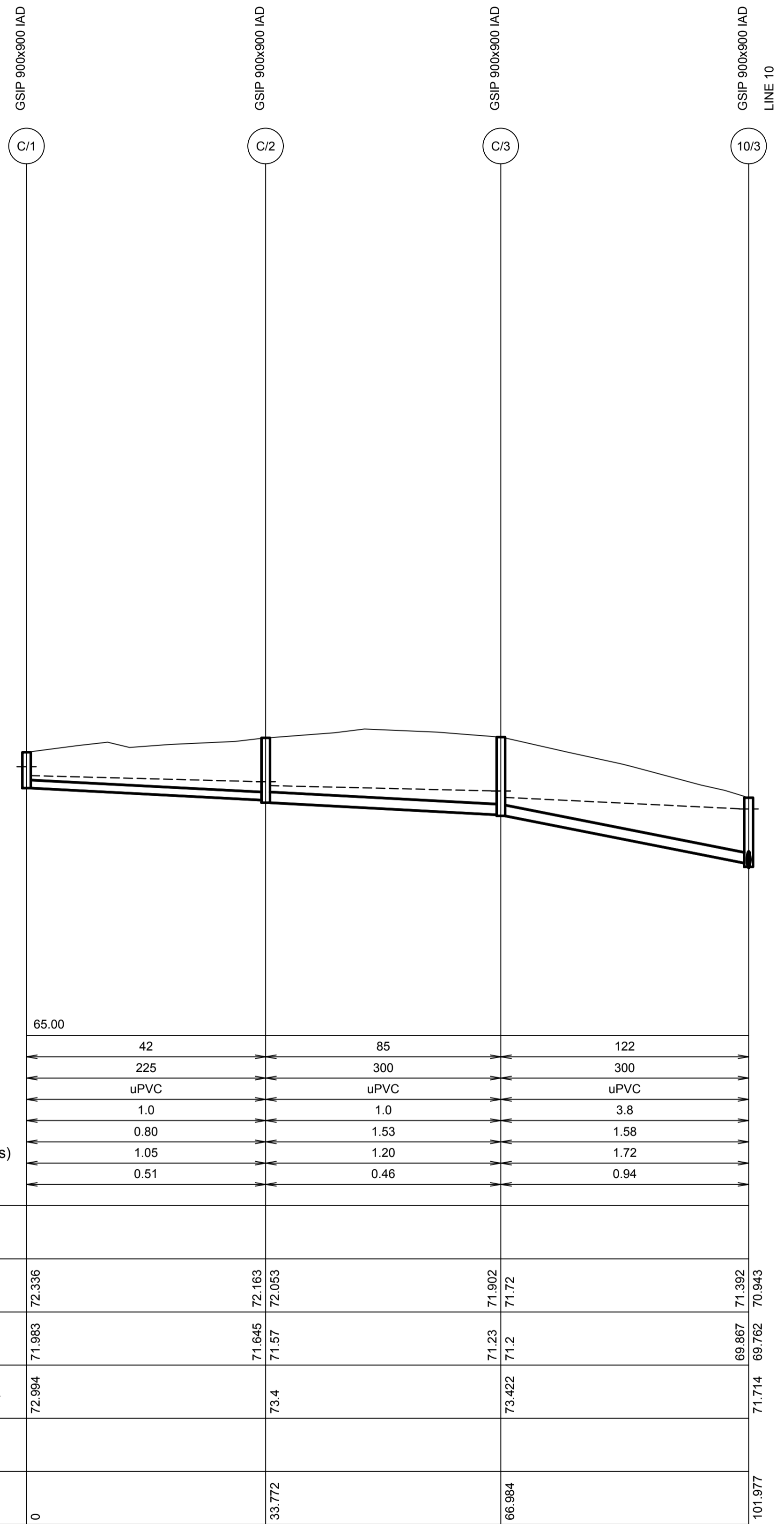
**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 DRAINAGE LONGITUDINAL SECTIONS  
 SHEET 6

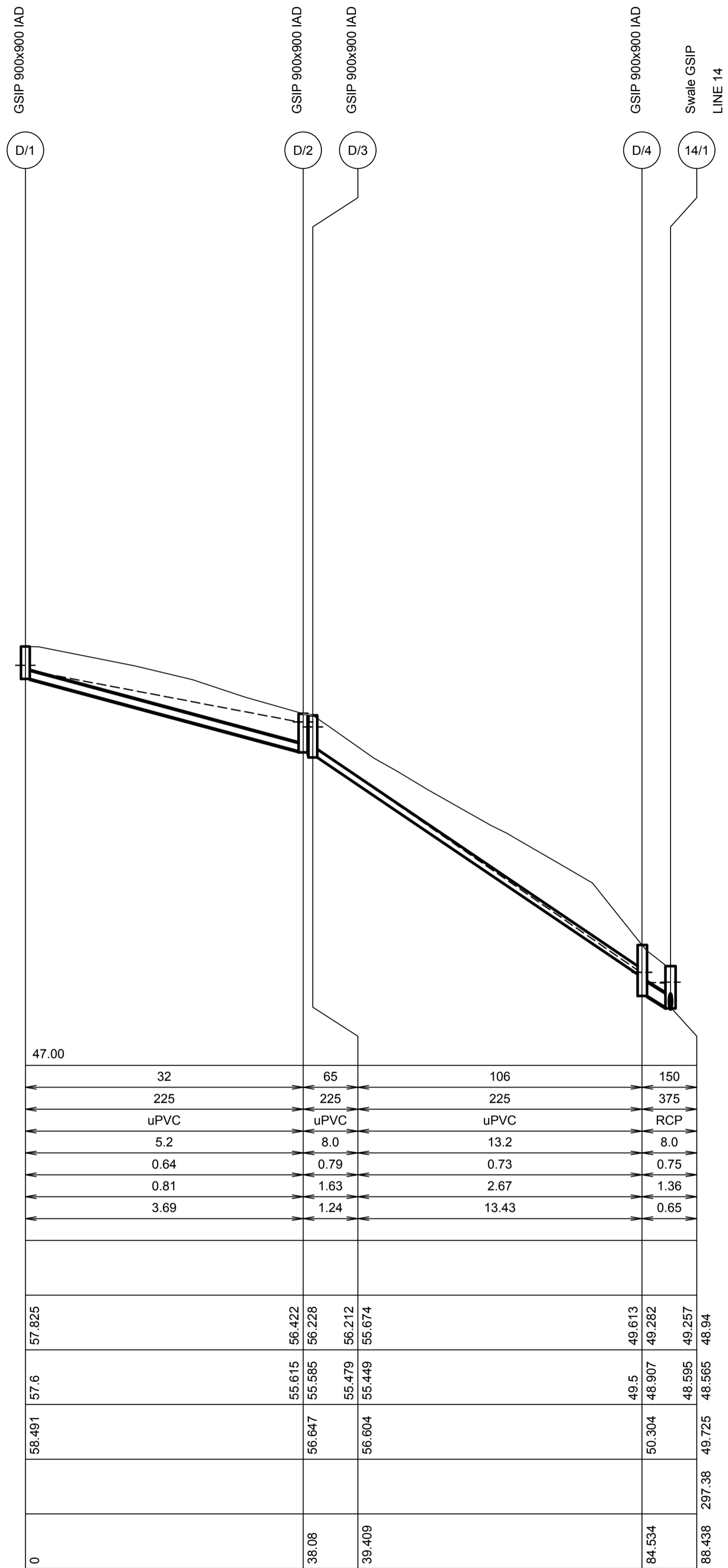
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 FILE No: 110185BELCC68  
 SHEET SIZE: A1 ORIGINAL

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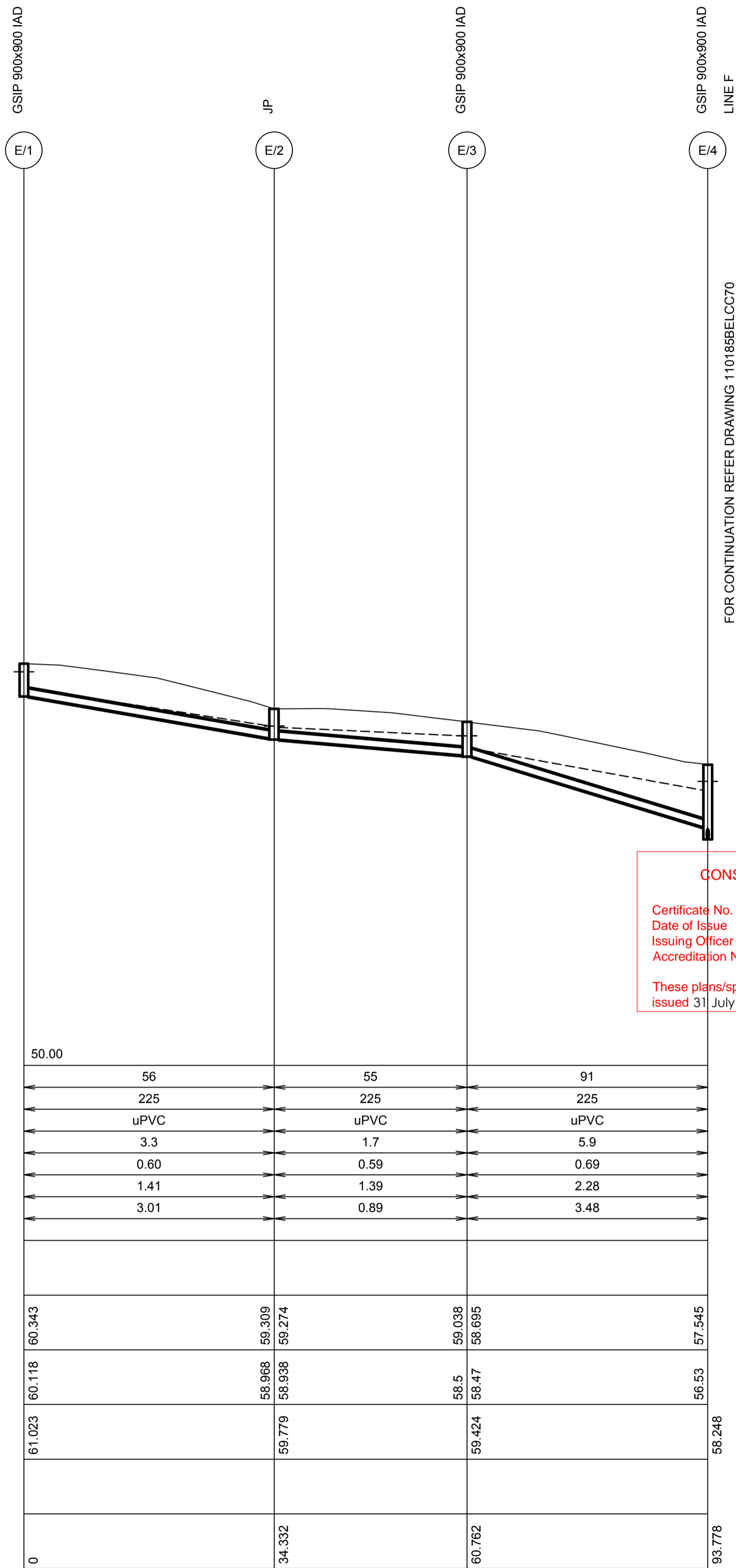
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LINE C



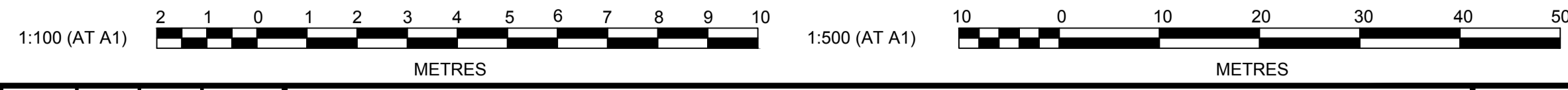
LINE D



LINE E

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 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565  
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REVISION E  
 ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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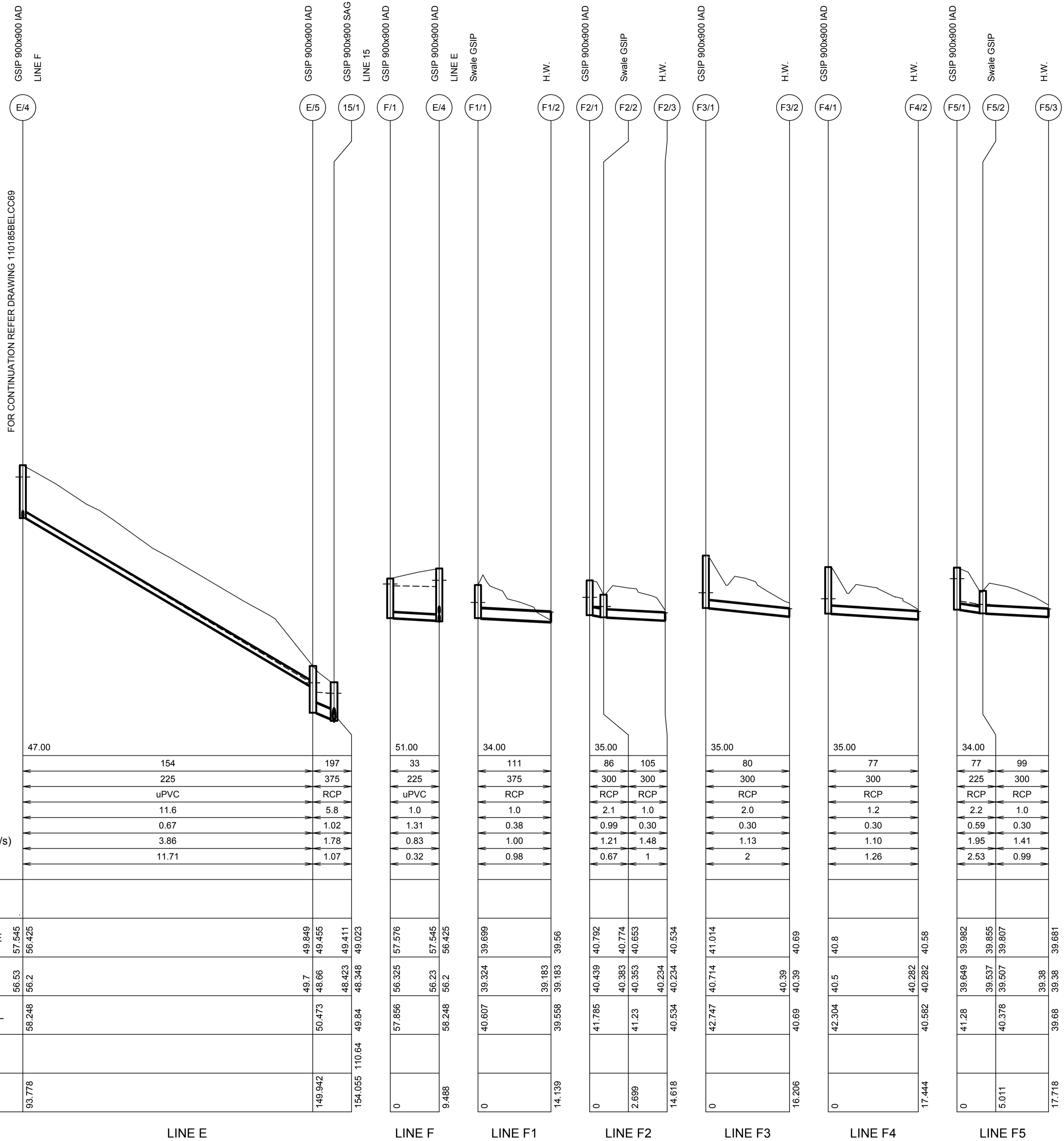
**REDBANK, NORTH RICHMOND  
 BELMONT**  
 DRAINAGE LONGITUDINAL SECTIONS  
 SHEET 7

PLAN No:	110185BEL/CC69 E
FILE No:	110185BELCC69
SHEET SIZE:	A1 ORIGINAL

FOR CONTINUATION REFER DRAWING 110185BELCC70

Plotfile: 18 July 2017 5:21:51 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC70.dwg

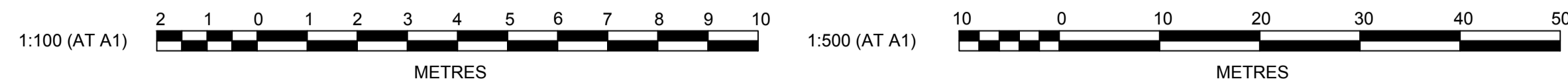
FOR CONTINUATION REFER DRAWING 110185BELCC69



DATUM (m)	47.00
PEAK FLOW (L/s)	154
PIPE SIZE (mm)	225
PIPE CLASS	uPVC
PIPE GRADE (%)	11.6
PIPE COVER MINIMUM	0.67
FULL PIPE VELOCITY (m/s)	3.86
HGL GRADE (%)	11.71

WAE	LINE E	LINE F	LINE F1	LINE F2	LINE F3	LINE F4	LINE F5	
HYDRAULIC GRADE LINE	57.545 56.435	49.849 49.455	57.576	57.545 56.435	39.699	40.792 40.774 40.653	41.014	39.681
INVERT LEVEL	56.53 56.2	49.7 48.66	56.325 56.23	40.439 40.383 40.353	40.39 40.282	40.8 40.5	39.982 39.537 39.807	39.38 39.38
DESIGN SURFACE LEVEL	58.248	50.473 48.423 49.411	57.856 58.248	41.785 41.23	42.747	42.304	41.28 40.378	39.668
ROAD CHAINAGE		154.055 110.64						
PIPE CHAINAGE	93.778	148.942	0	2.689	14.618	16.206	17.444	0

REVISION F  
ALL DRAINAGE LONGITUDINAL SECTIONS AMENDED



**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BIPB0565

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AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
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B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT:

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**REDBANK, NORTH RICHMOND  
BELMONT**

DRAINAGE LONGITUDINAL SECTIONS  
SHEET 8

PLAN No:	110185BEL/CC70 F
FILE No:	110185BELCC70
SHEET SIZE:	A1 ORIGINAL





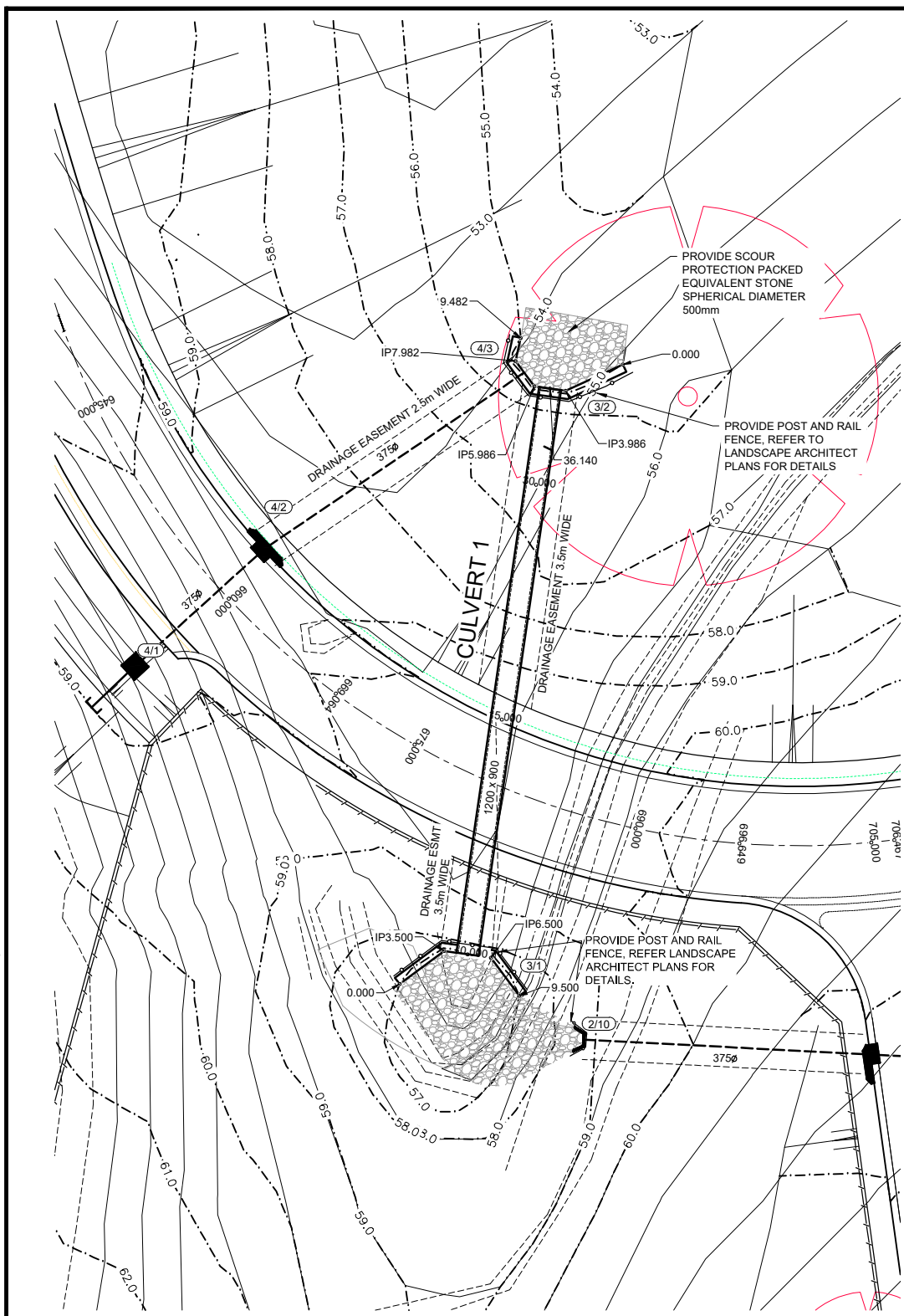








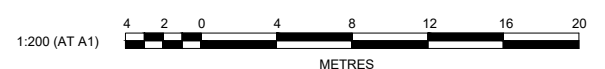
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PLAN  
SCALE 1:200

REFER TO STRUCTURAL DESIGN & CERTIFICATION BY INHOUSE CONSULTING ENGINEERS, REFERENCE 16112

REVISION F  
• CULVERT 1 ALIGNMENT, SECTIONS & SETOUT TABLES AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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CLIENT: REDBANK NORTH RICHMOND BELMONT

ASIMUTH: MGA  
DATUM: AHD  
ORIGIN:

ISSUED FOR CONSTRUCTION APPROVAL

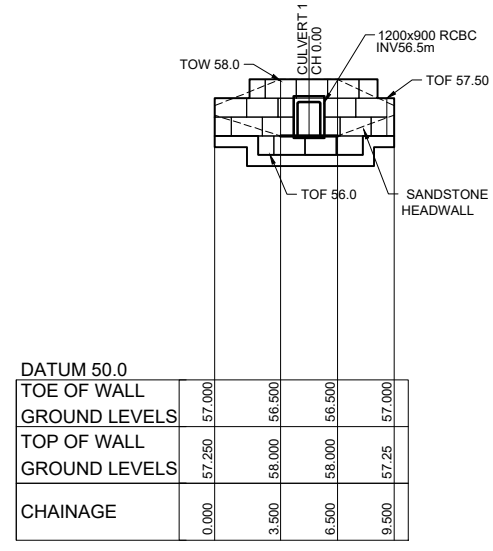
REDBANK, NORTH RICHMOND BELMONT  
CULVERT 1 PLAN, SECTION, HEADWALL 1 & RETAINING WALL 1 PROFILE

PLAN No: 110185BEL/CC76 **F**  
FILE No: 110185BEL/CC76  
SHEET SIZE: A1 ORIGINAL

**CONSTRUCTION CERTIFICATE**

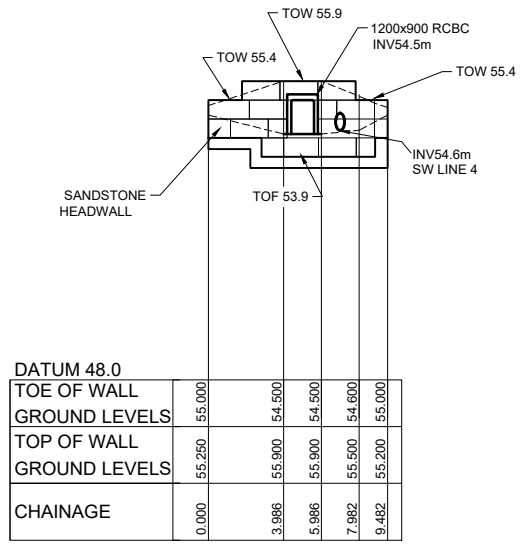
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. PBP0565

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LONGITUDINAL SECTION HW1

HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



LONGITUDINAL SECTION HW2

HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

**HW1 BOT**

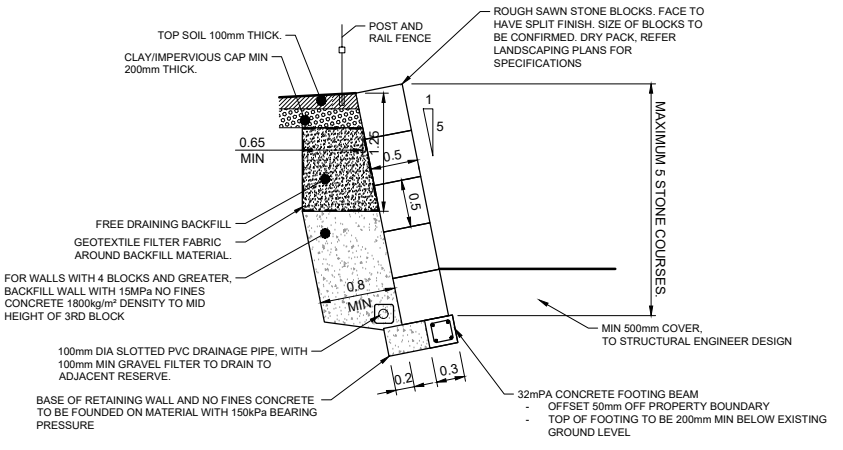
CHAINAGE	EASTING	NORTHING	BEARING
0	285514.41	6282104.19	54°48'59.60"
3.5	285517.27	6282106.2	
6.5	285520.22	6282105.69	
9.5	285521.95	6282103.24	144°48'59.60"

**HW2 BOT**

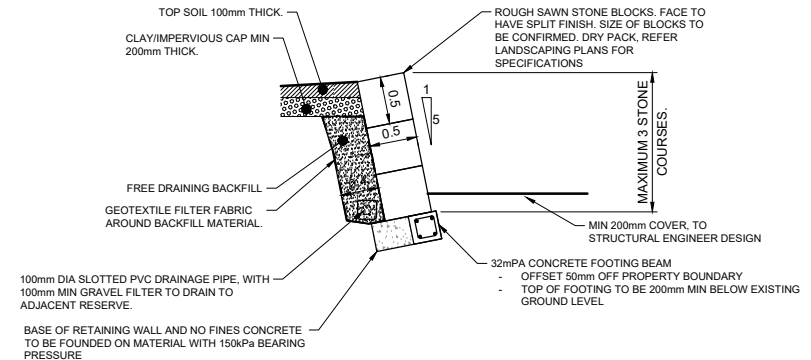
CHAINAGE	EASTING	NORTHING	BEARING
0	285529.55	6282142.96	246°46'14.26"
3.99	285525.89	6282141.39	
5.99	285523.92	6282141.73	
7.98	285522.77	6282143.36	
9.48	285523.13	6282144.81	14°00'32.37"

**Culvert 1**

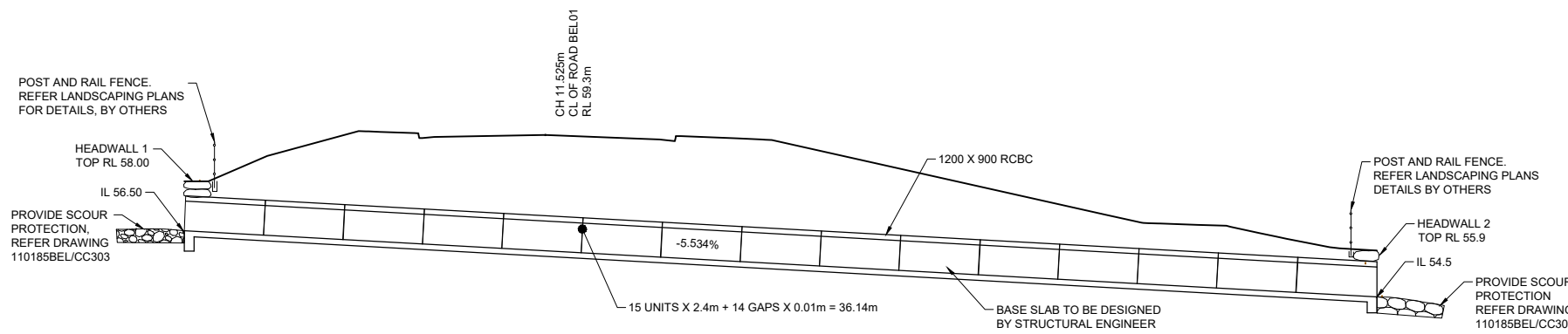
CHAINAGE	EASTING	NORTHING	BEARING
0	285518.75	6282105.95	9°48'59.60"
36.14	285524.91	6282141.56	9°48'59.60"



HEADWALL DETAIL  
4 AND 5 BLOCK ARRANGEMENT (2.5m MAX HEIGHT)  
N.T.S



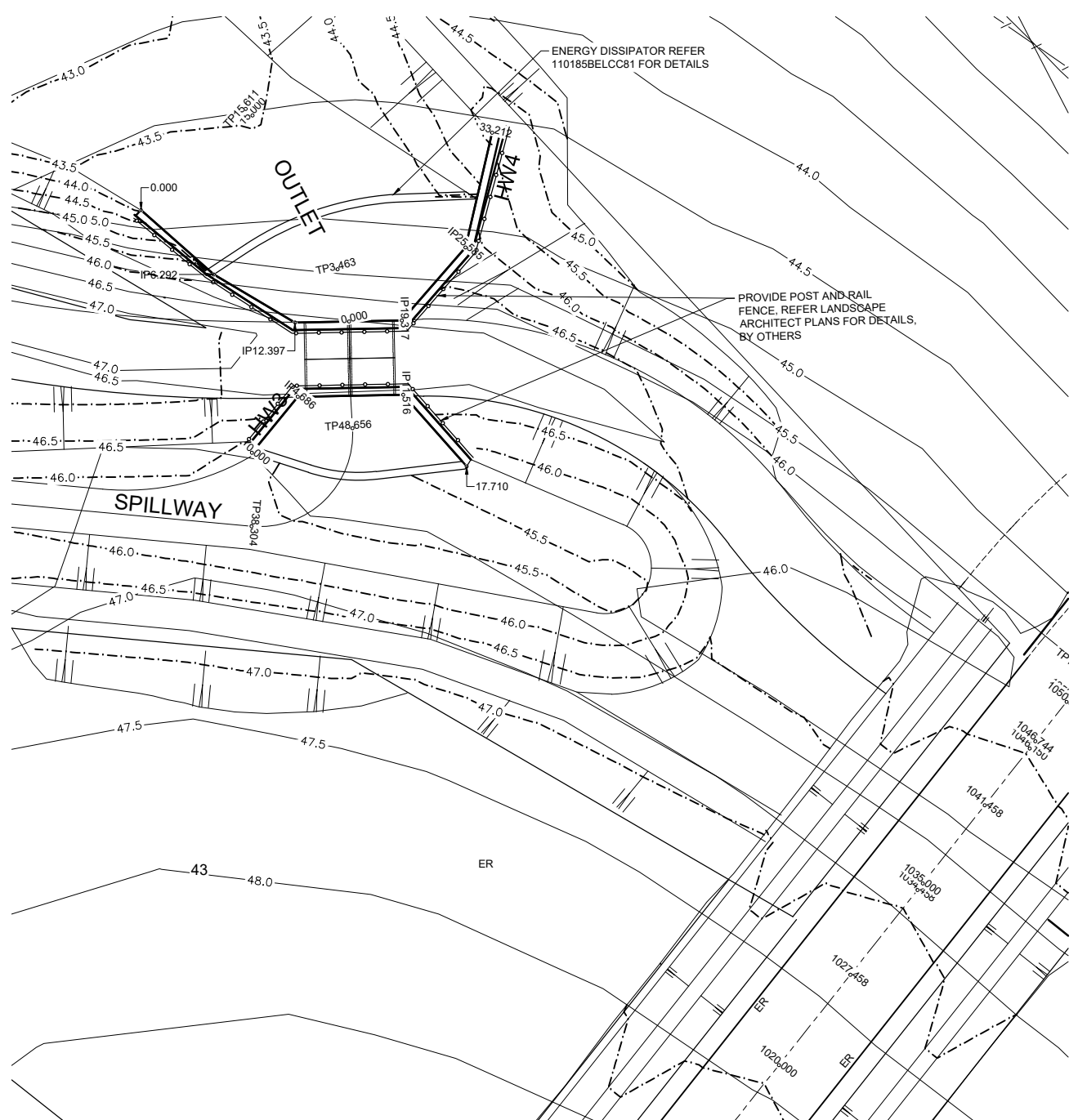
HEADWALL DETAIL  
3 (AND LESS) BLOCK ARRANGEMENT (1.5m MAX HEIGHT)  
N.T.S



LONGITUDINAL SECTION CULVERT 1  
HORIZONTAL SCALE 1:100  
VERTICAL SCALE 1:100

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Plotted: 18 July 2017 5:54:37 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC77.dwg



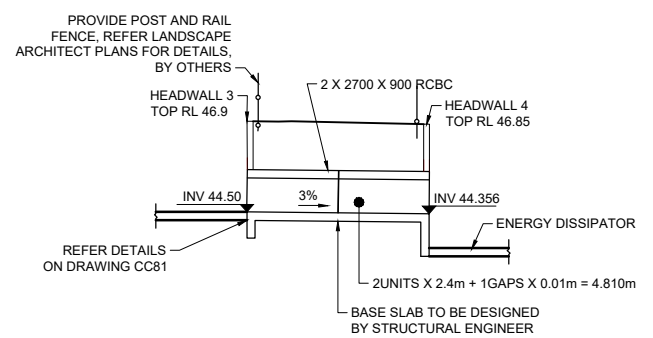
PLAN  
SCALE 1:200

Culvert 2			
CHAINAGE	EASTING	NORTHING	BEARING
0.00	285728.944	6282385.027	358°54'49"
4.81	285728.975	6282389.836	358°54'49"

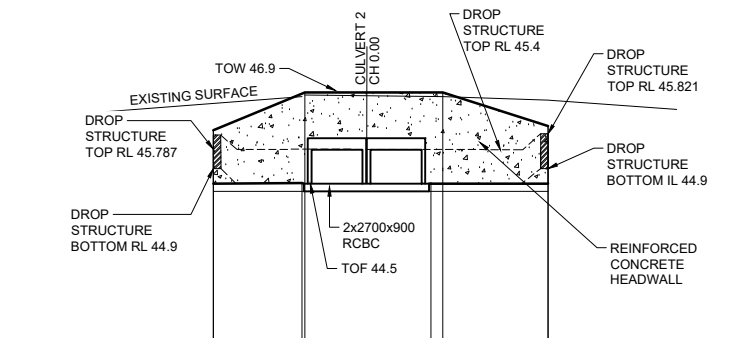
HW3 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0.00	285722.47	6282381.51	40°48'36.84"
4.69	285725.53	6282385.05	
11.52	285732.36	6282385.00	
17.71	285736.34	6282380.25	140°02'46.28"

HW4 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0.00	285715.70	6282397.40	133°02'03.47"
6.29	285720.30	6282393.11	
12.40	285725.48	6282389.86	
19.32	285732.39	6282389.81	
25.59	285736.64	6282394.43	
33.21	285738.56	6282401.81	14°35'13.79"

REFER TO STRUCTURAL DESIGN & CERTIFICATION BY INHOUSE CONSULTING ENGINEERS, REFERENCE 16112

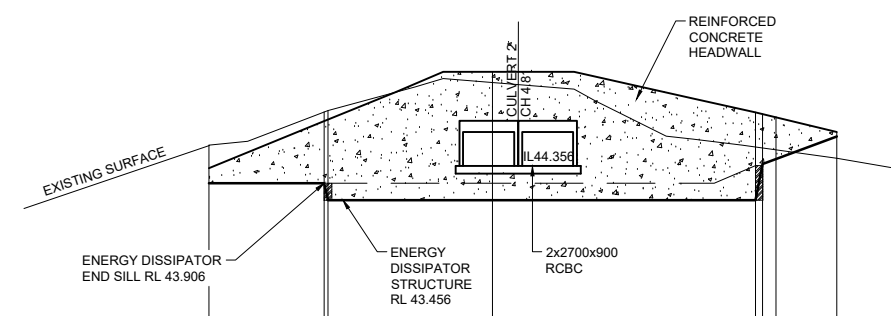


LONGITUDINAL SECTION CULVERT 2  
HORIZONTAL SCALE 1:100  
VERTICAL SCALE 1:100



DATUM 38.0				
	CHAINAGE	GROUND LEVELS	EXISTING SURFACE	CHAINAGE
TOE OF WALL	0.000	44.500	46.610	4.886
GROUND LEVELS			46.792	11.516
TOP OF WALL	4.886	45.900	46.831	12.134
GROUND LEVELS			46.768	17.710
EXISTING SURFACE			46.767	
CHAINAGE				

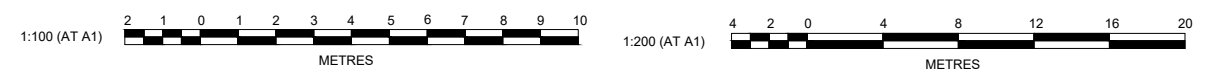
LONGITUDINAL SECTION HW 3  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



DATUM 37.0				
	CHAINAGE	GROUND LEVELS	EXISTING SURFACE	CHAINAGE
TOE OF WALL	0.000	43.900	44.908	28.909
GROUND LEVELS			45.779	29.290
TOP OF WALL	6.092	44.320	45.825	30.000
GROUND LEVELS			45.585	33.212
EXISTING SURFACE			46.561	
CHAINAGE				

LONGITUDINAL SECTION HW 4  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

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 Certificate No. 20130299C36.....  
 Date of Issue 31 July 2017.....  
 Issuing Officer [Signature].....  
 Accreditation No. [Signature] BP0565.....  
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AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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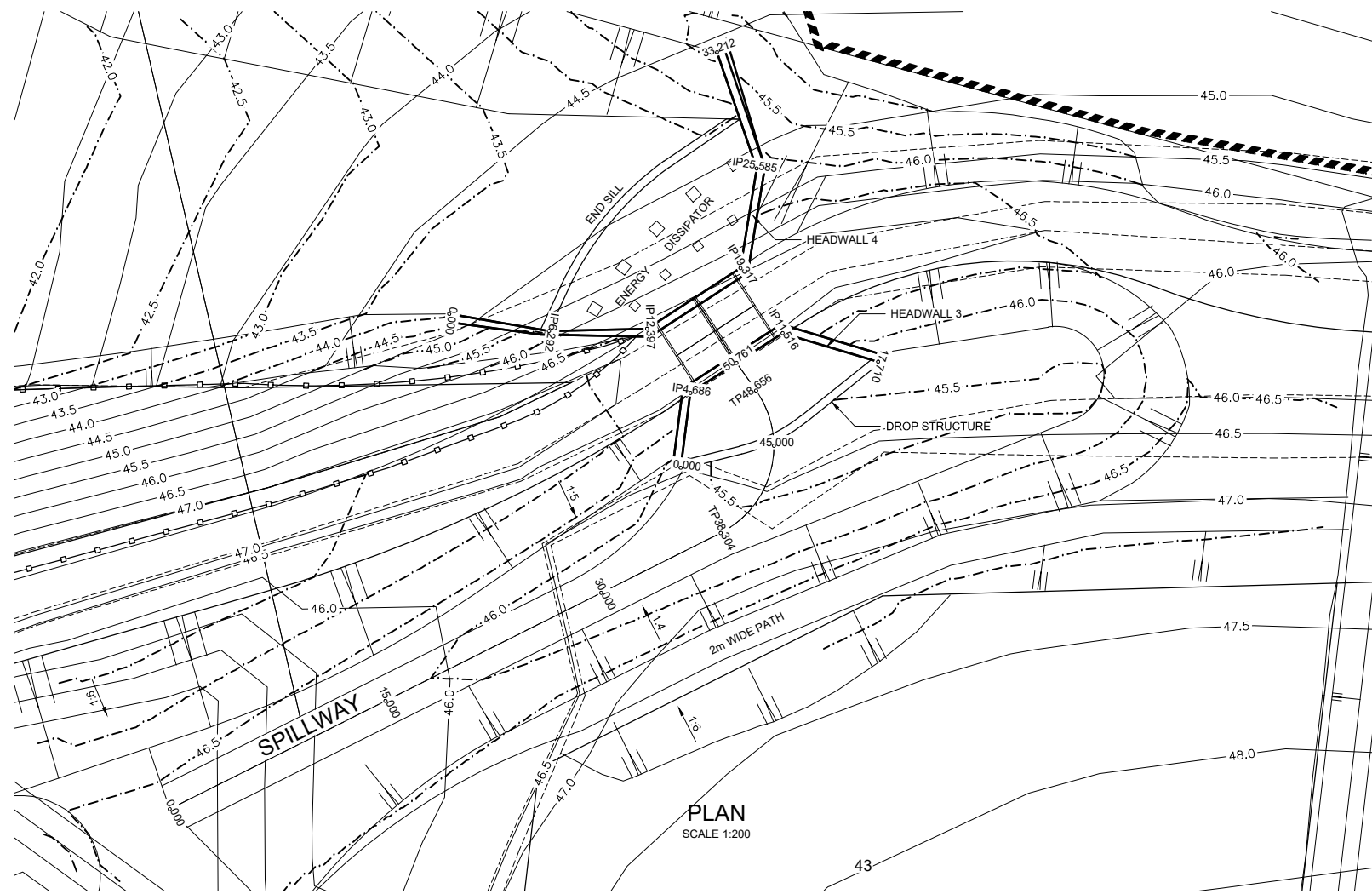
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK, NORTH RICHMOND  
BELMONT

CULVERT 2 PLAN, SECTION & HEADWALL 3 & 4 PROFILES

PLAN No:	110185BEL/CC77	E
FILE No:	110185BELCC77	
SHEET SIZE:	A1 ORIGINAL	

Plotted: 18 July 2017 5:54:57 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BEL\CC78.dwg



DATUM RL 42.0

47.133	45.8	45.74	45.8	46.614	46.654	47.359
-7.82	-1.5	0	1.5	5.1	7.1	11.33

CH 30

DATUM RL 43.0

47.488	46.13	46.07	46.13	46.548	47.004
-8.799	-1.5	0	1.5	6.652	15.015

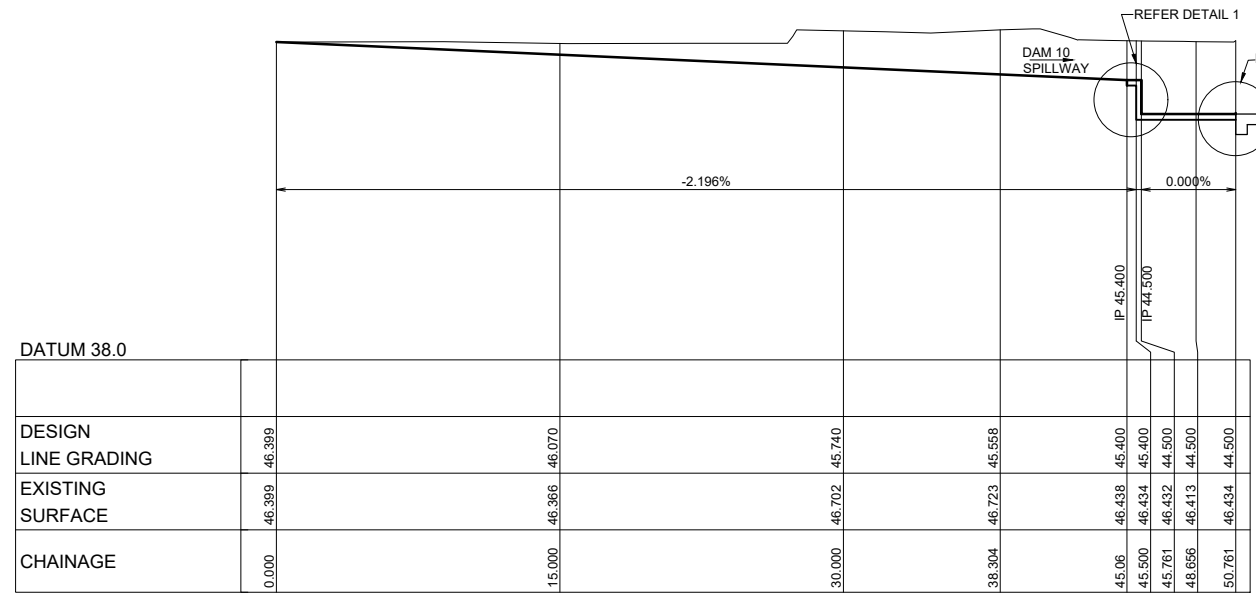
CH 15

DATUM RL 43.0

DESIGN SURFACE LEVEL	47.8	46.459	46.399	46.459	46.519	47.023
WAE						
EXISTING SURFACE LEVEL	-11.547	-46.419	-46.402	-46.399	-46.396	-47.023
OFFSET		-1.5	0	1.5	11.095	31.572

CH 0

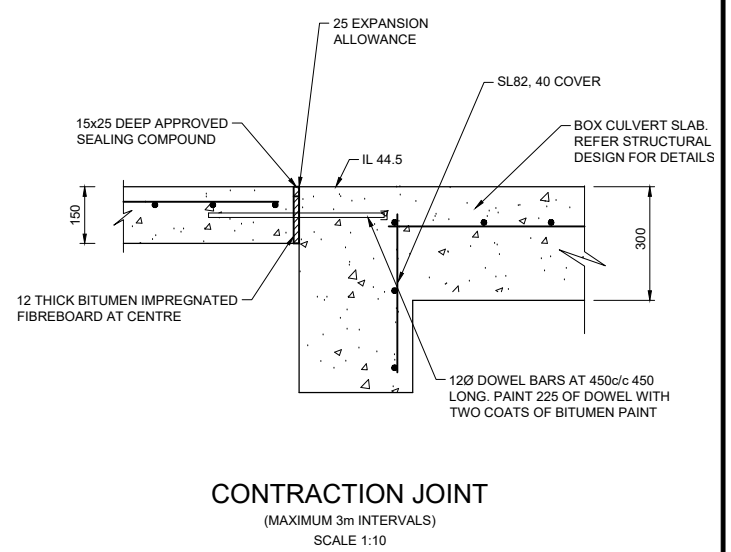
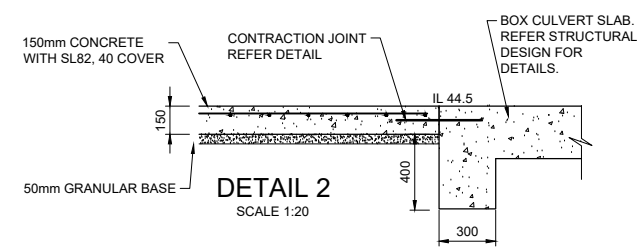
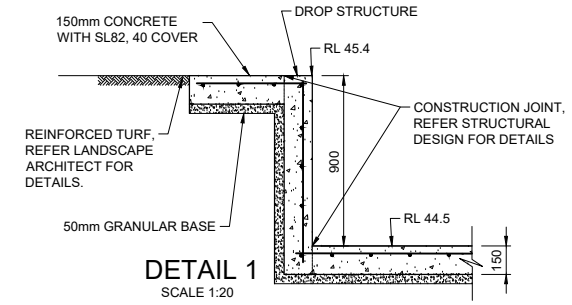
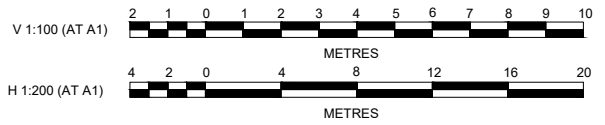
CROSS SECTIONS  
SCALE 1:200 N



**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017



E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: **REDBANK** NORTH RICHMOND

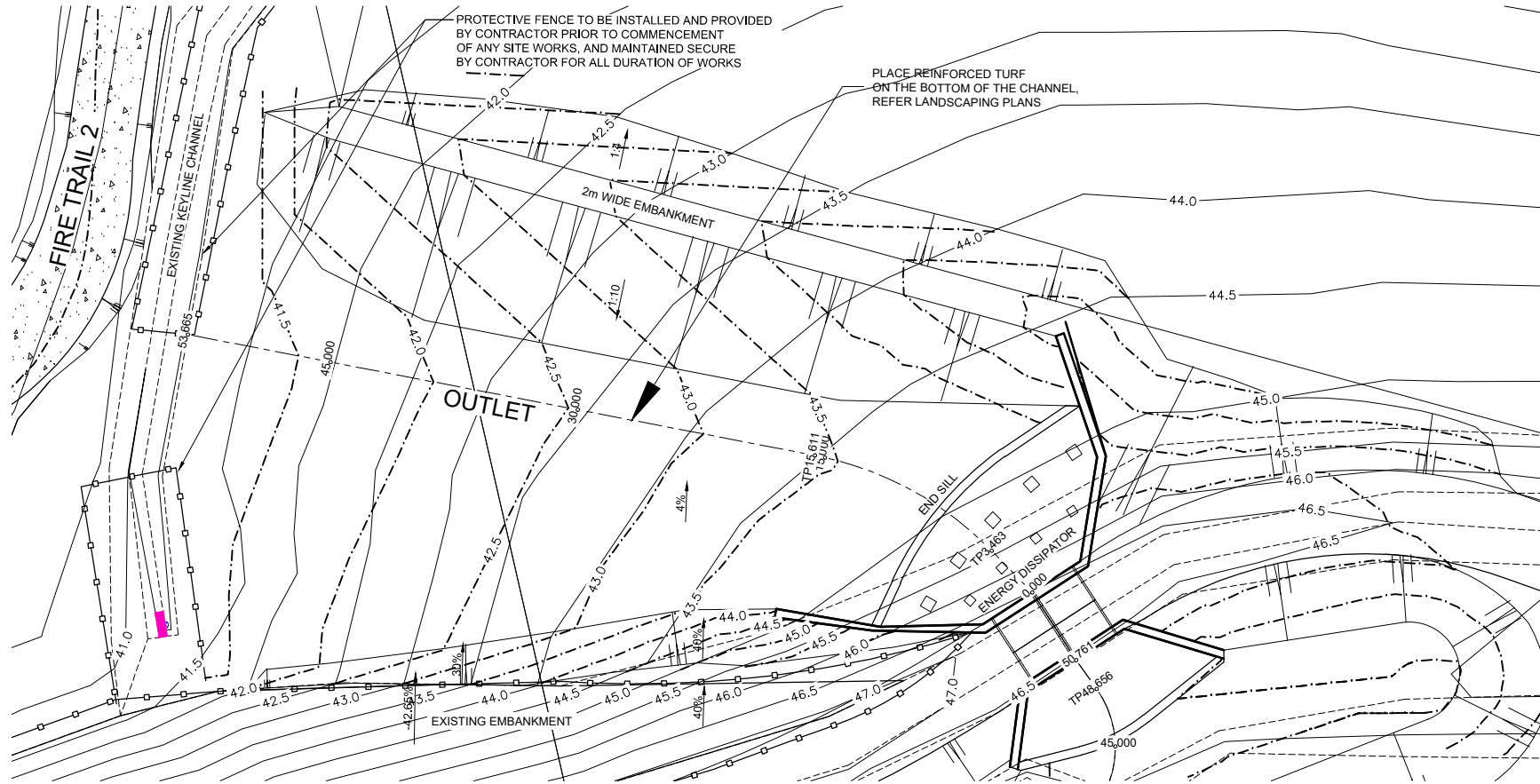
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

**ISSUED FOR CONSTRUCTION APPROVAL**

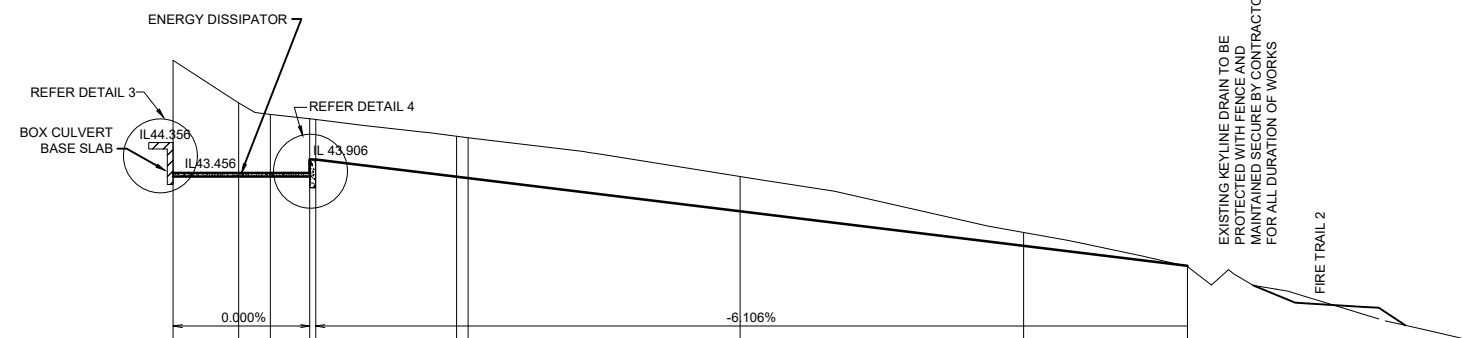
REDBANK, NORTH RICHMOND  
BELMONT  
SPILLWAY PLAN, SECTION & DETAILS

PLAN No: 110185BEL/CC78 **E**  
FILE No: 110185BELCC78  
SHEET SIZE: A1 ORIGINAL

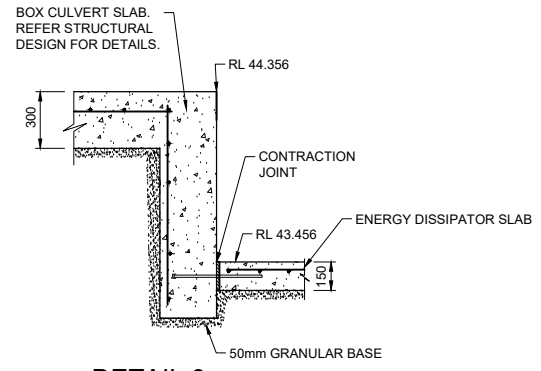
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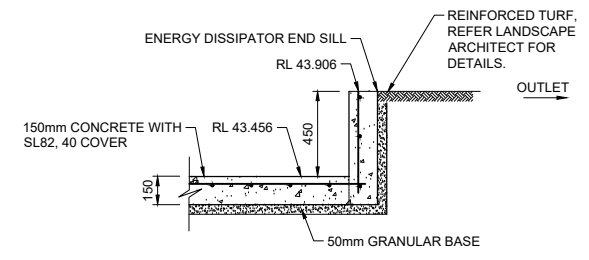
**PLAN**  
SCALE 1:200



**LONGITUDINAL SECTION OUTLET**  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



**DETAIL 3**  
SCALE 1:20



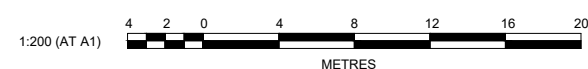
**DETAIL 4**  
SCALE 1:20

DATUM 35.0									
DESIGN LINE GRADING		44.956	43.7456						
EXISTING SURFACE		46.525	45.406	43.456	43.456	43.906	43.906	44.451	42.535
CHAINAGE		0.000	3.463	5.147	7.231	7.544	15.000	15.611	30.000
								44.483	41.619
								43.413	41.090
								43.413	41.090
								41.977	41.090
								41.077	41.090

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPP0565

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AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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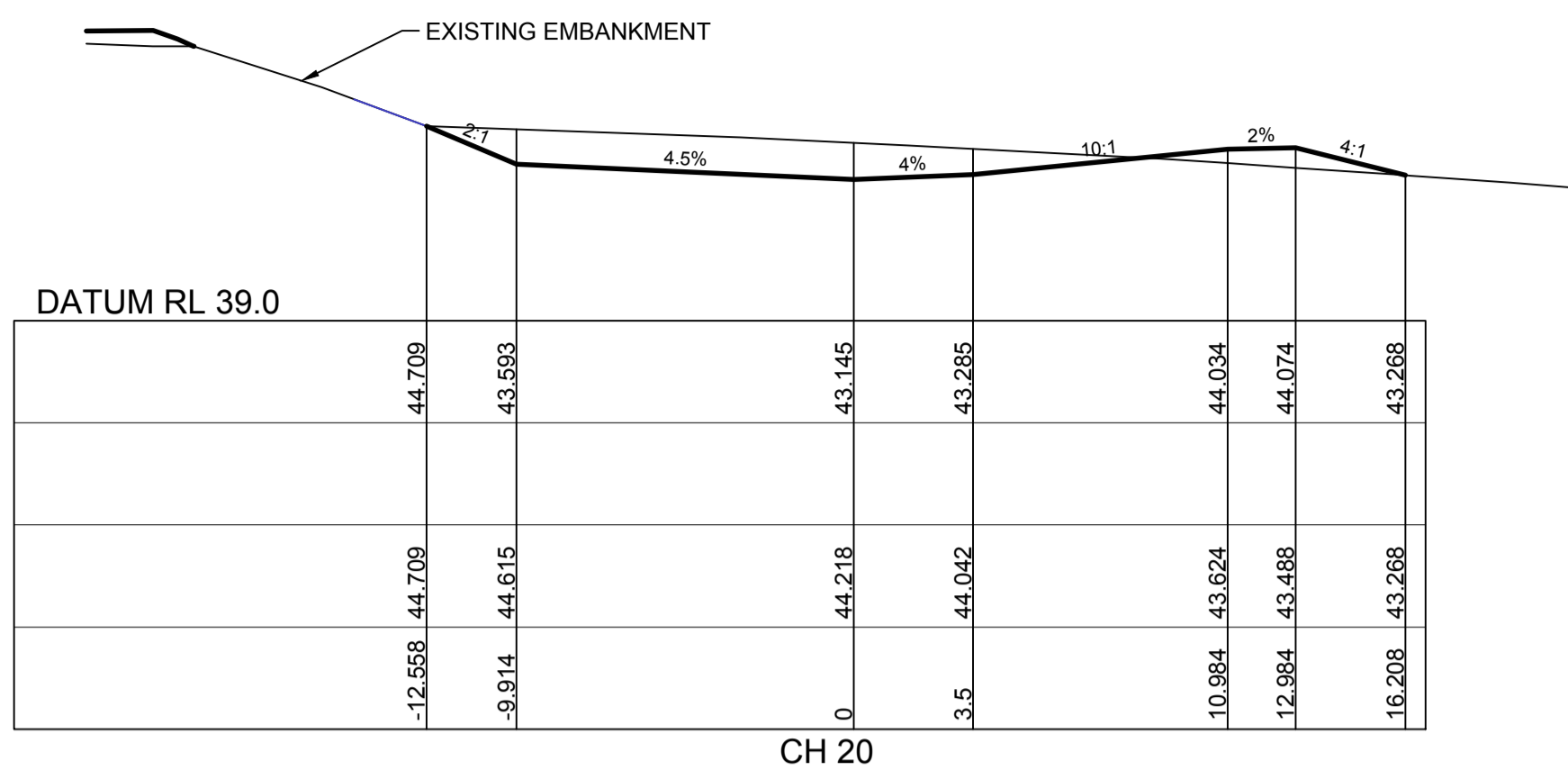
**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 OUTLET PLAN,  
 LONGITUDINAL SECTION & DETAILS

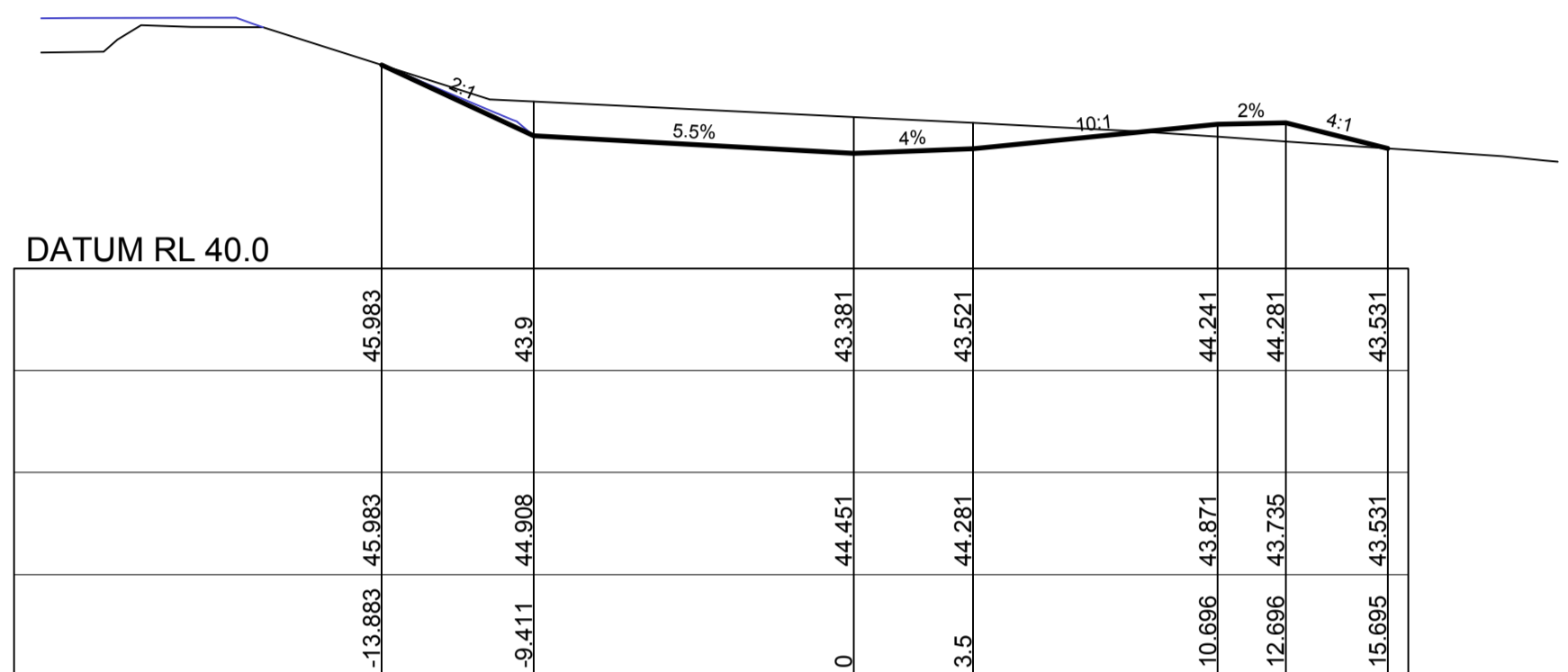
PLAN No: 110185BEL/CC79 **E**  
 FILE No: 110185BELCC79  
 SHEET SIZE: A1 ORIGINAL



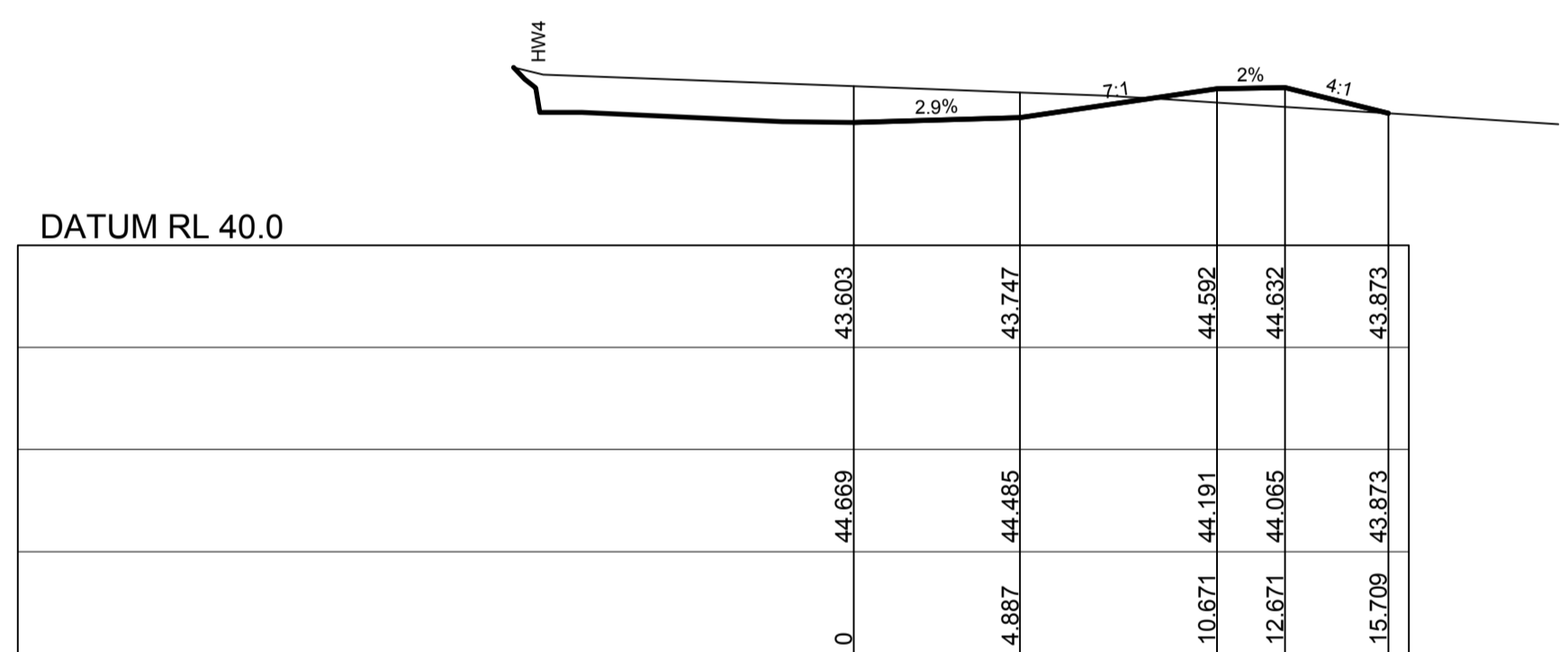
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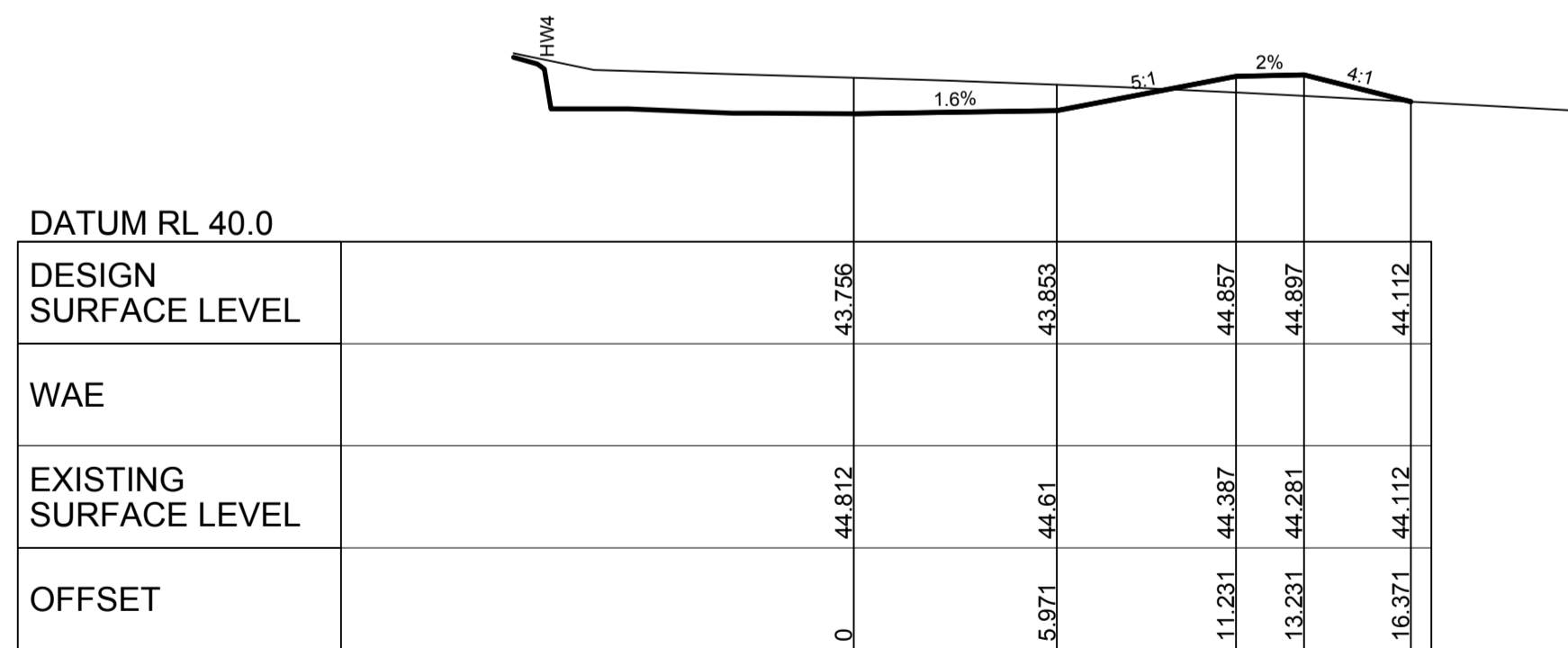
CH 20



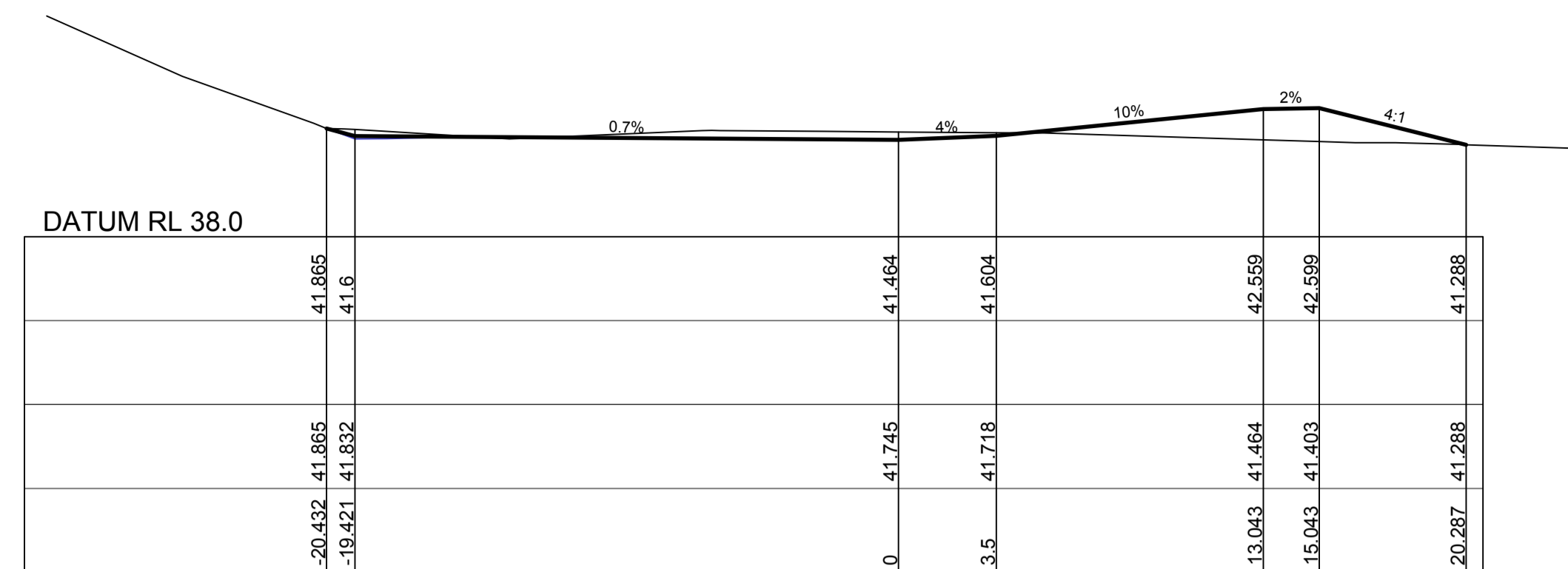
CH 16.137



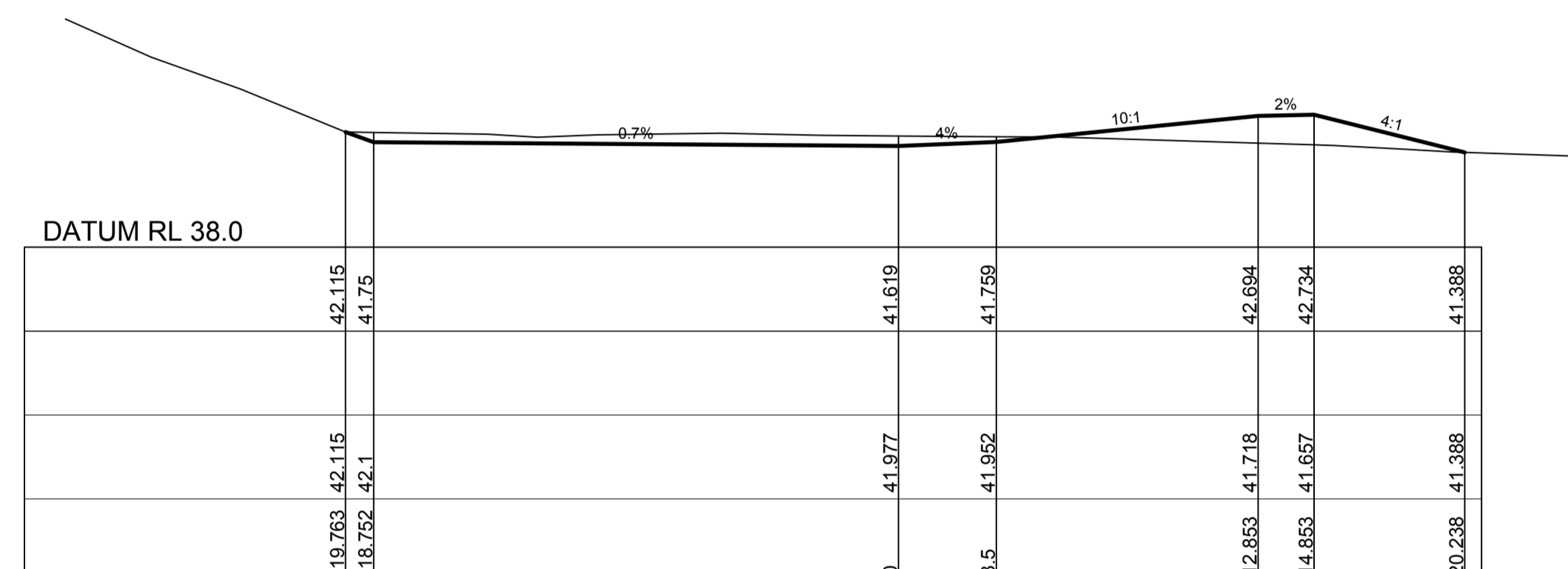
CH 12.5



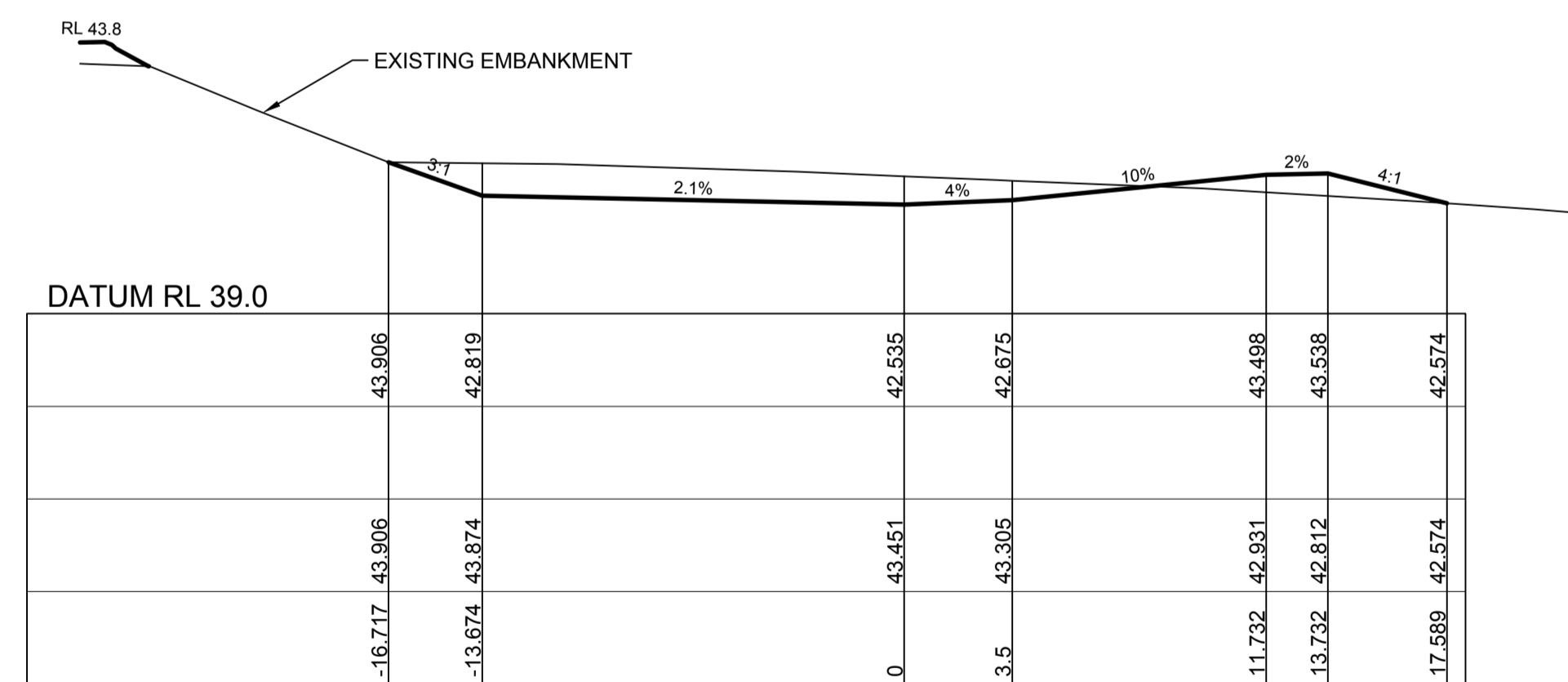
CH 10



CH 47.534



CH 45

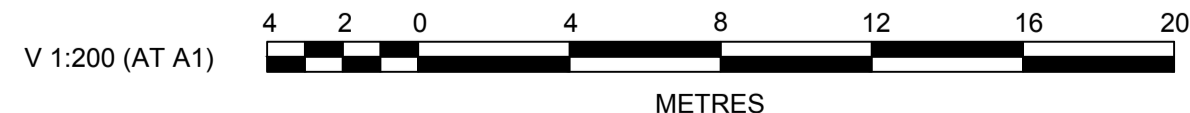


CH 30

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *Joey By*  
 Accreditation No. BPB0565

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E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	18/07/17
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO		21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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CLIENT: **REDBANK** NORTH RICHMOND

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

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ISSUED FOR CONSTRUCTION APPROVAL

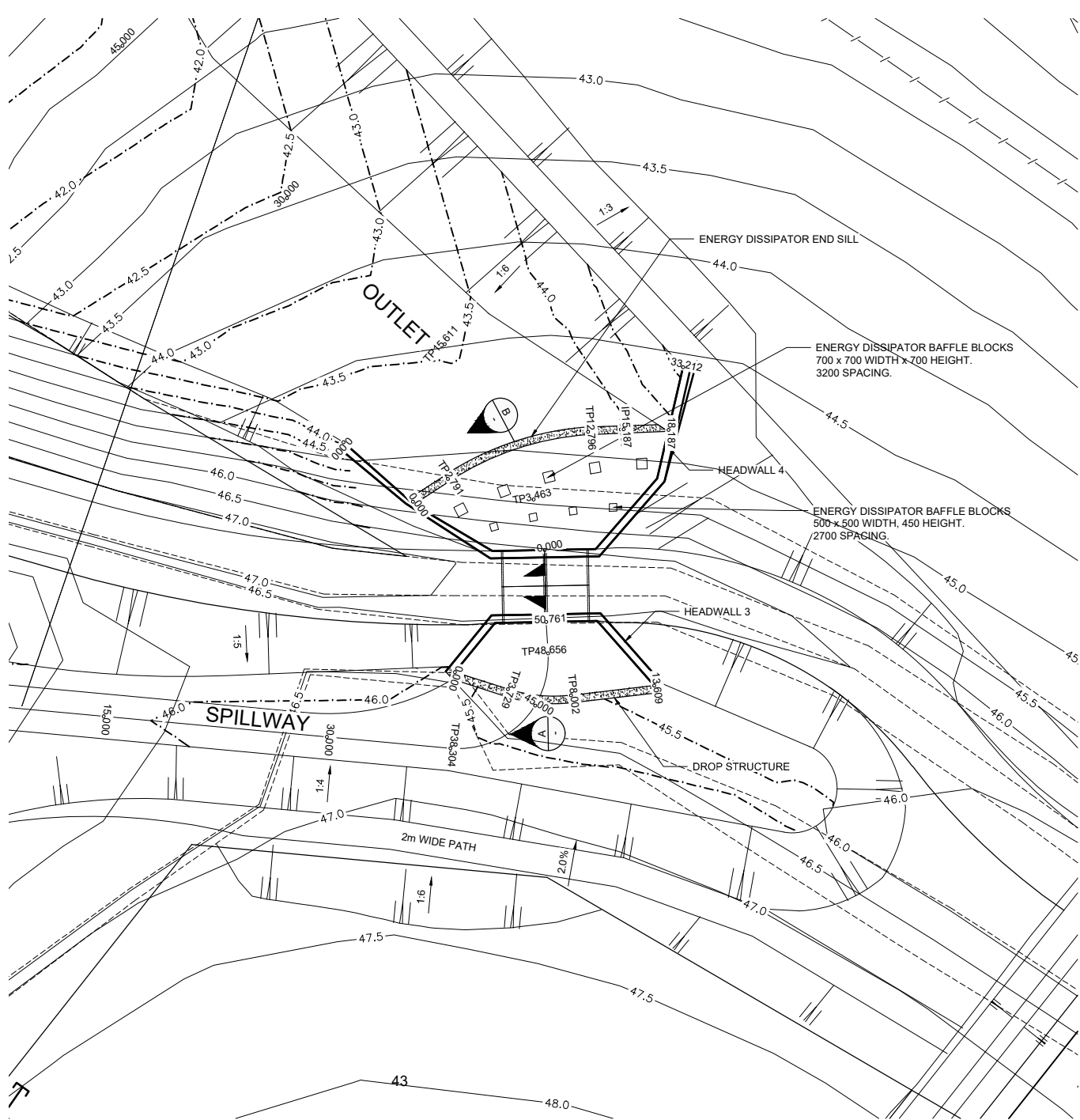
**REDBANK, NORTH RICHMOND  
 BELMONT**

OUTLET CONTROL  
 CROSS SECTIONS

PLAN No: **110185BEL/CC80** E

FILE No: 110185BELCC80

SHEET SIZE: A1 ORIGINAL

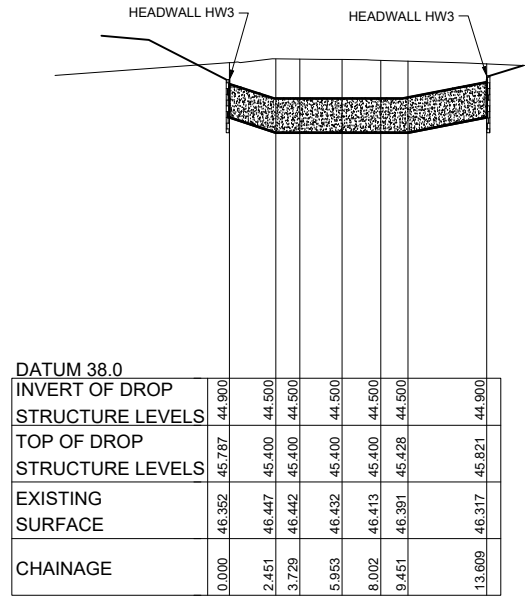
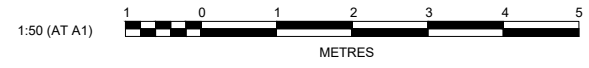


PLAN  
SCALE 1:200

DROP STRUCTURE SETOUT						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D.ANGLE
0.00	285722.75	6282381.83	109°19'19.87"			
3.73	285726.27	6282380.60	109°19'19.87"			
4.84	285727.32	6282380.23		-10	2.22	12°44'23.74"
5.95	285728.43	6282380.10	96°34'56.13"			
6.98	285729.45	6282379.99		-10	2.05	11°44'19.74"
8.00	285730.48	6282380.08	84°50'36.39"			
13.61	285736.06	6282380.58	84°50'36.39"			

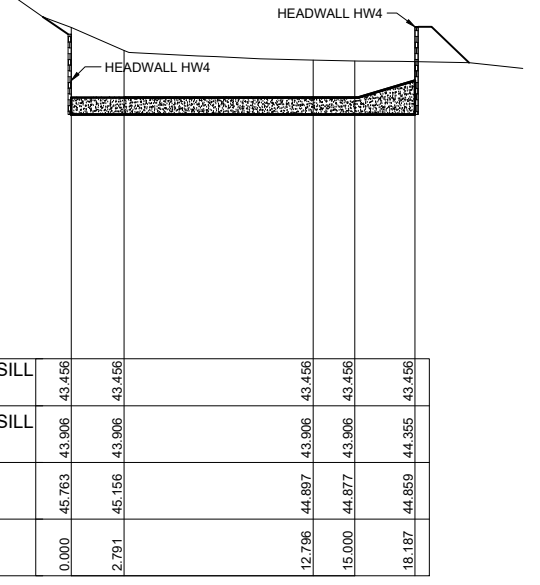
ENERGY DISSIPATOR END SILL SETOUT						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D.ANGLE
0.00	285720.25	6282393.30	58°23'06.81"			
2.79	285722.62	6282394.76	58°23'06.81"			
7.79	285726.98	6282397.44		19.69	10.01	29°06'49.35"
12.80	285732.09	6282397.67				
15.19	285734.47	6282397.77				
18.19	285737.47	6282397.65	92°21'53.71"			

REFER TO STRUCTURAL DESIGN & CERTIFICATION BY INHOUSE CONSULTING ENGINEERS, REFERENCE 16112



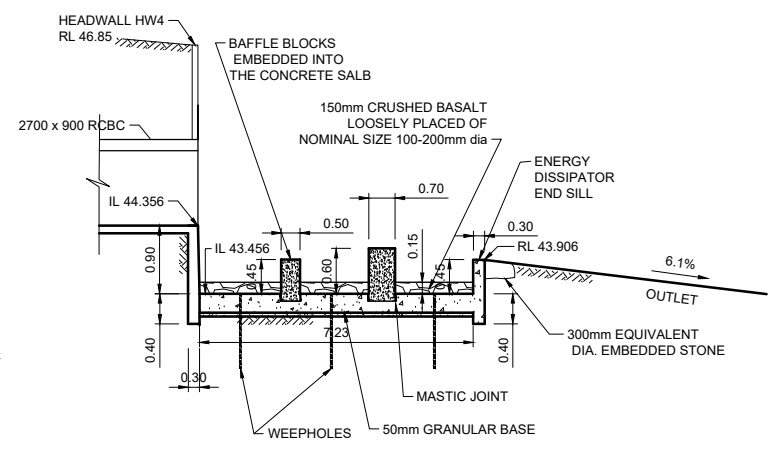
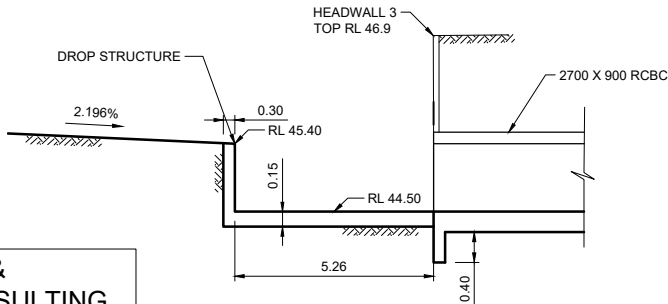
DROP STRUCTURE PROFILE  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

SECTION A  
SCALE H 1:100  
V 1:50



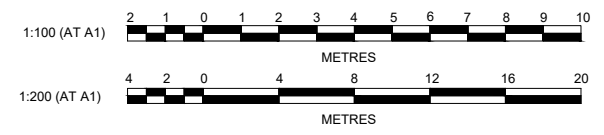
DATUM 37.0				
TOE OF END SILL LEVELS	0.000	2.791	12.796	15.000
TOP OF END SILL LEVELS	43.456	43.906	43.906	43.906
EXISTING SURFACE	45.763	45.156	44.887	44.877
CHAINAGE	0.000	2.791	12.796	15.000

ENERGY DISSIPATOR END SILL PROFILE  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100



SECTION B  
SCALE H 1:100  
V 1:50

**CONSTRUCTION CERTIFICATE**  
Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565  
These plans/specifications form part of the certificate issued 31 July 2017



Plotted: 18 July 2017 5:57:10 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC81.dwg

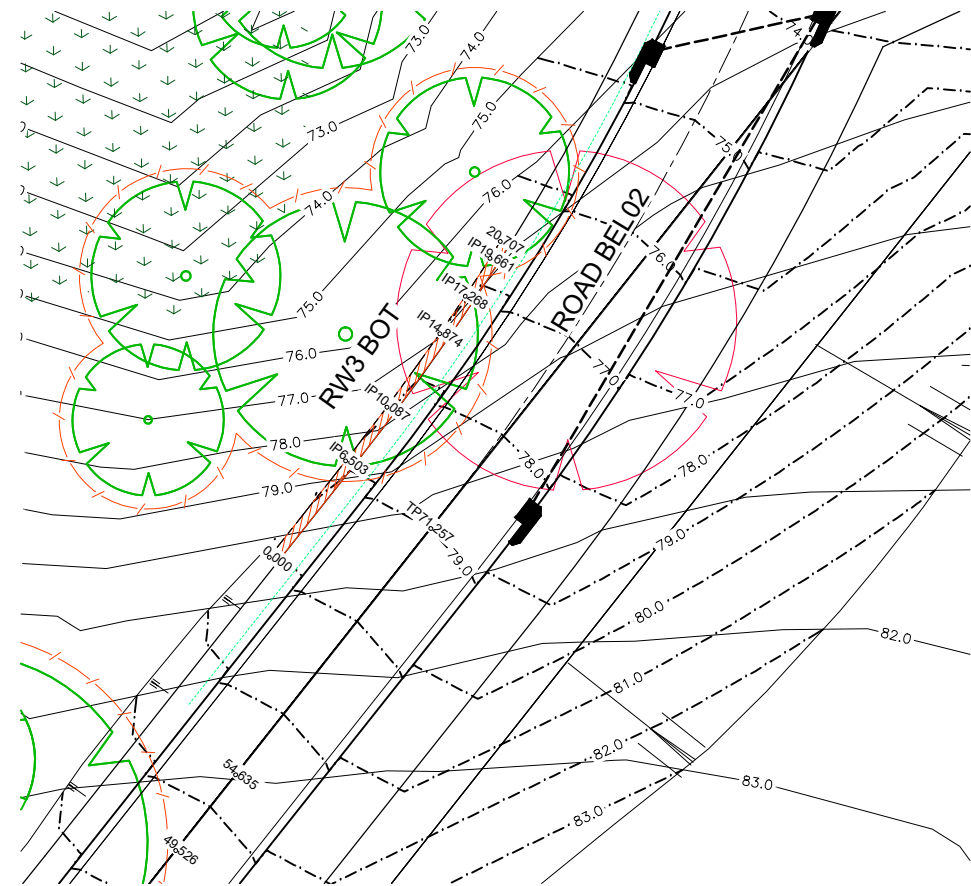
AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG	RO	MS	18/07/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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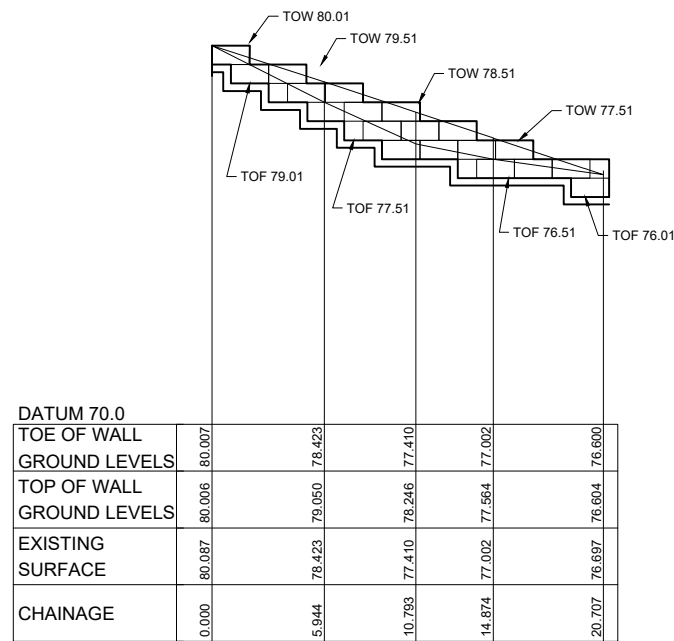
CLIENT: **REDBANK** NORTH RICHMOND  
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**  
RED BANK, NORTH RICHMOND BELMONT  
DROP STRUCTURE & ENERGY DISSIPATOR & DETAILS  
PLAN No: 110185BEL/CC81 [E]  
FILE No: 110185BELCC81  
SHEET SIZE: A1 ORIGINAL

Plotted: 18 July 2017 5:57:32 PM File Name: J:\10185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC82.dwg



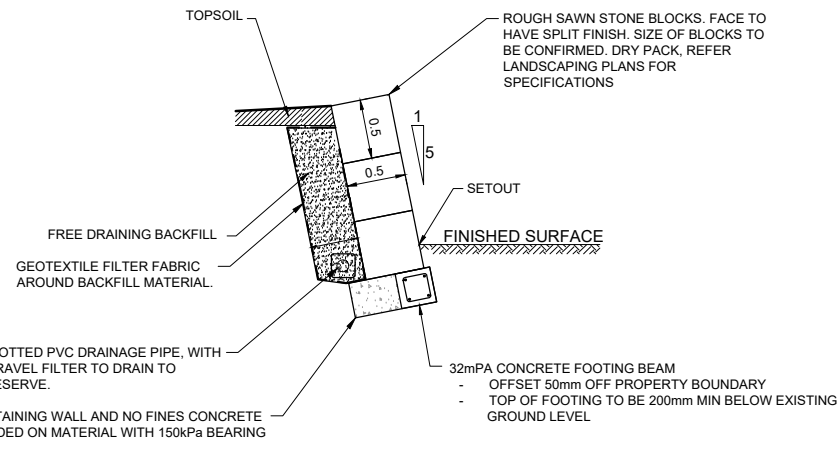
PLAN  
SCALE 1:200



LONGITUDINAL SECTION RW3 BOT  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

RW3 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0.00	285511.25	6281971.93	39°54'50.95"
6.50	285515.42	6281976.92	
10.09	285517.68	6281979.70	
14.87	285520.58	6281983.51	
17.27	285521.98	6281985.45	
19.66	285523.34	6281987.42	
20.71	285523.91	6281988.30	33°01'34.59"

REFER TO STRUCTURAL DESIGN & CERTIFICATION BY INHOUSE CONSULTING ENGINEERS, REFERENCE 16112

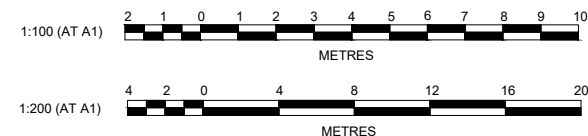


RETAINING WALL 3 DETAIL  
3 (AND LESS) BLOCK ARRANGEMENT (1.5m MAX HEIGHT)  
N.T.S

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

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REVISION F  
• F1 RETAINING WALL, SECTION & SETOUT TABLE REMOVED

AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG	RO	MS	18/07/17
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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CLIENT: **REDBANK** NORTH RICHMOND

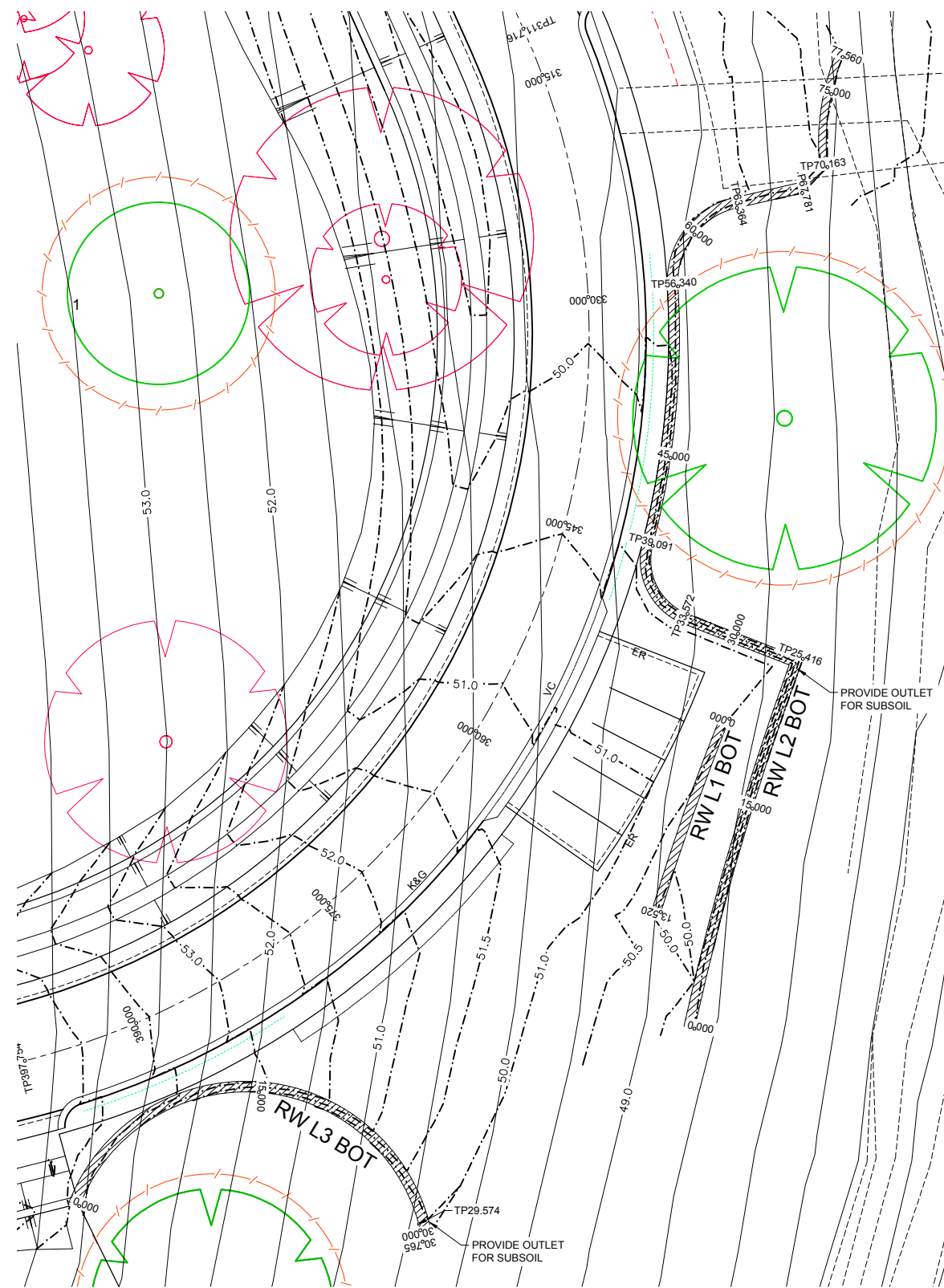
AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
BELMONT  
RETAINING WALL 3  
PLAN & SECTION

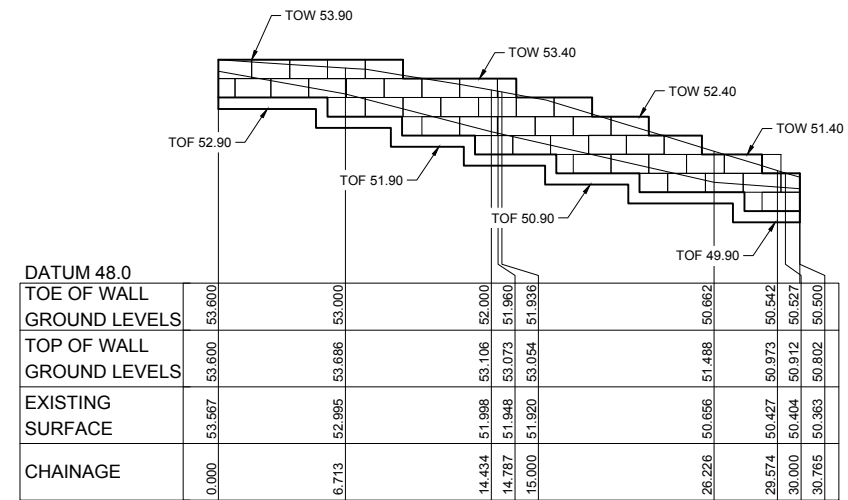
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SHEET SIZE: A1 ORIGINAL

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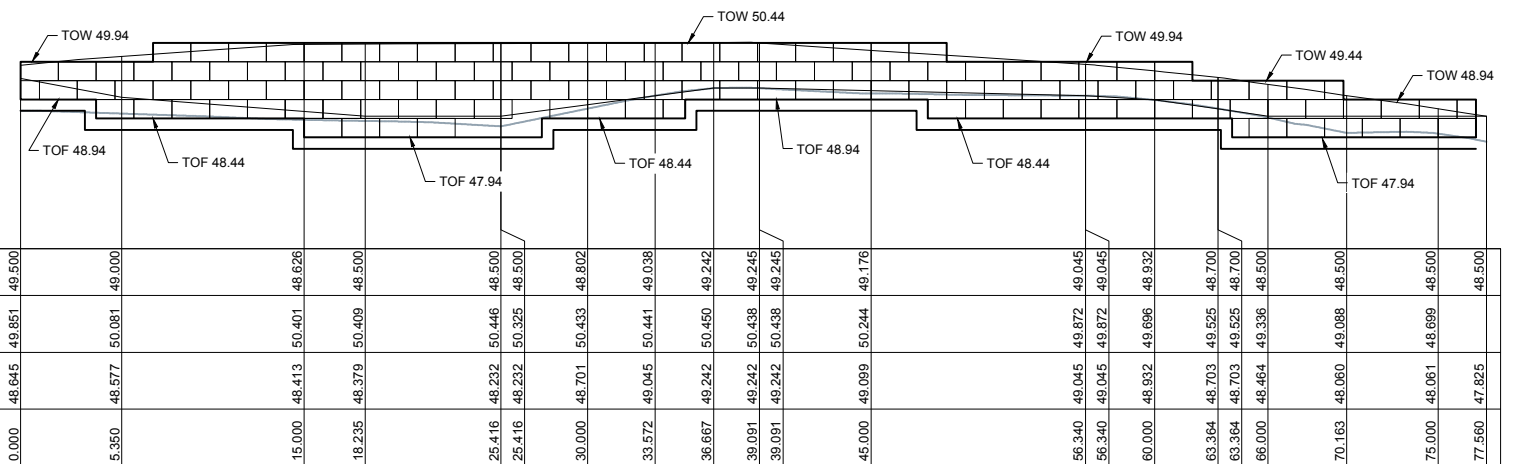
PLAN  
SCALE 1:200

REFER TO STRUCTURAL DESIGN & CERTIFICATION BY INHOUSE CONSULTING ENGINEERS, REFERENCE 16112



LONGITUDINAL SECTION RW L3 BOT  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DATUM 48.0	
TOE OF WALL	
GROUND LEVELS	53.600 53.600 53.000 52.000 51.960 51.936
TOP OF WALL	53.600 53.686 53.106 53.073 53.054 51.936
GROUND LEVELS	53.600 53.686 53.106 53.073 53.054 51.936
EXISTING SURFACE	53.967 52.995 51.998 51.948 51.920 50.866
CHAINAGE	0.000 6.713 14.434 14.787 15.000 26.226



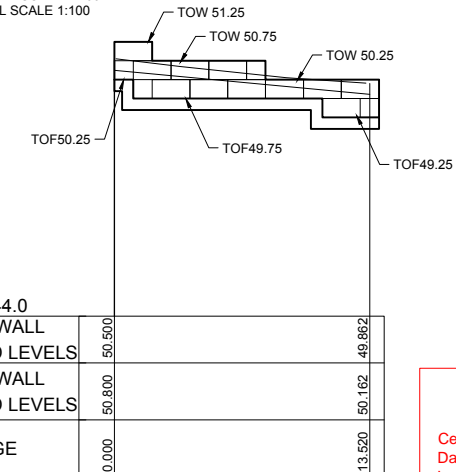
LONGITUDINAL SECTION RW L2 BOT  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DATUM 45.0	
TOE OF WALL	
GROUND LEVELS	49.500 49.000 48.626 48.500 48.500 48.500 48.802 49.038 49.242 49.245 49.245 49.176
TOP OF WALL	49.851 50.081 50.401 50.409 50.448 50.438 50.441 50.450 50.438 50.438 50.244 49.045 49.872 49.045 49.872 49.045 49.896 48.932 49.525 48.700 49.525 48.700 49.336 48.500 49.088 48.500 48.699 48.500 48.500
GROUND LEVELS	49.851 50.081 50.401 50.409 50.448 50.438 50.441 50.450 50.438 50.438 50.244 49.045 49.872 49.045 49.872 49.045 49.896 48.932 49.525 48.700 49.525 48.700 49.336 48.500 49.088 48.500 48.699 48.500 48.500
EXISTING SURFACE	48.645 48.577 48.413 48.379 48.232 48.232 48.701 49.045 49.242 49.242 49.099 49.045 49.045 49.045 49.045 49.932 48.703 48.703 49.525 49.525 48.484 49.336 48.500 48.060 48.061 48.825 48.825
CHAINAGE	0.000 5.350 15.000 18.235 25.416 25.416 30.000 33.572 36.667 39.091 39.091 45.000 56.340 56.340 60.000 63.364 63.364 66.000 70.163 75.000 77.560

RW L1 BOT						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285592.50	6282381.33	203°19'05.51"			
6.76	285589.82	6282375.12		-170.67	13.52	4°32'20.21"
13.52	285587.64	6282368.72	198°46'45.30"			

RW L2 BOT						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285589.65	6282360.98	13°56'09.16"			
12.71	285592.72	6282373.33		185	25.42	7°52'17.73"
25.42	285597.44	6282385.15				
33.57	285589.93	6282388.31				
36.33	285586.82	6282389.62		3.8	5.52	83°12'49.22"
39.09	285587.75	6282392.86				
47.72	285590.15	6282401.22		-55.25	17.25	17°53'07.79"
56.34	285589.87	6282409.91				
59.85	285589.73	6282414.14		5	7.02	80°29'39.94"
63.36	285593.98	6282414.97	78°38'36.09"			
67.78	285598.21	6282415.84				
70.16	285599.92	6282417.51				
73.86	285599.62	6282421.27		15.2	7.4	27°52'52.98"
77.56	285601.11	6282424.73	23°20'09.18"			

RW L3 BOT						
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285548.82	6282350.37	22°43'41.59"			
7.39	285552.12	6282358.24		11.8	14.79	71°48'45.24"
14.79	285560.64	6282357.57	94°32'26.83"			
22.18	285569.15	6282356.89		11.8	14.79	71°48'45.24"
29.57	285571.17	6282348.59				
30.76	285571.37	6282347.42	170°12'24.52"			



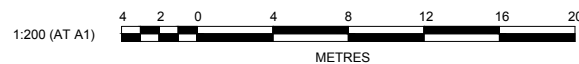
LONGITUDINAL SECTION RW L1 BOT  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

DATUM 44.0	
TOE OF WALL	
GROUND LEVELS	50.500 50.500 50.162 49.862
TOP OF WALL	50.800 50.800 50.162 49.862
GROUND LEVELS	50.800 50.800 50.162 49.862
CHAINAGE	0.000 13.520

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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REDBANK, NORTH RICHMOND  
 BELMONT  
 RETAINING WALLS L1, L2 & L3  
 PLAN & SECTIONS

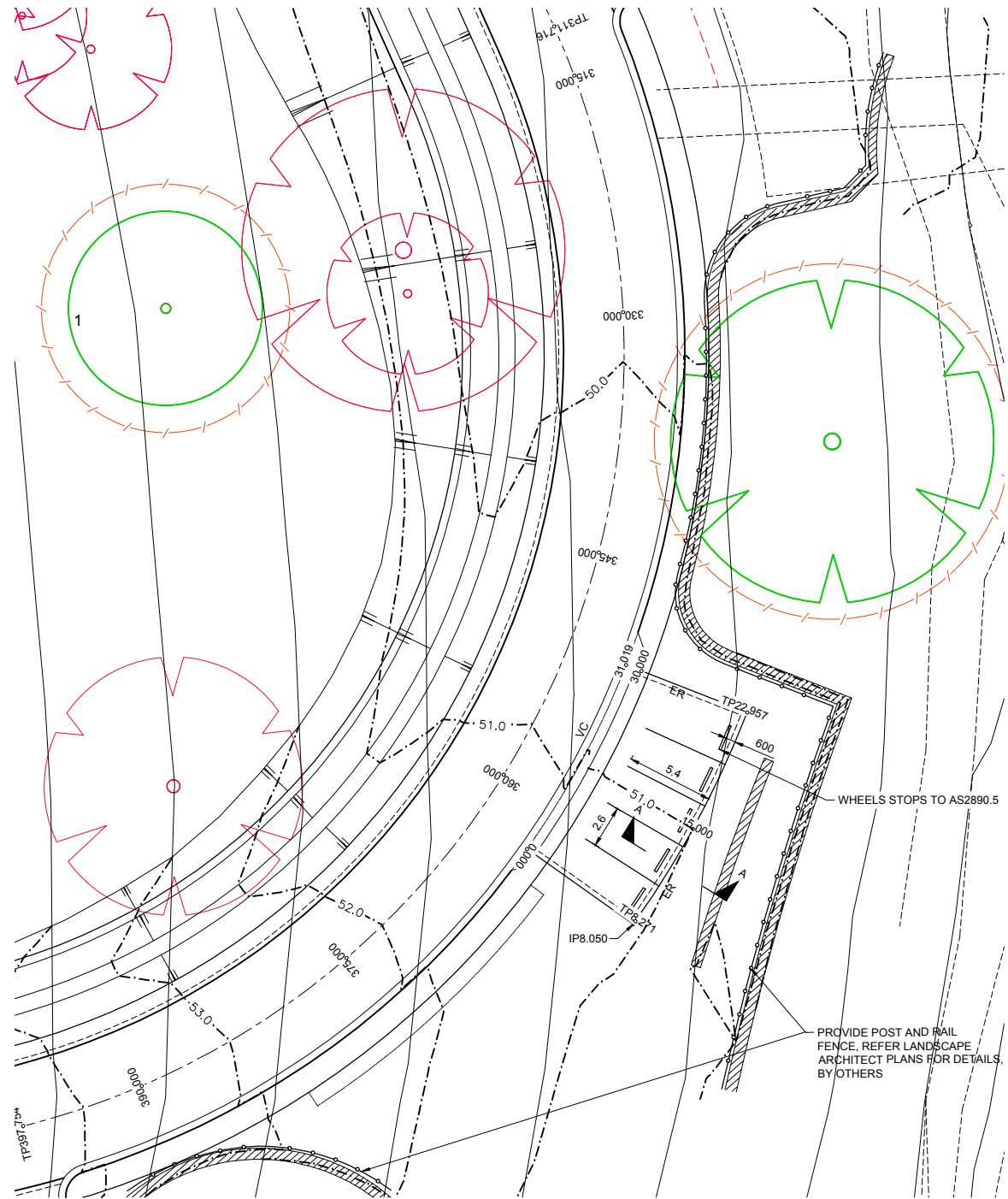
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D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO	RO	21/06/16

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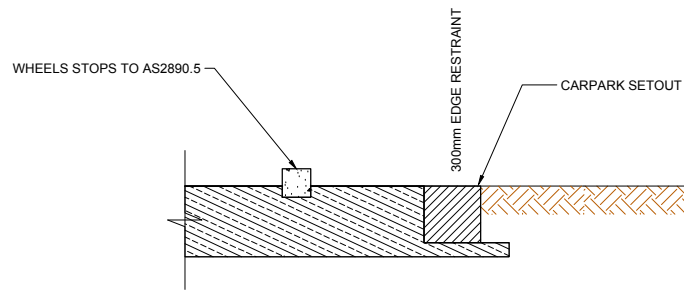
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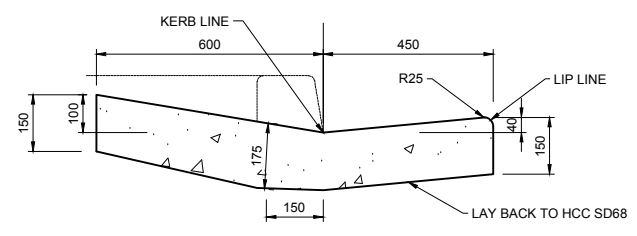


PLAN  
SCALE 1:200

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
0.00	285577.11	6282376.33	126°45'03.46"			
8.05	285583.56	6282371.51				
8.27	285583.70	6282371.69	36°36'14.89"			
15.61	285588.10	6282377.61		-61.1	14.69	13°46'14.59"
22.96	285590.96	6282384.41	22°50'00.30"			
22.97	285590.96	6282384.43				
31.02	285583.54	6282387.55	292°48'20.76"			



SECTION A  
SCALE 1:20



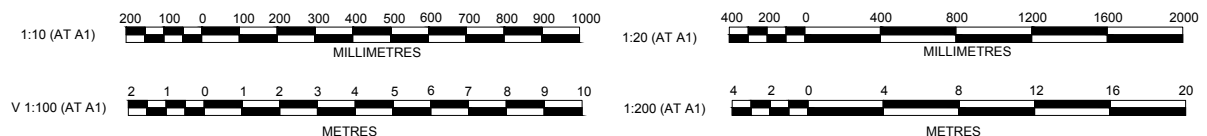
LAY BACK DETAIL  
SCALE 1:20

CHAINAGE	DESIGN LINE GRADING	EXISTING SURFACE	GRADING	EXISTING SURFACE
0.000	50.288	50.288	0.500%	50.288
0.600	50.226	50.226	-2.500%	50.226
1.800	50.104	50.104	-1.702%	50.104
8.271	49.451	49.451	-0.5%	49.451
15.000	49.099	49.099		49.099
22.957	48.906	48.906		48.906
29.219	49.514	49.514		49.514
30.000	49.653	49.653		49.653
30.419	49.620	49.620		49.620
31.019	49.673	49.673		49.673

LONGITUDINAL SECTION CARPARK  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

**PAVEMENT NOTES (CARPARK)**  
 1x10<sup>4</sup>ESA (GEOTECHNICAL REPORT REF: 12261/14-AA-R2)  
 1. TWO COATS HOT BITUMEN FLUSH SEAL  
 2. 125mm DGB 20 BASE COURSE  
 3. 200mm SUB-BASE COURSE

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D	MP	MG	RO	RO	27/09/16
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B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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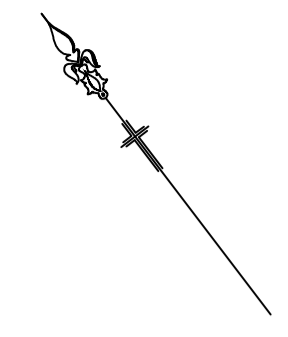
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 DATUM: AHD  
 ORIGIN:

CLIENT:  
  
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 REDBANK, NORTH RICHMOND BELMONT  
 CARPARK PLAN, SECTIONS & DETAILS

PLAN No:	110185BEL/CC84	E
FILE No:	110185BELCC84	
SHEET SIZE:	A1 ORIGINAL	

# PHASE 1 - PRE-CIVIL WORKS COMMENCEMENT

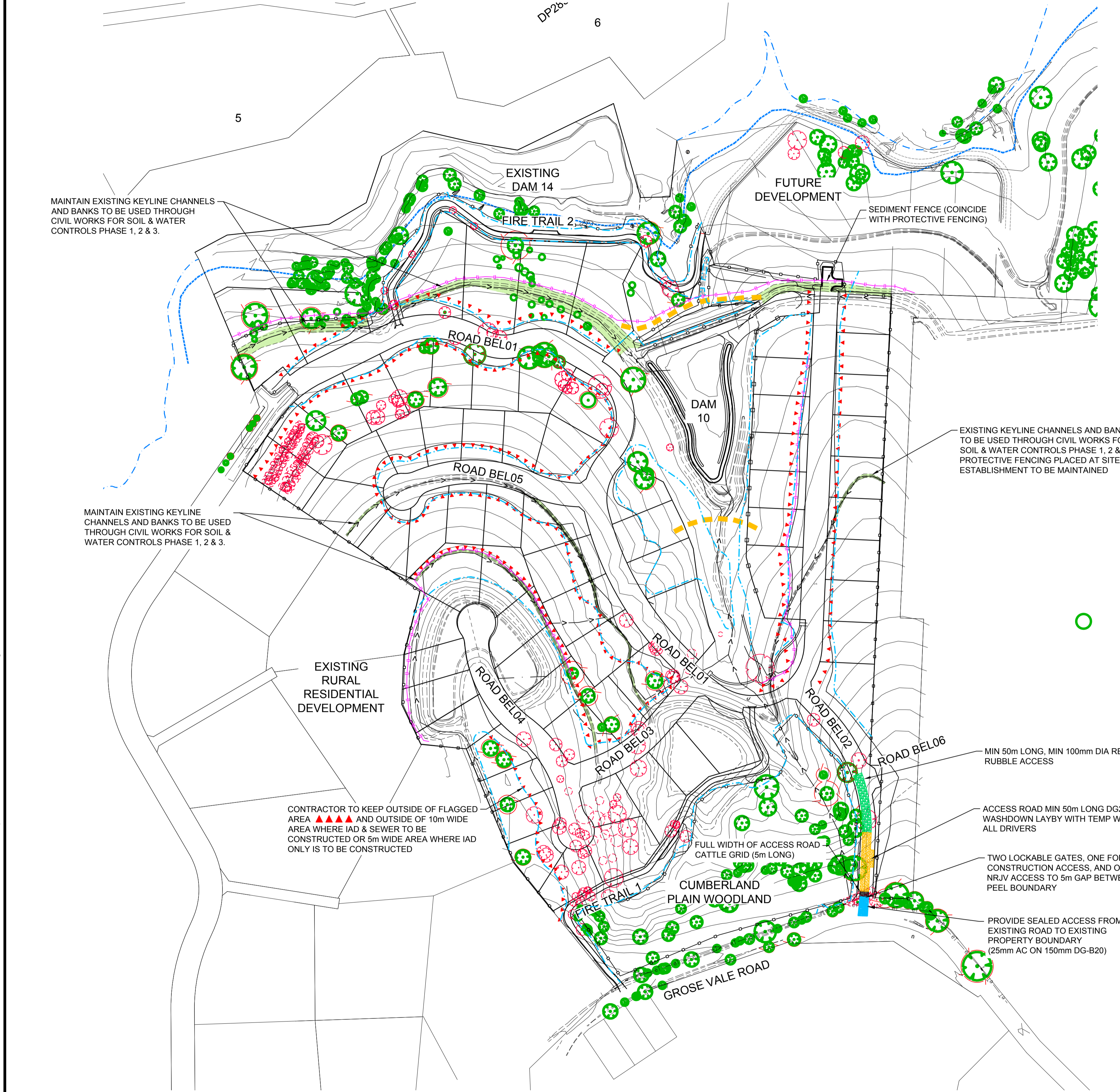


LEGEND	
CATCH DRAIN	
SEDIMENT FENCE	
EXISTING CONTOURS	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE REMOVED	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)	
STRAW BALE FILTER	

## PHASE 1 SOIL AND WATER MANAGEMENT:

- ENSURE ALL CATCH DRAINS ARE CONNECTED AND DRAIN TO DAM 10
- MAINTAIN ALL PROTECTIVE FENCES AND SITE ACCESS AS INSTALLED ON PRELIMINARY PHASE

**NOTE:**  
REFER TO LANDSCAPE ARCHITECT PLANS FOR TREE MANAGEMENT AND PROTECTION DETAILS.



MAINTAIN EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3.

MAINTAIN EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3.

EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3. PROTECTIVE FENCING PLACED AT SITE ESTABLISHMENT TO BE MAINTAINED

CONTRACTOR TO KEEP OUTSIDE OF FLAGGED AREA ▲▲▲▲ AND OUTSIDE OF 10m WIDE AREA WHERE IAD & SEWER TO BE CONSTRUCTED OR 5m WIDE AREA WHERE IAD ONLY IS TO BE CONSTRUCTED

MIN 50m LONG, MIN 100mm DIA RECYCLED CONCRETE RUBBLE ACCESS

ACCESS ROAD MIN 50m LONG DG20+ ONE COAT SEAL WITH WASHDOWN LAYBY WITH TEMP WATER TANK/PUMP/HOSE BY ALL DRIVERS

TWO LOCKABLE GATES, ONE FOR CONSTRUCTION ACCESS, AND OTHER FOR NRJV ACCESS TO 5m GAP BETWEEN ATF TO PEEL BOUNDARY

PROVIDE SEALED ACCESS FROM EXISTING ROAD TO EXISTING PROPERTY BOUNDARY (25mm AC ON 150mm DG-B20)

REVISION G  
• FIRE TRAIL 1 & 2 ALIGNMENTS AMENDED



NO	DESCRIPTION	MP	MG	MS	MS	DATE
G	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	MS	MS	13/02/17
F	FIRE TRAIL 2 AMENDED	MP	NA	MS	MS	20/10/16
E	CLIENT COMMENTS	VG	LS	MS	RO	27/09/16
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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SOIL & WATER MANAGEMENT PLAN  
PHASE 1 - OVERALL SITE

**CONSTRUCTION CERTIFICATE**

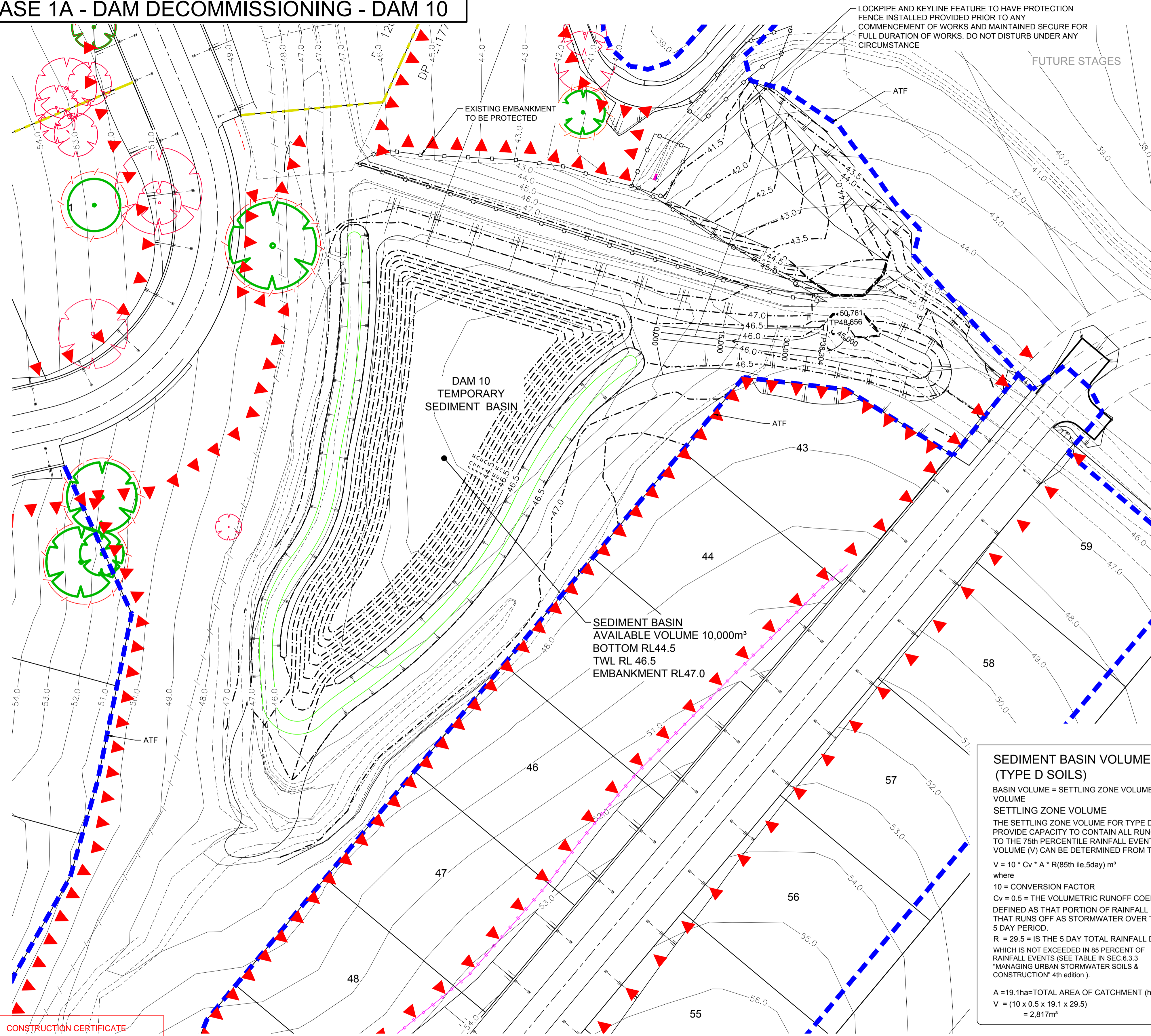
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# PHASE 1A - DAM DECOMMISSIONING - DAM 10



## DAM DECOMMISSIONING - DAM 10 PROCESS (REF DAM DECOMMISSIONING & HERITAGE IMPACT STATEMENT)

1. INSTALL PUMP AND FLOATING INLET & OUTLET HOSE WITH DISCHARGE (OUTLET) POINT TO BE DIRECTED ACROSS LANDFORM CONTOUR AND INTO AREA OF THICK EXISTING GRASS WITHIN 10m OF DAM 1 DOWNSTREAM FACE WITH OUTLET TO CAGE WRAPPED IN SEDIMENT FENCE
2. START ARCHIVAL RECORDING OF DAM AT THIS POINT. ALL RECORDING TO BE UNDERTAKEN WITH REFERENCE TO NSW HERITAGE OFFICE ARCHIVAL RECORDING GUIDELINE, DATED JUNE 1998. ALL SIGNIFICANT INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO VALVES, PIPES, STRUCTURES) TO BE CAREFULLY REMOVED IN AS LARGE SECTIONS AS POSSIBLE, LABELLED AND STORED IN A SECURE CONTAINER ONSITE FOR SEPARATE ASSESSMENT BY HERITAGE CONSULTANT.
3. CHECK MIN DEPTH OF WATER IN DAM. IF OVER 1m TURN ON PUMP UNTIL MIN DEPTH OF 1m ACHIEVED. IF AT OR UNDER 1m MIN DEPTH CONTACT ECOLOGIST (MOLSTEN) TO BE PRESENT FOR IDENTIFYING AND RELOCATION FAUNA TO DAM 10.
4. ALL SOIL AND EROSION CONTROLS TO BE CHECKED IN PLACE AND FUNCTIONAL BY CONTRACTOR / SUPERINTENDENT AND PRINCIPLE. SEE SOIL & EROSION CONTROLS - PHASE 1.
5. BULK EARTHWORKS APPROVED TO START BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT TO REMOVE 1m OF DAM WALL.
6. ARCHIVAL PHOTO RECORDING.
7. BULK EARTHWORKS TO REMOVE A FURTHER 1m.
8. ARCHIVAL PHOTO RECORDING.
9. REPEAT (7) & (8) UNTIL LANDFORM DESIGN CONTOURS ACHIEVED, WITH AT ALL TIMES UNEXPECTED FINDS PROTOCOL TO BE COMPLIED WITH FOR EUROPEAN AND ECOLOGY.
  - a. PIPE / VALVE / DAM CORE FOR EXAMPLE, MATERIAL DISCOVERED.
  - b. STOP ALL WORK. SUPERVISOR CONTACTED, WITHIN 1 HOUR.
  - c. SITE SUPERVISOR TO NOTIFY CONTRACTOR SYSTEMS OFFICER AND PM, WITHIN 1 HOUR.
  - d. IF ECOLOGICAL SUPERINTENDENT / PRINCIPAL / CONSULTANT TO INSPECT SAME DAY AND IF NECESSARY FIND RECOVERED AND RELOCATED.
  - e. IF HERITAGE CONSULTANT / PRINCIPAL / CONSULTANT TO INSPECT WITH 24 HOURS AND IF NECESSARY FIND EXTRACTED, LABELLED AND STORED.
  - f. ALL OTHER PROTOCOLS AS PER CONTRACTOR "EMERGENCY AND INCIDENT PREPAREDNESS AND RESPONSE - ON SITE" REQUIREMENTS
10. FINAL ARCHIVAL PHOTO RECORDING.
11. INSPECTION BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT.

LEGEND	
STAR PICKET / FLAGGING	
SEDIMENT FENCE	
ATF FENCE	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	

**SEDIMENT BASIN VOLUME CALCULATIONS (TYPE D SOILS)**

BASIN VOLUME = SETTLING ZONE VOLUME + SEDIMENT STORAGE ZONE VOLUME

**SETTLING ZONE VOLUME**

THE SETTLING ZONE VOLUME FOR TYPE D SOILS IS CALCULATED TO PROVIDE CAPACITY TO CONTAIN ALL RUNOFF EXPECTED FROM UP TO THE 75th PERCENTILE RAINFALL EVENT. THE SETTLING ZONE VOLUME (V) CAN BE DETERMINED FROM THE FOLLOWING:

$$V = 10 \cdot C_v \cdot A \cdot R(85th \text{ ile, 5day}) \text{ m}^3$$

where

- 10 = CONVERSION FACTOR
- $C_v = 0.5$  = THE VOLUMETRIC RUNOFF COEFFICIENT, DEFINED AS THAT PORTION OF RAINFALL THAT RUNS OFF AS STORMWATER OVER THE 5 DAY PERIOD.
- $R = 29.5$  = IS THE 5 DAY TOTAL RAINFALL DEPTH (mm) WHICH IS NOT EXCEEDED IN 85 PERCENT OF RAINFALL EVENTS (SEE TABLE IN SEC 6.3.3 "MANAGING URBAN STORMWATER SOILS & CONSTRUCTION" 4th edition).

$A = 19.1ha$  = TOTAL AREA OF CATCHMENT (ha)

$$V = (10 \times 0.5 \times 19.1 \times 29.5) = 2,817\text{m}^3$$

**SEDIMENT STORAGE ZONE VOLUME**

THE SEDIMENT STORAGE ZONE VOLUME CAN BE CALCULATED AS BEING EQUAL TO THE AVERAGE 2 MONTH SOIL LOSS FROM THE DISTURBED AREAS OF THE CATCHMENT. THIS VOLUME (V) IS DETERMINED BY THE REVISED UNIVERSAL SOIL LOSS EQUATION (RUSLE):

$$V = 0.12 \cdot A \cdot (R \cdot K \cdot L_s \cdot P \cdot C) / 1.3 \text{ m}^3$$

where

- 0.12 = A FACTOR CONVERTING ANNUAL ESTIMATED SOIL LOSS TO THE 2 MONTH SOIL LOSS
- $R = 2,500$  = RUSLE R FACTOR
- $K = 0.059$  = RUSLE K FACTOR
- $L_s$  = RUSLE  $L_s$  FACTOR
- $P = 1.3$  = RUSLE P FACTOR
- $C = 1$  = RUSLE C FACTOR
- 1.3 = A FACTOR TO CONVERT TONNES TO CUBIC METRES BASED ON A TYPICAL DENSITY OF SATURATED SEDIMENT OF 1.3

$A = 6.93$  = THE DISTURBED AREA (ha)

$L_s = 4.08$

$$V = 0.12 \times 6.93 \times (2500 \times 0.059 \times 4.08 \times 1.3 \times 1) / 1.3 = 500\text{m}^3$$

SEDIMENT BASIN VOLUME REQUIRED FOR 50% SETTLINGS ZONE =  $2,817\text{m}^3 + 1,409\text{m}^3$

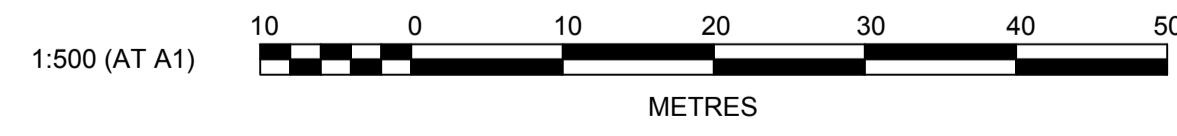
$$V = 4,226 \text{ m}^3$$

APPENDIX A "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION" 4th edition.

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 BELMONT

SOIL & WATER MANAGEMENT PLAN  
 PHASE 1A - DAM 10 SEDIMENT BASIN

PLAN No: 110185BEL/CC91 G

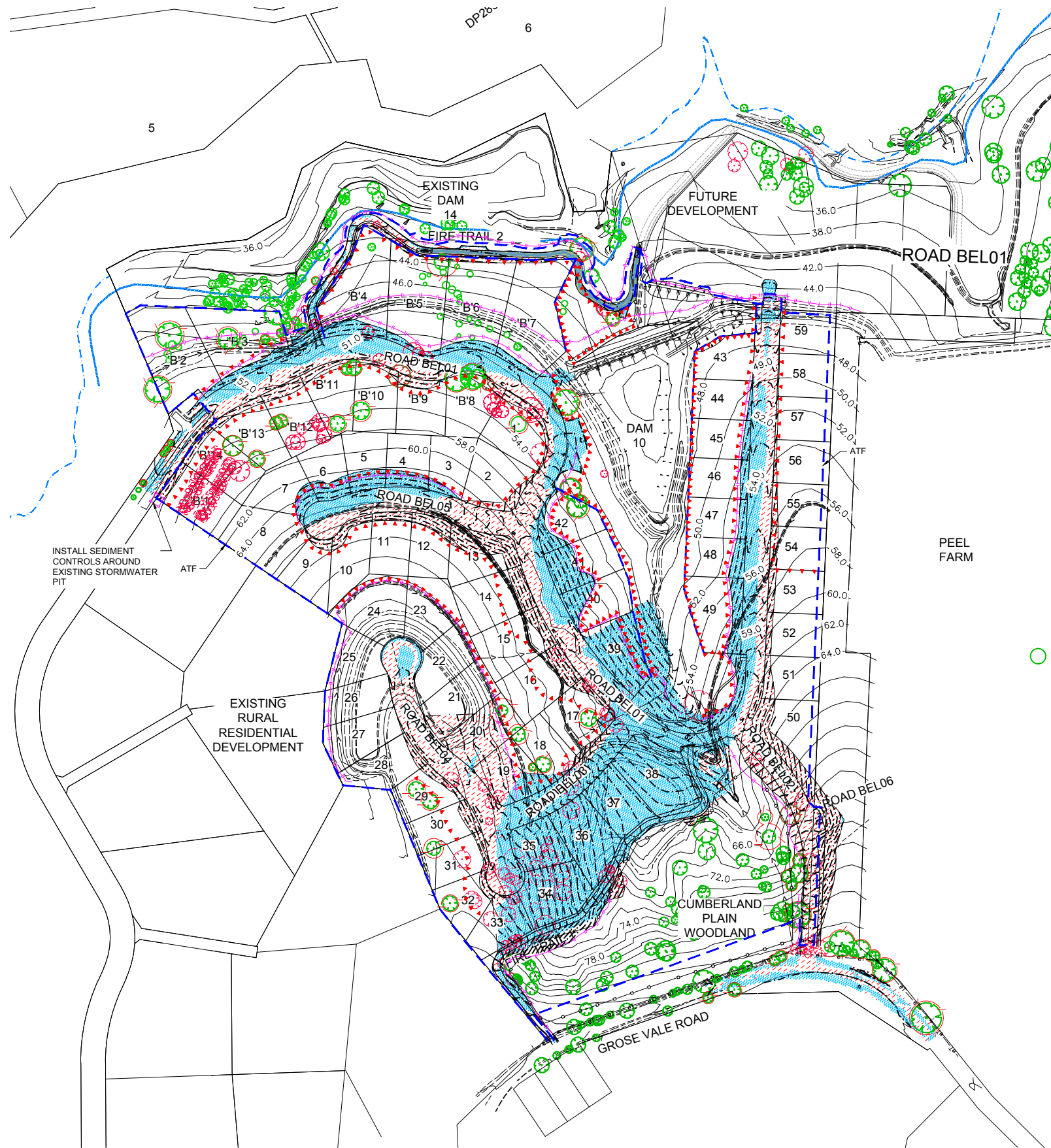
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E	CLIENT COMMENTS	VG	LS	MS	RO	27/09/16
D	CERTIFIER COMMENTS	MP	MG	RO	RO	29/07/16
C	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	13/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	21/06/16
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# PHASE 2 BULK EARTHWORKS



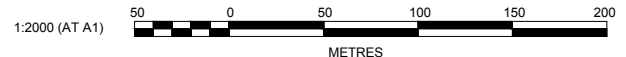
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SEDIMENT FENCE	
EXISTING CONTOURS	
ATF FENCE	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE REMOVED	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)	
SITE CUT	
SITE FILL	

## PHASE 2 SOIL AND WATER MANAGEMENT;

1. MAINTAIN PROTECTIVE FENCING TO CPW, RIPARIAN CORRIDOR AND LAND TO BE UNDISTURBED.
2. MAINTAIN DAM 10 SEDIMENT BASIN.
3. MAINTAIN TREE PROTECTIVE FENCING.
4. ENSURE ALL CATCH DRAINS ARE CONNECTED AND DRAIN TO DAM 10
5. MAINTAIN SEDIMENT FENCE

**NOTE:**  
REFER TO LANDSCAPE ARCHITECT PLANS FOR TREE MANAGEMENT AND PROTECTION DETAILS.

REVISION G  
 • CUT & FILL AMENDED  
 • FIRE TRAIL 1 & 2 ALIGNMENT AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
G	MP	MG	MS	MS	13/02/17
F	MP	NA	MS	RO	20/10/16
E	VG	LS	MS	RO	27/09/16
D	MP	MG	RO	RO	29/07/16
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 SOIL & WATER MANAGEMENT PLAN  
 PHASE 2 BULK EARTHWORKS

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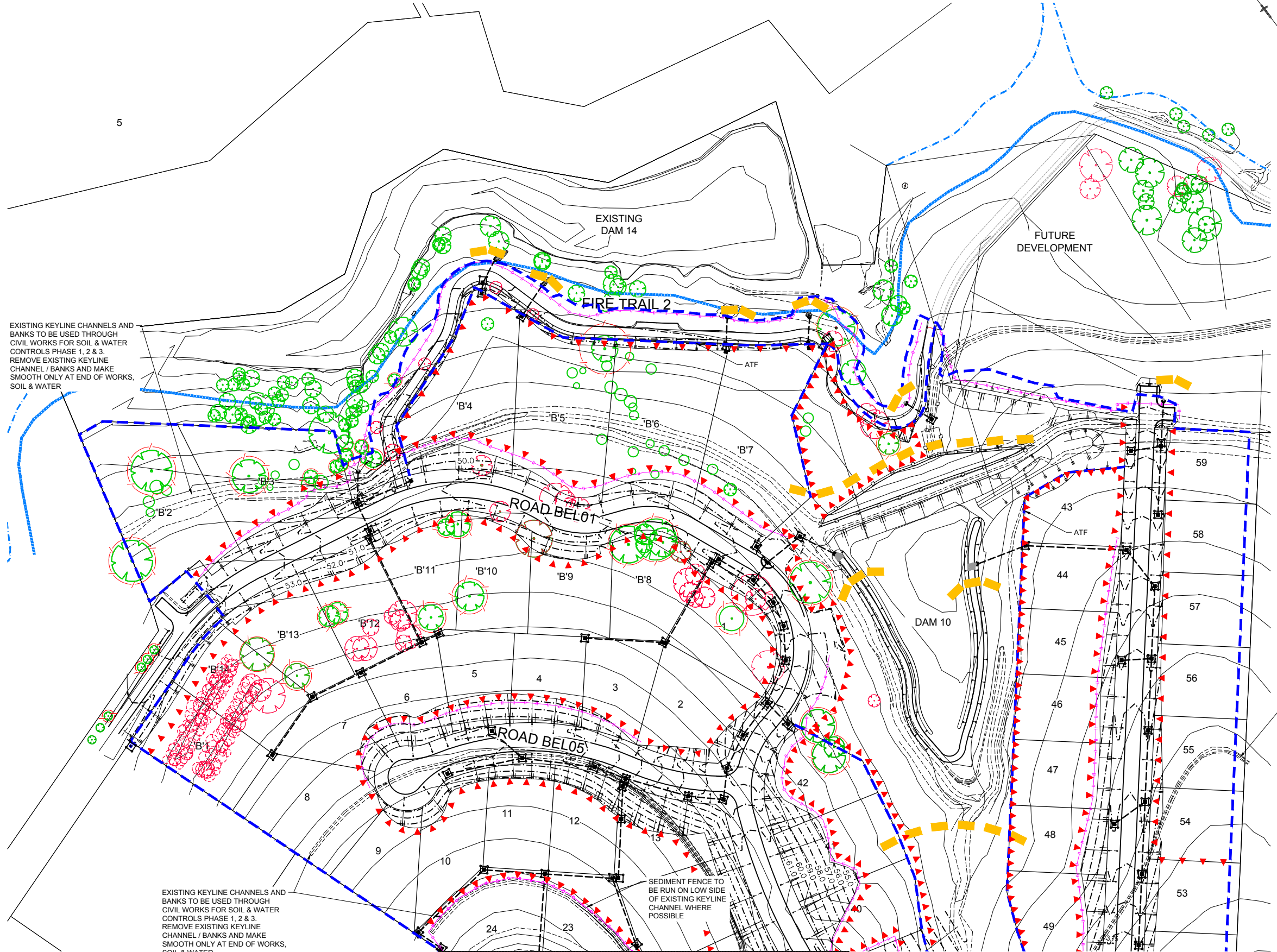
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FILE No:	110185BELCC92	
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# PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

LEGEND	
SEDIMENT FENCE	
EXISTING CONTOURS	
DESIGN CONTOURS	
ATF FENCE	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE REMOVED	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (i.e. CPW)	
STRAW BALE FILTER	
FILTER ROLLS (AT KERB INLET PIT)	
SURFACE INLET SEDIMENT TRAP	



### PHASE 3 SOIL AND WATER MANAGEMENT:

1. MAINTAIN PROTECTIVE FENCING TO CPW, RIPARIAN CORRIDOR AND LAND TO BE UNDISTURBED.
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

**NOTE:**  
REFER TO LANDSCAPE ARCHITECT PLANS FOR TREE MANAGEMENT AND PROTECTION DETAILS.

EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3. REMOVE EXISTING KEYLINE CHANNEL / BANKS AND MAKE SMOOTH ONLY AT END OF WORKS, SOIL & WATER. STABILISE WITH SPRAY GRASS OR SIMILAR AS SOON AS POSSIBLE AFTER THE EXISTING KEYLINE IS REMOVED

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36

Date of Issue 31 July 2017

Issuing Officer *Jerry Prince*

Accreditation No. BPP0565

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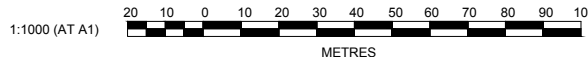
EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3. REMOVE EXISTING KEYLINE CHANNEL / BANKS AND MAKE SMOOTH ONLY AT END OF WORKS, SOIL & WATER

EXISTING KEYLINE CHANNELS AND BANKS TO BE USED THROUGH CIVIL WORKS FOR SOIL & WATER CONTROLS PHASE 1, 2 & 3. REMOVE EXISTING KEYLINE CHANNEL / BANKS AND MAKE SMOOTH ONLY AT END OF WORKS, SOIL & WATER

SEDIMENT FENCE TO BE RUN ON LOW SIDE OF EXISTING KEYLINE CHANNEL WHERE POSSIBLE

REFER TO DRAWING 110185BELCC94 FOR CONTINUATION

REVISION G	
•	DESIGN SURFACE & BATTER INTERFACE AMENDED
•	FIRE TRAIL 2 ALIGNMENT AMENDED



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E	CLIENT COMMENTS	VG	LS	MS	RO	27/09/16
D	CERTIFIER COMMENTS	MP	MG	RO	RO	29/07/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
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	AMENDMENT	DES	DRN	CKD	APR	DATE

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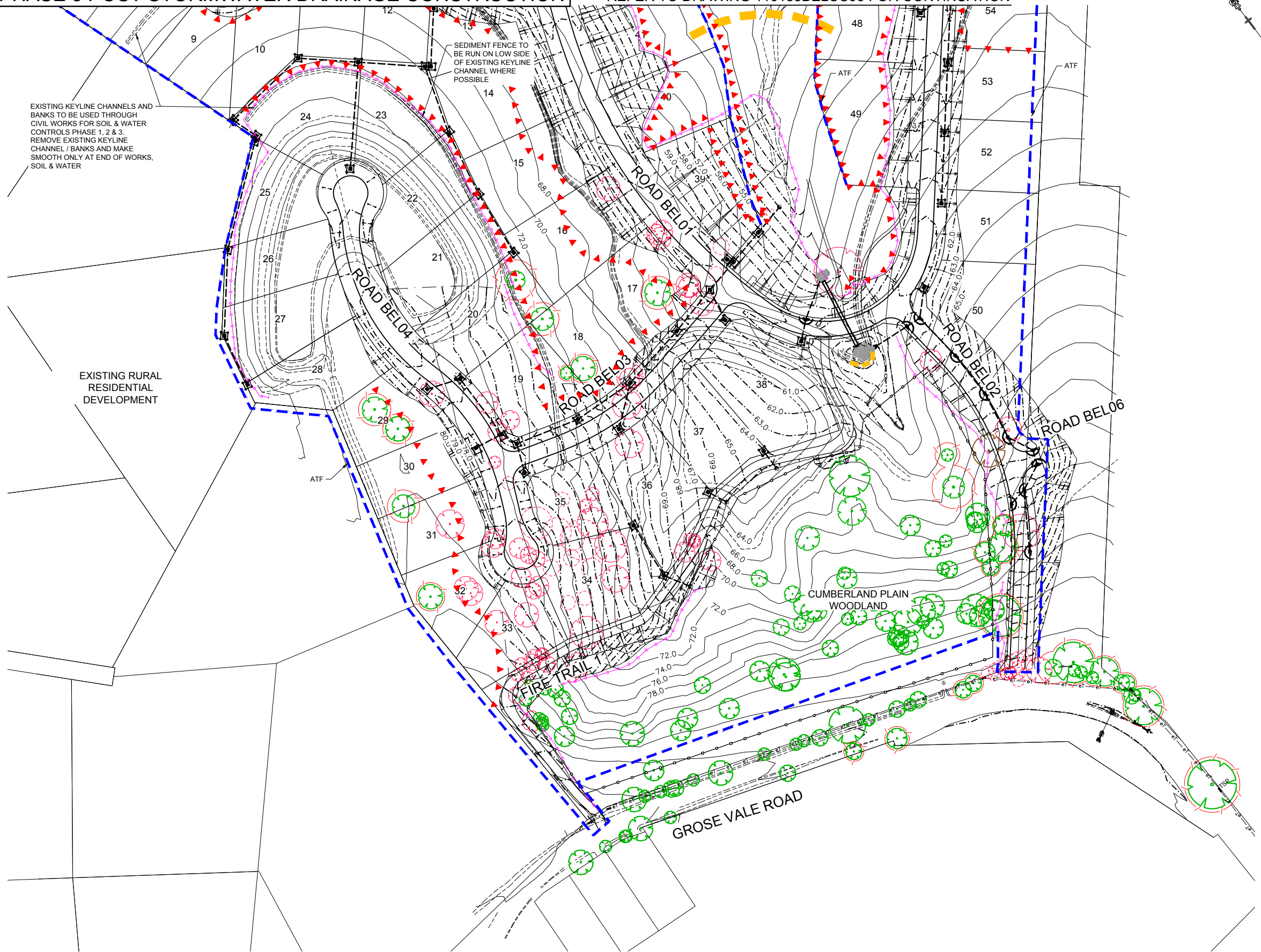
**REDBANK, NORTH RICHMOND BELMONT**

SOIL & WATER MANAGEMENT PLAN PHASE 3  
 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 1

PLAN No:	110185BEL/CC93	<b>G</b>
FILE No:	110185BELCC93	
SHEET SIZE:	A1 ORIGINAL	

# PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

REFER TO DRAWING 110185BELCC93 FOR CONTINUATION



LEGEND	
SEDIMENT FENCE	
EXISTING CONTOURS	
DESIGN CONTOURS	
ATF FENCE	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE REMOVED	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (i.e. CPW)	
STRAW BALE FILTER	
FILTER ROLLS (AT KERB INLET PIT)	
SURFACE INLET SEDIMENT TRAP	

## PHASE 3 SOIL AND WATER MANAGEMENT:

1. MAINTAIN PROTECTIVE FENCING TO CPW, RIPARIAN CORRIDOR AND LAND TO BE UNDISTURBED.
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

**NOTE:**  
REFER TO LANDSCAPE ARCHITECT PLANS FOR TREE MANAGEMENT AND PROTECTION DETAILS.

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36

Date of Issue 31 July 2017

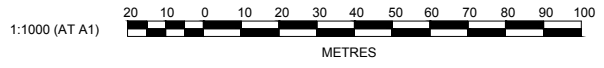
Issuing Officer *[Signature]* BPB0565

Accreditation No. BPB0565

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**REVISION F**

- DESIGN SURFACE & BATTER INTERFACE AMENDED
- FIRE TRAIL 1 ALIGNMENT AMENDED



AMENDMENT	DES	DRN	CKD	APR	DATE
F	MP	MG			
E	MP	NA	MS	MS	13/02/17
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**

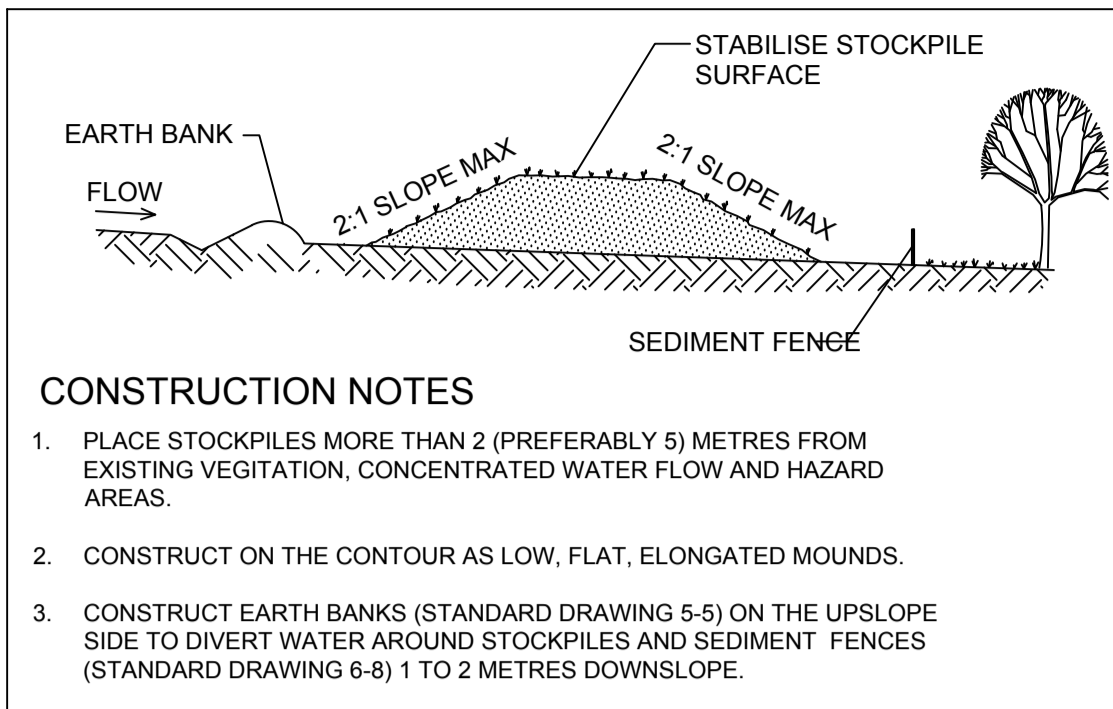
SOIL & WATER MANAGEMENT PLAN PHASE 3  
 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 2

PLAN No: 110185BEL/CC94 **F**

FILE No: 110185BELCC94

SHEET SIZE: A1 ORIGINAL

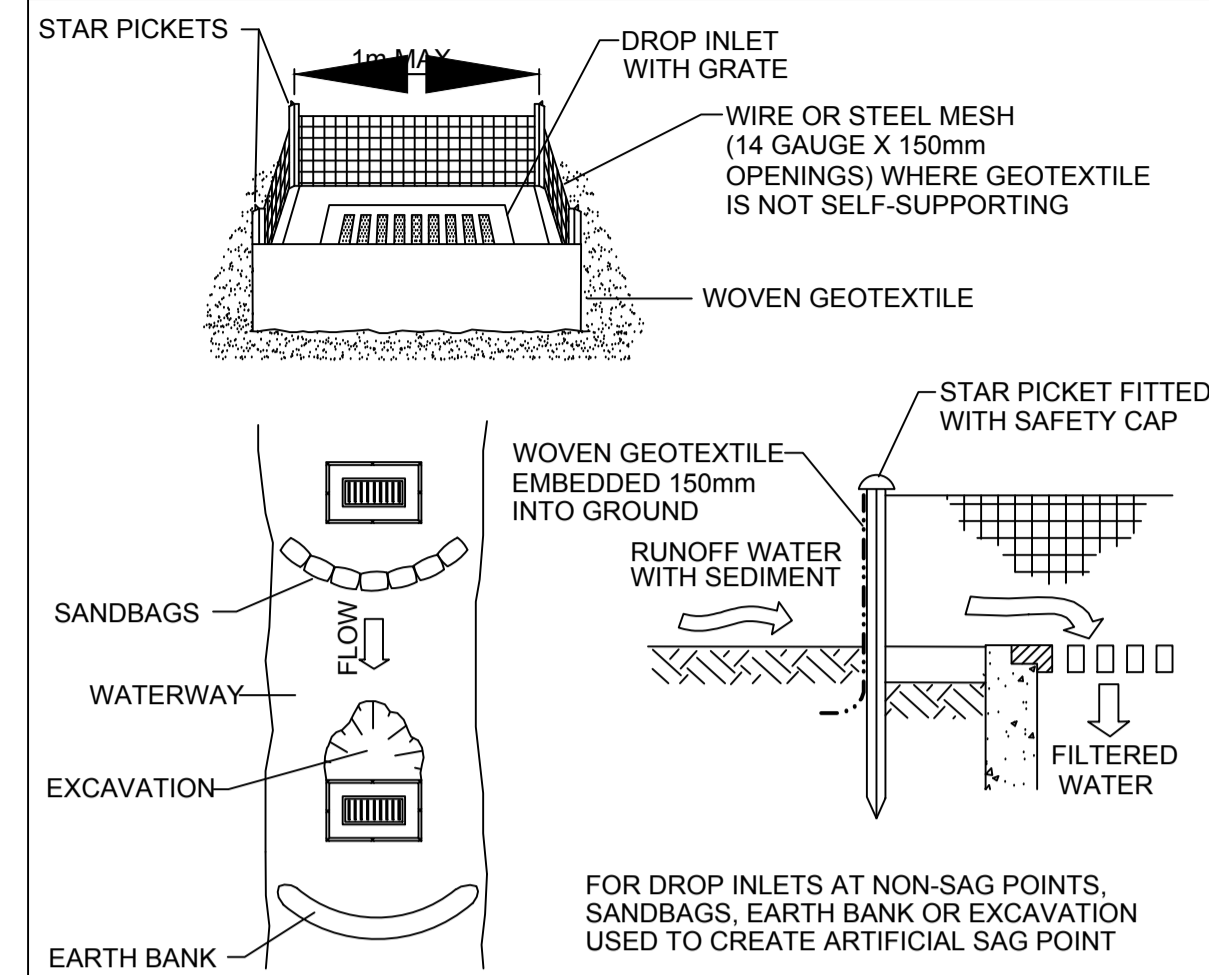
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**CONSTRUCTION NOTES**

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

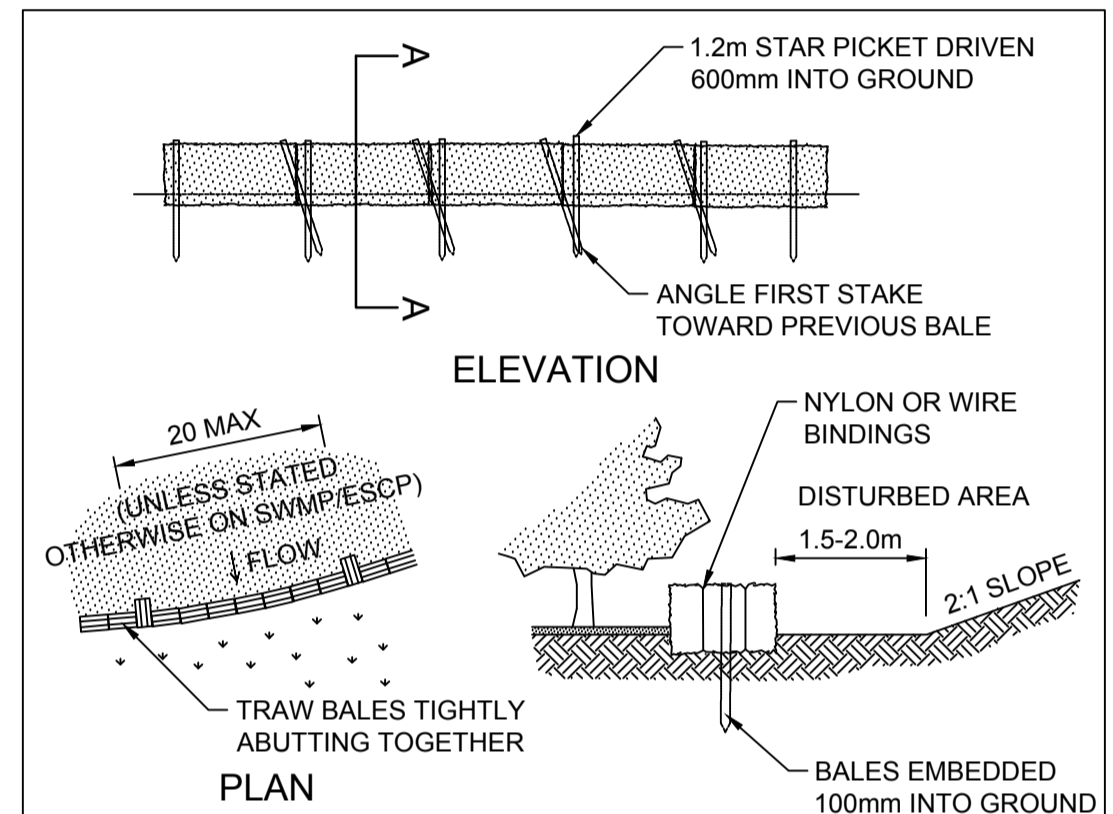
**STOCKPILE SD4-1**  
N.T.S.



**CONSTRUCTION NOTES**

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOTEXTILE. REDUCE THE PICKET SPACING TO 1m CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWINGS.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

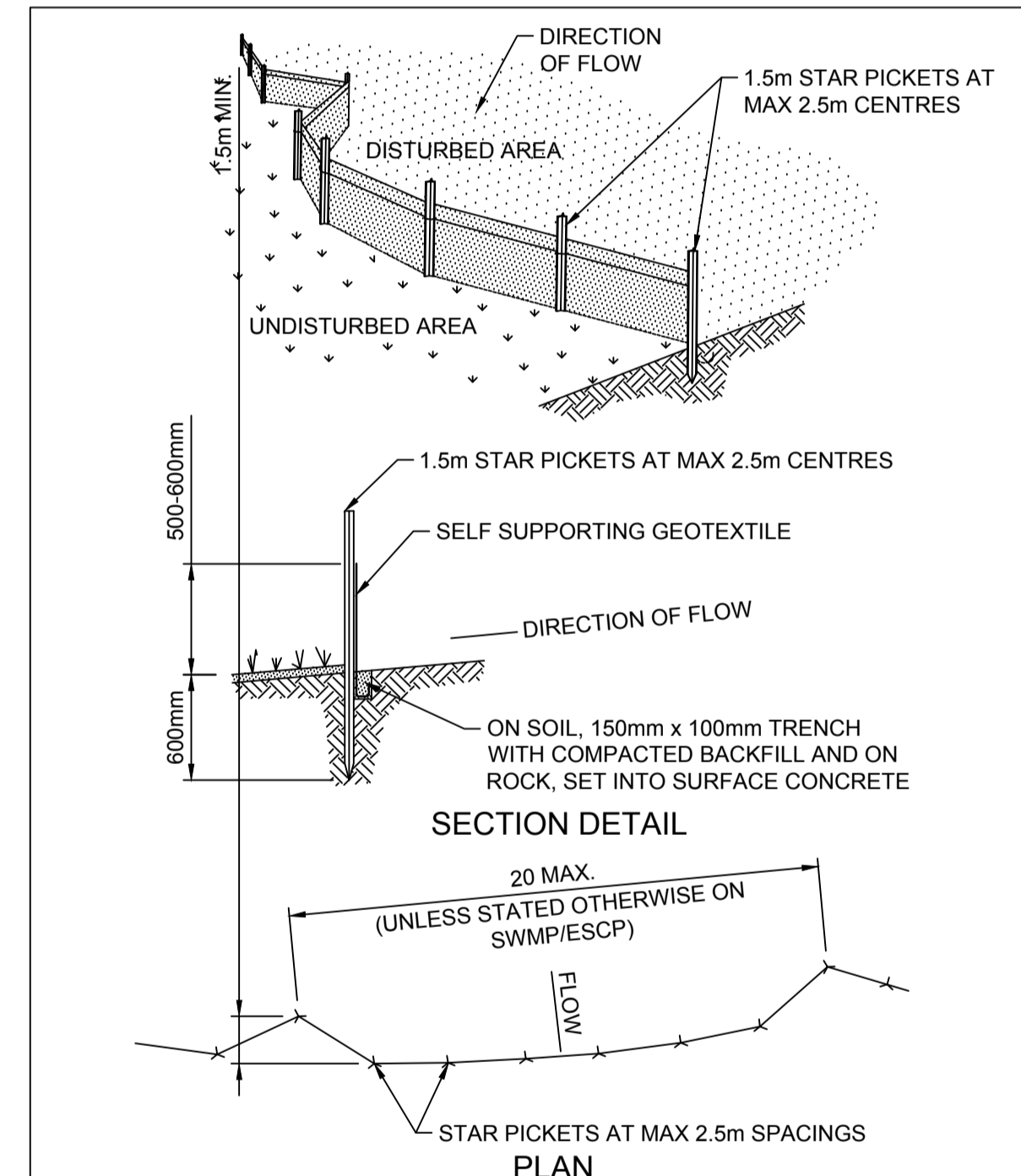
**GEOTEXTILE INLET FILTER SD6-12**  
N.T.S.



**CONSTRUCTION NOTES**

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1m TO 2m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

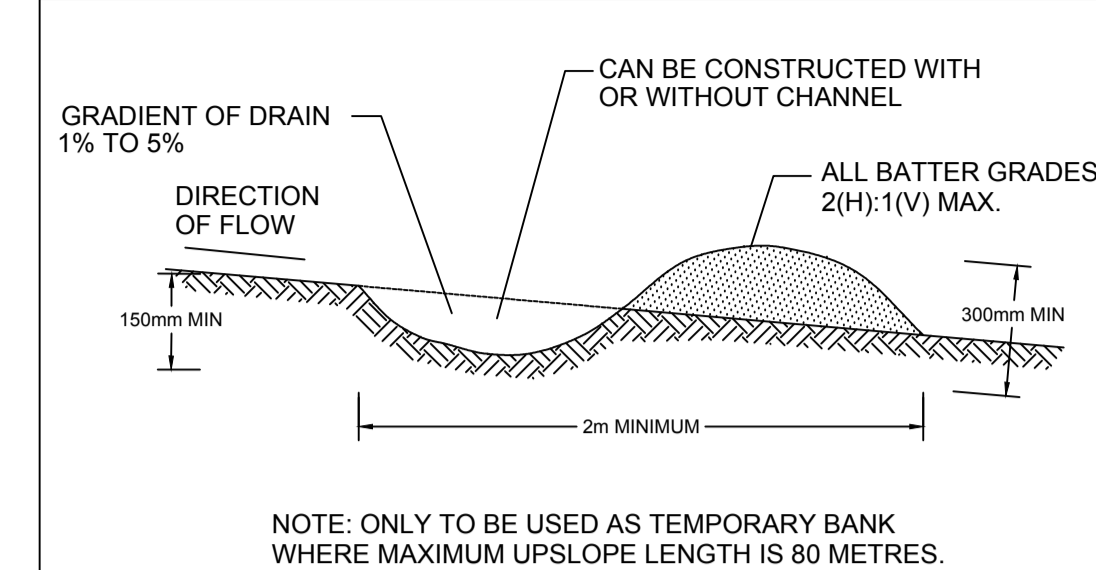
**STRAW BALE FILTER SD6-7**  
SCALE N.T.S.



**CONSTRUCTION NOTES**

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

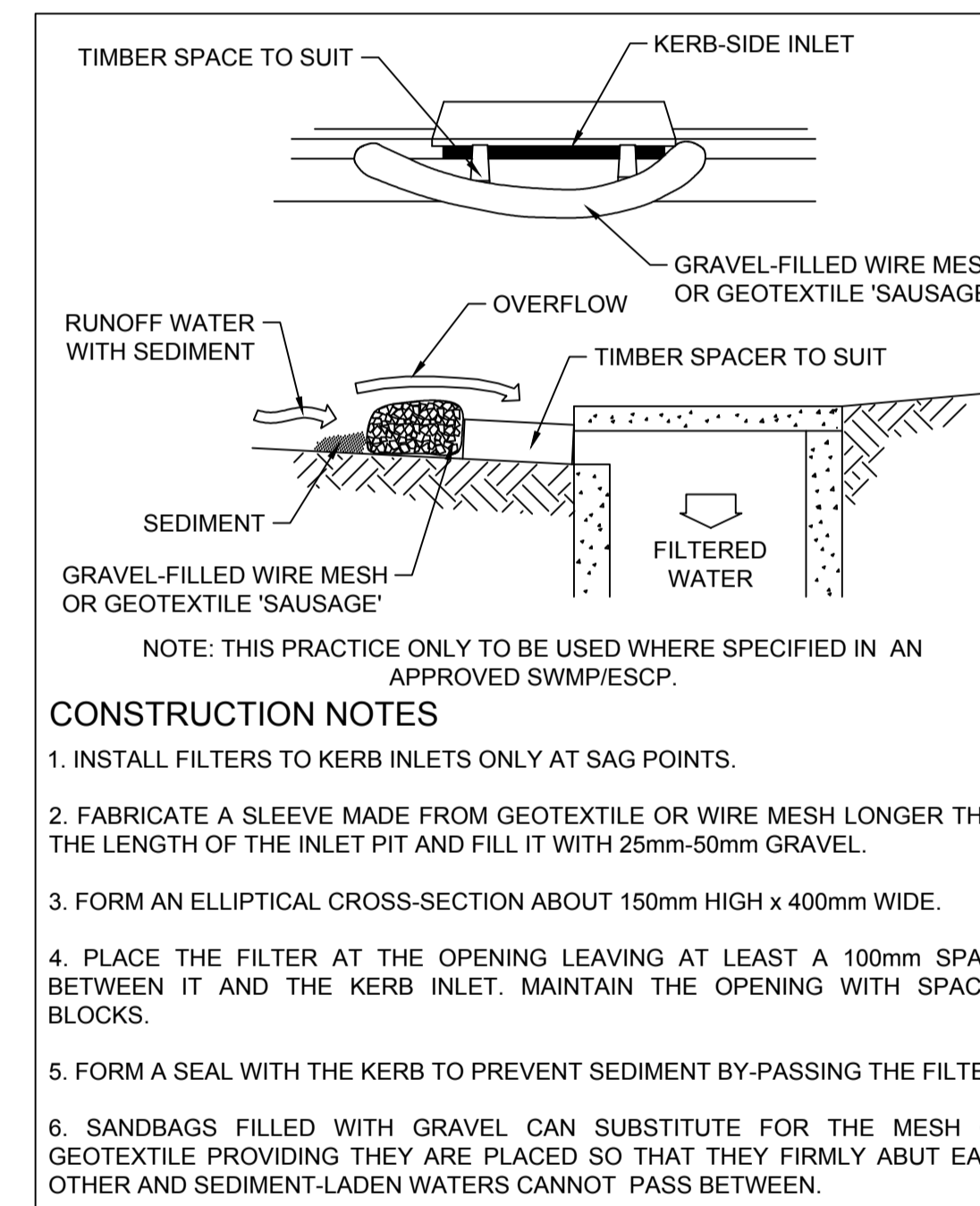
**SEDIMENT FENCE SD6-8**  
SCALE: N.T.S.



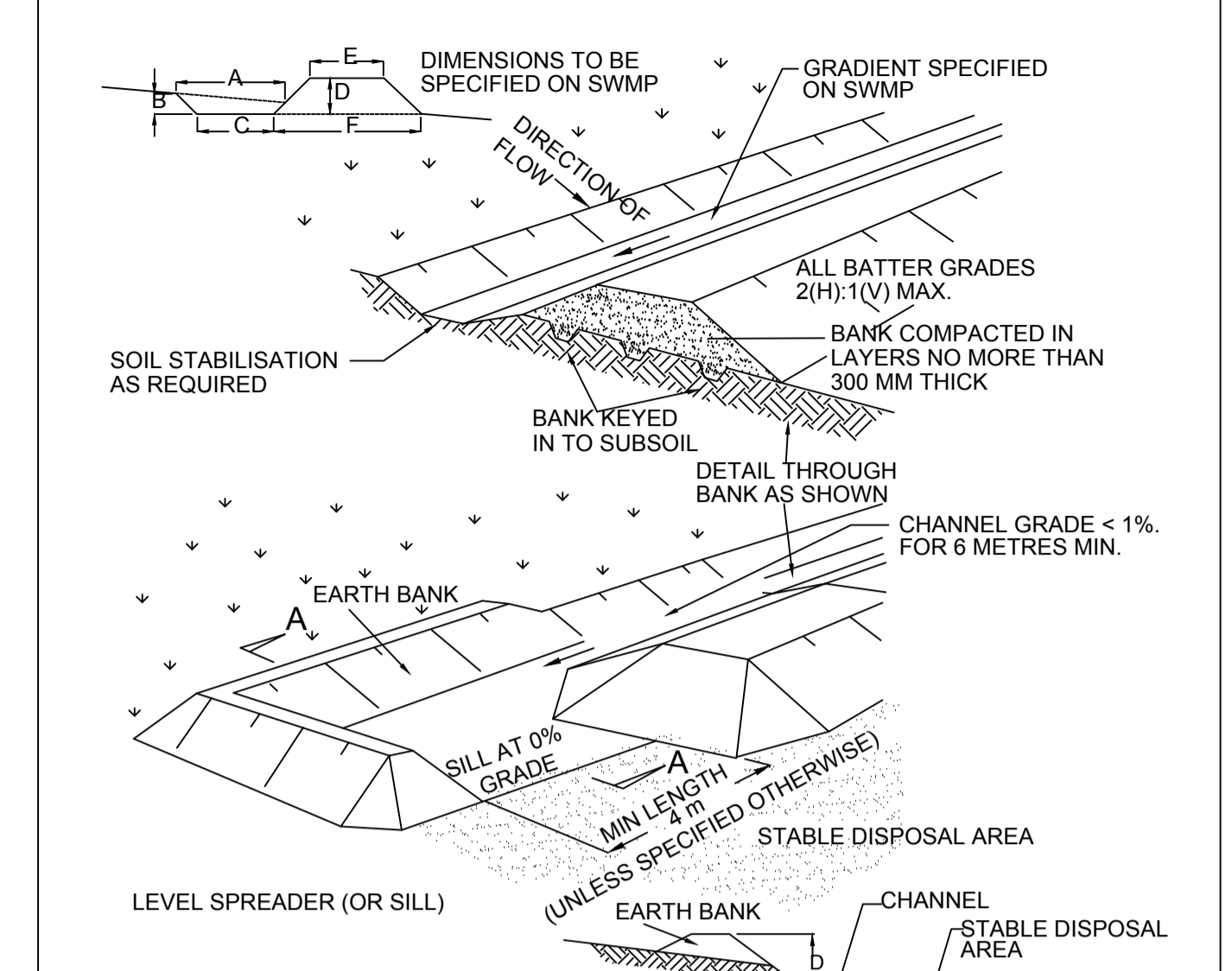
**CONSTRUCTION NOTES**

1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION. WORKS ADJACENT TO CREEK TO BE STABILISED AS SOON AS POSSIBLE.

**EARTH BANK (LOW FLOW) SD5-5**  
N.T.S.



**MESH & GRAVEL INLET FILTER SD6-11**  
SCALE N.T.S.



**CONSTRUCTION NOTES**

1. CONSTRUCT AT THE GRADIENT SPECIFIED ON THE ESCP OR SWMP, NORMALLY BETWEEN 1 AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED, AT THE DIMENSIONS SHOWN ON THE SWMP.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION FOLLOWING TABLE 5.2 IN LANDCOM (2004). WORKS ADJACENT TO CREEK TO BE STABILISED AS SOON AS POSSIBLE.
7. WHERE DISCHARGING TO ERODIBLE LANDS, ENSURE THEY OUTLET THROUGH A PROPERLY CONSTRUCTED LEVEL SPREADER.
8. CONSTRUCT THE LEVEL SPREADER AT THE GRADIENT SPECIFIED ON THE ESCP OR SWMP, NORMALLY LESS THAN 1 PERCENT OR LEVEL.
9. WHERE POSSIBLE, ENSURE THEY DISCHARGE WATERS ONTO EITHER STABILISED OR UNDISTURBED DISPOSAL SITES WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.

**EARTH BANK (HIGH FLOW) SD5-6**  
N.T.S.

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPO565

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D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16	
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16	
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A	ADVANCED COPY	MP	MG	RO	RO	21/06/16	
	AMENDMENT	DES	DRN	CKD	APR	DATE	

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CLIENT: REDBANK NORTH RICHMOND

AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

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REDBANK, NORTH RICHMOND BELMONT  
SOIL & WATER MANAGEMENT DETAILS

PLAN No: 110185BEL/CC95 **F**  
FILE No: 110185BELCC95  
SHEET SIZE: A1 ORIGINAL



REFER TO DRAWING 110185BELCC98 FOR CONTINUATION

REFER TO DRAWING 110185BELCC99 FOR CONTINUATION

REFER TO DRAWING 110185BELCC98 FOR CONTINUATION

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 Accreditation No. BPPB0565

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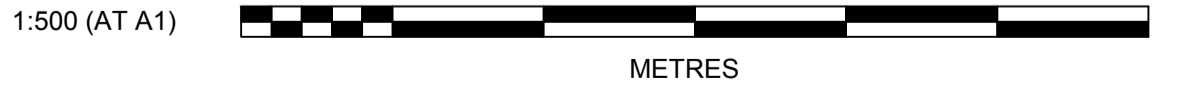
**LEGEND**

NEW SIGN POST  
 STREET NAME SIGN

**REVISION E**

FIRE TRAIL 1 ALIGNMENT AMENDED

THESE SIGNAGE AND LINEMARKING PLANS ARE SUBJECT TO APPROVAL BY THE HAWKESBURY CITY COUNCIL TRAFFIC COMMITTEE



**NOTES**

- ALL PAVEMENT MARKINGS, CHEVRONS AND REFLECTORS ARE TO BE IN ACCORDANCE WITH R.T.A. STANDARD DRAWINGS MD.R60 AND AUSTRALIAN STANDARDS.
- ALL SIGNS TO BE IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS; AS 1742 & AS 2890 - ROAD SIGNS AND COUNCIL'S SPECIFICATION UNLESS OTHERWISE SHOWN.
- ROAD SIGNS ARE SIZE 'A', UNLESS OTHERWISE SHOWN. LOCATE OUTSIDE OF CLEAR ZONES.
- ALL NEW PAVEMENT MARKINGS ARE TO BE INSTALLED IN WHITE, REFLECTIVE, THERMOPLASTIC PAINT.
- KERBSIDE LANE WIDTHS INCLUDE THE WIDTH OF THE GUTTER.
- SAFETY BARRIER TO BE LOCATED AT 1.2 OFFSET FROM THE EDGE RESTRAINT OR 0.5M BEHIND THE KERBLINE.
- GUIDE POSTS TO BE PLACED ON BOTH SIDES OF THE PIPED VEHICULAR CROSSINGS TO HCC SD 69.
- YELLOW REFLECTIVE PAVEMENT MARKERS TO BE PLACED ON PAVEMENT @ 6 METRE SPACINGS ADJACENT TO THE BARRIER KERB.
- PAVEMENT MARKINGS THAT FORM NO PART OF THE FINAL WORKS ARE TO BE REMOVED BY SAND BLASTING OR OTHER METHOD AS APPROVED BY THE PROJECT MANAGER.
- ALL MEASUREMENTS ARE IN METERS UNLESS OTHERWISE SHOWN.

**PAVEMENT MARKING SCHEDULE**

CODE	USE	STYLE	COLOUR & TYPE
BB	BARRIER LINE WHERE SIGHT IS RESTRICTED IN BOTH DIRECTIONS OR APPROACH TO MEDIAN ISLAND/PEDESTRAIN CROSSING		REFLECTORISED WHITE TYPE 'YY' PAVEMENT MARKERS BI-DIRECTIONAL REFLECTIVE YELLOW



AMENDMENT	DES	DRN	CKD	APR	DATE
E	MP	MG			
D	MP	MG	RO	RO	27/09/16
C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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 DATUM: AHD  
 ORIGIN:

CLIENT:

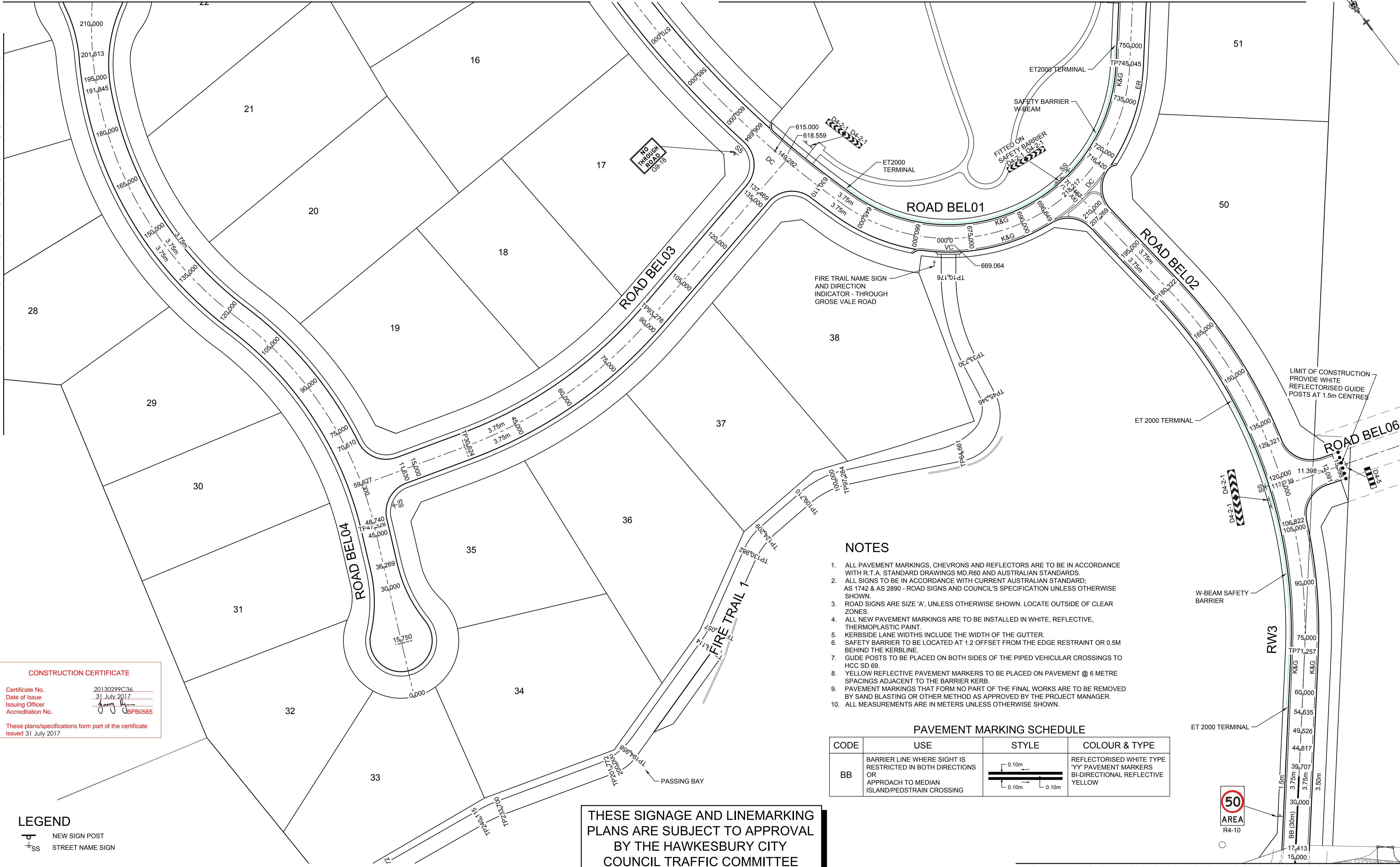
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REFER TO DRAWING 110185BELCC207 FOR CONTINUATION

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 BELMONT  
 SIGNPOSTING & LINEMARKING  
 SHEET 1

PLAN No: 110185BEL/CC97 E  
 FILE No: 110185BELCC97  
 SHEET SIZE: A1 ORIGINAL



REFER TO DRAWING 110185BELCC100 FOR CONTINUATION



REFER TO DRAWING 110185BELCC99 FOR CONTINUATION

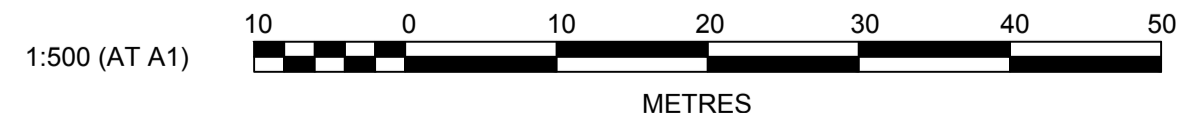
REFER TO DRAWING 110185BELCC97 FOR CONTINUATION

- LEGEND**
- NEW SIGN POST
  - STREET NAME SIGN

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 BELMONT

SIGNPOSTING & LINEMARKING  
 SHEET 2

PLAN No: 110185BEL/CC98 **E**

FILE No: 110185BELCC98

SHEET SIZE: A1 ORIGINAL

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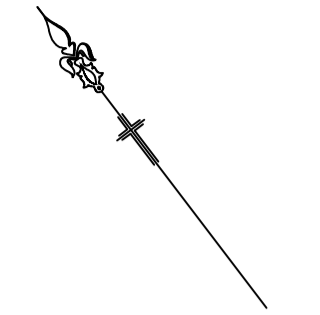
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B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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 DATUM: AHD  
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REFER TO DRAWING 110185BELCC101 FOR CONTINUATION



REFER TO DRAWING 110185BELCC98 FOR CONTINUATION

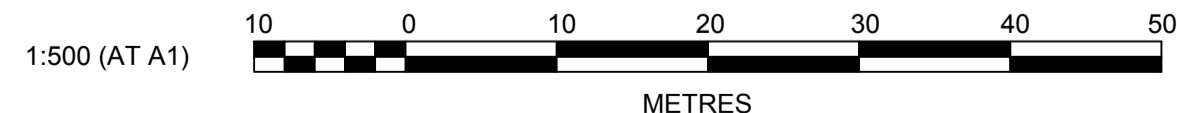


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C	MP	MG	RO	RO	29/07/16
B	MP	MG	MS	RO	13/07/16
A	MP	MG	RO		21/06/16

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 BELMONT  
 SIGNPOSTING & LINEMARKING  
 SHEET 3

PLAN No: 110185BEL/CC99 **E**  
 FILE No: 110185BELCC99  
 SHEET SIZE: A1 ORIGINAL

**LEGEND**

- SIGN POST
- STREET NAME SIGN

**NOTES**

1. ALL PAVEMENT MARKINGS, CHEVRONS AND REFLECTORS ARE TO BE IN ACCORDANCE WITH R.T.A. STANDARD DRAWINGS MD.R60 AND AUSTRALIAN STANDARDS.
2. ALL SIGNS TO BE IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARD, AS 1741 & AS 2890 - ROAD SIGNS AND COUNCIL'S SPECIFICATION UNLESS OTHERWISE SHOWN.
3. ROAD SIGNS ARE SIZE 'A', UNLESS OTHERWISE SHOWN. LOCATE OUTSIDE OF CLEAR ZONES.
4. ALL NEW PAVEMENT MARKINGS ARE TO BE INSTALLED IN WHITE, REFLECTIVE, THERMOPLASTIC PAINT.
5. DEDICATED PARKING SPACE FOR PEOPLE WITH DISABILITIES IN ACCORDANCE WITH AS 2890.5, PART 4.5: 5.1 TO BE OUTLINED WITH YELLOW BROKEN SLIP RESISTANT SURFACE LINES 80 TO 100mm WIDE.
- 5.2 DISABLED ACCESS SYMBOL TO BE PAINTED YELLOW.
6. ALL MEASUREMENTS ARE IN METERS UNLESS OTHERWISE SHOWN.

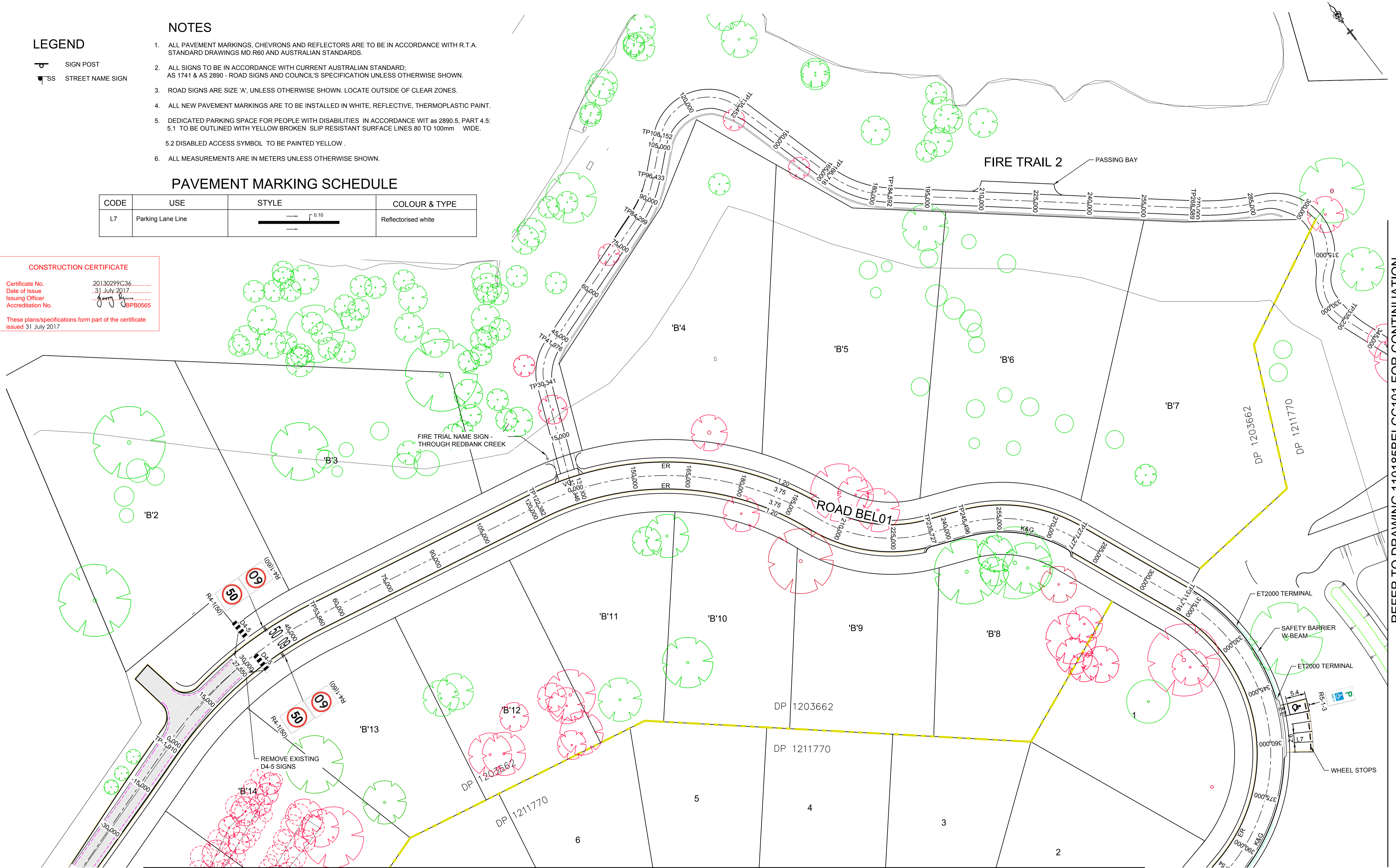
**PAVEMENT MARKING SCHEDULE**

CODE	USE	STYLE	COLOUR & TYPE
L7	Parking Lane Line		Reflectorised white

**CONSTRUCTION CERTIFICATE**

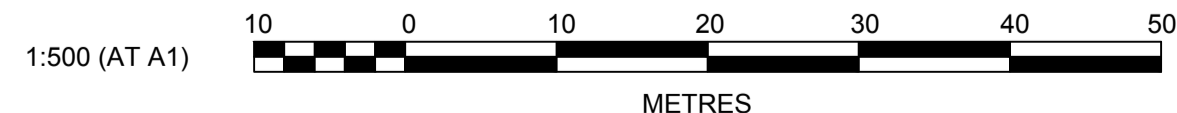
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REFER TO DRAWING 110185BELCC98 FOR CONTINUATION

REVISION F  
 FIRE TRAIL 2 ALIGNMENT AMENDED



REFER TO DRAWING 110185BELCC101 FOR CONTINUATION

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C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO	RO	21/06/16
	AMENDMENT	DES	DRN	CKD	APR	DATE

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 DATUM: AHD  
 ORIGIN:

CLIENT:

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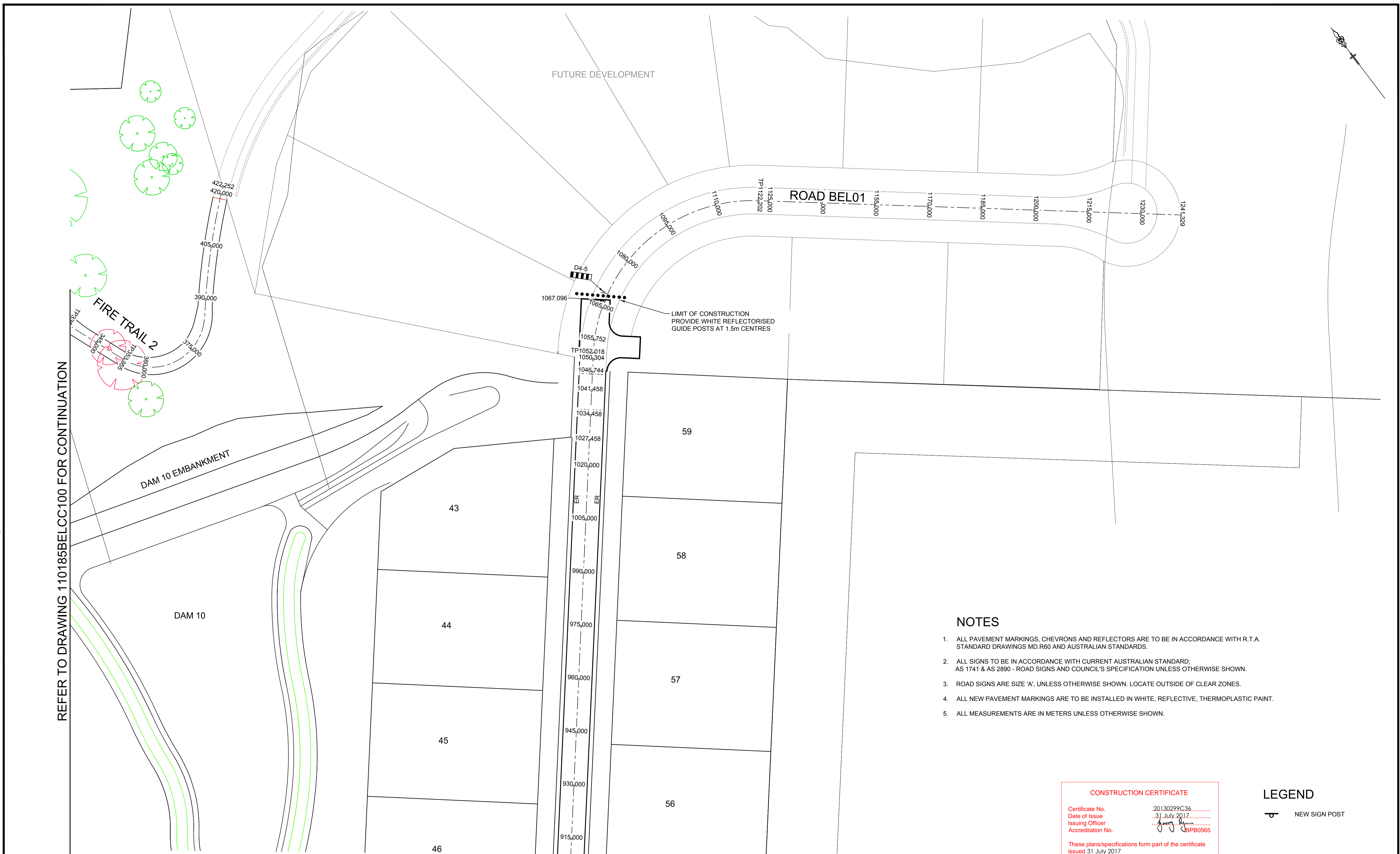
**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
 BELMONT  
 SIGNPOSTING & LINEMARKING  
 SHEET 4

PLAN No: 110185BEL/CC100 F  
 FILE No: 110185BELCC100  
 SHEET SIZE: A1 ORIGINAL



Plotted: 18 July 2017 4:56:37 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC101.dwg



REFER TO DRAWING 110185BELCC100 FOR CONTINUATION

REFER TO DRAWING 110185BELCC99 FOR CONTINUATION

**NOTES**

1. ALL PAVEMENT MARKINGS, CHEVRONS AND REFLECTORS ARE TO BE IN ACCORDANCE WITH R.T.A. STANDARD DRAWINGS MD.R60 AND AUSTRALIAN STANDARDS.
2. ALL SIGNS TO BE IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARD; AS 1741 & AS 2890 - ROAD SIGNS AND COUNCIL'S SPECIFICATION UNLESS OTHERWISE SHOWN.
3. ROAD SIGNS ARE SIZE 'A', UNLESS OTHERWISE SHOWN. LOCATE OUTSIDE OF CLEAR ZONES.
4. ALL NEW PAVEMENT MARKINGS ARE TO BE INSTALLED IN WHITE, REFLECTIVE, THERMOPLASTIC PAINT.
5. ALL MEASUREMENTS ARE IN METERS UNLESS OTHERWISE SHOWN.

**CONSTRUCTION CERTIFICATE**

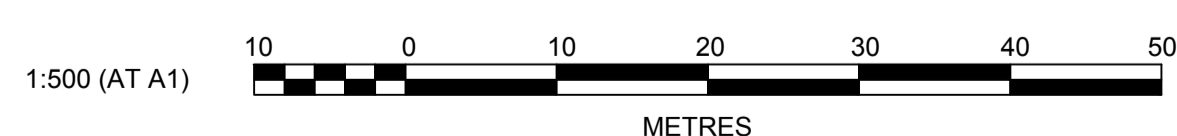
Certificate No.	20130299C36
Date of Issue	31 July 2017
Issuing Officer	<i>[Signature]</i>
Accreditation No.	BPB0565

These plans/specifications form part of the certificate issued 31 July 2017

**LEGEND**

NEW SIGN POST

REVISION E  
 • FIRE TRAIL 2 ALIGNMENT AMENDED



REV	DESCRIPTION	DES	DRN	CKD	APR	DATE
E	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG			
D	CERTIFIER COMMENTS	MP	MG	RO	RO	27/09/16
C	ISSUED FOR CONSTRUCTION APPROVAL	MP	MG	RO	RO	29/07/16
B	CLIENT COMMENTS	MP	MG	MS	RO	13/07/16
A	ADVANCED COPY	MP	MG	RO		21/06/16

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 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

CLIENT:

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ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND  
 BELMONT**  
 SIGNPOSTING & LINEMARKING  
 SHEET 5

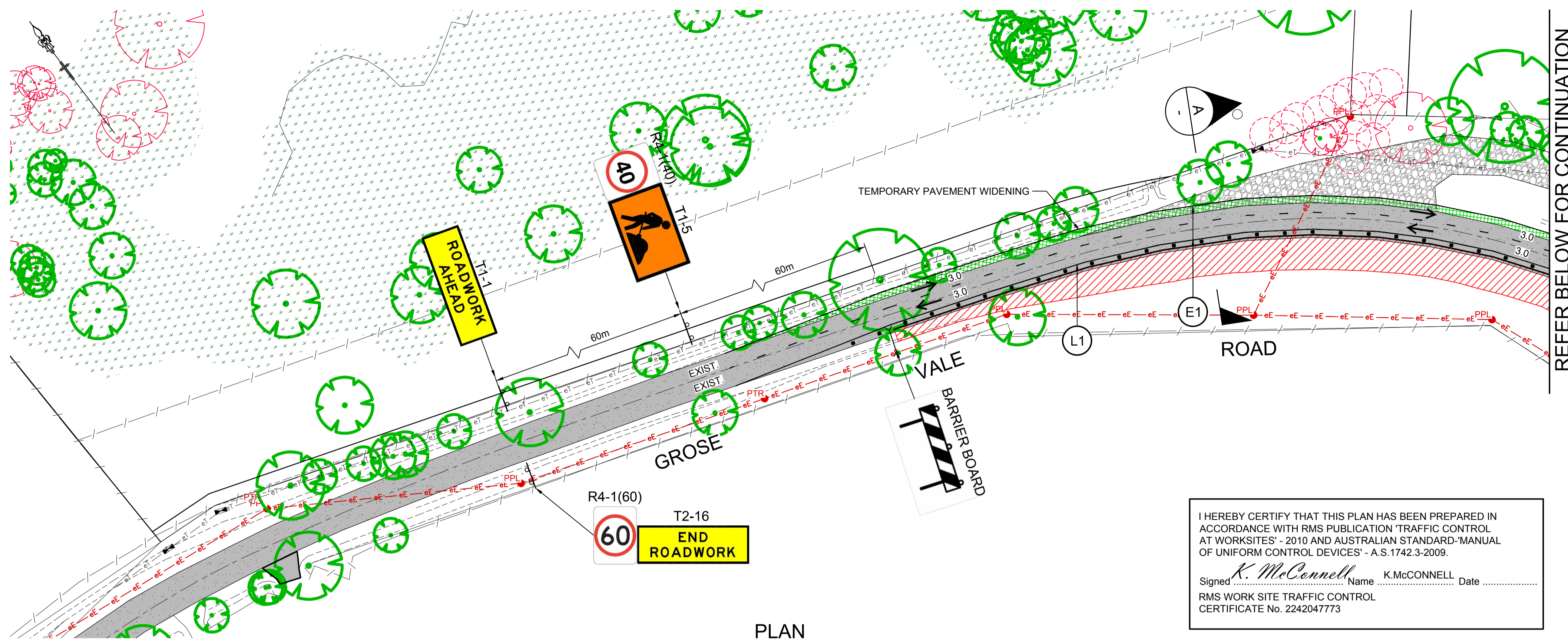
PLAN No:	110185BEL/CC101 <b>E</b>
FILE No:	110185BELCC101
SHEET SIZE:	A1 ORIGINAL











PLAN  
SCALE 1:500

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH RMS PUBLICATION 'TRAFFIC CONTROL AT WORKSITES' - 2010 AND AUSTRALIAN STANDARD 'MANUAL OF UNIFORM CONTROL DEVICES' - A.S.1742.3-2009.

Signed *K. McConnell* Name K.McCONNELL Date .....

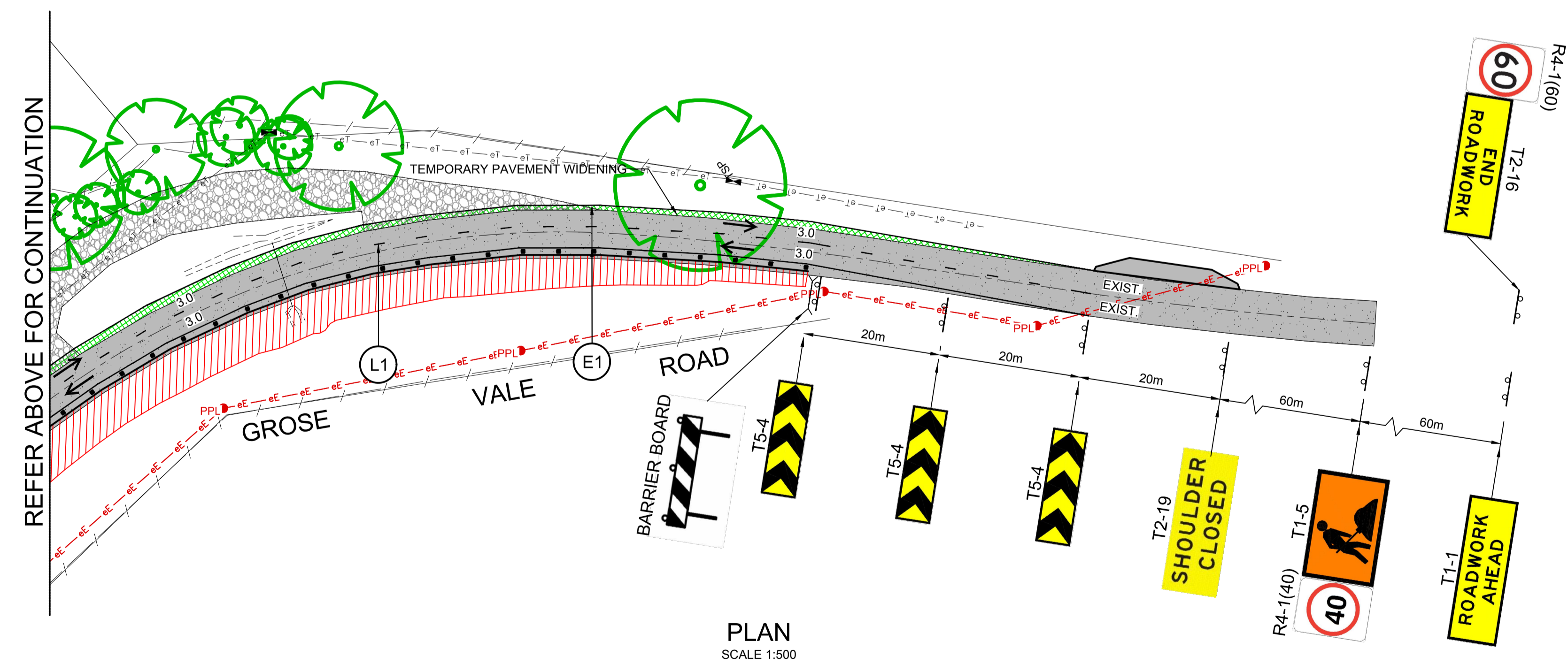
RMS WORK SITE TRAFFIC CONTROL CERTIFICATE No. 2242047773

NOTES:

- ALL TRAFFIC CONTROL AND MANAGEMENT WORKS ARE TO BE COMPLETED AND MAINTAINED IN ACCORDANCE WITH AUSTRALIAN STANDARD 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' (AS1742.3-2009).
- THIS PLAN IS PROVIDED AS A GUIDE ONLY BASED ON RTA 'TRAFFIC CONTROL AT WORKSITES' - Ver.4/JUNE 2010, TOP No. 42 TO BE ADJUSTED TO SUIT THE ACTIVITY AND LOCAL SITE CONDITIONS AND CONSTRUCTION STAGING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL TRAFFIC CONTROL IN ACCORDANCE WITH AS1742.3-2009 AND RTA - 'TRAFFIC CONTROL AT WORKSITES' GUIDELINES AND THAT ALL NECESSARY APPROVALS INCLUDING STAGING OF THE WORKS ARE OBTAINED PRIOR TO WORKS COMMENCING.
- A 'ROAD OCCUPANCY' APPLICATION IS TO BE MADE TO COUNCIL AT LEAST 10 DAYS PRIOR TO WORKS COMMENCING.
- PROVIDE APPROVED REFLECTORISED TRAFFIC SAFETY BARRIERS, 'TRITON' PLASTIC (WATER FILLED) OR EQUIVALENT, OR CONCRETE (TYPE F) FOR DURATION OF WORKS. LOCATE min. 1.2m CLEAR OF ANY WORKS, MAINTAINING A 3.0m min. THROUGH LANE ROAD WIDTH.
- SPEED ZONING THROUGH THE SITE IS 40kph.
- THIS PLAN ASSUMES WORKS ARE TO BE UNDERTAKEN DURING DAYLIGHT HOURS ONLY. AT COMPLETION OF DAILY WORKS:
  - SIGNS T1-5 ARE TO BE COVERED
  - SIGNS T1-1 ARE TO BE COVERED
  - BARRIER BOARDS, WITH FLASHING LIGHTS, TO BE PLACED ACROSS THE WORK SITE @ 15m INTERVALS.
- ALL SIGNAGE, DELINEATION AND FLASHING LIGHTS ARE TO BE MAINTAINED AT ALL TIMES AND PLACED PRIOR TO ANY WORKS.
- CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS NEAR AREA OF WORKS VIA DOOR KNOCK, LETTERBOX DROP, IN WRITING AND KEPT INFORMED OF ROAD WORKS AND CONFIGURATIONS TO TRAFFIC MANEUVERING
- THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE TO EXISTING ROADS DURING WORK.
- CURRENT GROSE VALE ROAD POSTED SPEED LIMIT 60KPH.

LEGEND

- AREA OF NEW WORKS
- TEMPORARY PAVEMENT WIDENING
- AREA OF NEW SPRAY SEAL
- DIRECTION OF TRAVEL
- TRAFFIC BOLLARDS/CONES
- SIGN POSTS
- BARRIER BOARD



PLAN  
SCALE 1:500

CONSTRUCTION CERTIFICATE

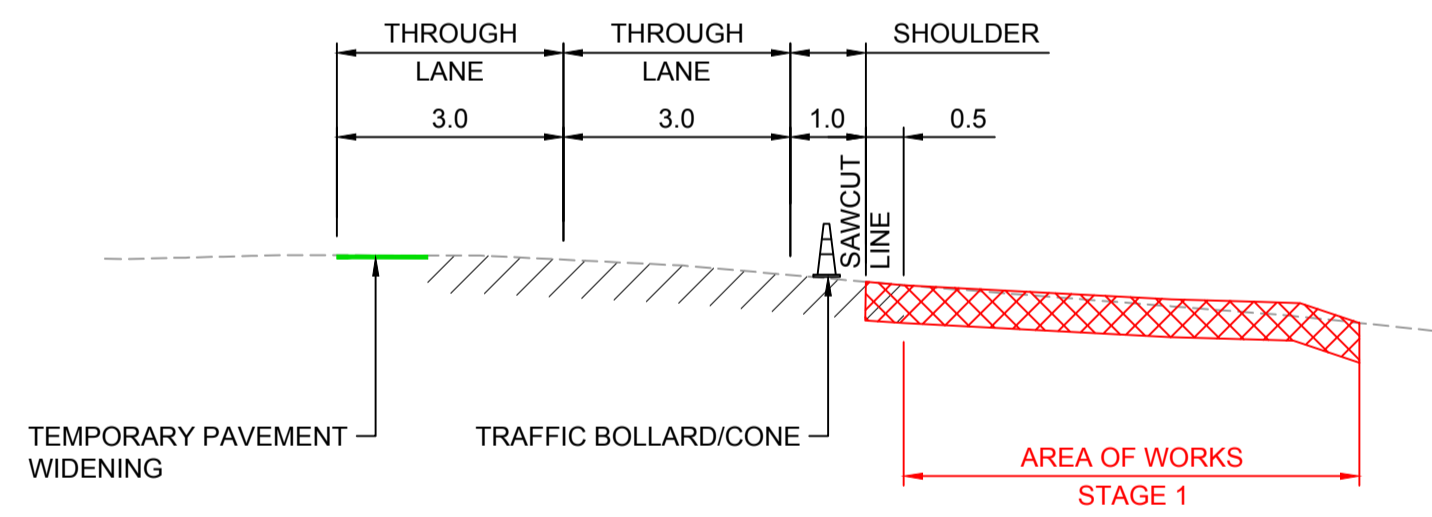
Certificate No. 20130299C36

Date of Issue 31 July 2017

Issuing Officer [Signature]

Accreditation No. JBPB0565

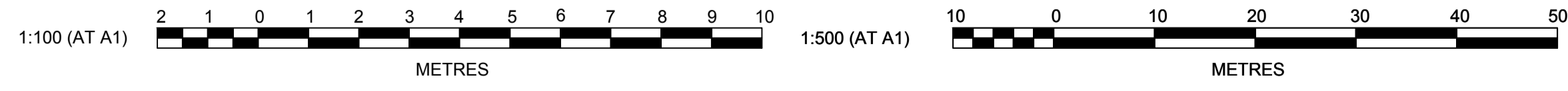
These plans/specifications form part of the certificate issued 31 July 2017



SECTION A  
SCALE 1:100

PAVEMENT MARKING SCHEDULE

CODE	USE	STYLE	COLOUR & TYPE
L1	LANE LINE ON MULTI LANE ROADS INCLUDING MOTORWAYS AND DUAL CARRIAGEWAYS		REFLECTORISED WHITE TYPE 'W' PAVEMENT MARKERS MONO-DIRECTIONAL REFLECTIVE WHITE
E1	LEFT HAND EDGE LINE ON GENERAL PURPOSE ROAD		REFLECTORISED WHITE



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AZIMUTH:  
DATUM:  
ORIGIN:

CLIENT:

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK, NORTH RICHMOND  
BELMONT  
TRAFFIC MANAGEMENT PLAN  
SHEET 1

PLAN No:  
**110185BEL/CC106 B**

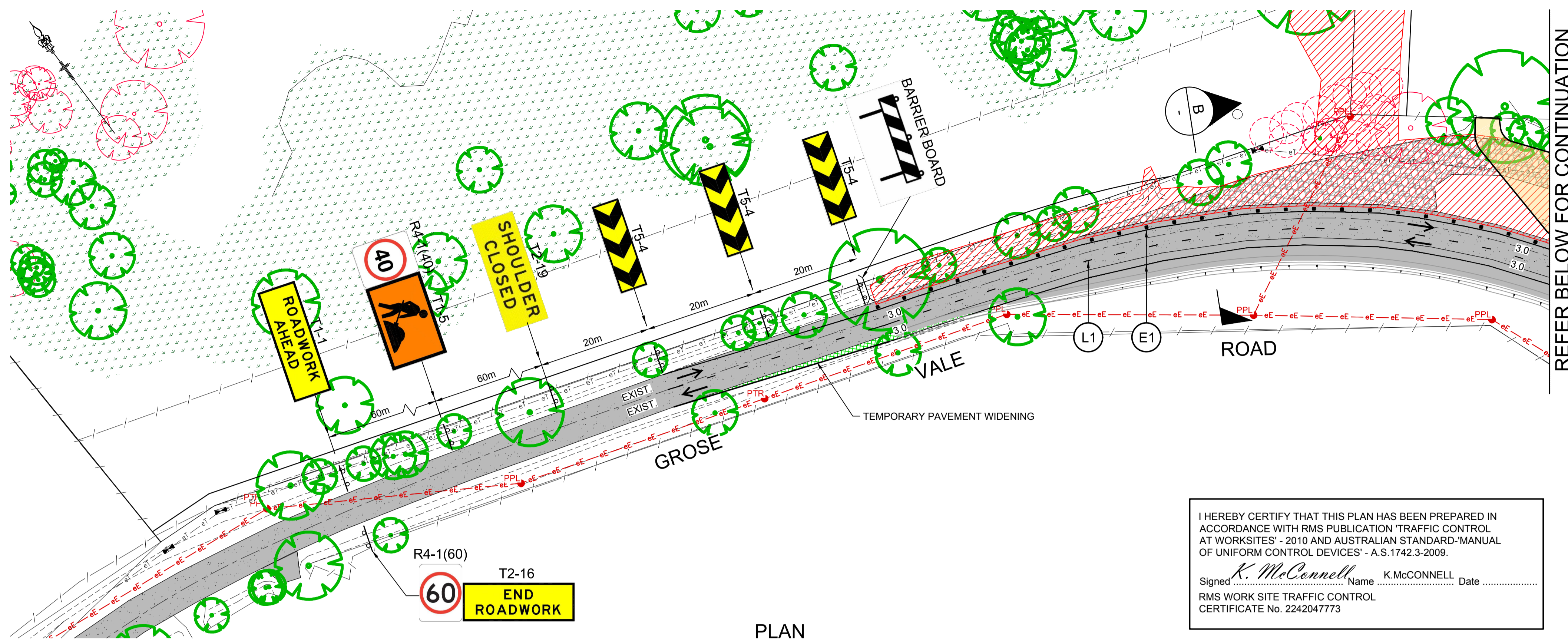
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SHEET SIZE: A1 ORIGINAL

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B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG				
A	ISSUED FOR COUNCIL APPROVAL	VG	VG	RO	MS	11/10/16	
	AMENDMENT	DES	DRN	CKD	APR	DATE	

Plotted: 18 July 2017 4:50:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC107.dwg



PLAN  
SCALE 1:500

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH RMS PUBLICATION 'TRAFFIC CONTROL AT WORKSITES' - 2010 AND AUSTRALIAN STANDARD 'MANUAL OF UNIFORM CONTROL DEVICES' - A.S.1742.3-2009.

Signed *K. McConnell* Name K.McCONNELL Date .....

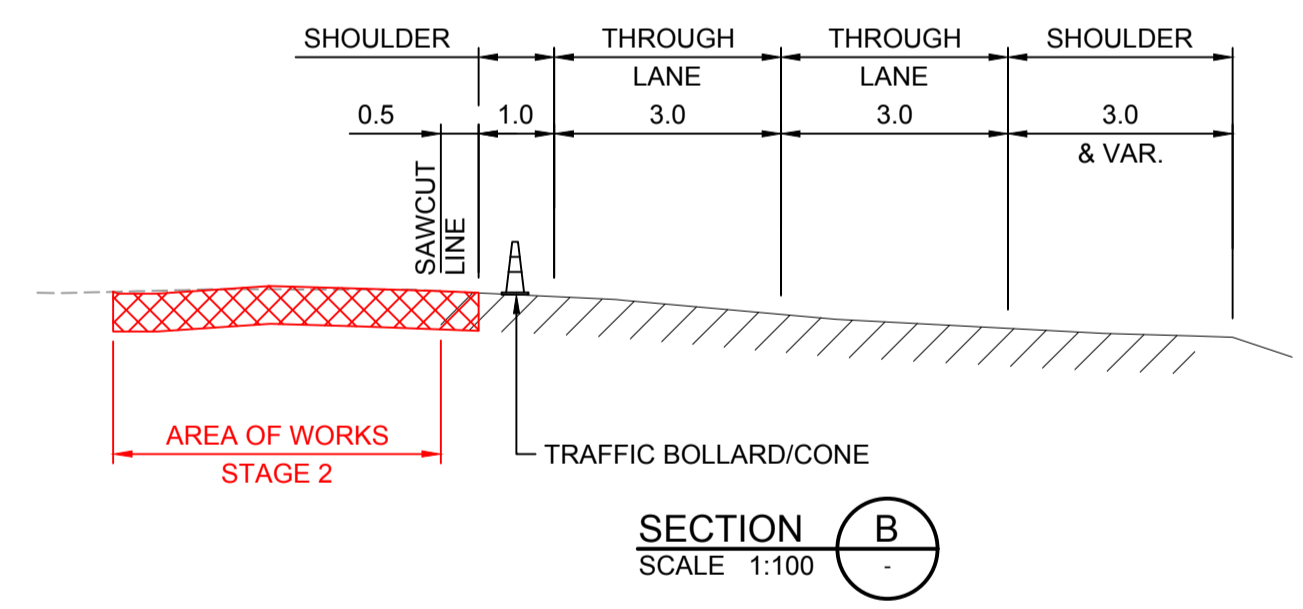
RMS WORK SITE TRAFFIC CONTROL CERTIFICATE No. 2242047773

**NOTES:**

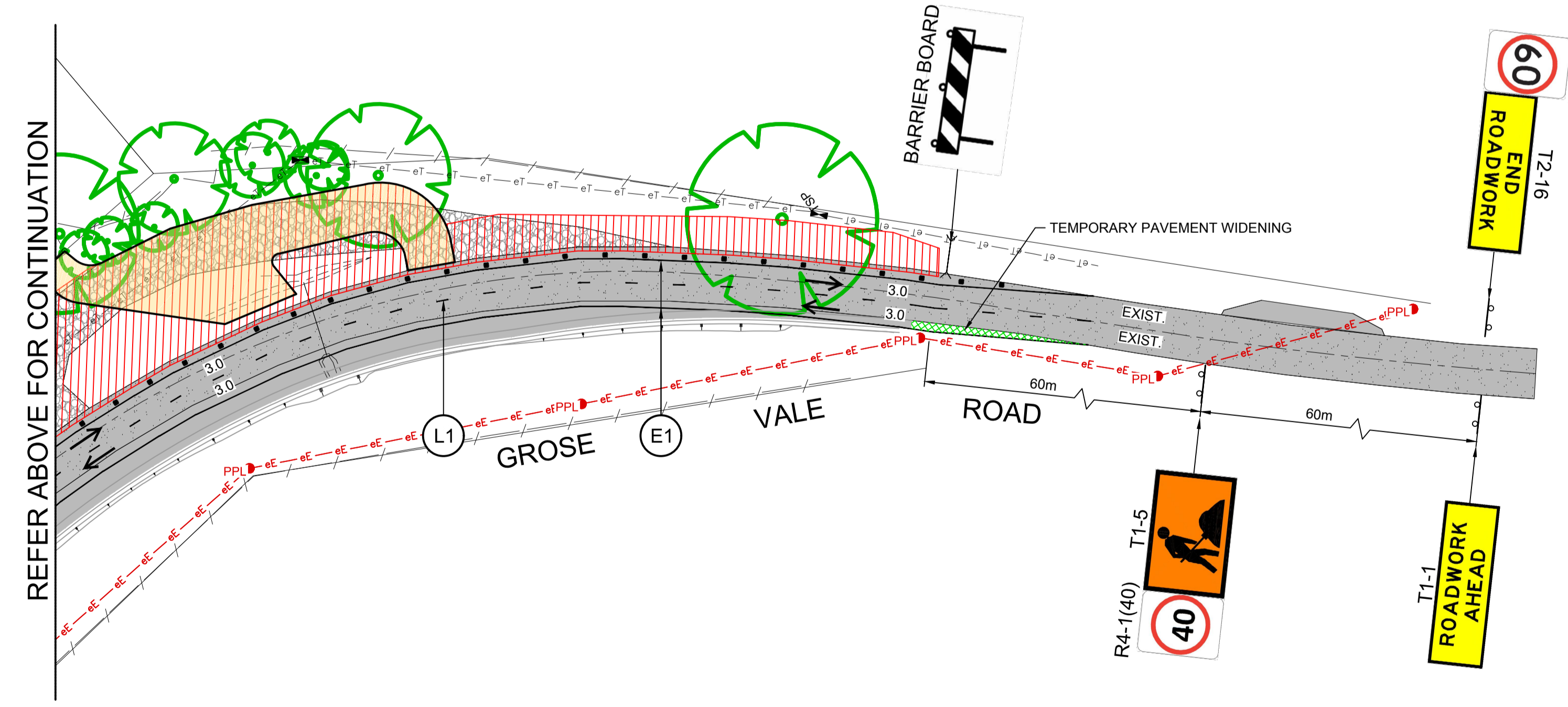
- ALL TRAFFIC CONTROL AND MANAGEMENT WORKS ARE TO BE COMPLETED AND MAINTAINED IN ACCORDANCE WITH AUSTRALIAN STANDARD 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' (AS1742.3-2009).
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- SPEED ZONING THROUGH THE SITE IS 40kph.
- THIS PLAN ASSUMES WORKS ARE TO BE UNDERTAKEN DURING DAYLIGHT HOURS ONLY. AT COMPLETION OF DAILY WORKS:
  - SIGNS T1-5 ARE TO BE COVERED
  - SIGNS T1-1 ARE TO BE COVERED
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- THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE TO EXISTING ROADS DURING WORK.
- CURRENT GROSE VALE ROAD POSTED SPEED LIMIT 60KPH.

**LEGEND**

- AREA OF NEW WORKS
- TEMPORARY PAVEMENT WIDENING AREA OF NEW SPRAY SEAL
- DIRECTION OF TRAVEL
- TRAFFIC BOLLARDS/CONES
- SIGN POSTS
- BARRIER BOARD



SECTION B  
SCALE 1:100



PLAN  
SCALE 1:500

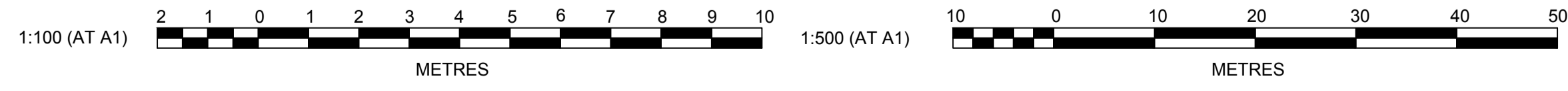
**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 31 July 2017

**PAVEMENT MARKING SCHEDULE**

CODE	USE	STYLE	COLOUR & TYPE
L1	LANE LINE ON MULTI LANE ROADS INCLUDING MOTORWAYS AND DUAL CARRIAGEWAYS		REFLECTORISED WHITE TYPE 'W' PAVEMENT MARKERS MONO-DIRECTIONAL REFLECTIVE WHITE
E1	LEFT HAND EDGE LINE ON GENERAL PURPOSE ROAD		REFLECTORISED WHITE



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AZIMUTH:  
DATUM:  
ORIGIN:

CLIENT:

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**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
BELMONT  
TRAFFIC MANAGEMENT PLAN  
SHEET 2

PLAN No:  
**110185BEL/CC107 B**  
FILE No: 110185BELCC107  
SHEET SIZE: A1 ORIGINAL

B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG				
A		VG	VG	RO	MS	11/10/16	
	AMENDMENT	DES	DRN	CKD	APR	DATE	

Plotted: 18 July 2017 5:08:07 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\BELMONT\110185BELCC300.dwg



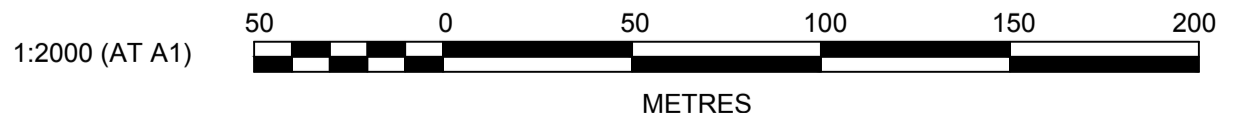
LAYOUT PLAN  
SCALE 1:2000

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *[Signature]*  
 Accreditation No. JBPB0565

These plans/specifications form part of the certificate issued 31 July 2017

- NOTES**
- REFER TO RELEVANT PLANS FOR INDIVIDUAL OUTLET DETAILS
  - REFER TO DRAWING CC303 FOR TYPICAL OUTLET DETAILS AND TABLE OUTLINING MINIMUM RECOMMENDED DIMENSIONS FOR EACH STRUCTURE PARAMETER



B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG				
A	FIRST ISSUE	JC	JC	RO	12/05/17		
	AMENDMENT	DES	DRN	CKD	APR	DATE	

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CLIENT:

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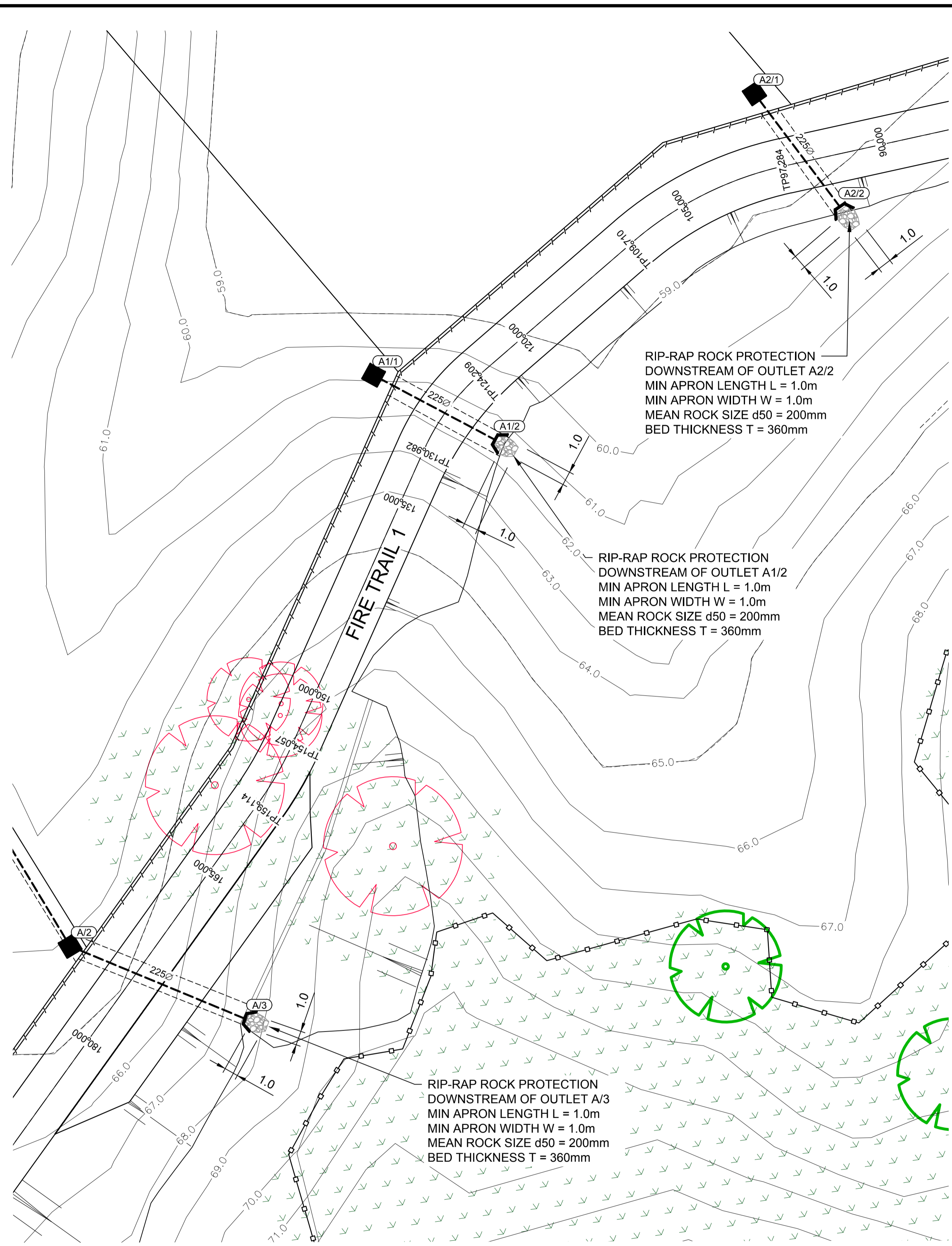
ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND  
BELMONT  
OUTLET CONTROLS  
LAYOUT PLAN**

PLAN No: 110185BEL/CC300 **B**  
 FILE No: 110185BELCC300  
 SHEET SIZE: A1 ORIGINAL



Plotted: 18 July 2017 5:08:48 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC301\110185BELCC301.dwg



PLAN  
SCALE 1:200

**NOTE**

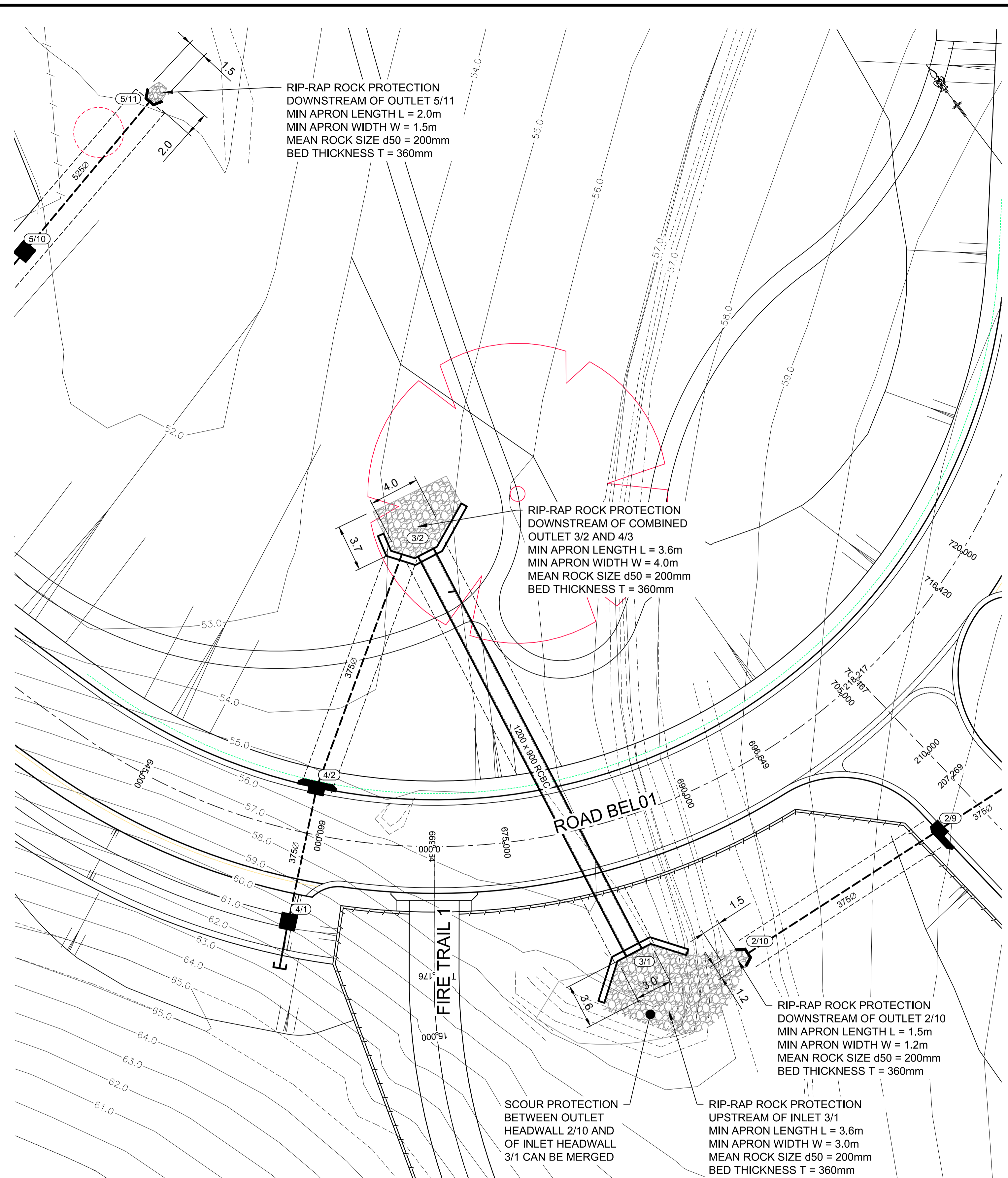
- REFER TO DRAWING CC303 FOR TYPICAL OUTLET DETAILS AND TABLE OUTLINING MINIMUM RECOMMENDED DIMENSIONS FOR EACH STRUCTURE PARAMETER

REVISION B  
• DRAINAGE LINE 3/2 TO 3/1 ALIGNMENT REVISED

**CONSTRUCTION CERTIFICATE**

Certificate No. 20130299C36  
Date of Issue 31 July 2017  
Issuing Officer [Signature]  
Accreditation No. BPB0565

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PLAN  
SCALE 1:200

REVISION	DESCRIPTION	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG			12/05/17
A	FIRST ISSUE	JC	JC	RO		
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH: MGA  
DATUM: AHD  
ORIGIN:

CLIENT:

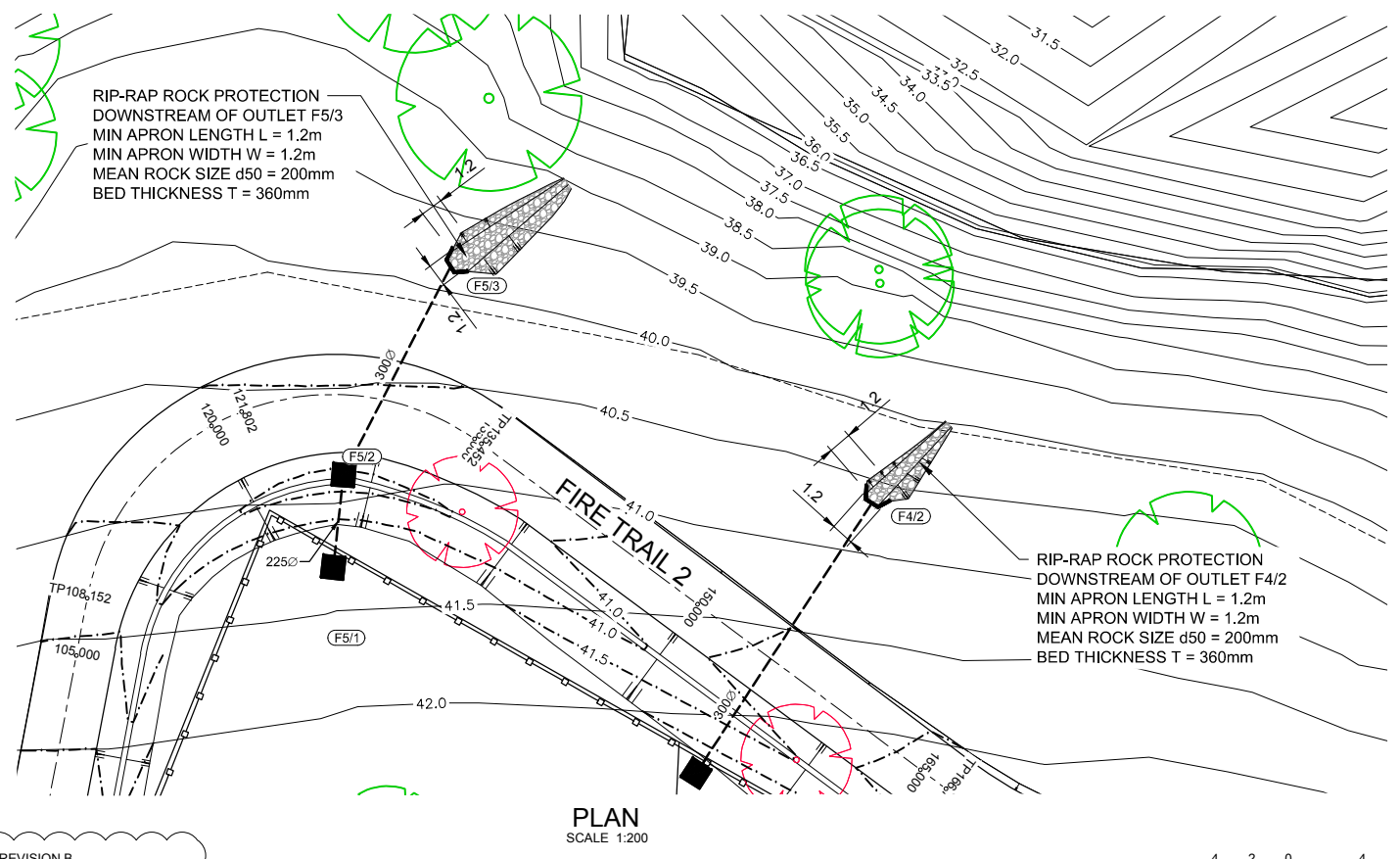
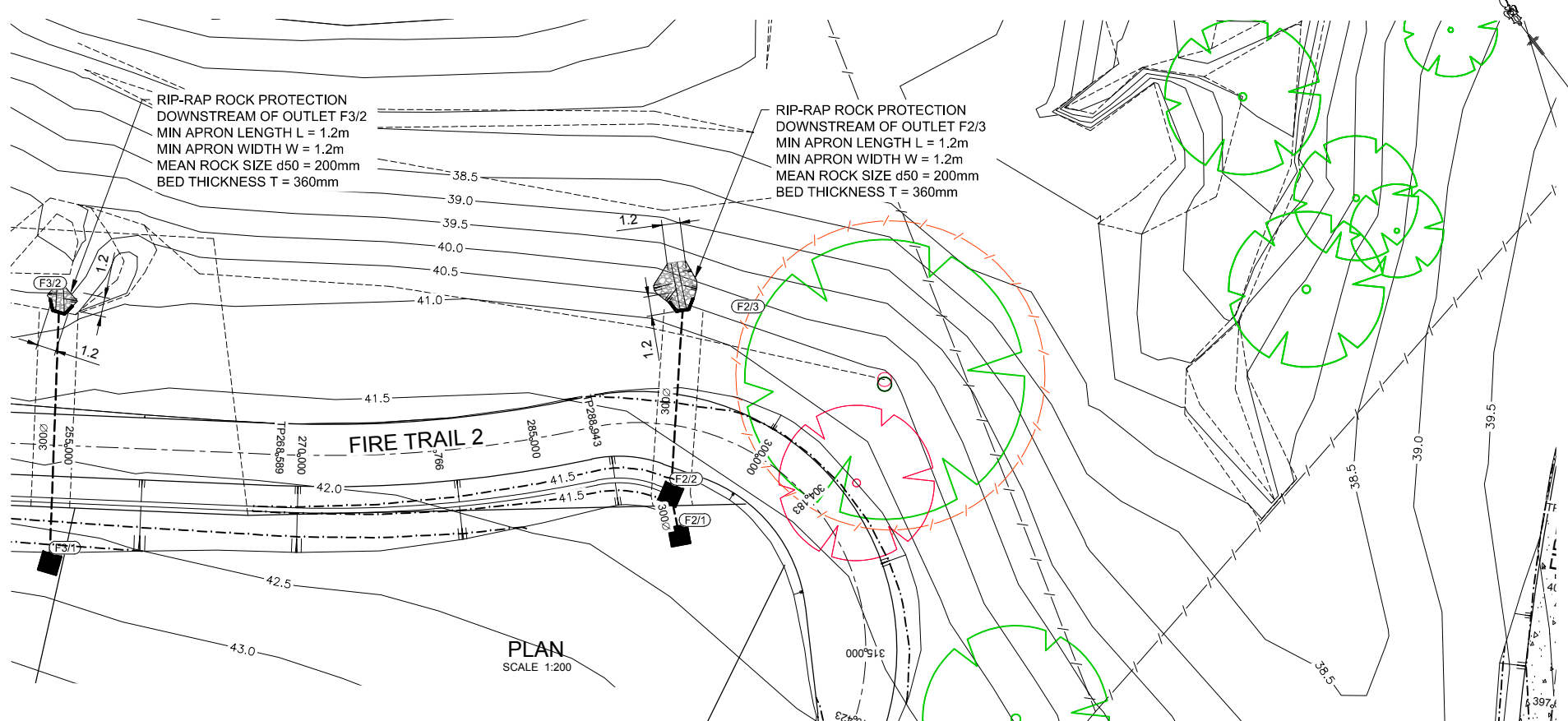
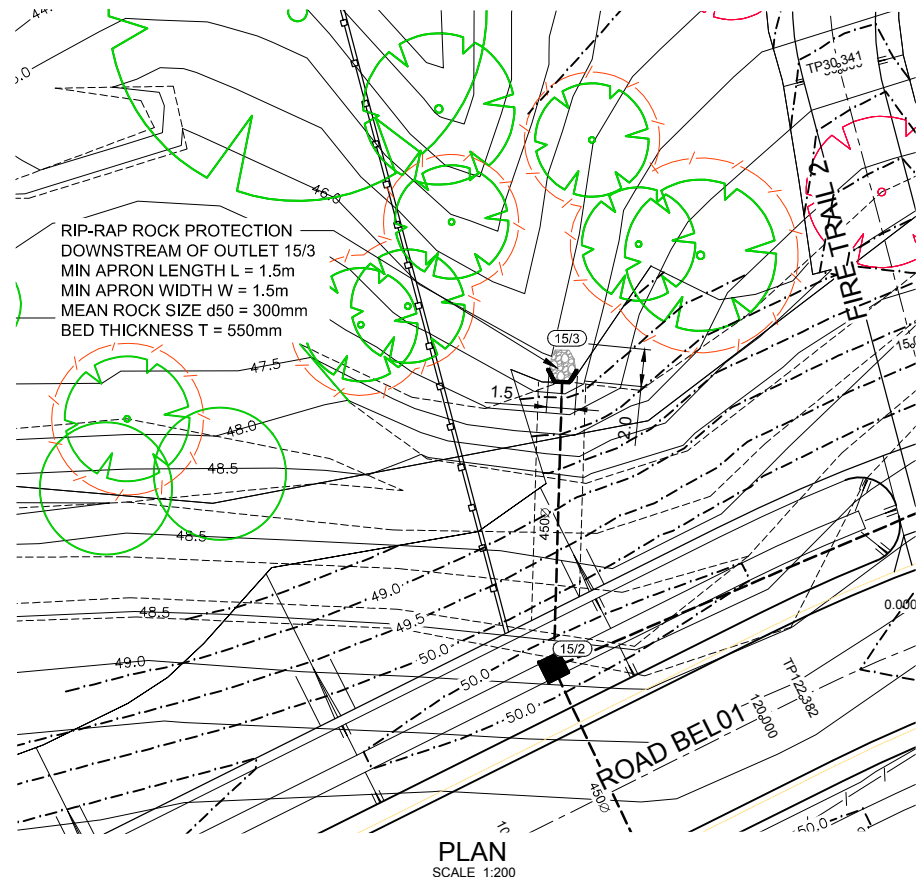
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

REDBANK, NORTH RICHMOND  
BELMONT  
OUTLET CONTROLS  
OUTLET DETAIL SHEET 1

PLAN No:	110185BEL/CC301 B
FILE No:	110185BELCC301
SHEET SIZE:	A1 ORIGINAL

Plotted: 18 July 2017 5:58:26 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCBELMONT\110185BELCC302.dwg



**CONSTRUCTION CERTIFICATE**

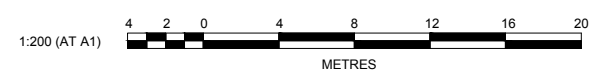
Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer [Signature]  
 Accreditation No. BPB0565

These plans/specifications form part of the certificate  
 issued 31 July 2017

**NOTE**

- REFER TO DRAWING CC303 FOR TYPICAL OUTLET DETAILS AND TABLE OUTLINING MINIMUM RECOMMENDED DIMENSIONS FOR EACH STRUCTURE PARAMETER

REVISION B  
 FIRE TRAIL 2 ALIGNMENT  
 AMENDED



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
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AZIMUTH: MGA  
 DATUM: AHD  
 ORIGIN:

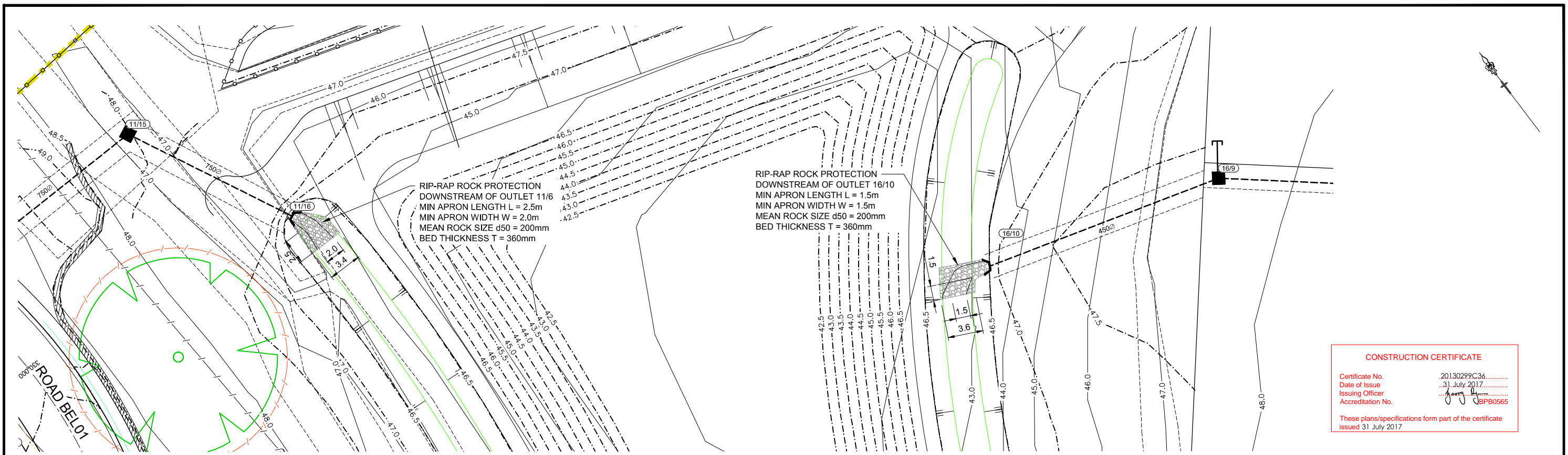
CLIENT:  
  
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ISSUED FOR CONSTRUCTION APPROVAL

**REDBANK, NORTH RICHMOND  
 BELMONT**  
 OUTLET CONTROLS  
 OUTLET DETAIL SHEET 2

PLAN No: <b>110185BEL/CC302 B</b>	FILE No: 110185BELCC302
SHEET SIZE: A1 ORIGINAL	

REV	DESCRIPTION	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG			12/05/17
A	FIRST ISSUE	JC	JC	RO		
	AMENDMENT	DES	DRN	CKD	APR	DATE



**CONSTRUCTION CERTIFICATE**

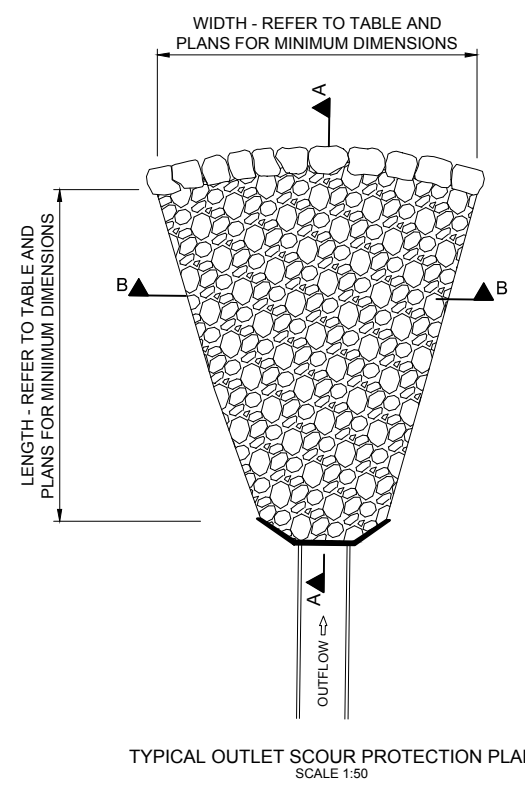
Certificate No. 20130299C36  
 Date of Issue 31 July 2017  
 Issuing Officer *Geoffrey*  
 Accreditation No. JBP0565

These plans/specifications form part of the certificate issued 31 July 2017

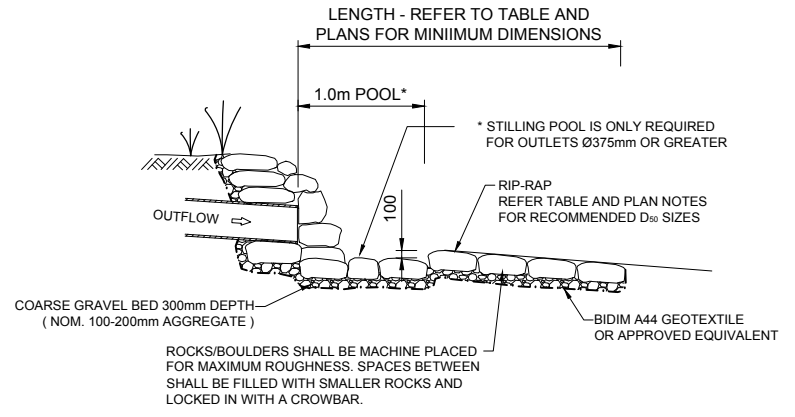
**PLAN**  
SCALE 1:200

**NOTES**

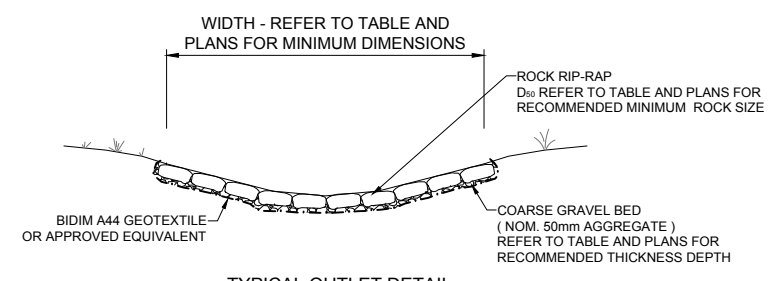
- DESIGN BASED ON FLOW VELOCITIES FROM 12D DRAINAGE OUTPUTS FOR 100 YEAR ARI STORM EVENT
- RIP-RAP SCOUR PROTECTION DIMENSIONS CALCULATED FROM "ROCK SIZING FOR SINGLE PIPE OUTLETS - STORMWATER MANAGEMENT PRACTICES" BY CATCHMENTS AND CREEKS, VERSION 2 DATED NOVEMBER 2014
- ROCK HEADWALL ARRANGEMENT SHOWN ON PLANS, PRECAST CONCRETE OUTLET ARRANGEMENT CAN BE ADOPTED, HOWEVER RIP-RAP LENGTH SHALL COMMENCE AT THE END OF THE PRECAST CONCRETE APRON SLAB
- MINIMUM RIP-RAP DIMENSIONS ARE DENOTED ON BOTH TABLE AND PLANS
- ALL RIP-RAP TO CONSIST OF ANGULAR DURABLE QUARRY ROCK PLACED OVER A LAYER OF ANGULAR COBBLES (D50=50mm)
- RIP-RAP IS TO BE PLACED BY HAND AND PACKED INTO PLACE WITH A CROW-BAR TO ENSURE UNIFORM FIT WITH MINIMUM VOIDS



**TYPICAL OUTLET SCOUR PROTECTION PLAN**  
SCALE 1:50

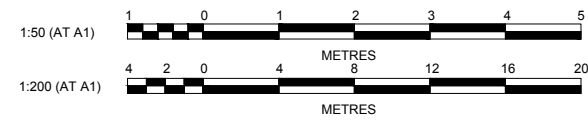


**TYPICAL OUTLET DETAIL SECTION A-A**  
SCALE 1:50



**TYPICAL OUTLET DETAIL SECTION B-B**  
SCALE 1:50

OUTLET HEADWALL RIP-RAP SCOUR PROTECTION (MINIMUM RECOMMENDED DIMENSIONS)					
HEADWALL NAME	PIPE SIZE (mm)	MEAN ROCK SIZE (D50 mm)	APRON LENGTH (m)	APRON WIDTH (m)	BED THICKNESS (mm)
2/10	Ø375	200	1.5	1.2	360
3/1	1200x900 BC	200	3.6	3.0	360
3/2 - 4/3	1200x900 BC / Ø375	200	3.6	4.0	360
5/11	Ø525	200	2.0	1.5	360
11/16	Ø750	200	2.5	2.0	360
15/3	Ø450	300	2.0	1.5	550
16/10	Ø450	200	1.5	1.5	360
A/3	Ø225	200	1.0	1.0	360
A1/2	Ø225	200	1.0	1.0	360
A2/2	Ø225	200	1.0	1.0	360
F1/2	Ø375	200	1.5	1.2	360
F2/3	Ø300	200	1.2	1.2	360
F3/2	Ø300	200	1.2	1.2	360
F4/2	Ø300	200	1.2	1.2	360
F5/3	Ø300	200	1.2	1.2	360



**REVISION B**  
 • DRAINAGE LINE 16/9 TO 16/10 ALIGNMENT REVISED

REVISION	DESCRIPTION	DESIGNED	CHECKED	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	
A	FIRST ISSUE	JC	JC	12/05/17

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**RED BANK**  
NORTH RICHMOND

CLIENT: REDBANK, NORTH RICHMOND BELMONT

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**ISSUED FOR CONSTRUCTION APPROVAL**

**REDBANK, NORTH RICHMOND BELMONT**

OUTLET CONTROLS  
OUTLET DETAIL SHEET 3

PLAN No: 110185BEL/CC303 **B**  
 FILE No: 110185BELCC303  
 SHEET SIZE: A1 ORIGINAL

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