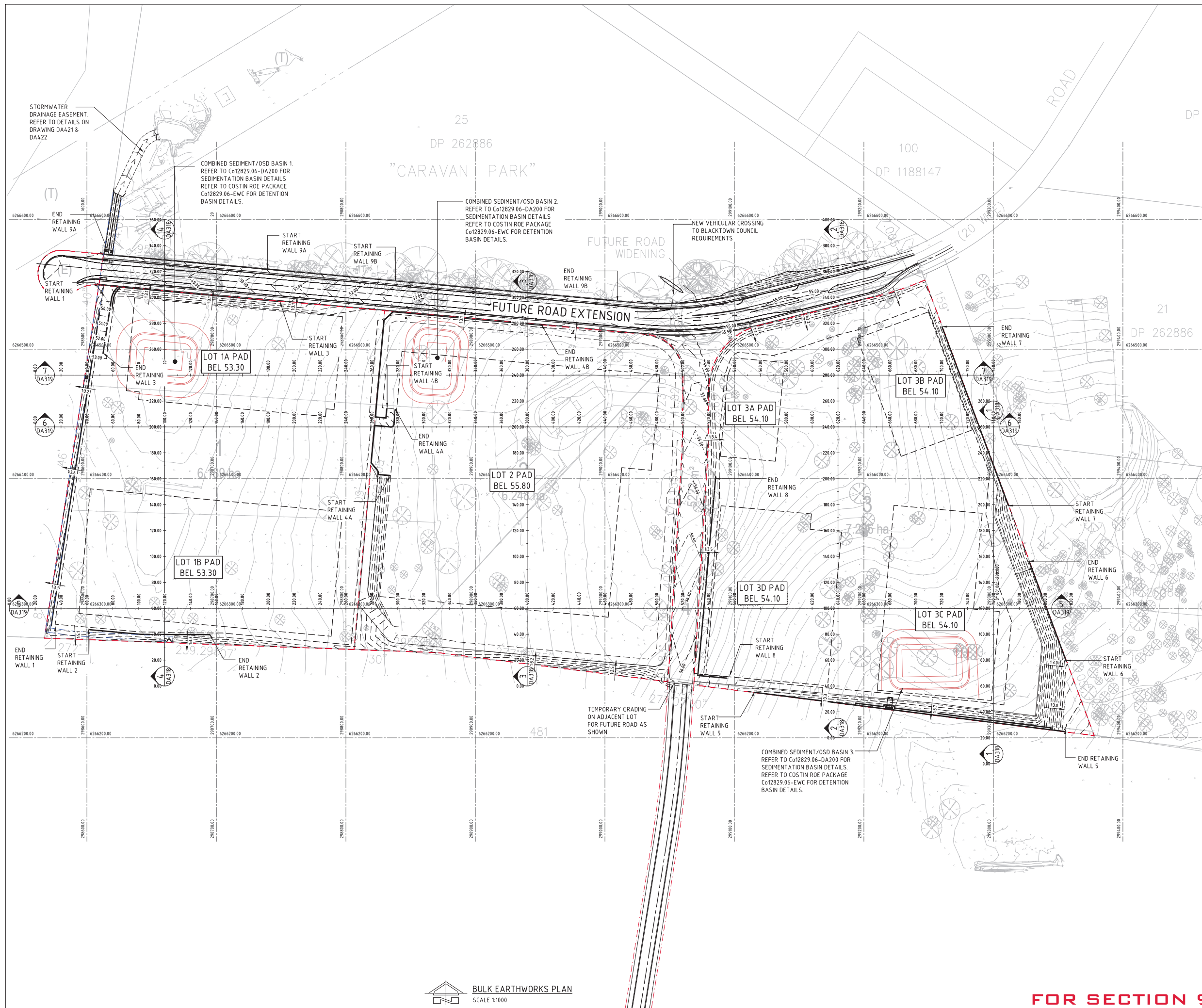




LEGEND

LEVELS DATUM IS AHD.
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED.
PREPARED BY: LAND PARTNERS
DATED: 14-04-2016
REFERENCE: SY073199.DET
GRID IS MGA DATUM.

— 30.50 — - EXISTING CONTOUR
— 30.00 — - B.E.L. CONTOUR (MAJOR - 1.0m)
— 30.50 — - B.E.L. CONTOUR (MINOR - 0.5m)
- - - - - MAJOR GRID MARKER (100m)

PAVEMENT
BASE/SUBBASE COURSES
SUBGRADE
PAVEMENT FFL
NOMINATED B.E. LEVEL
DEPTH OF PAVEMENT REFER TO STRUCTURAL PLANS FOR DETAILS.

NOMINATED B.E.L. DETAIL
N.T.S.

EARTHWORKS VOLUMES:

TOPSOIL STRIP (0.1m STRIP OVER 20.9Ha)	-	20,910m ³
CUT	-	229,000m ³
FILL	+	267,500m ³
DETAILED EXCAVATION (20.9Ha) @ 750m ³ /Ha	-	15,700m ³
RETAINING WALL BACKFILL	-	10,000m ³
NET BALANCE	+	12,800m ³ (i.e. IMPORT)

EARTHWORKS VOLUMES ARE APPROXIMATE ONLY.
NO ALLOWANCE HAS BEEN MADE IN THE ABOVE VOLUMES FOR EROSION & SEDIMENT CONTROL BACKFILLING, BULKING OR COMPACTION OF FILLED SOILS, THE REMOVAL OF UNCONTROLLED OR CONTAMINATED MATERIAL, TEMPORARY DRAINAGE SWALES WITHIN BUILDING PADS, OR ANY OTHER UNSPECIFIED EXCAVATION RELATED TO FUTURE WAREHOUSE CONSTRUCTION.

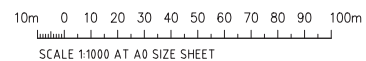
CONTRACTOR TO ALLOW FOR SEDIMENT BASIN/OSD BASIN EXCAVATIONS TO BE RETAINED ON SITE FOR FUTURE BACKFILLING

LEVELS NOTE:

LEVELS SHOWN TO BE ± 500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

NOTE:

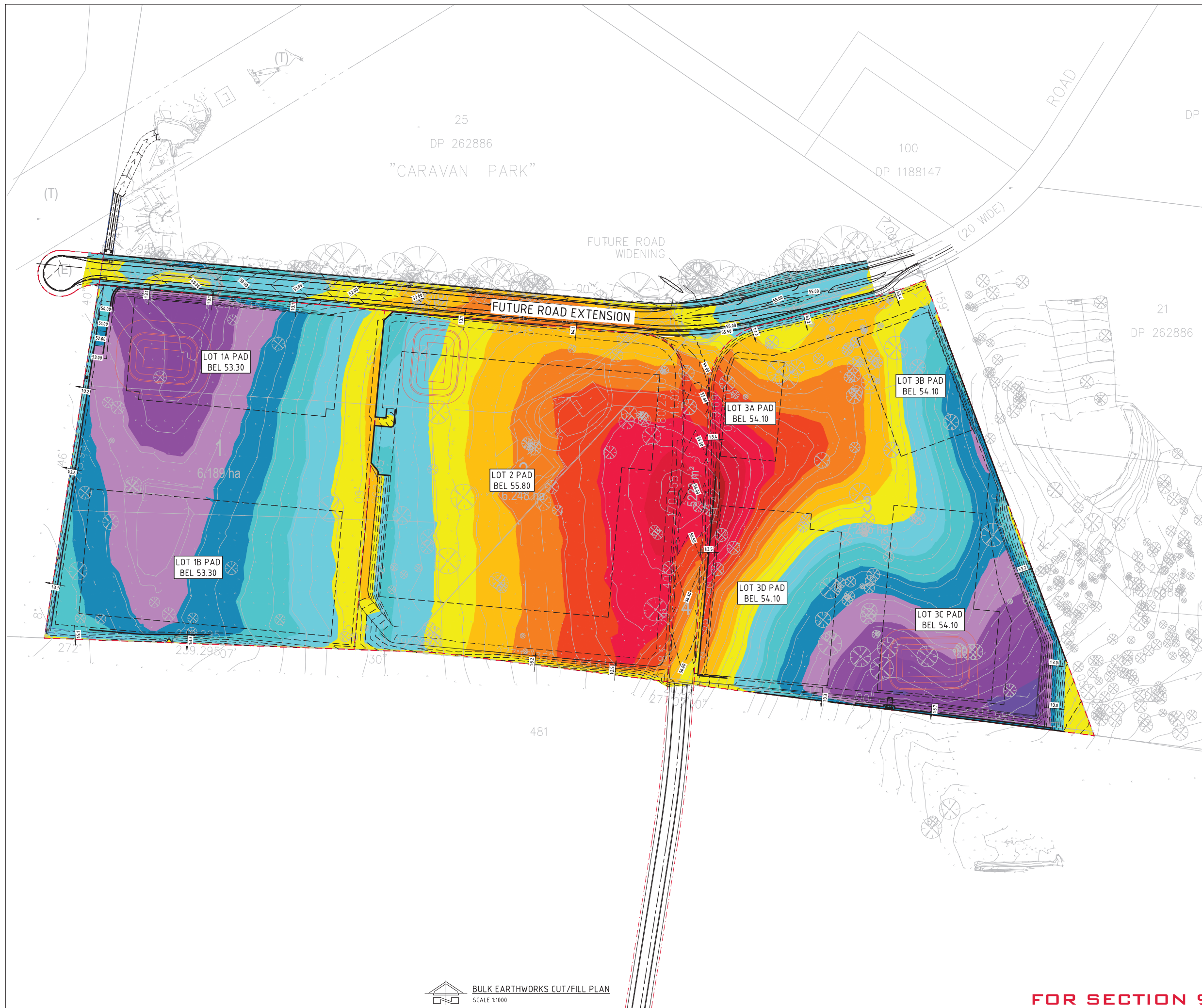
REFER TO DRAWING C012829.06-DA100 FOR SITE PREPARATION NOTES.



BULK EARTHWORKS PLAN
SCALE 1:1000

FOR SECTION 96

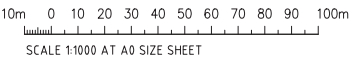
ISSUED FOR 5% APPLICATION			22.11.17	F				ARCHITECT			CLIENT			PROJECT			Costin Roe Consulting Pty Ltd.		
REVISED FOR UPDATED MASTERPLAN			26.10.17	E										INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS			Consulting Engineers		
REVISED FOR UPDATED MASTERPLAN			09.10.17	D										Level 1, 8 Windmill Street					
REVISED AS CLOURED FOR UPDATED SITE LAYOUT			15.08.17	C										Maine Hwy, Sydney NSW 2000					
ISSUED FOR INFORMATION			01.08.17	B										Tel: (02) 9551-7699 Fax: (02) 9541-3721					
PRELIMINARY ONLY			31.05.17	A										email: mail@costinroe.com.au					
AMENDMENTS			DATE	ISSUE	AMENDMENTS			DATE	ISSUE	DESIGNED			DATE	CHECKED	SCALE	CAD REF	PRECISION COMMUNICATION ACCOUNTABILITY		
																	12829.06-DA311		
																	BULK EARTHWORKS PLAN		
																	DRAWING No		
																	12829.06-DA311		
																	100%		



DEPTH RANGE				
No.	FROM DEPTH	TO DEPTH	COLOUR	DEPTH RANGE VOLUME
1	-7.000	-6.000	Red	164m³
2	-6.000	-5.000	Red	1685m³
3	-5.000	-4.000	Red	9560m³
4	-4.000	-3.000	Red	23999m³
5	-3.000	-2.000	Orange	41428m³
6	-2.000	-1.000	Orange	65228m³
7	-1.000	0.000	Yellow	92858m³
8	0.000	1.000	Light Blue	94120m³
9	1.000	2.000	Light Blue	68140m³
10	2.000	3.000	Light Blue	47359m³
11	3.000	4.000	Light Blue	25856m³
12	4.000	5.000	Light Blue	11544m³
13	5.000	6.000	Light Blue	2811m³
14	6.000	7.000	Light Blue	99m³
15	7.000	8.000	Light Blue	-76m³

LEVELS NOTE:
LEVELS SHOWN TO BE ± 500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY.

NOTE:
REFER TO DRAWING C012829-06-DA100 FOR SITE PREPARATION
NOTES.



 **BULK EARTHWORKS CUT/FILL PLAN**
SCALE 1:1000

FOR SECTION 96

REVISED FOR UPDATED MASTERPLAN
REVISED FOR UPDATED MASTERPLAN
REVISED AS CLOUDED FOR UPDATED SITE LAYOUT
ISSUED FOR INFORMATION
REVISED FOR UPDATED MASTERPLAN - FOR INFORMATION ONLY
PRELIMINARY ONLY
AMENDMENTS

25.10.17
09.10.17
15.08.17
01.08.17
22.06.17
31.05.17
DATE

F
E
D
C
B
A
ISSUE

ISSUED FOR SECTION 96 APPLICATION
AMENDMENTS

22.11.17
DATE

G
ISSUE

AMENDMENTS

DATE

ISSUE

ARCHITECT



CLIENT



PROJECT
INFRASTRUCTURE PACKAGE
EARTHWORKS & WALLS
HOLLINGSWORTH ROAD MARSDEN PARK NSW

DESIGNED
DS
DATE
JUN 17

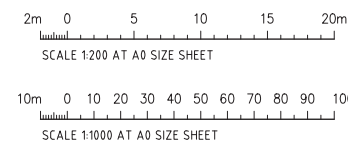
CHECKED
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AS SHOWN

CAD REF:
C012829-06-DA312


Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Wahah Bay, Sydney NSW 2000
Tel: (02) 8651-7889 Fax: (02) 8641-3721
email: mail@costinroe.com.au ©


PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
**BULK EARTHWORKS
CUT/FILL PLAN**
DRAWING No
12829-06-DA312
PAGE
G



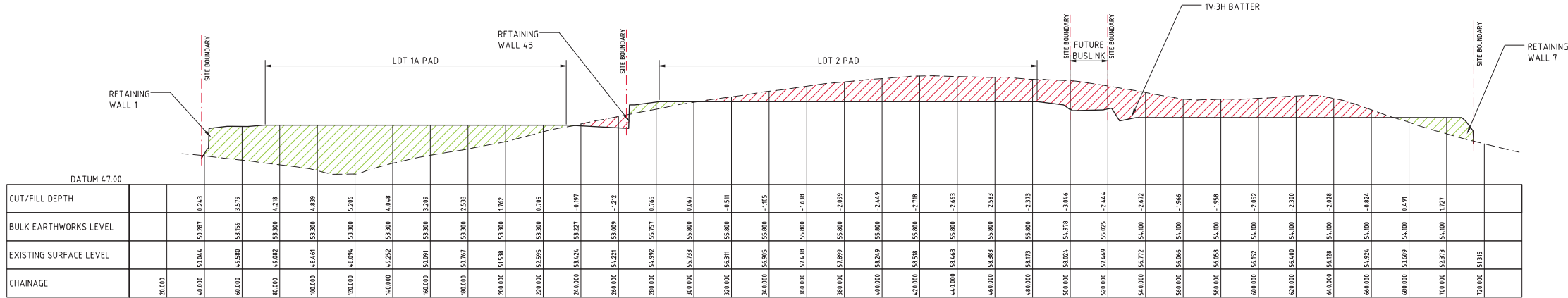
Costin Roe Consulting

DRAWING TITLE
BULK EARTHWORKS
SECTIONS - SHEET 1

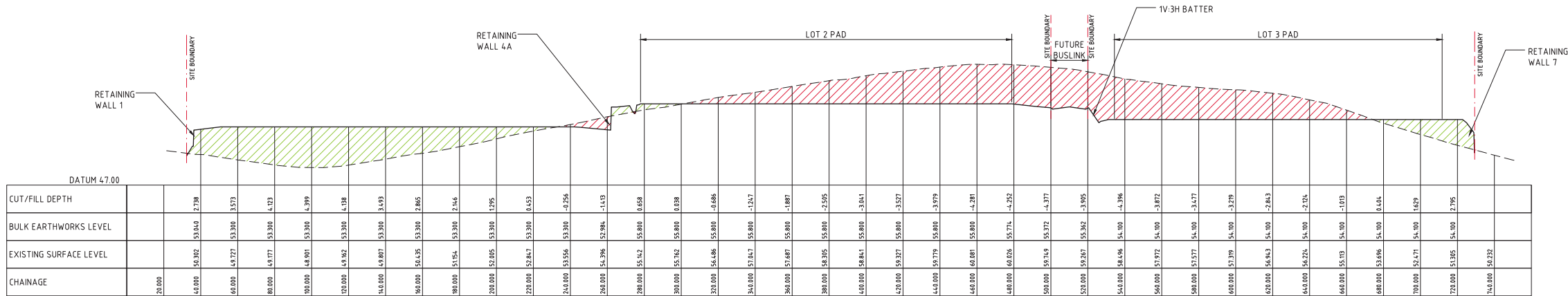
DRAWING No 12829.06-DA318

PRECISION | COMMUNICATION | ACCOUNTABILITY

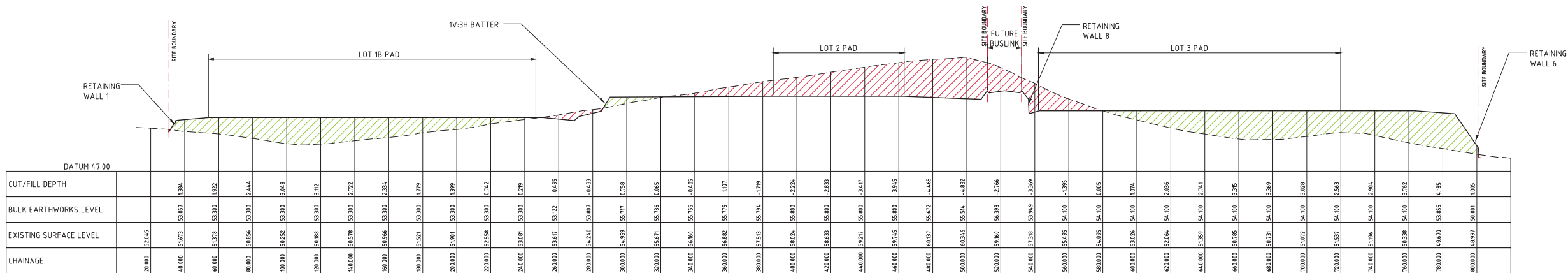
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SECTION 7
HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200



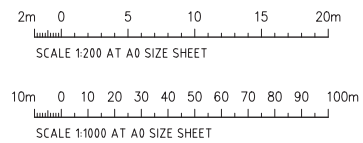
SECTION 6
HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200



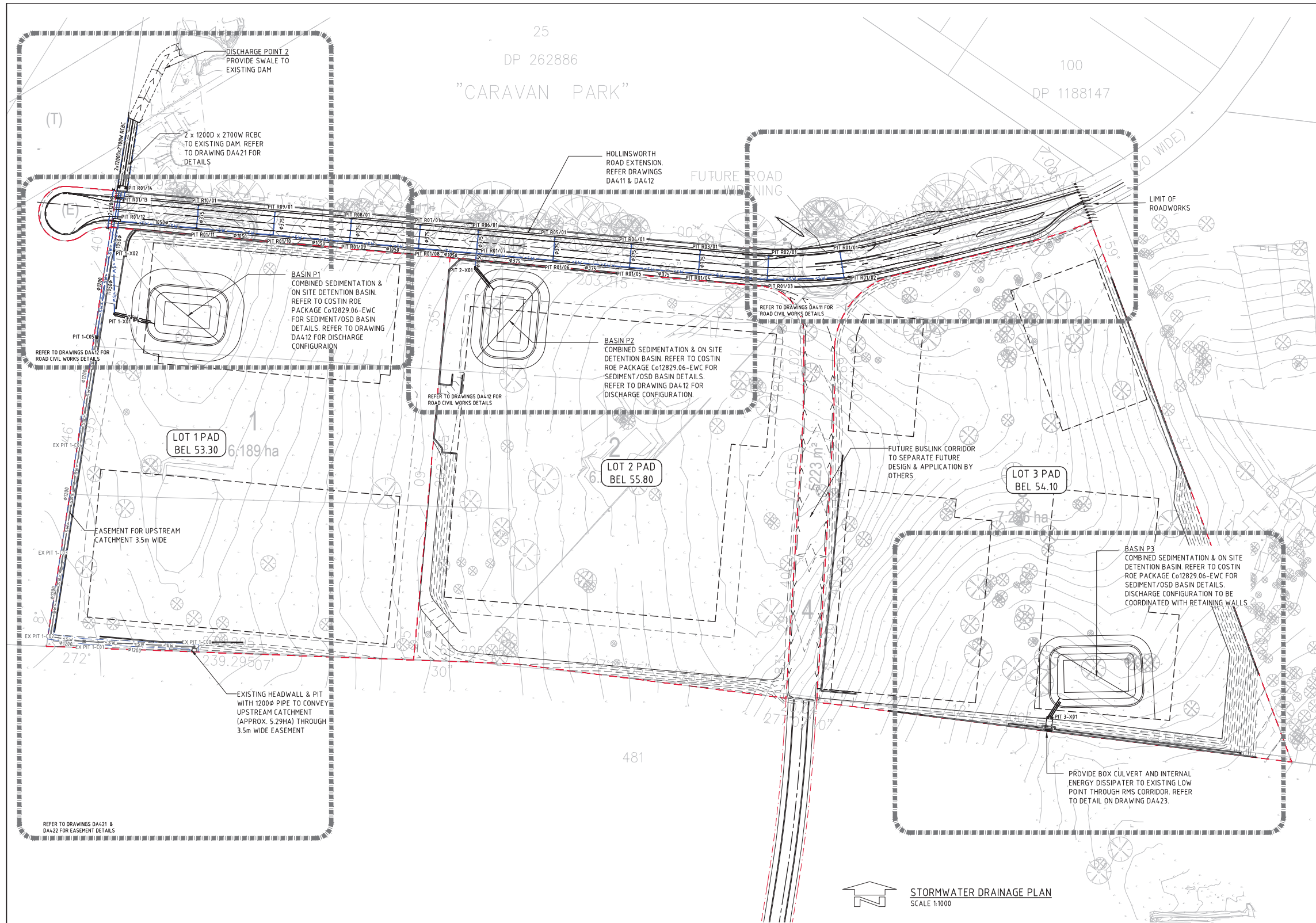
SECTION 5
HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:200

LEGEND:

- DENOTES FILL AREA
- DENOTES CUT AREA
- BULK EARTHWORKS SURFACE PROFILE
- EXISTING SURFACE PROFILE



FOR SECTION 96



PIT SCHEDULE - OSD BASIN COLLECTION PITS

PIT No.	GRATE RL	DEPTH	TYPE	SIZE	COMMENT
PIT 1-X01	53.30	6640	SJP	1500x900	
PIT 1-X02	50.10	3640	SJP	1500x900	
PIT 2-X01	55.80	5580	SJP	1500x1500	
PIT 3-X01	54.10	6400	SJP	3600x7700	INVERTED CULVERT WITH RIP RAP

PIT SCHEDULE - WESTERN STORMWATER EASEMENT NETWORK '1-C'

PIT No.	GRATE RL	DEPTH	TYPE	SIZE	COMMENT
PIT 1-C00	52.00	1600	SJP	1500x1500	EXISTING
PIT 1-C01	52.50	2500	SJP	1500x900	EXISTING
PIT 1-C02	52.40	2550	SJP	1500x900	EXISTING
PIT 1-C03	51.90	2380	SJP	1500x900	EXISTING
PIT 1-C04	51.40	2400	SJP	1500x900	EXISTING
PIT 1-C05	50.70	2200	SJP	1500x900	EXISTING

PIT SCHEDULE - HOLLINSWORTH ROAD STORMWATER NETWORK 'R'

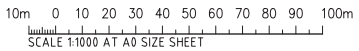
PIT No.	GRATE RL	DEPTH	TYPE	SIZE	COMMENT
PIT R01/01	55.25	1400	KIP	900x900	2.4m LINTEL
PIT R01/02	55.25	1650	KIP	900x900	2.4m LINTEL
PIT R01/03	54.91	1860	KIP	900x900	2.4m LINTEL
PIT R01/04	54.59	2090	KIP	900x900	2.4m LINTEL
PIT R01/05	54.27	2270	KIP	900x900	2.4m LINTEL
PIT R01/06	53.92	2470	KIP	900x900	2.4m LINTEL
PIT R01/07	53.41	3510	KIP	1500x900	2.4m LINTEL
PIT R01/08	52.61	3110	KIP	1500x900	2.4m LINTEL
PIT R01/09	51.55	2550	KIP	1500x900	2.4m LINTEL
PIT R01/10	50.37	2200	KIP	1500x900	2.4m LINTEL
PIT R01/11	49.24	2200	KIP	1500x900	2.4m LINTEL
PIT R01/12	48.80	2490	B-FLY	1500x4500	DOUBLE GRATE AT DRIVEWAY
PIT R01/13	48.80	2600	KIP-S	900x3000	DOUBLE GRATE W/ 3.6m LINTEL
PIT R01/14	48.85	2750	GP	3000x6200	OPEN OVERFLOW COLLECTION PIT
PIT R02/01	54.91	1400	KIP	900x900	2.4m LINTEL
PIT R03/01	54.59	1400	KIP	900x900	2.4m LINTEL
PIT R04/01	54.27	1400	KIP	900x900	2.4m LINTEL
PIT R05/01	53.92	1400	KIP	900x900	2.4m LINTEL
PIT R06/01	53.41	1410	KIP	900x900	2.4m LINTEL
PIT R07/01	52.61	1410	KIP	900x900	2.4m LINTEL
PIT R08/01	51.55	1410	KIP	900x900	2.4m LINTEL
PIT R09/01	50.37	1410	KIP	900x900	2.4m LINTEL
PIT R10/01	49.24	1410	KIP	1800x900	2.4m LINTEL

LEVELS NOTE:
LEVELS SHOWN TO BE ± 500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY.

NOTE:
REFER TO DRAWING C012829.06-DA100 FOR STORMWATER DRAINAGE
NOTES.

LEGEND:
LEVELS DATUM IS AHD.
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY LAND PARTNERS
REF: SY074063.000.1.1 DATED OCT '2016.

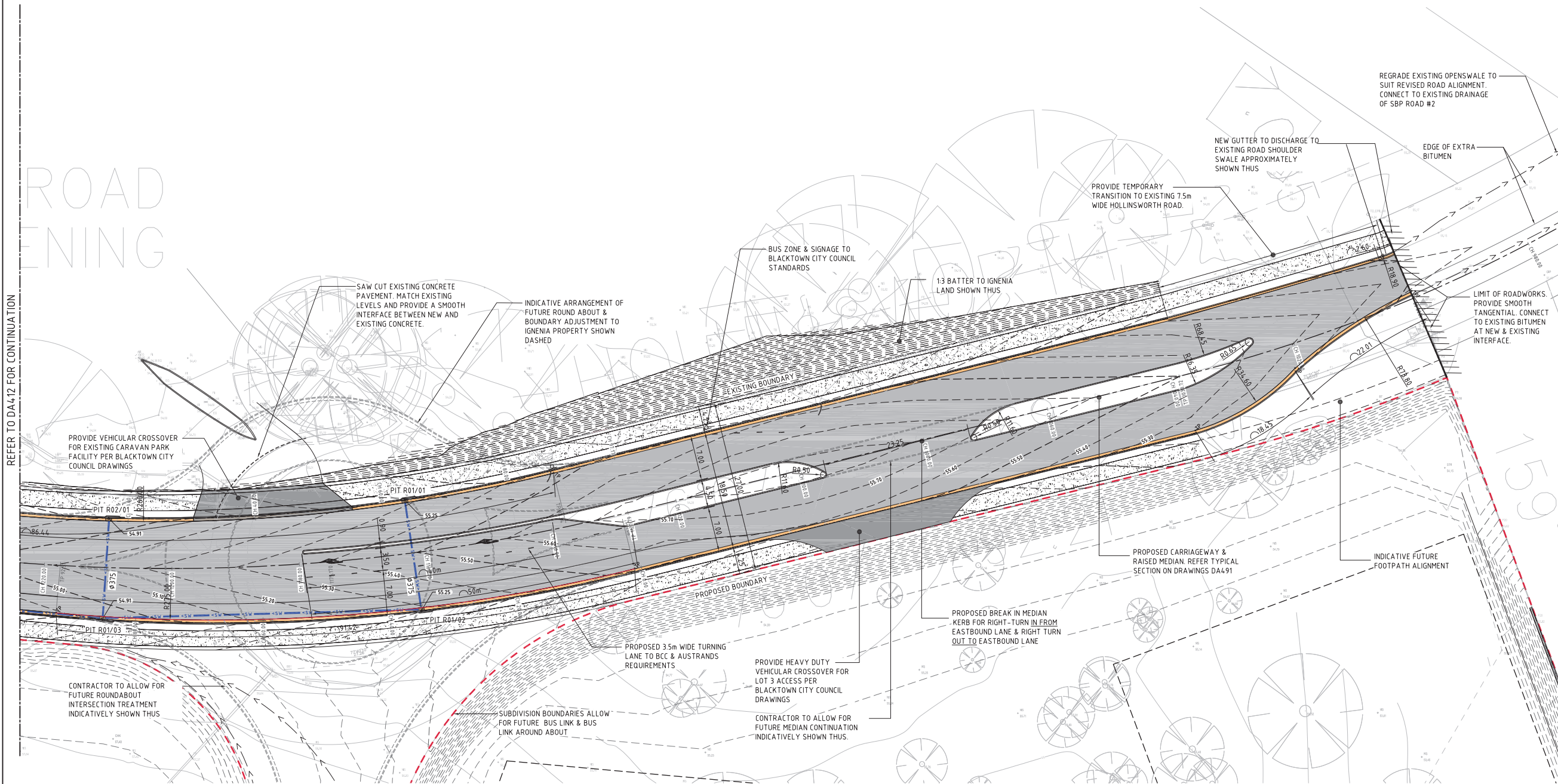
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- DRAINAGE LINE
- STORMWATER DRAINAGE EASEMENT
- FINISHED EARLY WORKS CONTOUR (MAJOR)
1.0m INTERVALS
- FINISHED EARLY WORKS CONTOUR (MINOR)
0.5m INTERVALS



FOR SECTION 96

ROAD
ENING

REFER TO DA4.12 FOR CONTINUATION



REFER TO BELOW FOR CONTINUATION

REFER TO DA411 FOR CONTINUATION

NOTE:
REFER TO DRAWING C012829.06-DA471 FOR LONGSECTIONS & DA491 FOR TYPICAL SECTIONS AND ROAD DETAILS

LEVELS NOTE:
LEVELS SHOWN TO BE $\pm 500\text{mm}$ FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

- LEGEND:**
LEVELS DATUM IS AHD.
- EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS DATED OCT' 2016.
- SJP, SEALED JUNCTION PIT
 - KIP, KERB INLET PIT
 - DRAINAGE LINE
 - STORMWATER DRAINAGE EASEMENT
 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
 - EXTENT OF ROAD PAVEMENT
 - EXTENT OF FOOTPATH PAVEMENT
 - K&G, KERB & GUTTER

COMBINED SEDIMENT STORAGE/OSD BASIN
MAX SEDIMENT POND DEPTH = 2.00m
ACTIVE DETENTION DEPTH = 1.38m
OSD FREEBOARD DEPTH = 0.30m MIN
MAX PONDED DEPTH = 3.38m
Q100 TWL = RL53.88
ACTIVE STORAGE VOLUME = 1,860m³
REFER TO COSTIN ROE PACKAGE C012829.06-EWC FOR COMBINED SEDIMENT/DETENTION STORAGE BASIN DETAILS. DISCHARGE CONFIGURATION TO BE CONFIRMED DURING DETAILED DESIGN.



HOLLINSWORTH ROAD CIVIL WORKS PLAN - SHEET 2
SCALE 1:250

PROVIDE 600 HIGH WALL ABOVE OPEN PIT TO DIRECT OVERLAND FLOW INTO PIT.
REFER TO DETAIL ON DA452 FOR RUNOFF COLLECTION PIT DETAIL

PROVIDE NEGATIVE CROSSFALL FOR OVERLAND FLOW INTO PIT (2.5%)

2x1200x2700 RCBC.
REFER TO STORMWATER EASEMENT DRAWINGS DA421 & DA422 FOR DETAILS.

OFF-LINE VORTEX-STYLE GROSS POLLUTANT TRAP - CDS OR APPROVED EQUIVALENT. SIZE T.B.C. DURING DETAILED DESIGN.
PROVIDE INTERNAL DIVERSION WEIR AT PIT R01/13

KEYSTONE "NO-FINES" RETAINING WALL IN FILL. REFER TO DRAWING DA610 & DA650 FOR DETAILS

PROPOSED HOLLINSWORTH ROAD EXTENSION. REFER TYPICAL SECTION ON DRAWING C012829.06-DA491.

COMBINED SEDIMENT STORAGE/OSD BASIN
MAX SEDIMENT POND DEPTH = 2.00m
ACTIVE DETENTION DEPTH = 1.44m
OSD FREEBOARD DEPTH = 0.30m MIN
MAX PONDED DEPTH = 3.44m
Q100 TWL = RL49.94
ACTIVE STORAGE VOLUME = 1,975m³
REFER TO COSTIN ROE PACKAGE C012829.06-EWC FOR COMBINED SEDIMENT/DETENTION STORAGE BASIN DETAILS. DISCHARGE CONFIGURATION TO BE CONFIRMED DURING DETAILED DESIGN.



HOLLINSWORTH ROAD CIVIL WORKS PLAN - SHEET 2
SCALE 1:250

2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE SHEET

FOR SECTION 96

ISSUED FOR SECTION 96 APPLICATION	22.11.17	F	
REVISED FOR UPDATED DRAINAGE CONFIGURATION	16.11.17	E	
REVISED FOR UPDATED DRAINAGE CONFIGURATION	26.10.17	D	
REVISED FOR UPDATED MASTERPLAN	09.10.17	C	
REVISED AS CLOUDED FOR ADDED GPT	15.08.17	B	
ISSUED FOR INFORMATION	01.08.17	A	
AMENDMENTS	DATE	ISSUE	AMENDMENTS

ARCHITECT
[watch this SPACE design]

CLIENT
LOGOS

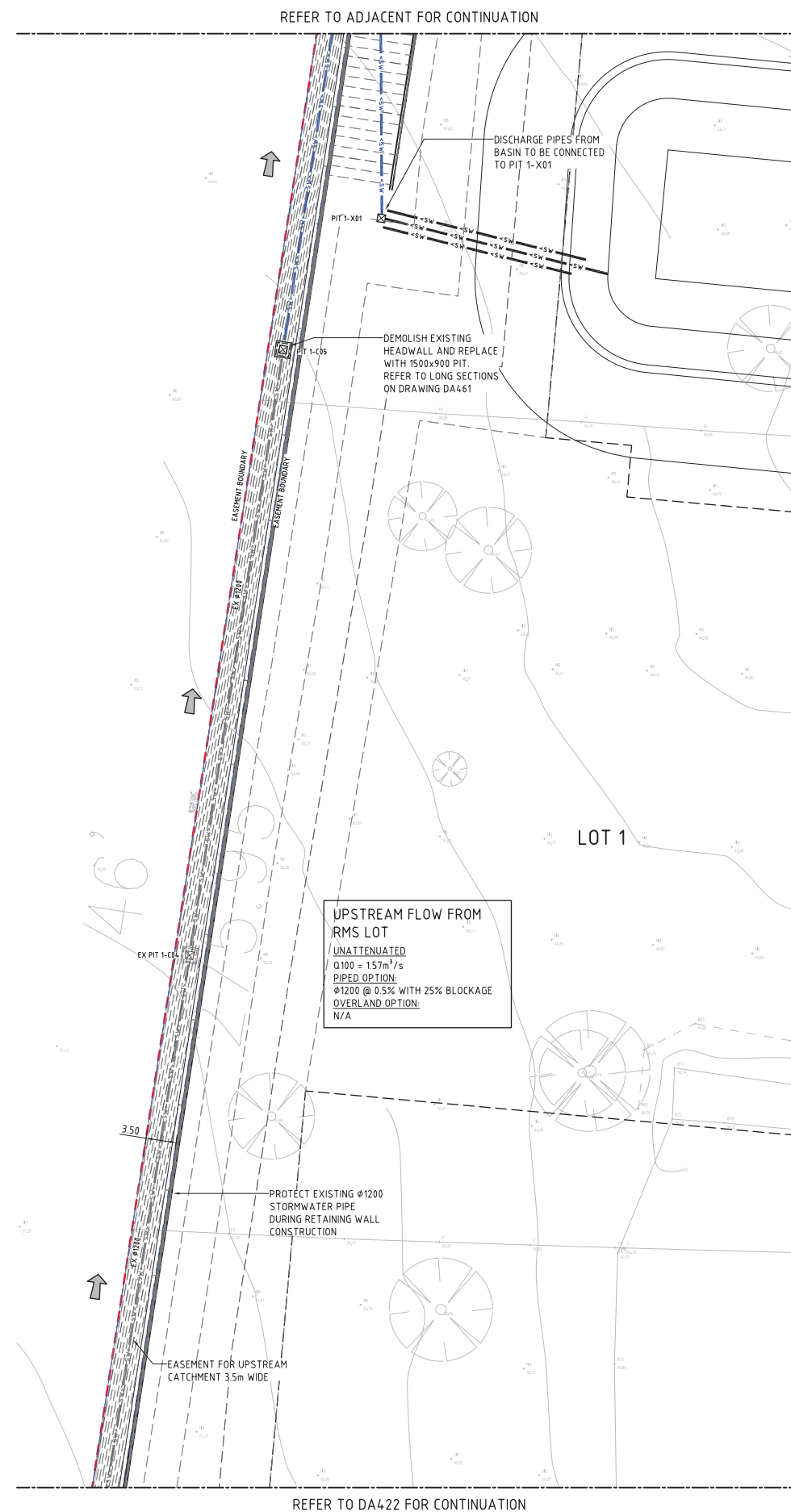
PROJECT
INFRASTRUCTURE PACKAGE
EARTHWORKS & WALLS
HOLLINSWORTH ROAD MARS DEN PARK NSW

COSTIN ROE CONSULTING PTY LTD.
Consulting Engineers
Level 1, 8 Windmill Street
Wahbah Bay, Sydney NSW 2000
Tel: (02) 8551-7899 Fax: (02) 9541-3721
email: mail@costinroe.com.au

COSTIN ROE CONSULTING

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
HOLLINSWORTH ROAD
CIVIL WORKS PLAN
SHEET 2
DRAWING No 12829.06-DA412
ISSUE F



REFER TO DA422 FOR CONTINUATION

2m 0 5 10 15 20 25m

SCALE 1:250 AT A0 SIZE SHEET

Costin Roe Consulting

DRAWING TITLE
WESTERN DRAINAGE EASEMENT
PLAN - SHEET 1

DRAWING No 12829.06-DA421

ISSUE
G

ARCHITECT

[watch this SPACE design]

CLIENT

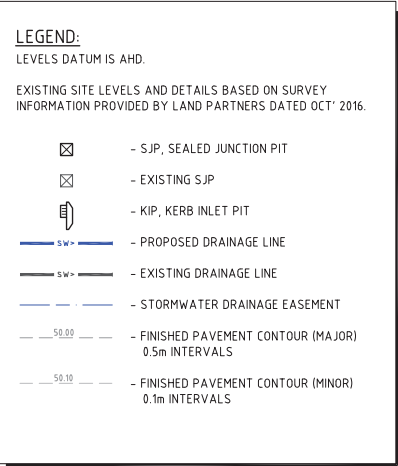
LOGOS

PROJECT					
INFRASTRUCTURE PACKAGE					
EARTHWORKS & WALLS					
HOLLINGSWORTH ROAD MARSDEN PARK NSW					
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE

CONSULT AUSTRALIA

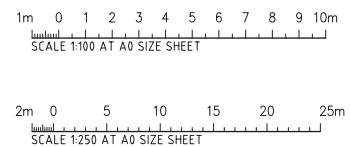
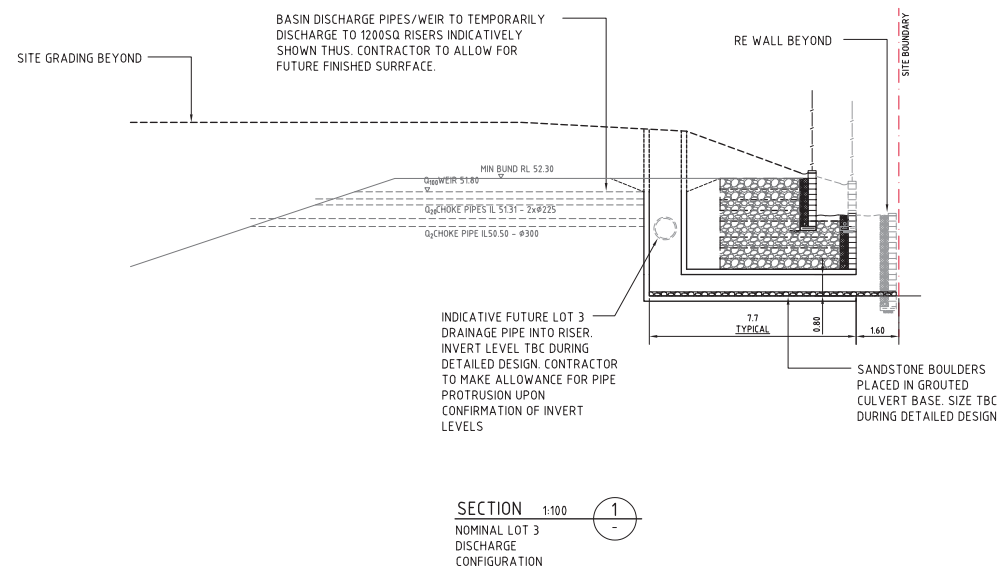
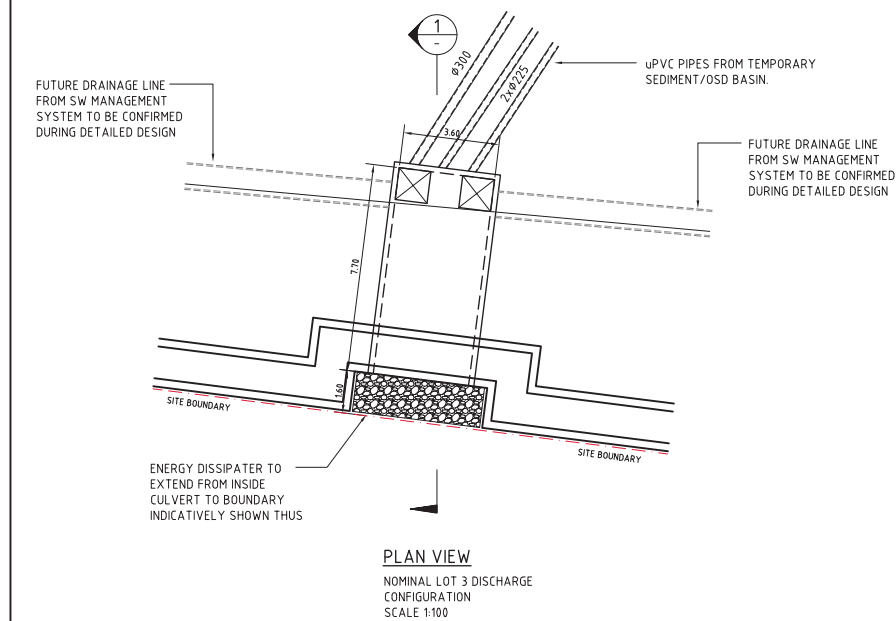
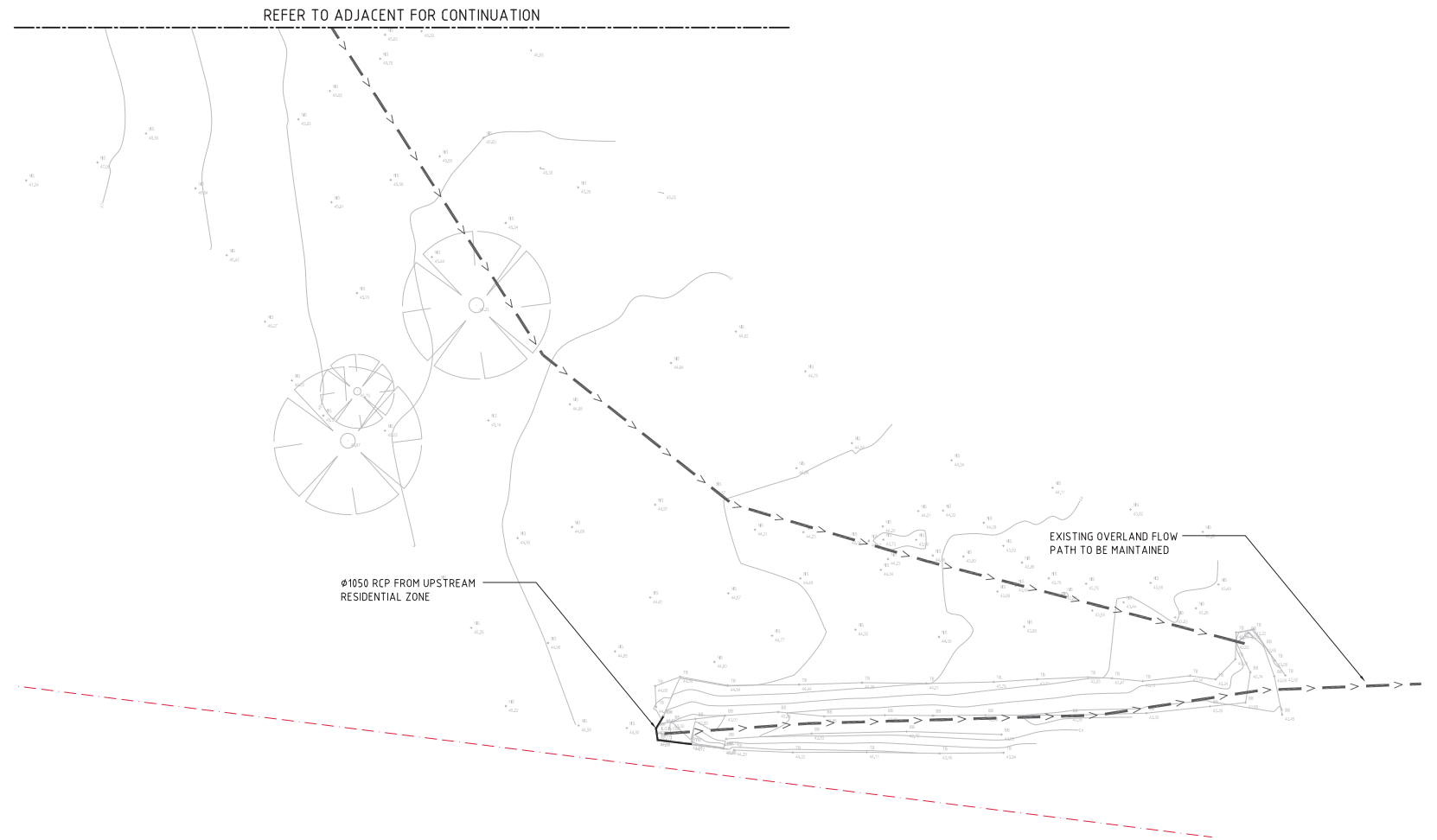
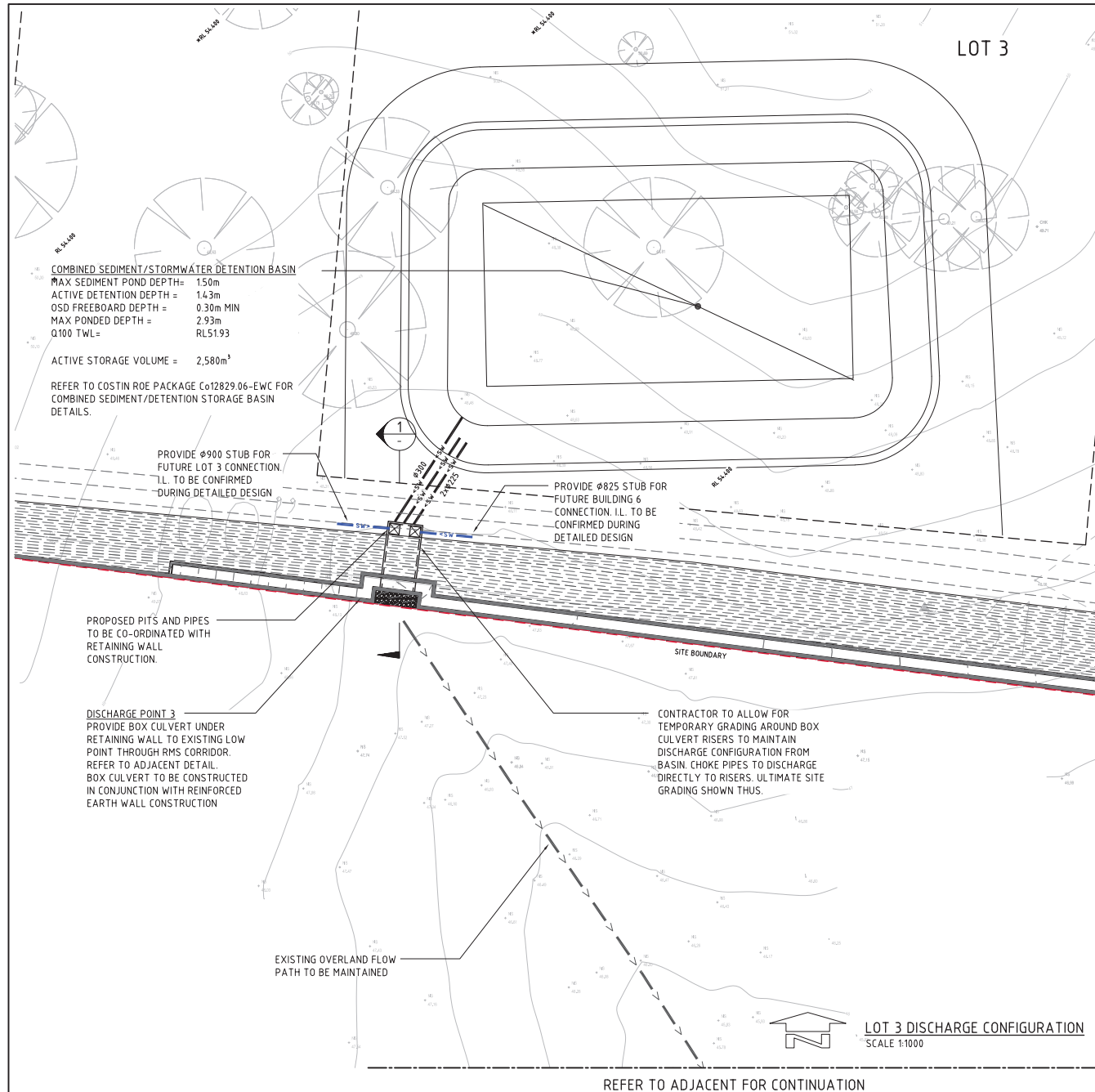
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
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email: mail@costinroe.com.au

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DRAWING No	12829.06-DA422	ISS
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Consulting Engineers ACT 002 000 446
 Level 1, 8 Windmill Street
 Walsh Bay, Sydney NSW 2000
 Tel: (02) 8251-7099 Fax: (02) 8241-3731
 email: mail@costinroe.com.au ©



AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ISSUED FOR SECTION 96 APPLICATION	22.11.17	C			
ISSUED FOR INFORMATION ONLY	26.10.17	B			
ISSUED FOR INFORMATION ONLY	09.10.17	A			

