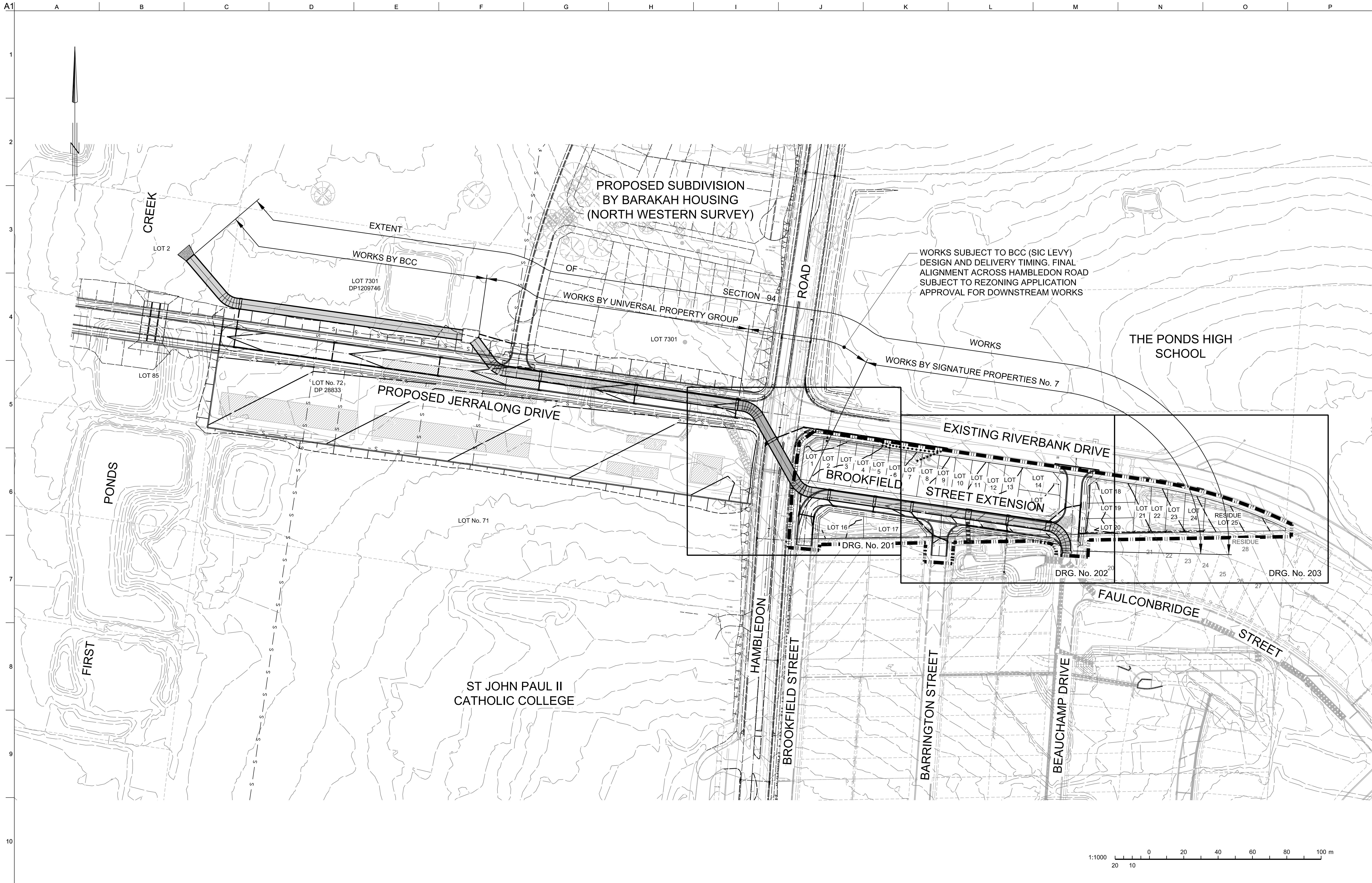


P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	- / - / -	-	-	-
NOT ISSUED				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Consultant

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www.arup.com.au

CONSULT AUSTRALIA

Member Firm
Arup Pty Ltd
ABN 18 000 995 165

Project

98 HAMBLEDON ROAD

Client

SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title

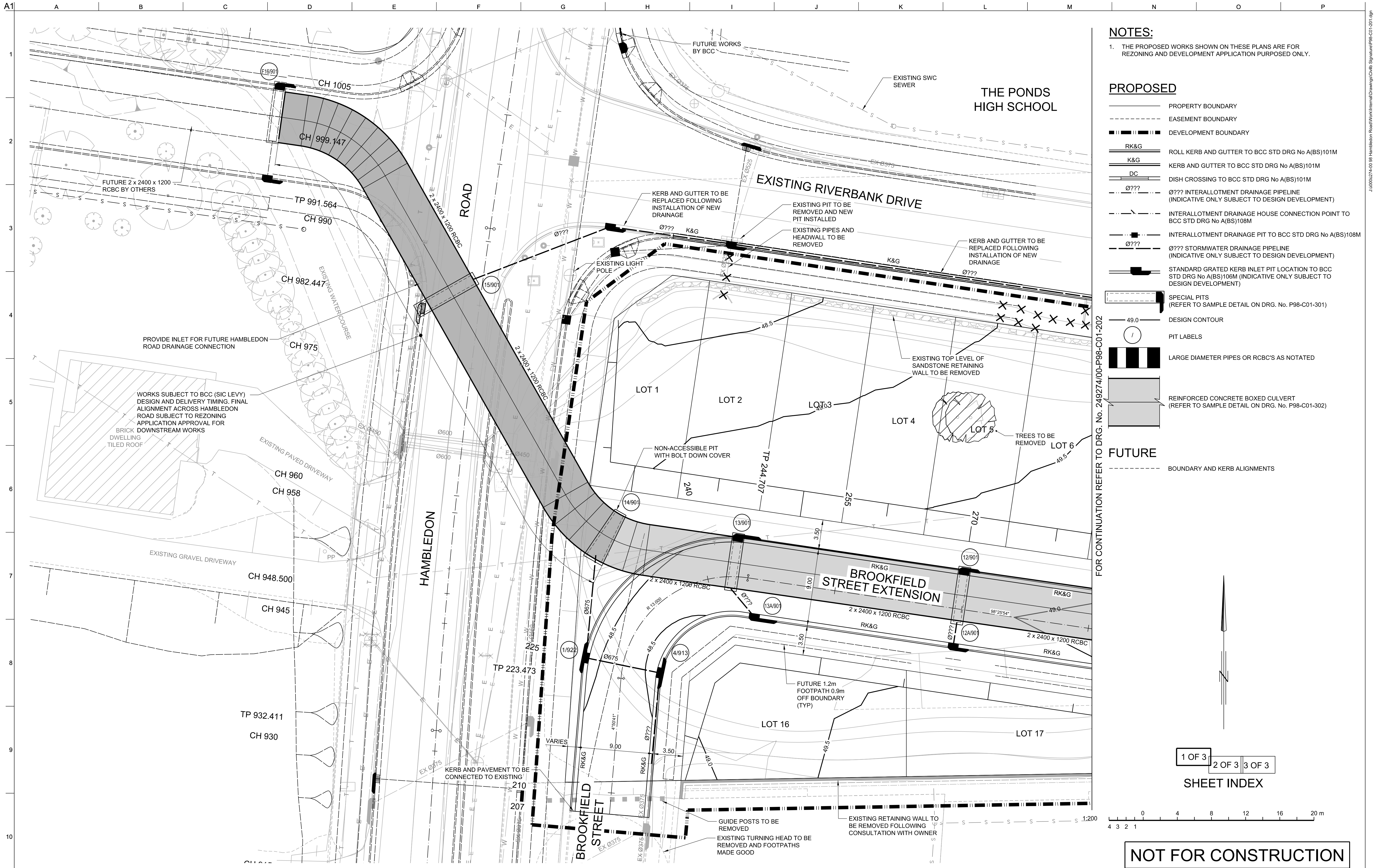
98 HAMBLEDON ROAD
SUBDIVISION

Scale at A1 AS SHOWN

Discipline CIVIL

Drawing Status
FOR REVIEW

Project No	Drawing No	Issue
249274/00	P98-C01-200	P03



NOTES:
1. THE PROPOSED WORKS SHOWN ON THESE PLANS ARE FOR REZONING AND DEVELOPMENT APPLICATION PURPOSED ONLY.

PROPOSED

PROPERTY BOUNDARY

EASEMENT BOUNDARY

DEVELOPMENT BOUNDARY

RK&G

ROLL KERB AND GUTTER TO BCC STD DRG No A(BS)101M

K&G

KERB AND GUTTER TO BCC STD DRG No A(BS)101M

DC

DISH CROSSING TO BCC STD DRG No A(BS)101M

Ø???

Ø???

INTERALLOTMENT DRAINAGE PIPELINE (INDICATIVE ONLY SUBJECT TO DESIGN DEVELOPMENT)

INTERALLOTMENT DRAINAGE HOUSE CONNECTION POINT TO BCC STD DRG No A(BS)108M

Ø???

Ø???

INTERALLOTMENT DRAINAGE PIT TO BCC STD DRG No A(BS)108M

Ø???

Ø???STANDARD GRATED KERB INLET PIT LOCATION TO BCC STD DRG No A(BS)106M (INDICATIVE ONLY SUBJECT TO DESIGN DEVELOPMENT)SPECIAL PITS (REFER TO SAMPLE DETAIL ON DRG. No. P98-C01-301)

49.0

DESIGN CONTOUR

I

PIT LABELSLARGE DIAMETER PIPES OR RCBC'S AS NOTATEDREINFORCED CONCRETE BOXED CULVERT (REFER TO SAMPLE DETAIL ON DRG. No. P98-C01-302)**FUTURE**

BOUNDARY AND KERB ALIGNMENTS

FOR CONTINUATION REFER TO DRG. No. 249274/00-P98-C01-202

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Member Firm
Arup Pty Ltd
ABN 18 000 996 165

Project

98 HAMBLETON ROAD

Client

SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title

98 HAMBLETON ROAD
SUBDIVISION

ROADWORKS AND DRAINAGE
SETOUT PLAN
SHEET 1 OF 3

Scale at A1 AS SHOWN

Discipline CIVIL

Drawing Status

FOR REVIEW

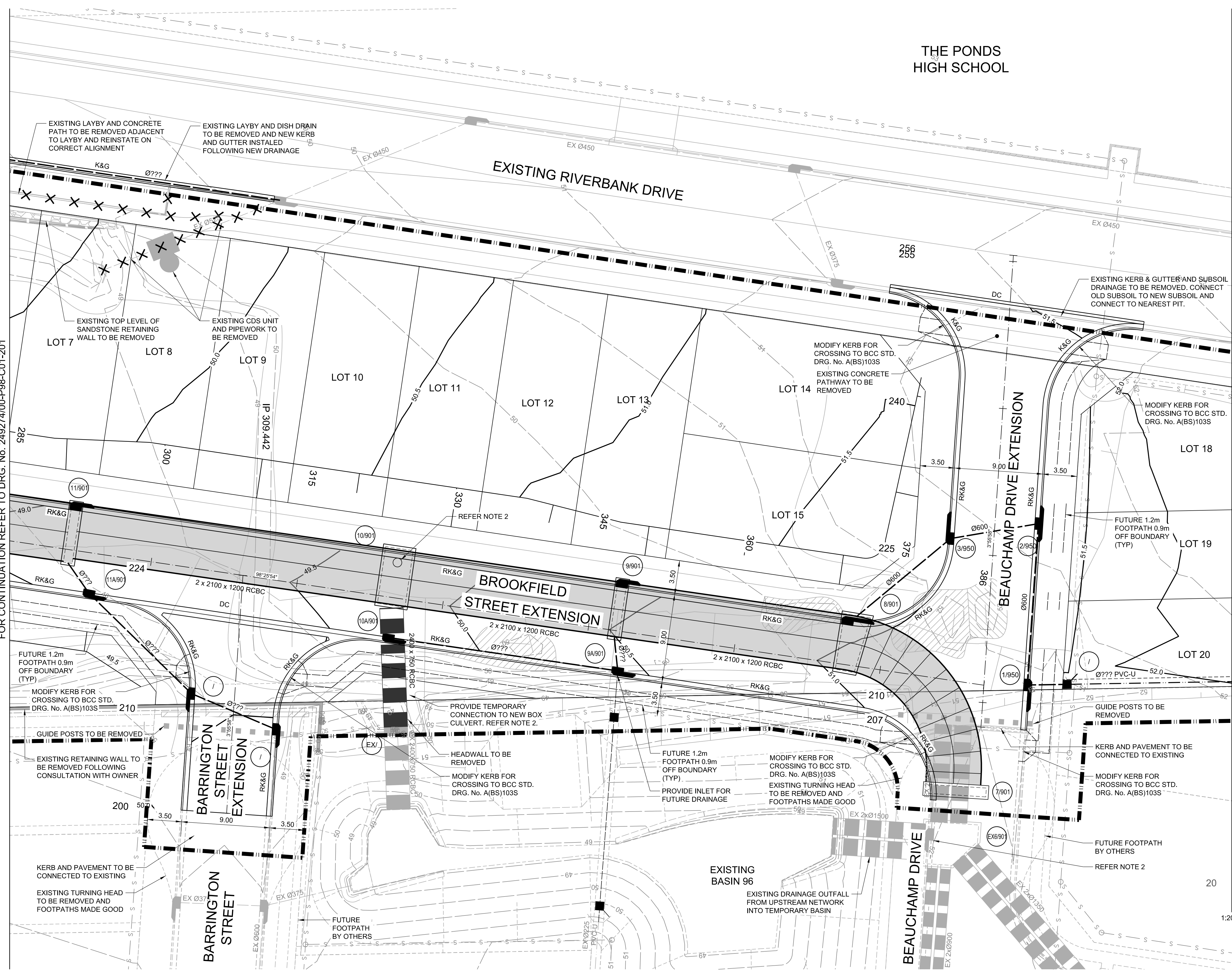
Project No 249274/00

Drawing No P98-C01-201

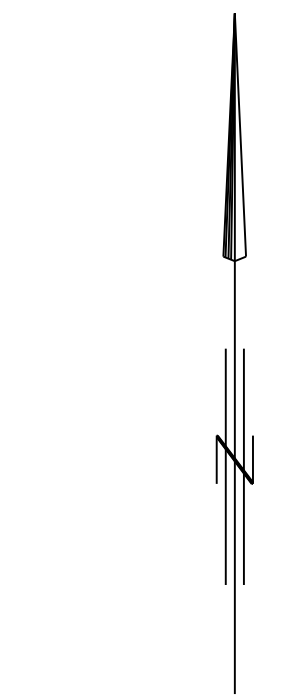
Issue P03

FOR CONTINUATION REFER TO DRG. No. 249274/00-P98-C01-201

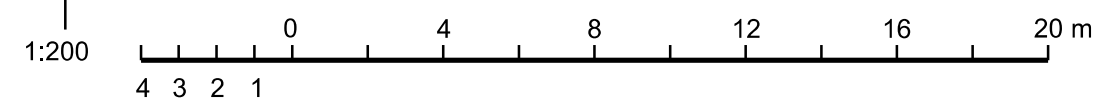
FOR CONTINUATION REFER TO DRG. No. 249274/00-P98-C01-203



- NOTES:**
- REFER GENERAL ROADWORKS AND DRAINAGE NOTES REFER TO DRG. No. 249274/00-P98-C01-201.
 - SUBJECT TO TIMING SHOULD THE REGIONAL BASIN DOWNSTREAM BE CONSTRUCTED PRIOR TO THESE WORKS THE FOLLOWING TO HAPPEN:
 - EXISTING PIT EX6/901 TO HAVE BRICK WALLS RELOCATED AND FLOWS DIVERTED TO CULVERTS.
 - PROPOSED PIT 10/901 NOT TO BE CONSTRUCTED.
 - CONNECTION TO BASIN 96 WILL NOT BE REQUIRED.



1 OF 3
2 OF 3
3 OF 3
SHEET INDEX



NOT FOR CONSTRUCTION

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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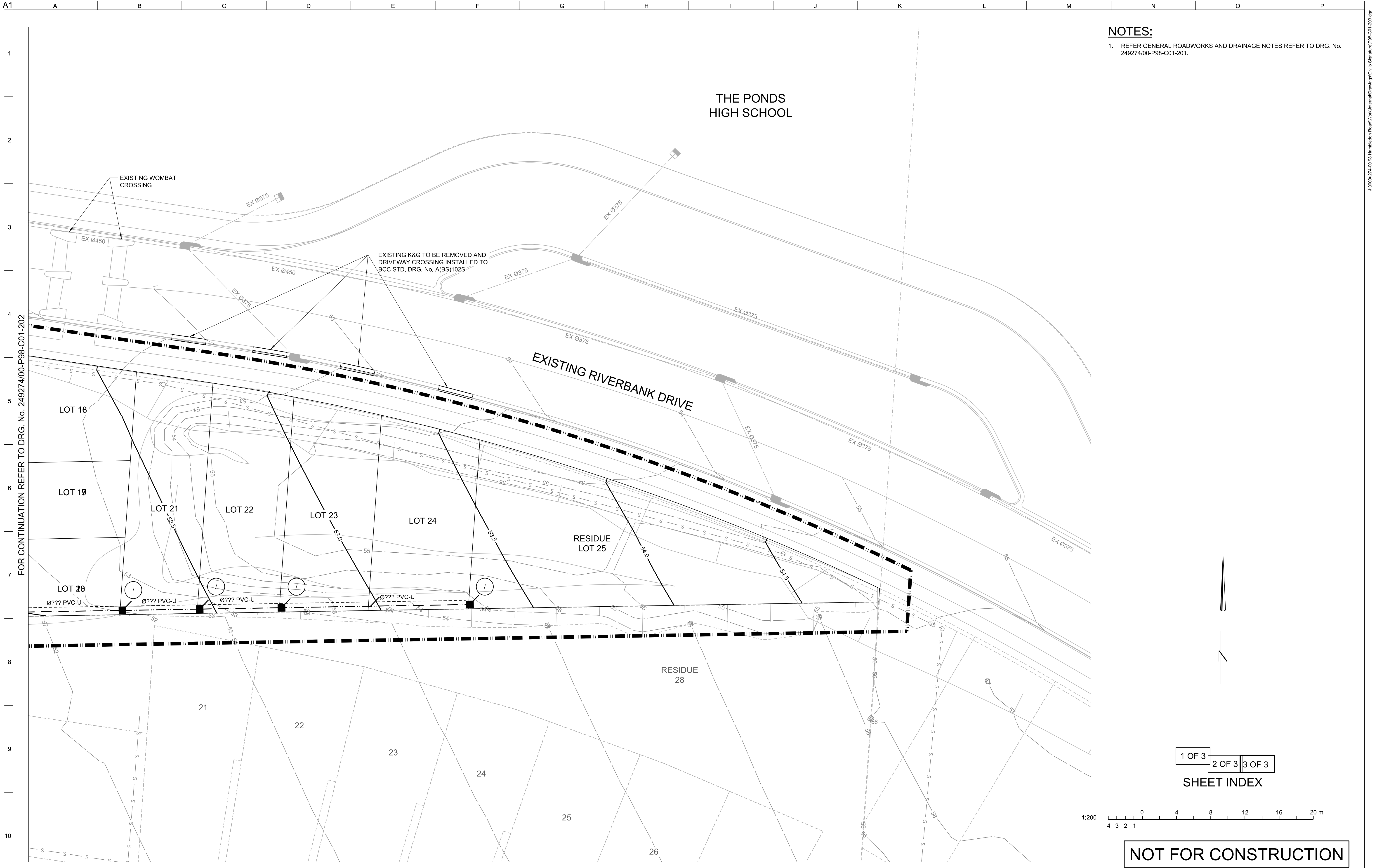
Project
98 HAMBLEDON ROAD

Client
SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title
98 HAMBLEDON ROAD
SUBDIVISION

ROADWORKS AND DRAINAGE
SETOUT PLAN
SHEET 2 OF 3

Scale at A1 AS SHOWN		
Discipline CIVIL		
Drawing Status		
FOR REVIEW		
Project No	Drawing No	Issue
249274/00	P98-C01-202	P03



P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Project
98 HAMBLEDON ROAD

Client
SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title
98 HAMBLEDON ROAD
SUBDIVISION

ROADWORKS AND DRAINAGE
SETOUT PLAN
SHEET 3 OF 3

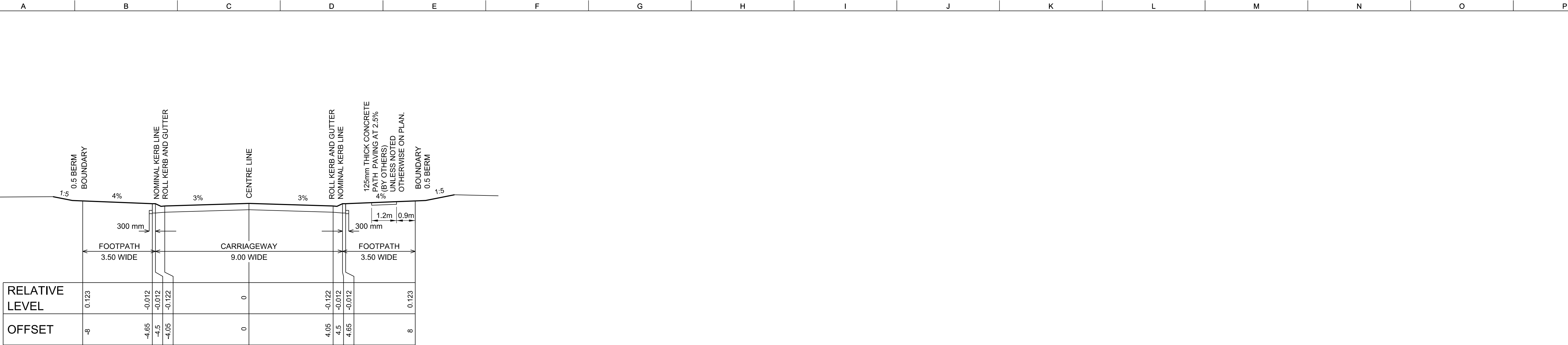
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Discipline CIVIL

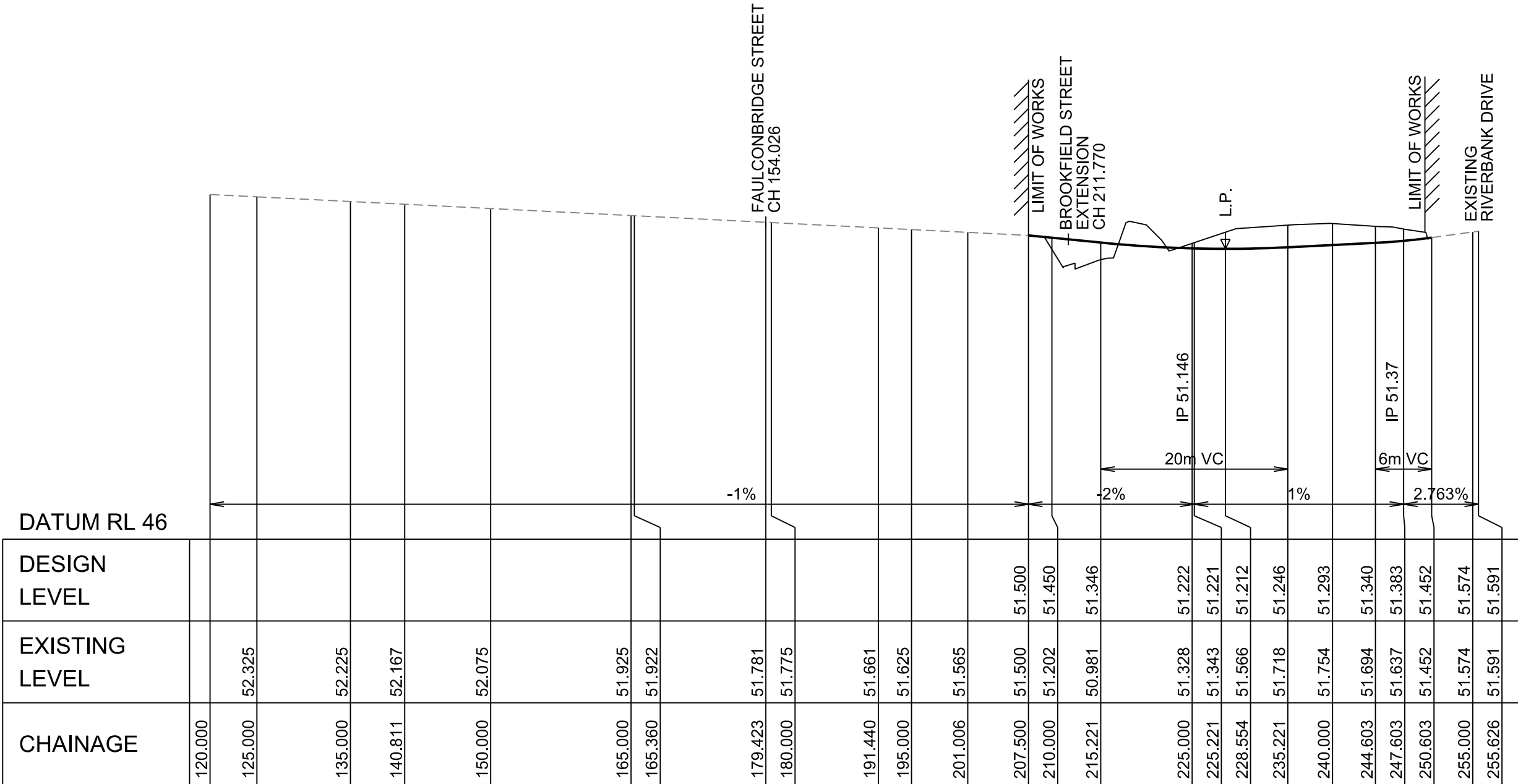
Drawing Status
FOR REVIEW

Project No 249274/00	Drawing No P98-C01-203	Issue P03
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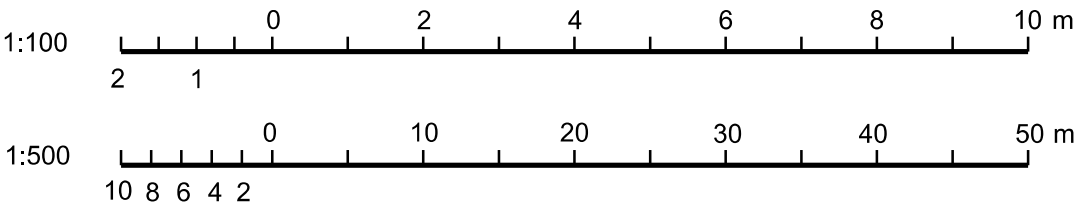
A1
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BEAUCHAMP DRIVE EXTENSION
TYPICAL CROSS SECTION
SCALE NATURAL 1:100



BEAUCHAMP DRIVE EXTENSION
LONGITUDINAL SECTION
SCALE HORIZONTAL 1:500
VERTICAL 1:100



NOT FOR CONSTRUCTION

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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CONSULT AUSTRALIA
Member Firm
Arup Pty Ltd
ABN 18 000 995 165

Project
98 HAMBLEDON ROAD

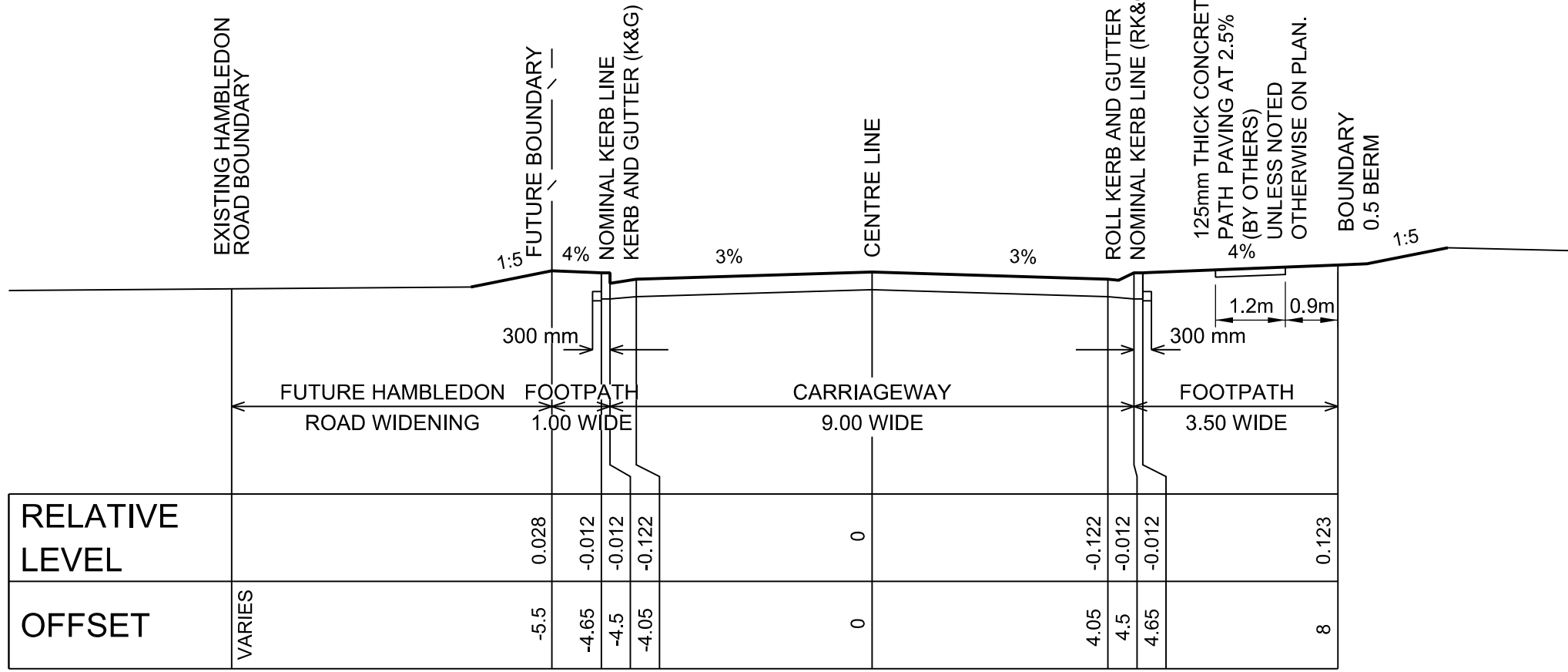
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SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title
98 HAMBLEDON ROAD
SUBDIVISION

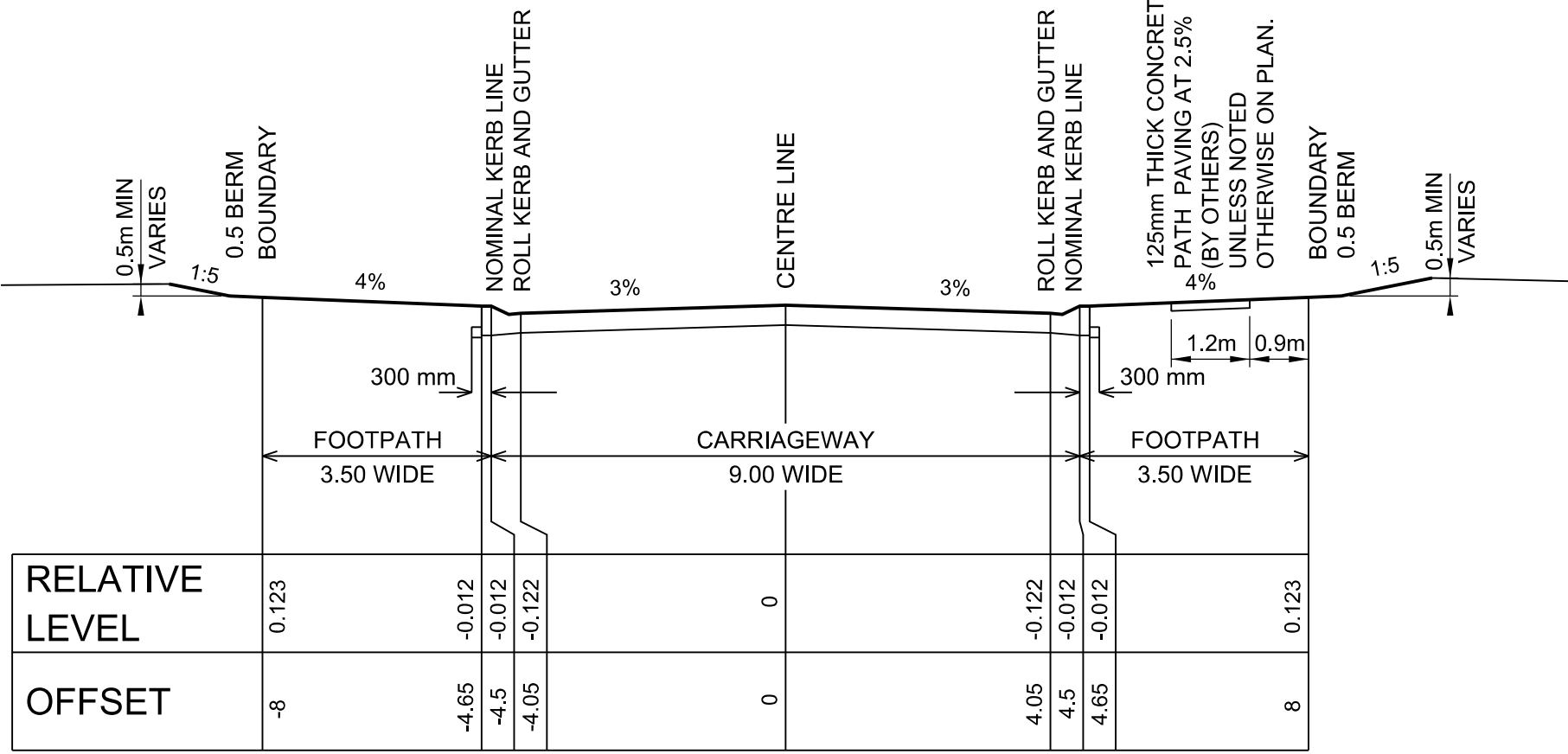
BEAUCHAMP DRIVE EXT.
LONGITUDINAL SECTION
AND TYPICAL CROSS
SECTION

Scale at A1 AS SHOWN		
Discipline CIVIL		
Drawing Status		
FOR REVIEW		
Project No	Drawing No	Issue
249274/00	P98-C01-204	P03

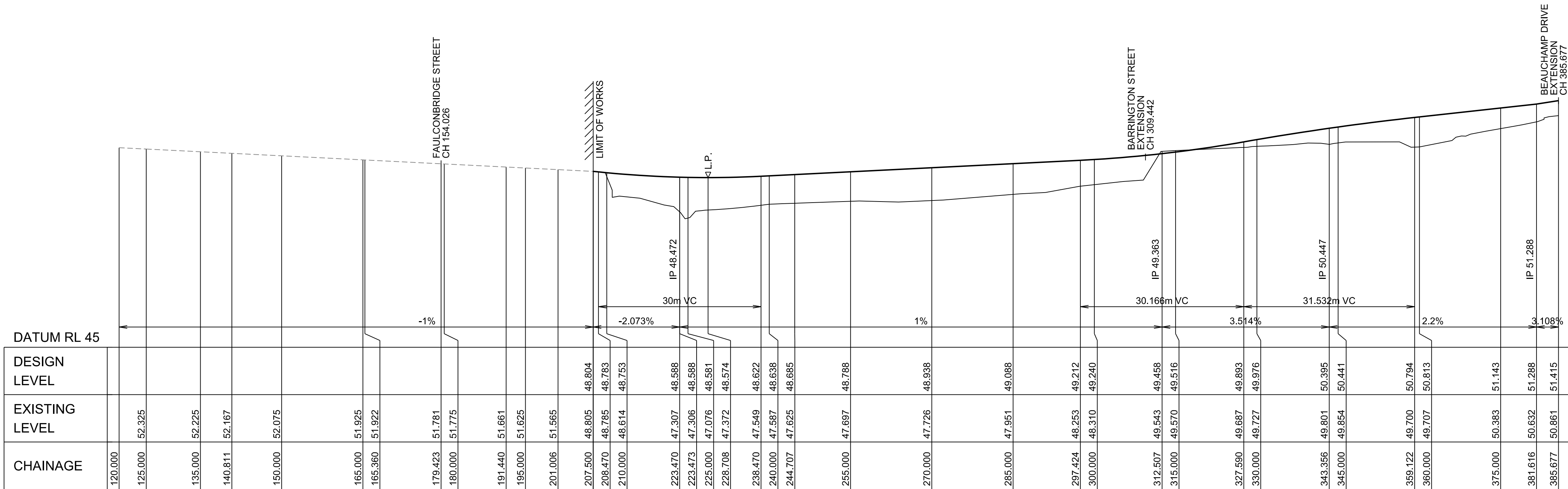
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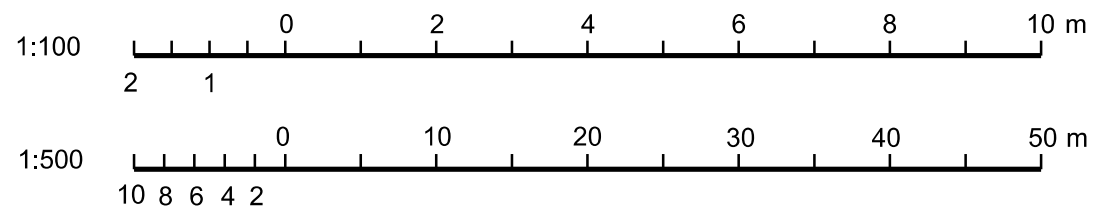
BROOKFIELD STREET EXTENSION
TYPICAL CROSS SECTION
CH 207 - TP 223.473
SCALE NATURAL 1:100



BROOKFIELD STREET EXTENSION
TYPICAL CROSS SECTION
CH 244.707 - CH 297.445
CH 323.505 - CH 371.614
SCALE NATURAL 1:100



BROOKFIELD STREET EXTENSION
LONGITUDINAL SECTION
SCALE HORIZONTAL 1:500
VERTICAL 1:100



NOT FOR CONSTRUCTION

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Project
98 HAMBLEDON ROAD

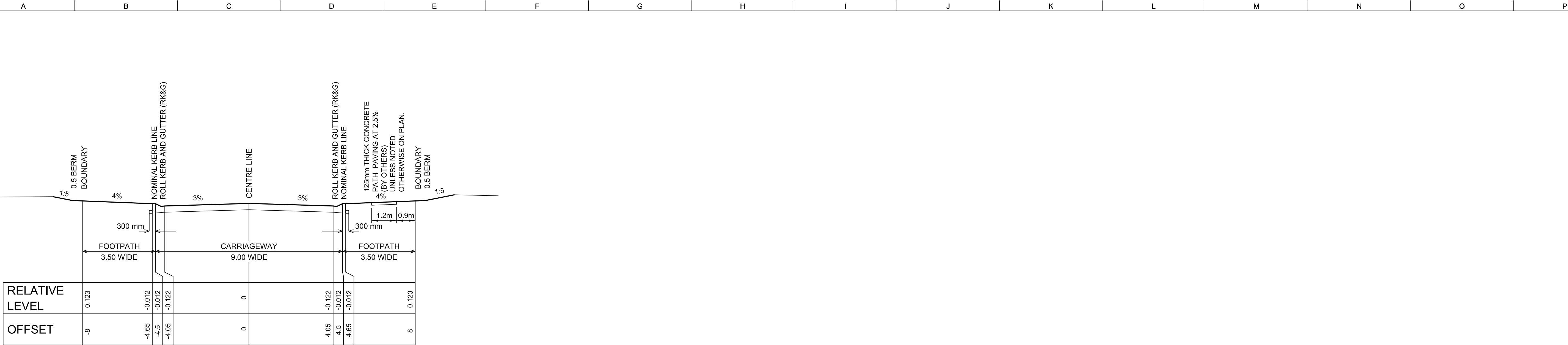
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SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title
98 HAMBLEDON ROAD
SUBDIVISION

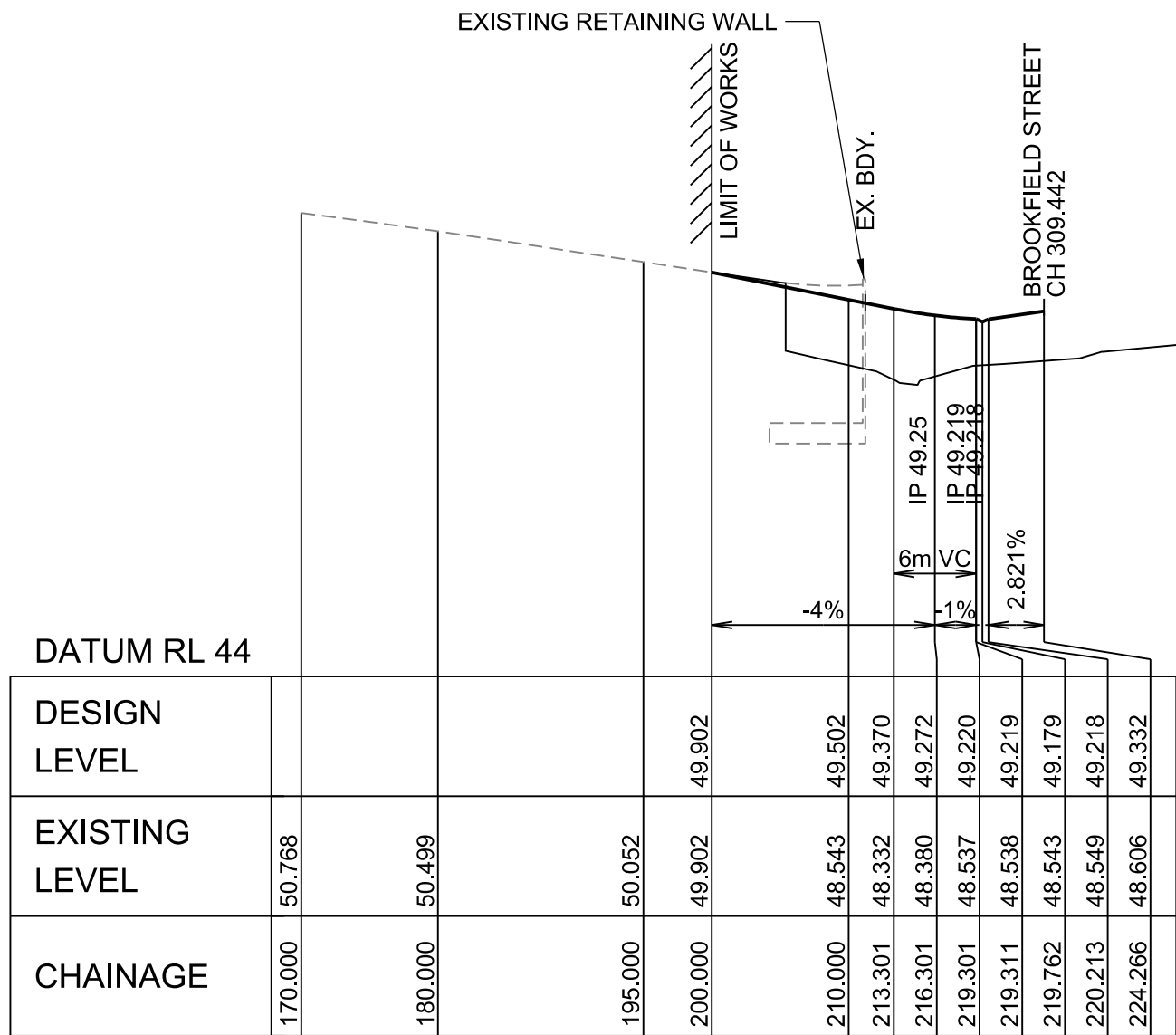
BROOKFIELD STREET EXT.
LONGITUDINAL SECTION
AND TYPICAL CROSS
SECTION

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Discipline CIVIL		
Drawing Status		
FOR REVIEW		
Project No	Drawing No	Issue
249274/00	P98-C01-205	P03

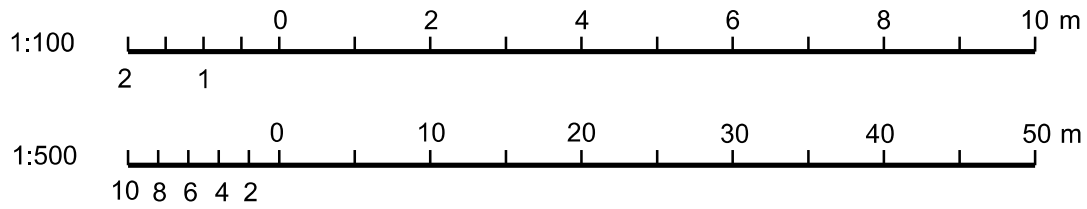
A1
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BARRINGTON STREET EXTENSION
TYPICAL CROSS SECTION
SCALE NATURAL 1:100



BARRINGTON STREET EXTENSION
LONGITUDINAL SECTION
SCALE HORIZONTAL 1:500
VERTICAL 1:100



NOT FOR CONSTRUCTION

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	27/05/16	CPL	MBK	MBK
FOR INFORMATION ONLY				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Member Firm

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ABN 18 000 998 165

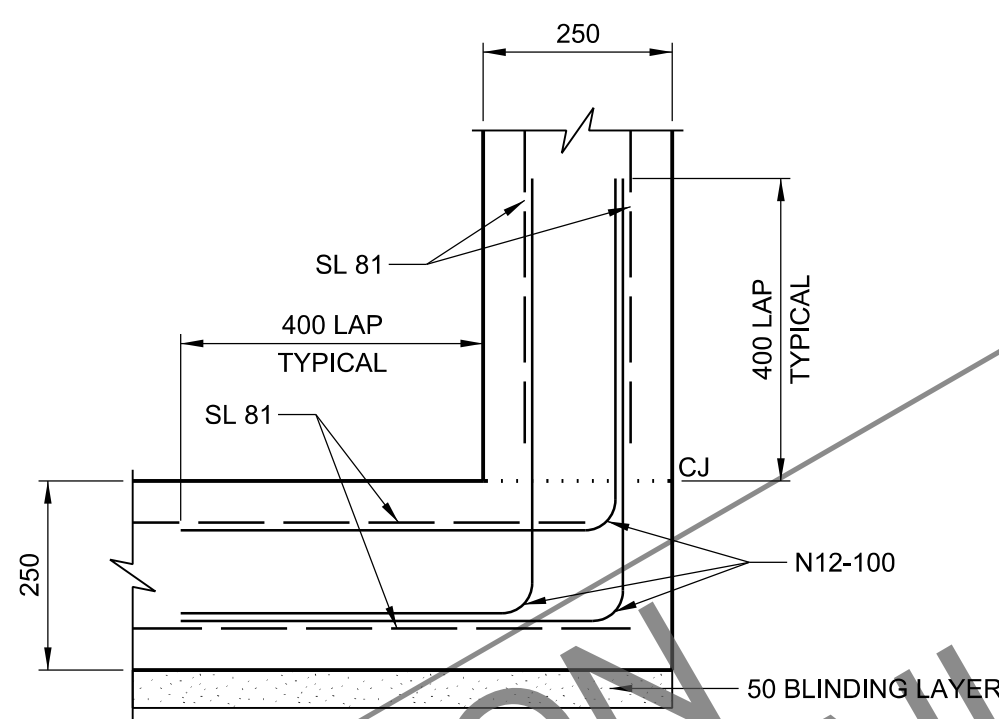
Project
98 HAMBLEDON ROAD

Client
SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title
98 HAMBLEDON ROAD
SUBDIVISION

BARRINGTON STREET EXT.
LONGITUDINAL SECTION
AND TYPICAL CROSS
SECTION

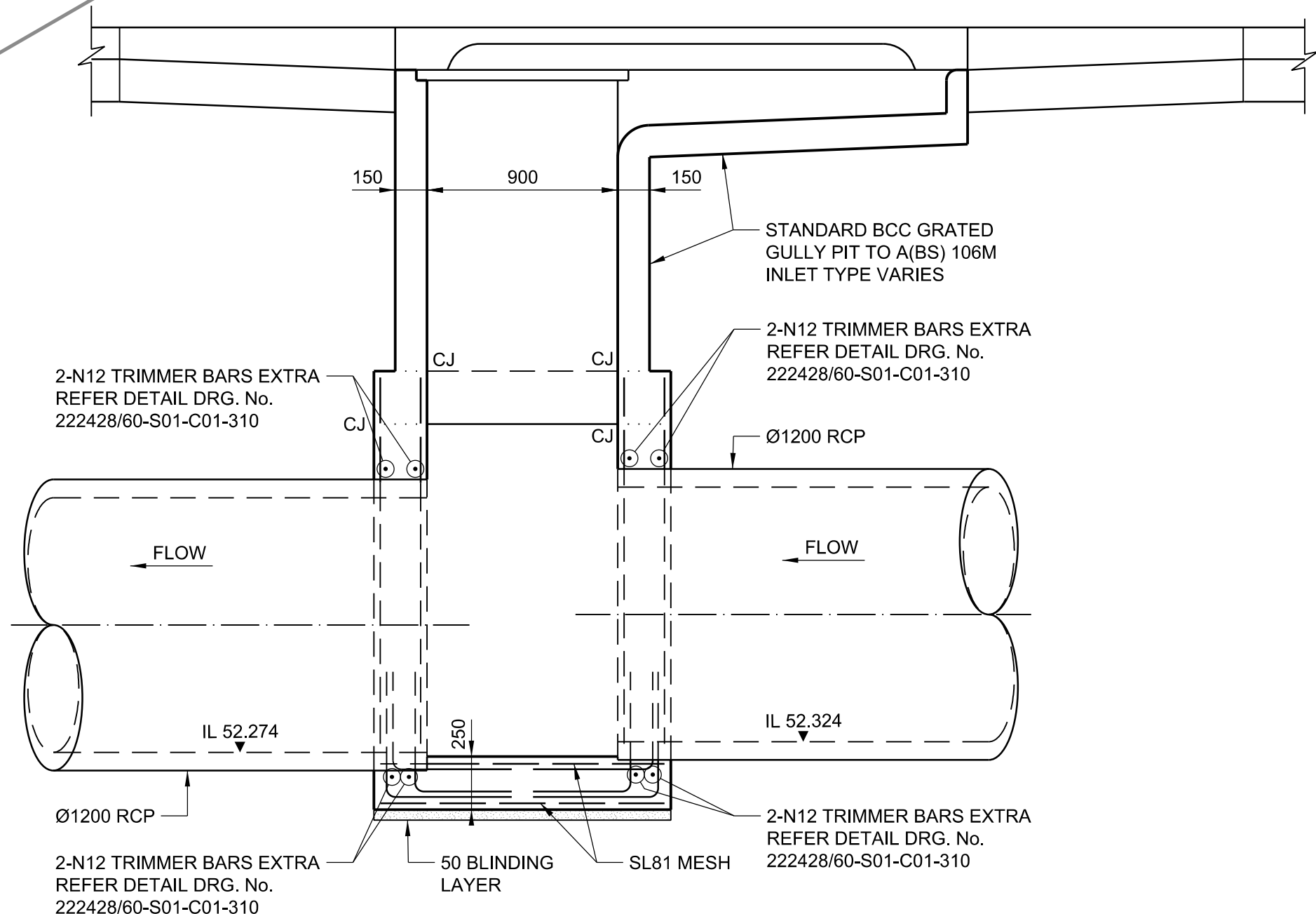
Scale at A1 AS SHOWN		
Discipline CIVIL		
Drawing Status		
FOR REVIEW		
Project No	Drawing No	Issue
249274/00	P98-C01-206	P03



TYPICAL FLOOR TO WALL DETAIL
WALL TO ROOF DETAIL SIMILAR

ALL WALL MESH TO BE SL81 EACH FACE U.N.O.
ALL CORNER "L" BARS TO BE N12-100 WITH 400 LAPS U.N.O.

PLAN
SPECIAL PIT
PIT No. 4/215
(PIT No. 3/215 SIMILAR)
SCALE 1:25



SECTION 2
Scale 1:25

- | CONCRETE GRADE 40MPa | | | | | |
|---|-----|-----|-----|------|------|
| BAR SIZE | N12 | N16 | N20 | N24 | N28 |
| a) HORIZONTAL BARS WITH
>300mm OF CONCRETE
CAST BELOW THE BAR | 375 | 600 | 900 | 1200 | 1550 |
| b) OTHER BARS | 300 | 500 | 700 | 950 | 1250 |

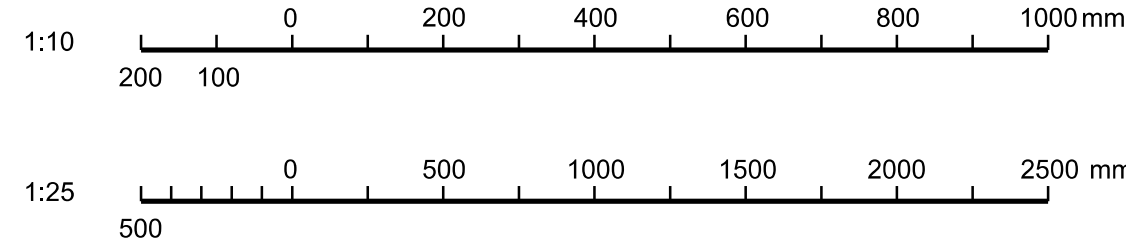
6. THE MAXIMUM DESIGN LIVE LOAD TO BE SM1600 IN ACCORDANCE WITH AS5100.
7. THE DESIGN ALLOWABLE BEARING PRESSURE FOR THE BASE SLAB IS 150kPa.
8. MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE PRECAST AND INSITU SHALL BE 40MPa.
9. THE FOUNDATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM THE STATED ALLOWABLE BEARING PRESSURE BEFORE THE BASE SLAB IS POURED.
10. DUE TO MODERATELY AGGRESSIVE GROUND CONDITIONS CLEAR COVER TO REINFORCEMENT FOR ALL CONCRETE SURFACES SHALL BE 30mm FOR PRECAST CONCRETE AND 50mm FOR CAST INSITU CONCRETE.
11. DUE TO MODERATELY AGGRESSIVE SOIL CONDITIONS AND SALINE IN GROUND WATER ALL CONCRETE TO BE MINIMUM 40 MPa AND INCORPORATING NORMAL CEMENT.
12. REFER TO AS.1597.2 FOR BACKFILL AND CONSTRUCTION REQUIREMENTS.
13. STEP IRONS OMITTED FOR SAFETY AS CONFINED SPACE ACCESS WITH HARNESS AND TRIPOD ACCESS SHOULD BE USED TO ACCESS PIT.

98 HAMBLEDON ROAD
STAGE ??
**STRUCTURAL DESIGN BY :
ARUP**
LEVEL 10, 201 KENT STREET, SYDNEY NSW, 2000
PO BOX 70, MILLERS POINT NSW, 2000
PH: (02) 9320 9320 FAX: (02) 9320 9321

SIGNATURE

IEA No
NAME

**** FOR ORIGINAL APPROVAL SIGNATURE REFER
DRAWING ISSUE P02 DATED 01 AUGUST 2013.**



NOT FOR CONSTRUCTION

Scale at A1	AS SHOWN	
Discipline	CIVIL	
Drawing Status	FOR REVIEW	
Project No	Drawing No	Issue
249274/00	P98-C01-301	P03

A1

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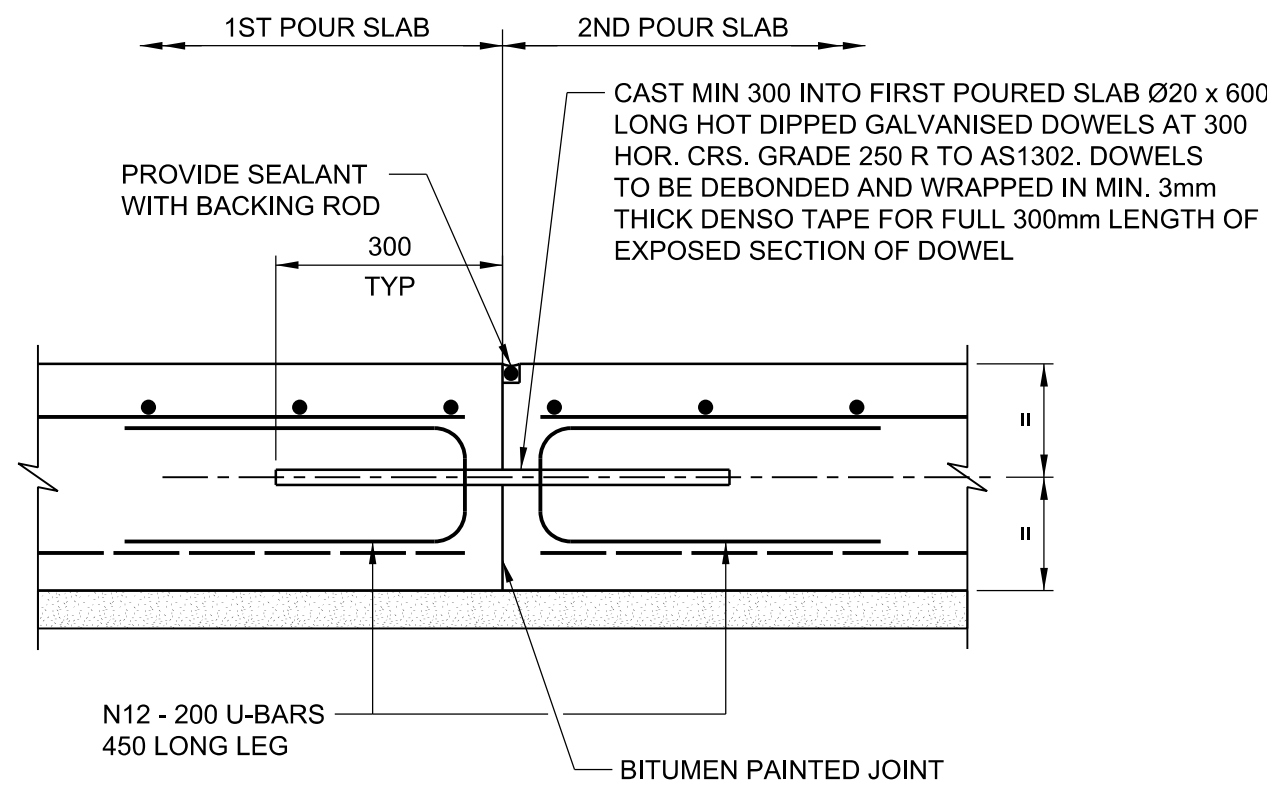
6

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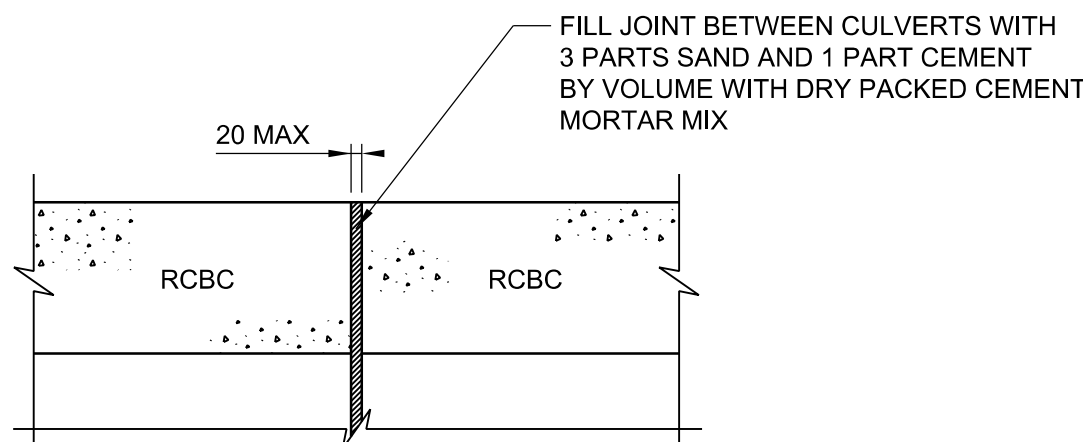
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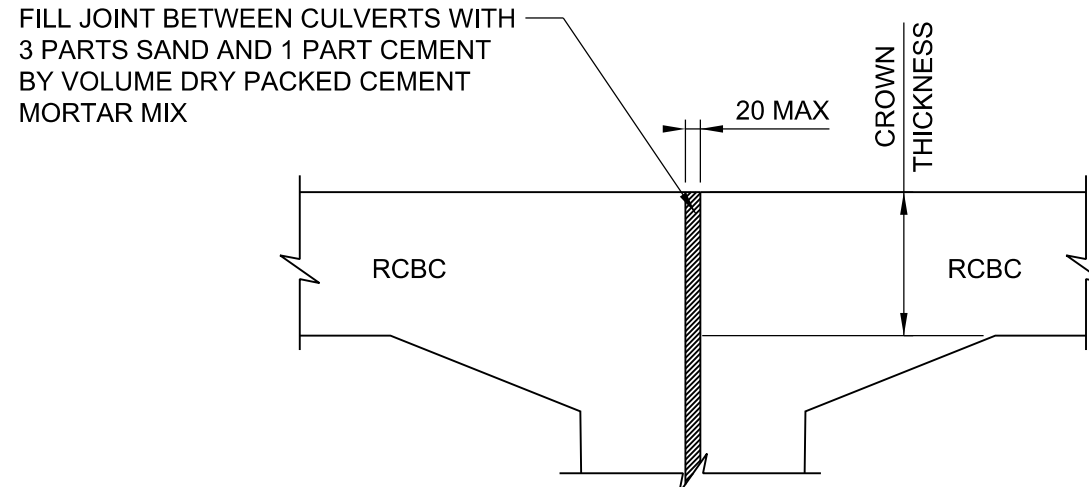
CONSTRUCTION JOINT DETAIL (CJ)

SCALE 1:10



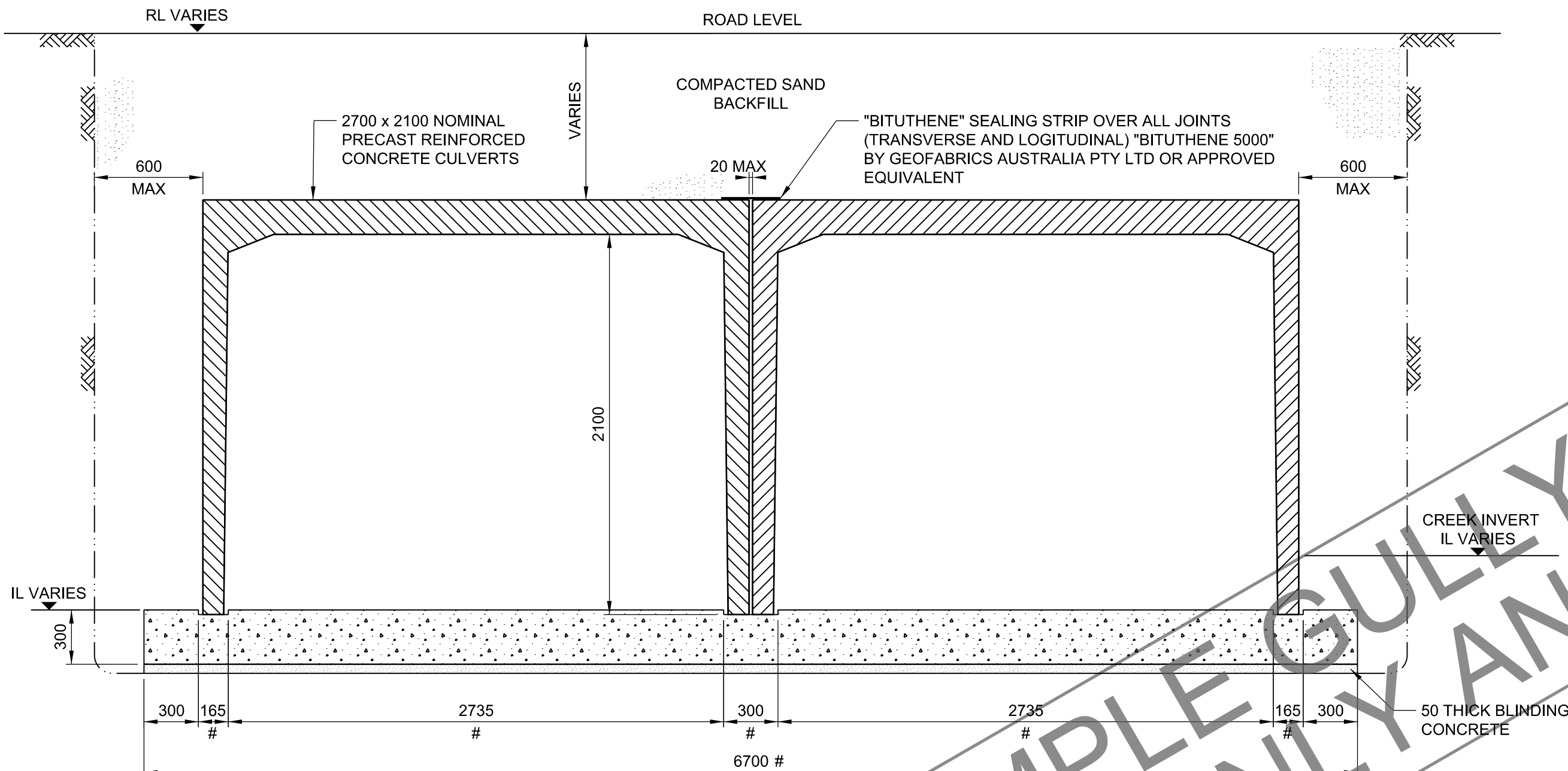
RCBC TRANSVERSE JOINT DETAIL

SCALE 1:5



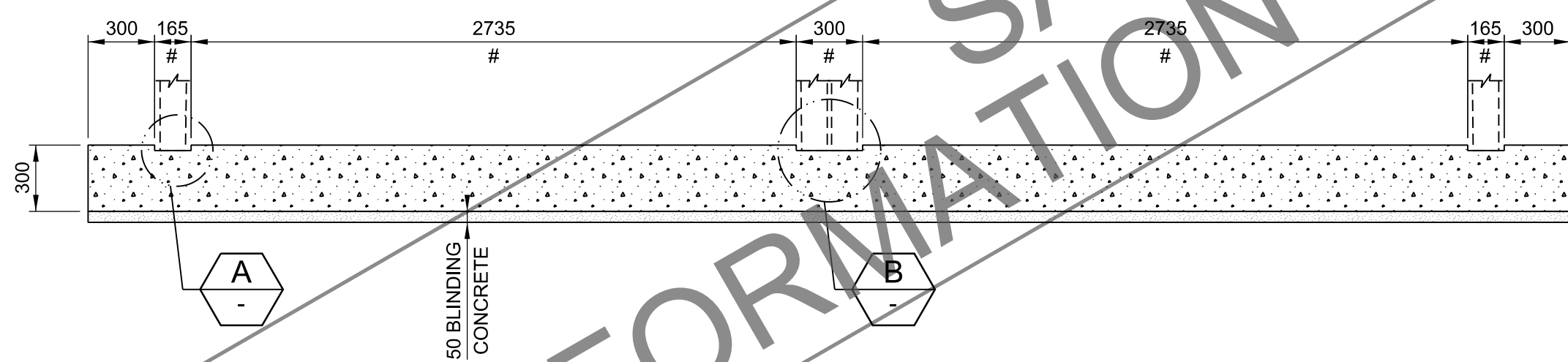
RCBC DETAIL AT CROWNS OF ADJACENT CULVERTS

SCALE 1:10



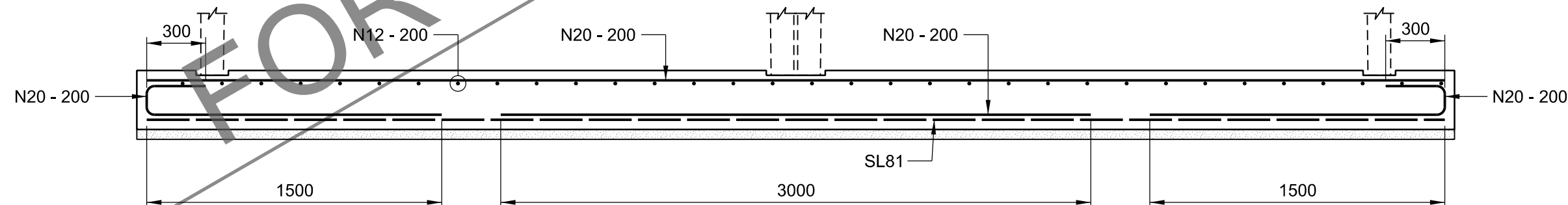
SECTION 2

Scale 1:25



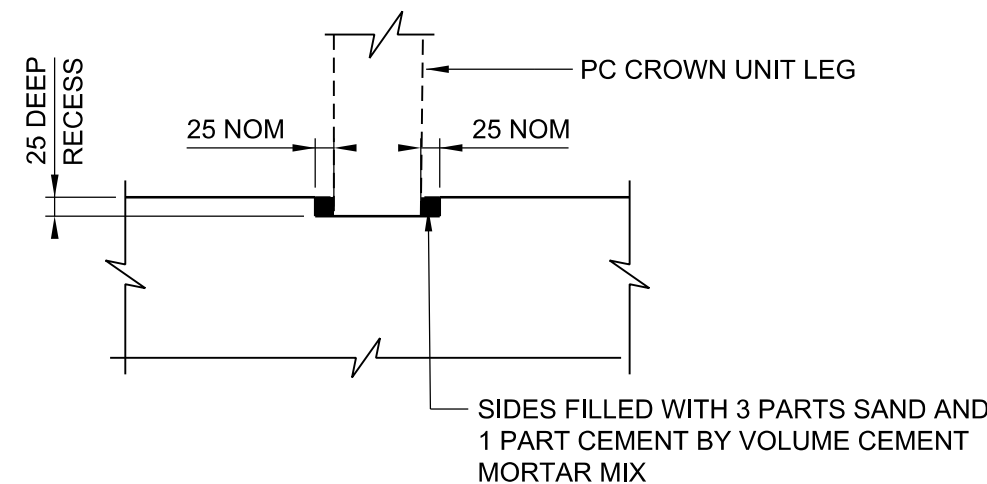
TYPICAL BASE SLAB CONCRETE DETAIL

SCALE 1:25



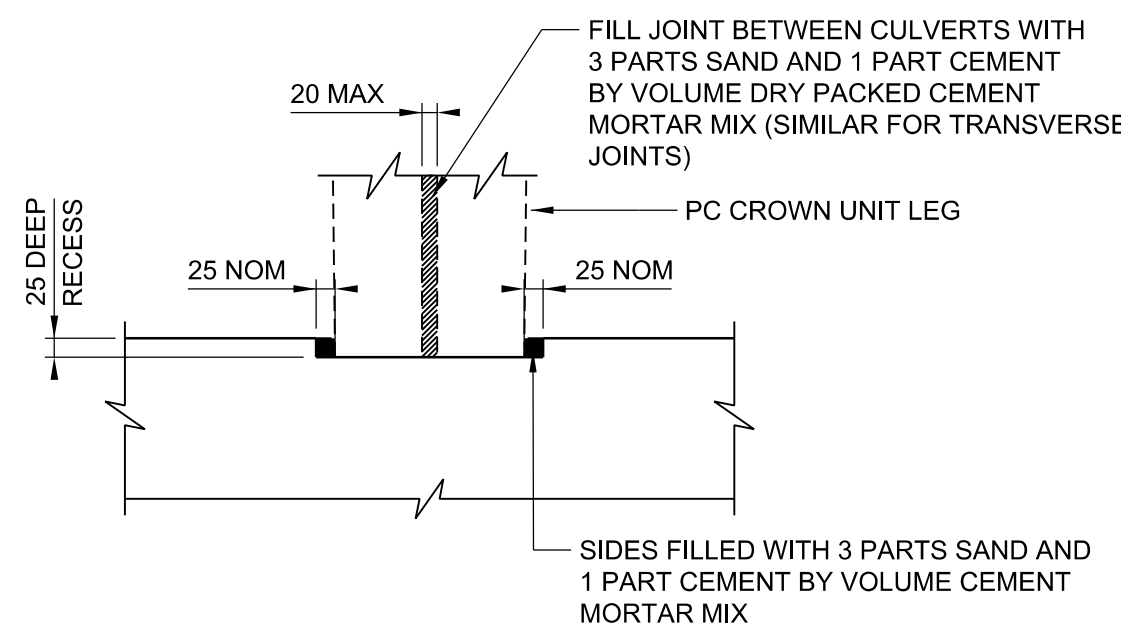
TYPICAL BASE SLAB REINFORCEMENT DETAIL

SCALE 1:25



DETAIL A

Scale 1:10



DETAIL B

Scale 1:10

98 HAMBLEDON ROAD
STAGE ??
STRUCTURAL DESIGN BY :
ARUP

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PO BOX 76, MILLERS POINT, NSW, 2000
PH: (02) 9320 9320 FAX: (02) 9320 9321

SIGNATURE.....

IEA No.....

NAME.....

NOTES

- FOR GENERAL NOTES REFER DRAWING No. 249274/00-P98-C01-201.
- CONCRETE WORKS SHALL BE IN ACCORDANCE WITH RTA SPECIFICATION B80.
- FORMWORK SHALL BE IN ACCORDANCE WITH AS 3610-1995.
- EDGES SHALL BE CHAMFERED 20 x 20 AND RE-ENTRANT ANGLES FILLETED 20 x 20 UNLESS SPECIFIED OTHERWISE.
- LAPS NOT SHOWN ON THE DRAWINGS SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF BARS ARE LAPPED IN ANY ONE CROSS SECTION. UNLESS OTHERWISE SPECIFIED, THE MINIMUM DEVELOPMENT LENGTHS AND LENGTHS OF LAPS SHALL BE AS FOLLOWS :

CONCRETE GRADE 40MPa					
BAR SIZE	N12	N16	N20	N24	N28
a) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR	375	600	900	1200	1550
b) OTHER BARS	300	500	700	950	1250

REINFORCEMENT NOTATION SHOWN ON DRAWINGS IN ACCORDANCE WITH AS/NZS 1100.501 : 2002

NUMBER OF BARS :- 2 -
DUCTILITY CLASS :- N
SIZE, IN MILLIMETRES :- 16
SPACING, IN MILLIMETRES :- 200
LOCATION :- T
EG :- 2 - N16 200 T

SQUARE MESH :- SL8

REINFORCEMENT PLACING INFORMATION

TOP FACE :- T
BOTTOM FACE :- B
CENTRALLY PLACED :- C
EACH WAY :- EW
EACH FACE :- EF
NEAR FACE :- NF
FAR FACE :- FF

- # DENOTES THAT DIMENSIONS TO BE CONFIRMED BY THE PRECAST BOX CULVERT SUPPLIER PRIOR TO SUPPLY OR CONSTRUCTION OF THE BASE SLAB.
- THE MAXIMUM DESIGN LIVE LOAD TO BE SM1600 IN ACCORDANCE WITH AS5100.
- THE DESIGN ALLOWABLE BEARING PRESSURE FOR THE BASE SLAB IS 150kPa.
- BOX CULVERT BASE SLAB TO ACHIEVE A MINIMUM OF 20MPa CONCRETE COMPRESSIVE STRENGTH PRIOR TO PLACING PRECAST UNITS OR LOADING SLAB.
- MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE PRECAST AND INSITU SHALL BE 40MPa.
- THE FOUNDATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM THE STATED ALLOWABLE BEARING PRESSURE BEFORE THE BASE SLAB IS POURED.
- DUE TO MODERATELY AGGRESSIVE GROUND CONDITIONS CLEAR COVER TO REINFORCEMENT FOR ALL CONCRETE SURFACES SHALL BE 30mm FOR PRECAST CONCRETE AND 50mm FOR CAST INSITU CONCRETE.
- DUE TO MODERATELY AGGRESSIVE SOIL CONDITIONS AND SALINE IN GROUND WATER ALL CONCRETE TO BE MINIMUM 40 MPa AND INCORPORATING NORMAL CEMENT.
- REFER TO AS.1597.2 FOR BACKFILL AND CONSTRUCTION REQUIREMENTS.
- BASE SLAB TO BE POURED WITH 25 RECESS FOR CULVERT LEG AS DOCUMENTED. RECESS TO BE COVERED WITH A THIN STIFF CEMENT MORTAR MIX (3 PARTS SAND AND 1 PART CEMENT BY VOLUME). THE PRECAST UNIT SHALL BE PLACED IN POSITION BEFORE THE MORTAR HAS SET TO ENSURE UNIFORM BEARING BETWEEN SURFACES. ANY GAPS REMAINING IN 25mm RECESS TO BE FILLED INSIDE AND OUT WITH SIMILAR MIX PRIOR TO SETTING.
- CULVERT SETOUT IS BASED ON 2440mm AND 1220mm STANDARD UNIT LENGTH CULVERT WITH A 20mm GAP.
- EXISTING CHANNEL AT THE INLET AND OUTLET OF THE CULVERT TO BE LOCALLY MODIFIED TO SUIT NEW CULVERT. LOCAL MODIFICATIONS TO BE TREATED WITH GYPSUM STABILIZATION TO 150mm DEPTH.
- ALL OFF-FORM CONCRETE HEADWALLS AND WINGWALLS SHALL BE CONSTRUCTED USING SANDSTONE PIGMENT IN THE CONCRETE AND WHERE OFF-FORM OR PRECAST CONCRETE ELEMENTS ARE NECESSARY, A WAX BASED PROPRIETARY GRAFFITI BARRIER SHALL BE APPLIED "WATLYL POLY U400" OR APPROVED EQUIVALENT.
- ALL COMPACTION WITHIN 600mm OF WINGWALLS TO BE DONE BY HAND.

1:5 0 100 200 300 400 500 mm

1:10 0 200 400 600 800 1000 mm

1:25 0 500 1000 1500 2000 2500 mm

NOT FOR CONSTRUCTION

P03	16/05/17	CPL	MBK	MBK
ISSUED FOR REVIEW				
P02	18/07/16	CPL	DC	MBK
ISSUED FOR REVIEW				
P01	- / - / -	-	-	-
NOT ISSUED				
Issue	Date	By	Chkd	Appd

Issue	Date	By	Chkd	Appd
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Issue	Date	By	Chkd	Appd
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Consultant

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Project

98 HAMBLEDON ROAD

Client

SIGNATURE PROPERTIES
No. 7 Pty. Ltd.

Job Title

98 HAMBLEDON ROAD
SUBDIVISION

DRAINAGE
SPECIAL CULVERT
SLAB DETAILS

Scale at A1 AS SHOWN

Discipline CIVIL

Drawing Status

FOR REVIEW

Project No

249274/00

Drawing No

P98-C01-302

Issue

P03