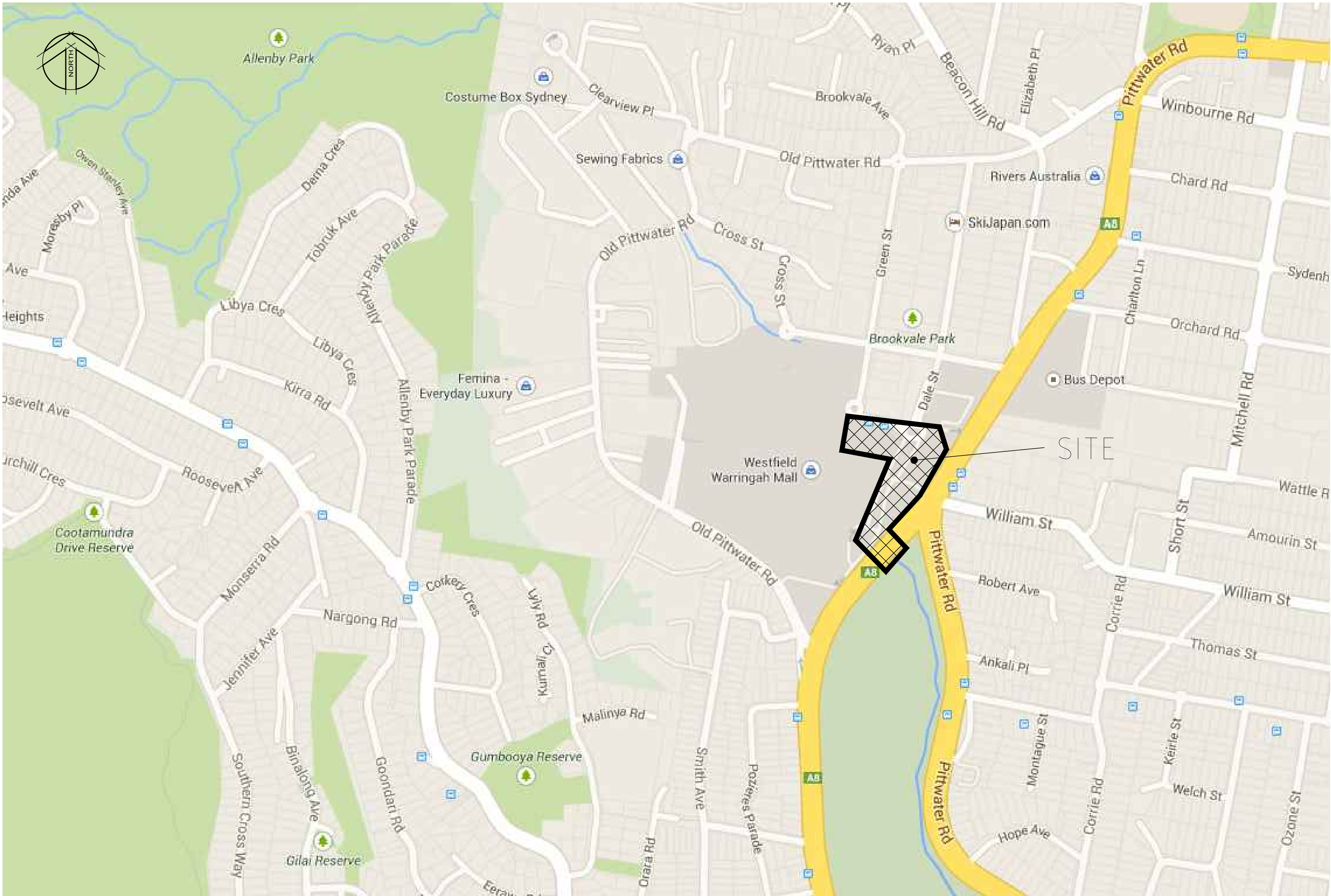


WESTFIELD WARRINGAH MALL
STAGE 2
CONCEPT DESIGN
WESTFIELD PROJECT REFERENCE No: D11754

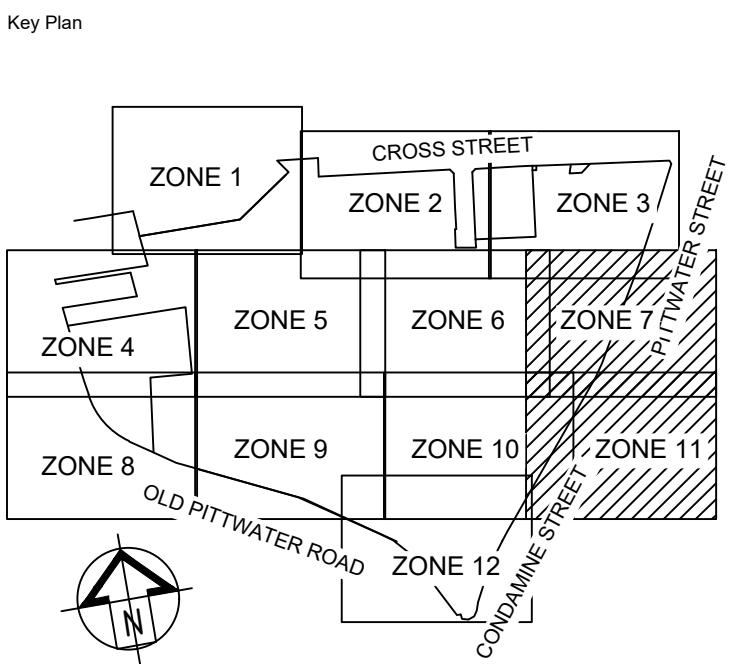
DRAWING INDEX	
NUMBER	TITLE
CAR-070101	COVER SHEET AND DRAWING INDEX - SHEET 1 OF 1
CAR-070110	SITE PLAN - SHEET 1 OF 1
CAR-070111	GENERAL ARRANGEMENT AND STORMWATER MANAGEMENT PLAN - SHEET 1 OF 3
CAR-070112	GENERAL ARRANGEMENT AND STORMWATER MANAGEMENT PLAN - SHEET 2 OF 3
CAR-070113	GENERAL ARRANGEMENT AND STORMWATER MANAGEMENT PLAN - SHEET 3 OF 3
CAR-070115	TYPICAL SECTIONS - SHEET 1 OF 1
CAR-070121	EROSION AND SEDIMENTATION PLAN - SHEET 1 OF 3
CAR-070122	EROSION AND SEDIMENTATION PLAN - SHEET 2 OF 3
CAR-070123	EROSION AND SEDIMENTATION PLAN - SHEET 3 OF 3
CAR-070125	EROSION AND SEDIMENTATION DETAILS - SHEET 1 OF 1
CAR-070131	BULK EARTHWORKS PLAN - SHEET 1 OF 3
CAR-070132	BULK EARTHWORKS PLAN - SHEET 2 OF 3
CAR-070133	BULK EARTHWORKS PLAN - SHEET 3 OF 3
CAR-070141	TYPICAL DETAILS - SHEET 1 OF 2
CAR-070142	TYPICAL DETAILS - SHEET 2 OF 2



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LOCALITY SKETCH
NOT TO SCALE

Rev	Date	By	Chk	Description
E	13/08/2018	CM	DNA	ISSUE FOR REVIEW
D	14/07/2018	CM	DNA	ISSUE FOR REVIEW
C	08/06/2018	CM	DNA	ISSUE FOR REVIEW
B	29/03/2017	CM	DNA	ISSUE FOR REVIEW
A	11/03/2017	CM	DNA	ISSUE FOR REVIEW



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GPO Box 4004 Sydney NSW 2001

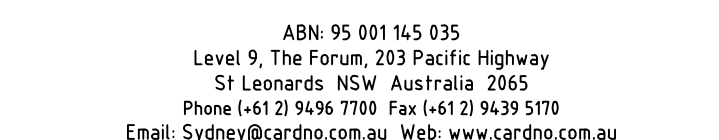
Title
WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

COVER SHEET & INDEX
SHEET 1 OF 1

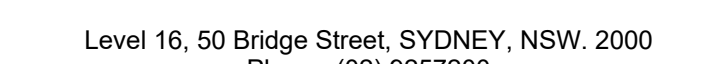
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Drawn By S.P.	CAD Filename CAR-070101.DWG Plot Date 13/8/2018 4:38pm
Project No. D11754	Drawing No. CAR-070101 Revision E



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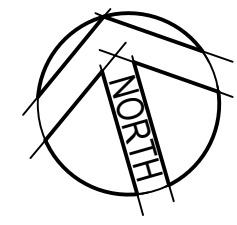
Title
WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

SITE PLAN
SHEET 1 OF 1

Drawing Scale	Scale Bar 1:1	
Drawn By B.A.F.	CAD Filename CAR-070110.DWG	Plot Date 17/8/2018 9:16am

D11754	CAR-070110	F
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\\CARDNO-CORP\GLOBAL\WWW\DIRECTORY\STRUCTURE\PROJECTS\1800\Y17\026 WARRINGAH MALL STAGE 2 WORKS\DRAWINGS\01 DRIVE\CAR-030110.DWG



RETAIN EXISTING SIGNALS

CROSS STREET

PROPOSED MODIFICATION TO
EXISTING SIGNALISED INTERSECTION
- REFER TO TCS DRAWINGS

PROVIDE BREAK
IN MEDIAN

DALE STREET

PALM TREE CAR PARK

GREEN STREET

ALDI

FIT ENVIROPOD LITTER
BASKETS TO PITS INLETS (TYP)

PROVIDE HEAVY DUTY CONCRETE
CROSSOVER TO NORTHERN BEACHES
COUNCIL SPECIFICATION

PROVIDE GRATED DRAIN
CONNECT TO EXISTING CULVERT

ONLY
R2-14 A

JOINS CAR-070112

EXISTING 450Ø SEWER

LEGEND

PROPOSED

- FUTURE BOUNDARY
- EXISTING BOUNDARY
- STORMWATER DOWN PIPE
- PIT ID LABEL
- 900 x 900 STORMWATER PIT
- 1500 x 1000 STORMWATER PIT
- STORMWATER DRAINAGE PIPE
- JELLY FISH FILTER
SEE NOTE 2.
- SUBSOIL DRAINAGE LINE
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- B-LINE BUS STOP
- LANDSCAPED AREA. REFER
TO LANDSCAPE DRAWINGS

KERBS

- (FK KERB) FK FLUSH KERB
- (K&G KERB) KERB AND GUTTER
- (MK KERB) TYPE 'MK' KERB
- (KO KERB) TYPE 'KO' KERB
- (SB KERB) TYPE 'SB' KERB
- PROPOSED BUS LANE
- PROPOSED CONCRETE
FOOTPATH

NOTES

- ENVIROPOD LITTER BASKETS TO BE FITTED TO ALL PIT INLETS. SPECIFICATION
SUBJECT TO DETAILED DESIGN.
- JELLYFISH JF2250-7-2 OR APPROVED EQUIVALENT SECONDARY TREATMENT
DEVICE. UNIT SIZING AND SPECIFICATION SUBJECT TO DETAILED DESIGN.

SCALE 1:200
0 5 10 15 20m
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17/08/2018 ON DTA ISSUE FOR REVIEW
18/08/2018 ON DTA ISSUE FOR REVIEW
20/07/2018 ON DTA ISSUE FOR REVIEW
20/08/2018 ON DTA ISSUE FOR REVIEW
20/03/2017 ON DTA ISSUE FOR REVIEW
20/03/2017 ON DTA ISSUE FOR REVIEW
20/03/2017 ON DTA ISSUE FOR REVIEW

Rev	Date	By	Chk	Description
1				

Key Plan

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DRAWINGS FOR DIMENSIONS. DIMENSIONS ARE TO BE CHECKED ON SITE. DIMENSIONS ARE TO BE CHECKED ON SITE.
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The
WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

GENERAL ARRANGEMENT PLAN
SHEET 1 OF 3

Drawing Scale	Scale Bar 1:1
Drawn By B.A.F.	CAD Filename CAR-070111.DWG
Project No. D11754	Drawing No. CAR-070111
	Revision F

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LEGEND

PROPOSED

- FUTURE BOUNDARY
- EXISTING BOUNDARY
- STORMWATER DOWN PIPE
- PIT ID LABEL
- 900 x 900 STORMWATER PIT
- 1500 x 1000 STORMWATER PIT
- STORMWATER DRAINAGE PIPE
- JELLY FISH FILTER SEE NOTE 2.
- SUBSOIL DRAINAGE LINE
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- B-LINE BUS STOP
- LANDSCAPED AREA. REFER TO LANDSCAPE DRAWINGS

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- (K&G KERB) KERB AND GUTTER
- (MK KERB) TYPE 'MK' KERB
- (KO KERB) TYPE 'KO' KERB
- (SB KERB) TYPE 'SB' KERB
- PROPOSED BUS LANE
- PROPOSED CONCRETE FOOTPATH

- NOTES**
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 - JELLYFISH JP2250-7-2 OR APPROVED EQUIVALENT SECONDARY TREATMENT DEVICE. UNIT SIZING AND SPECIFICATION SUBJECT TO DETAILED DESIGN.

17/08/2018 CIVIL DWA ISSUE FOR REVIEW
18/08/2018 CIVIL DWA ISSUE FOR REVIEW
24/07/2018 CIVIL DWA ISSUE FOR REVIEW
12/08/2018 CIVIL DWA ISSUE FOR REVIEW
24/03/2017 CIVIL DWA ISSUE FOR REVIEW
17/03/2017 CIVIL DWA ISSUE FOR REVIEW

Rev	Date	By	Chk	Description
1				

Key Plan

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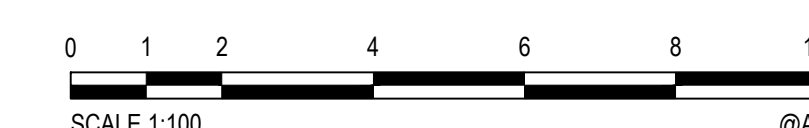
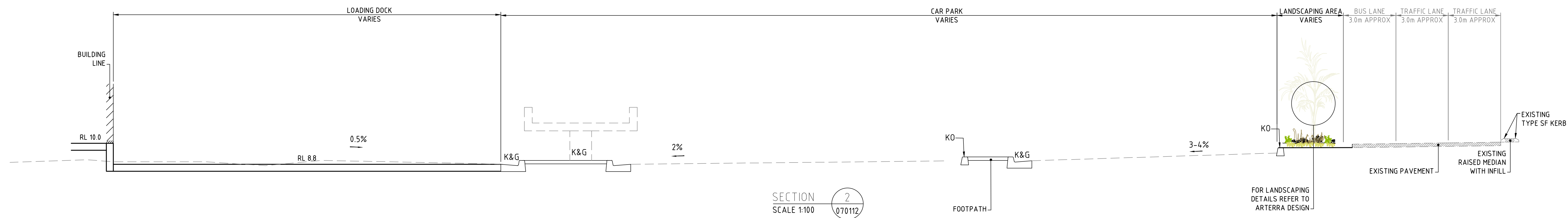
The **WARRINGAH** STAGE 2 WORKS
CONCEPT CIVIL DESIGN

GENERAL ARRANGEMENT PLAN
SHEET 3 OF 3

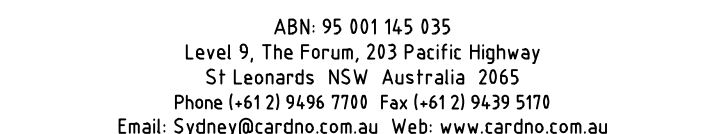
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Project No.	Drawing No.	Revision
D11754	CAR-070113	F



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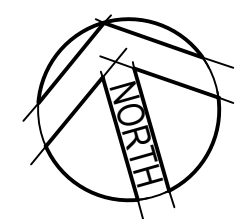
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GPO Box 4004 Sydney NSW 2001

Title
WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

TYPICAL SECTIONS
SHEET 1 OF 1

Drawing Scale	Scale Bar 1:1	
Drawn By B.A.F.	CAD Filename CAR-070115.DWG	Plot Date 13/8/2018 4:39pm
Project No.	Drawing No.	Revision
D11754	CAR-070115	E



Key Plan

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GPO Box 4004 Sydney NSW 2001

Title
WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

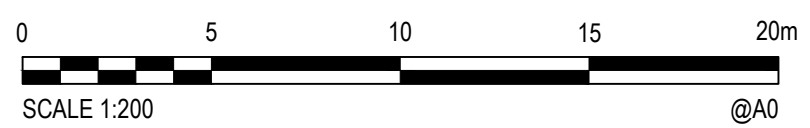
EROSION AND SEDIMENTATION PLAN
SHEET 1 OF 3

Drawing Scale	Scale Bar 1:1
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Drawn By	CAD Filename	Plot Date
B.A.F.	CAR-070121.DWG	13/8/2018

Project No.	Drawn No.	Revision
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D11754	CAR-070121	E
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Key Plan

The map shows a grid of 12 zones. Zone 12 is highlighted with diagonal hatching. The roads shown are Cross Street, North Street, Old Pottery Road, and Conning Street. A compass rose indicates North is towards the top-left.

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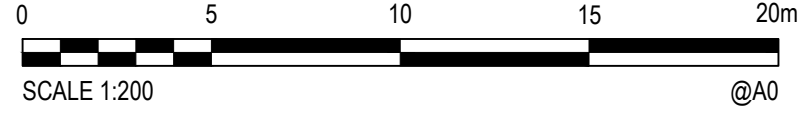
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Drawing Scale	Scale Bar 1:1
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Project No.	Drawing No.	Revision
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D11754	CAR-070122	E
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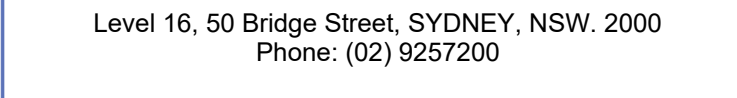
Key Plan

The map shows a grid of 12 zones. Zone 11 is shaded. The streets are labeled: CROSS STREET, POTTPATER STREET, OLD POTTPATER ROAD, and CONNING STREET. A compass rose indicates North.

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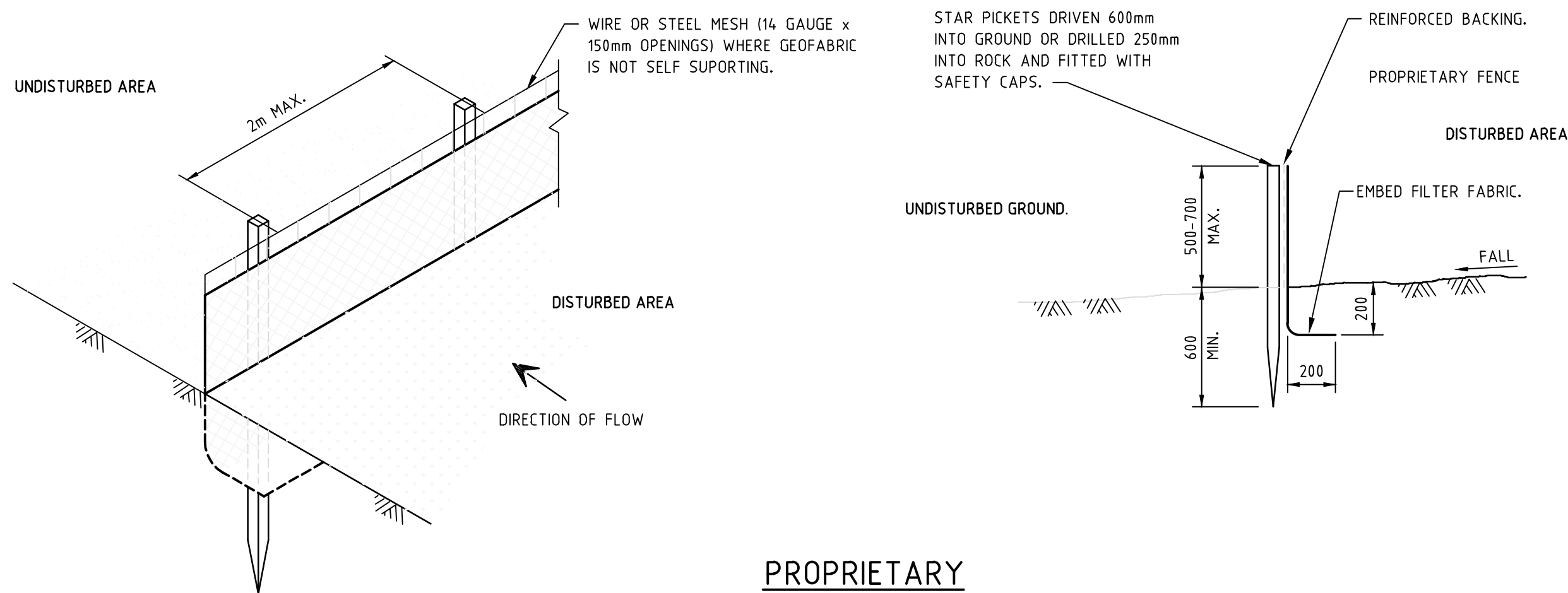
Scentre Design & Construction Pty Limited
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GPO Box 4004 Sydney NSW 2001

Title
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CONCEPT CIVIL DESIGN

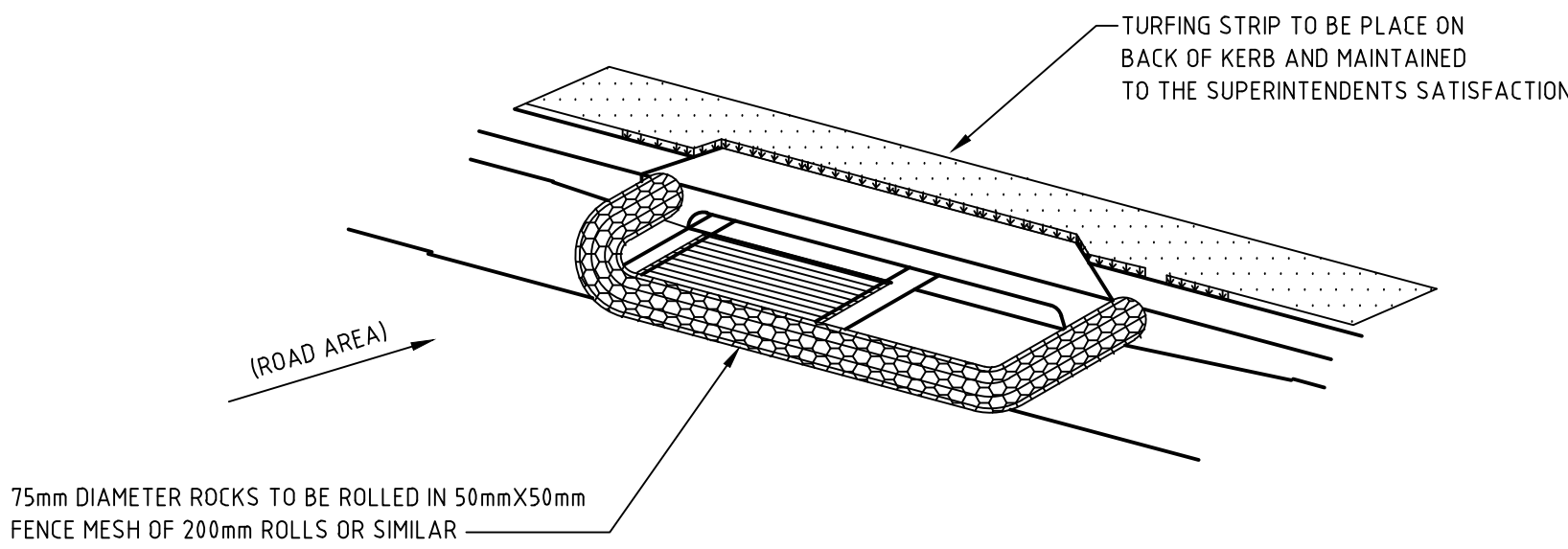
EROSION AND SEDIMENTATION PLAN
SHEET 3 OF 3

Drawing Scale	Scale Bar 1:1	
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Project No.	Drawing No.	Revision

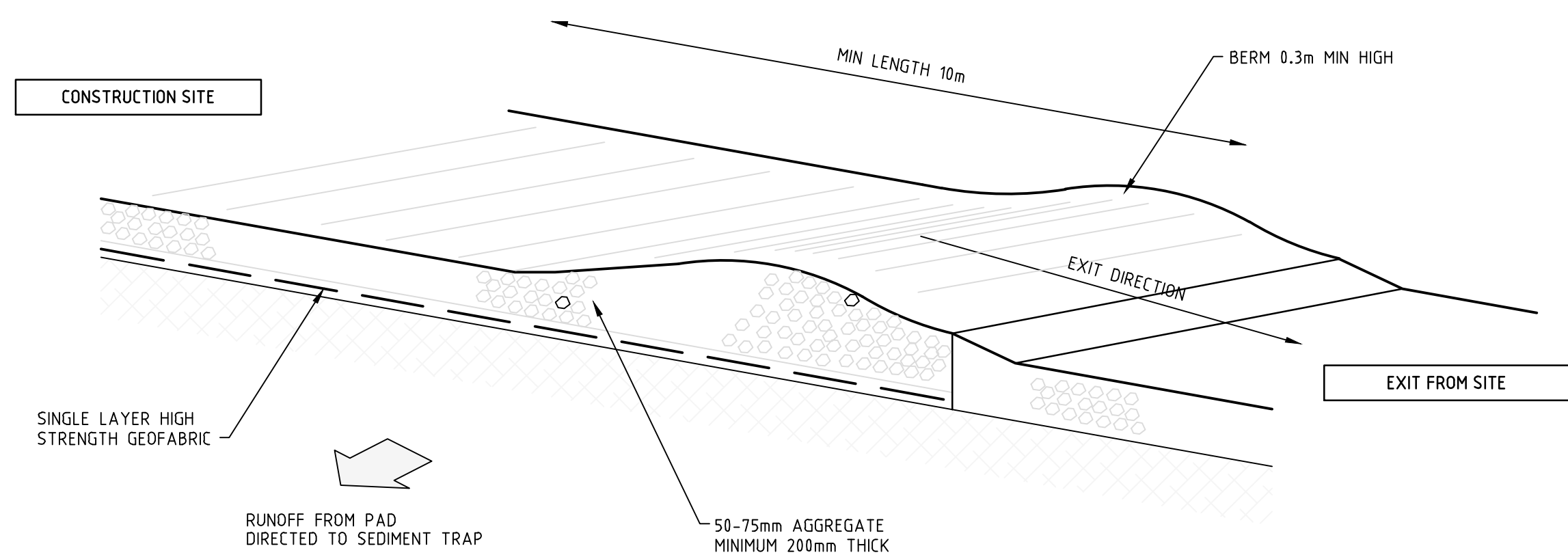
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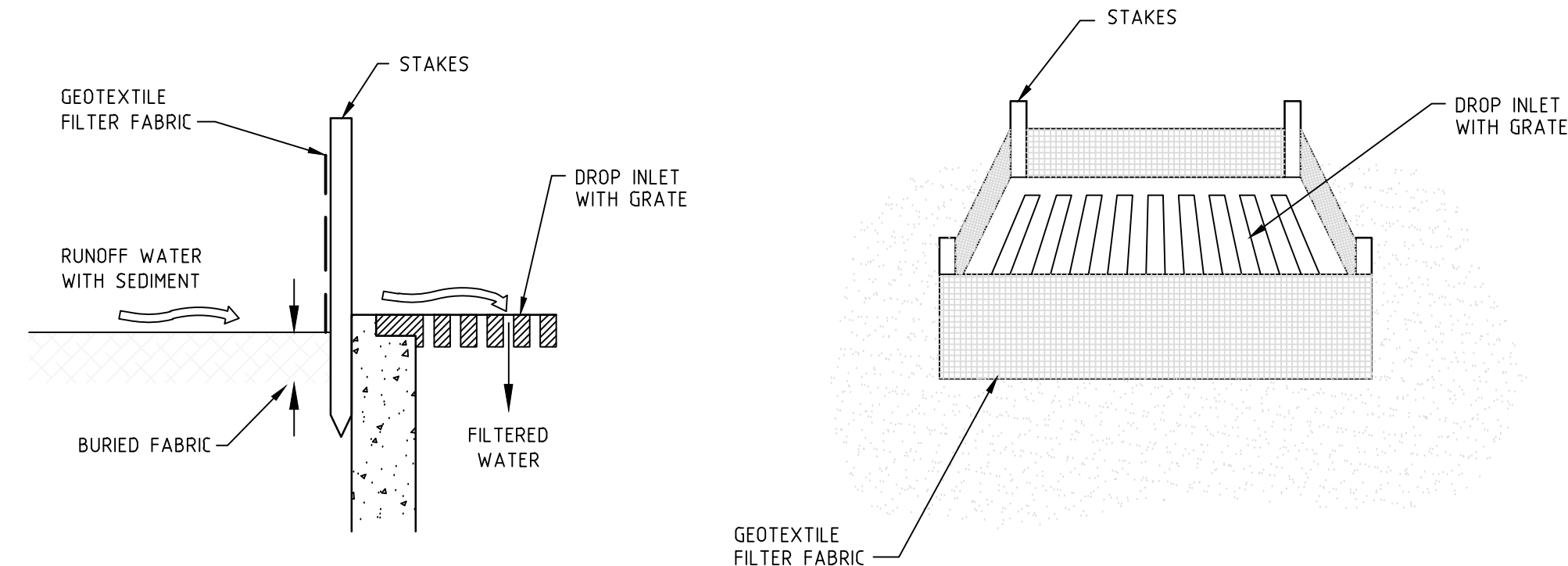
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SILT FENCE DETAIL**
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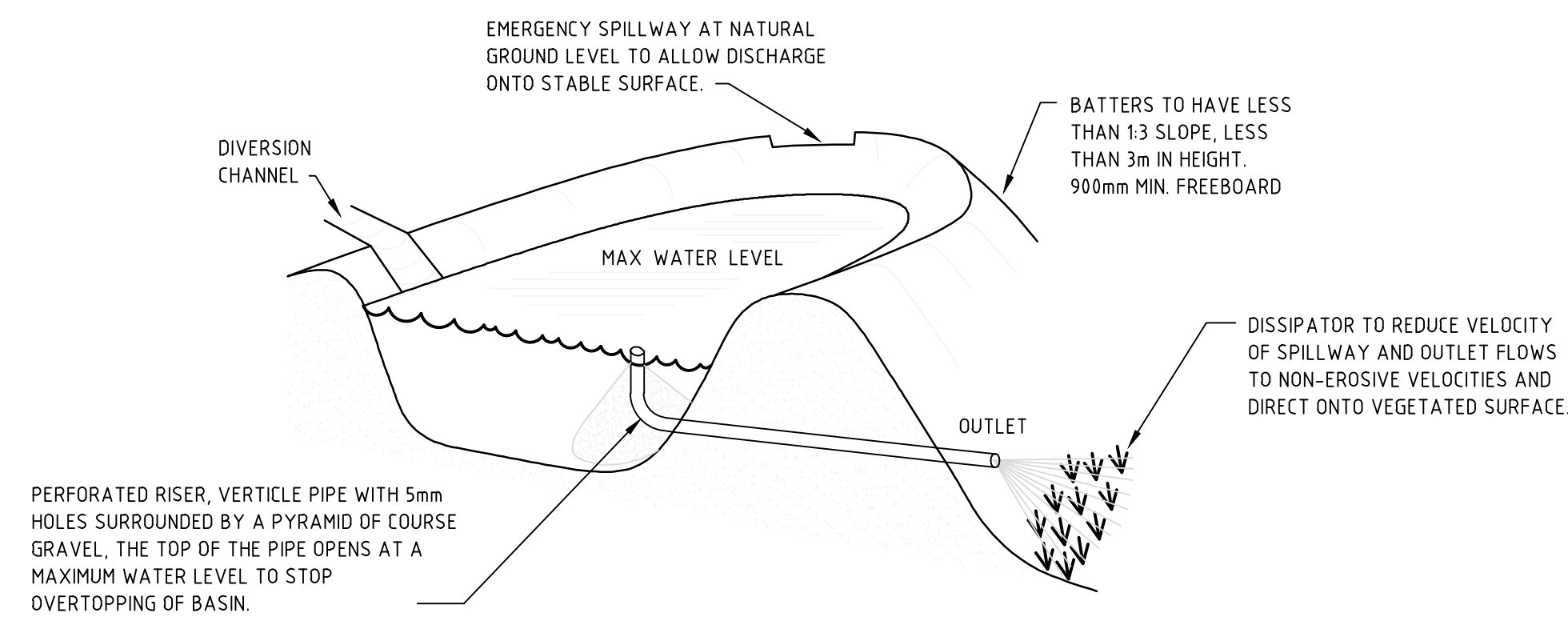
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SEDIMENT TRAP**
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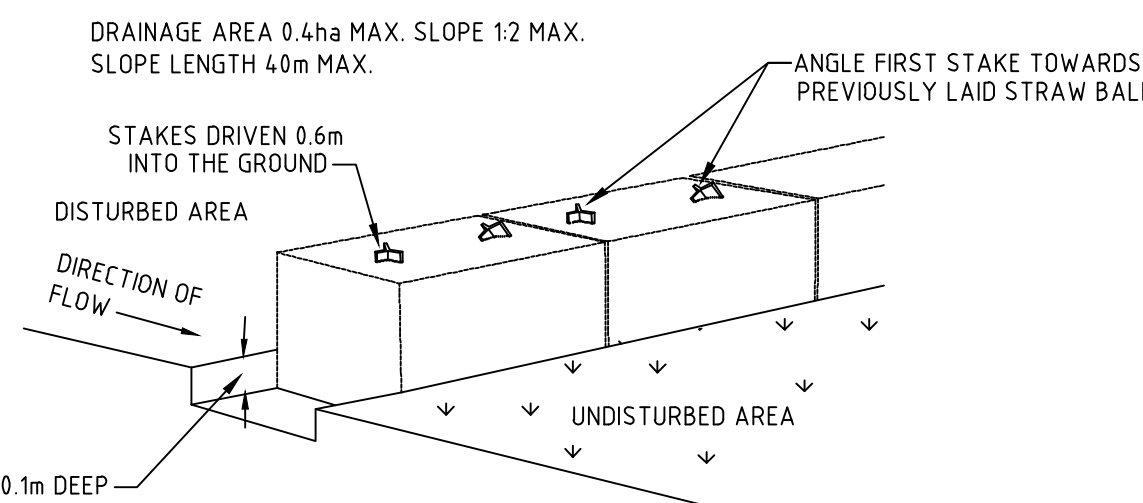
TEMPORARY CONSTRUCTION VEHICLE EXIT
NOT TO SCALE



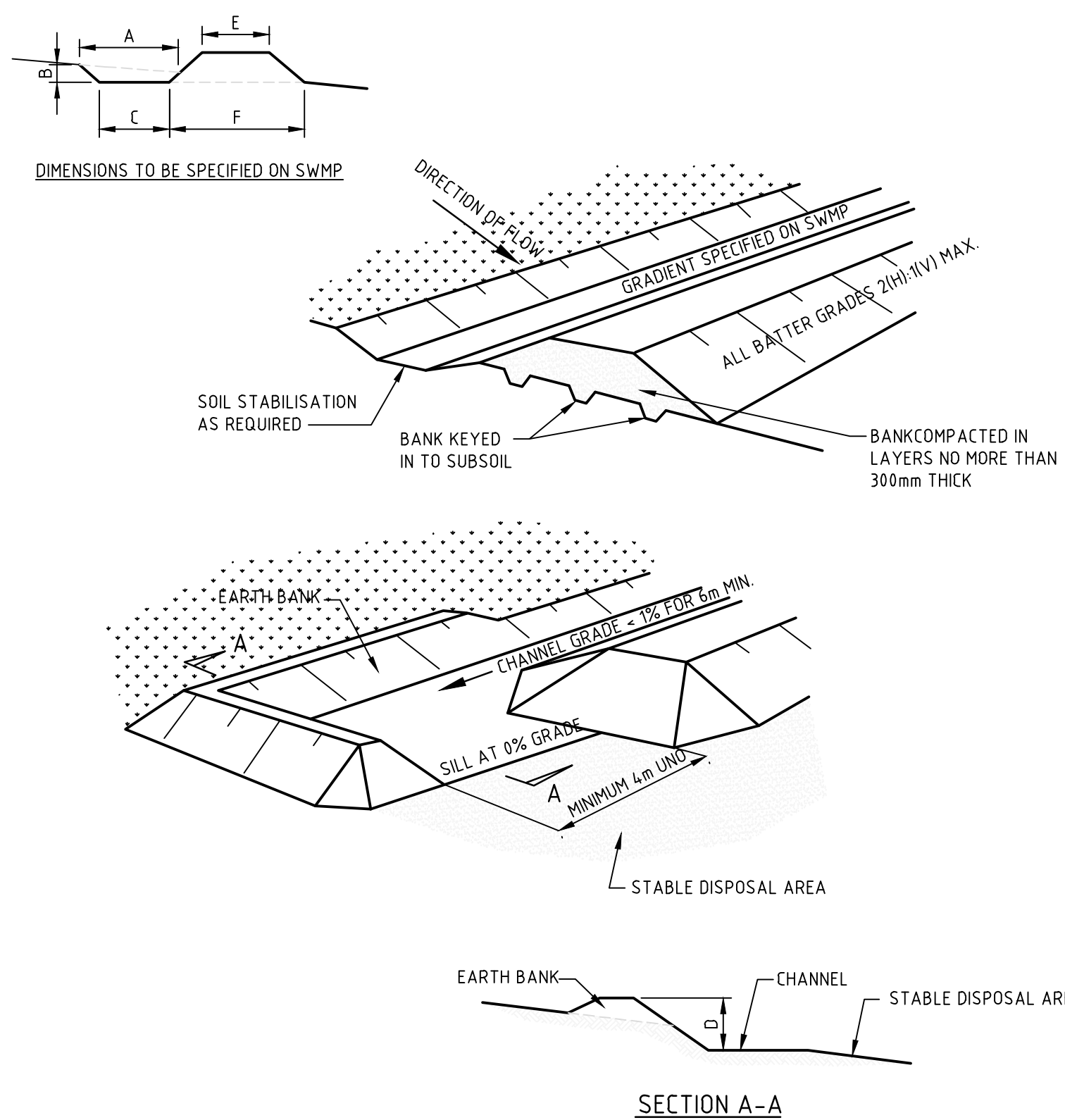
**GEOTEXTILE FILTER
SEDIMENT TRAP**
NOT TO SCALE



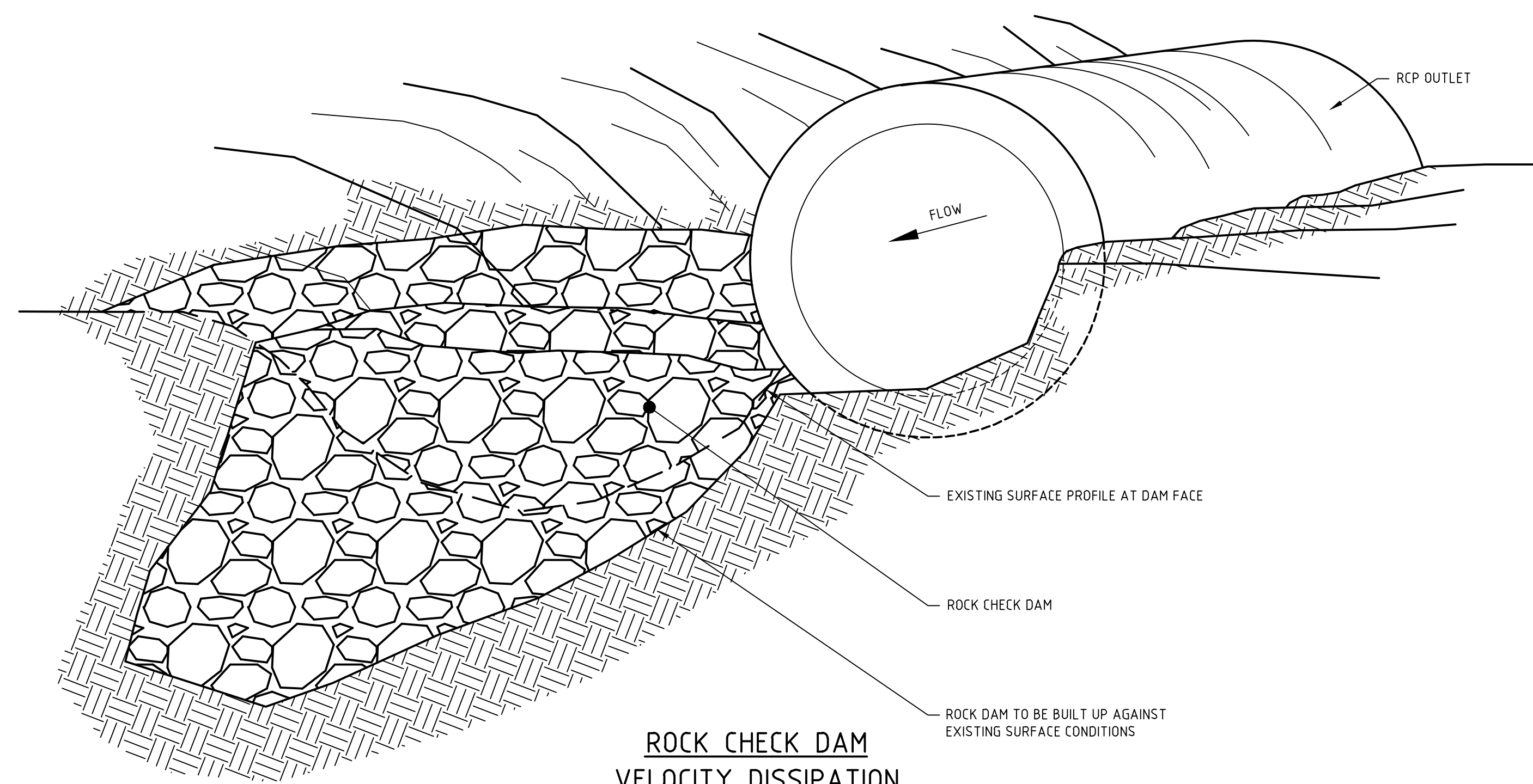
SEDIMENT BASIN
NOT TO SCALE



STRAW BALE SEDIMENT FILTER
NOT TO SCALE



DIVERSION BUND & LEVEL SPREADER
NOT TO SCALE



**ROCK CHECK DAM
VELOCITY DISSIPATION**
NOT TO SCALE

NOTE: THESE "DETAILED CALCULATION" SPREADSHEETS RELATE ONLY TO HIGH EROSION HAZARD LANDS AS IDENTIFIED IN FIGURE 4.4 OR WHERE THE DESIGNER CHOOSES TO USE THE RULES TO SIZE SEDIMENT BASINS. THE "STANDARD CALCULATION" SPREADSHEETS SHOULD BE USED ON LOW EROSION HAZARD LANDS AS IDENTIFIED BY FIGURE 4.6 AND WHERE THE DESIGNER CHOOSES NOT TO RUN THE RULES IN CALCULATIONS.

1. SITE DATA SHEET

SITE NAME	WESTFIELD WARRINGAH				
SITE LOCATION	BROOKVALE				
PRECINCT	STAGE 2				
DESCRIPTION OF SITE					
SITE AREA	SITE	REMARKS			
TOTAL CATCHMENT AREA (HA)	2.1	-	-	-	-
DISTURBED CATCHMENT AREA (HA)	2.1	-	-	-	-

SOIL ANALYSIS

% SAND (FACTION 0.02 TO 0.075 MM)	-	-	-	-	-	SOIL TEXTURE SHOULD BE ASSESSED THROUGH MECHANICAL DISPERSION ONLY. DISPERSING AGENTS (E.G. CALGON) SHOULD NOT BE USED.
% SILT (FACTION 0.02 TO 0.075 MM)	-	-	-	-	-	
% CLAY (FACTION FINER THAN 0.075 MM)	-	-	-	-	-	
DISPERSION PERCENTAGE	-	-	-	-	-	E.G. ENTER 10 FOR DISPERSION OF 10%
% OF WHOLE SOIL DISPERSIBLE	-	-	-	-	-	SEE SECTION 6.3.3(E)
SOIL TEXTURE GROUP	-	-	-	-	-	SEE SECTION 6.3.3(C), (D) AND (E)

RAINFALL DATA

DESIGN RAINFALL DEPTH (MM)	5	-	-	-	-	SEE SECTIONS 6.3.4 (D) AND (E)
DESIGN RAINFALL DEPTH (PERCENTILE)	75	-	-	-	-	SEE SECTIONS 6.3.4 (F) AND (G)
X-DAY, Y-PERCENTILE RAINFALL EVENT	29	-	-	-	-	SEE SECTION 6.3.4 (H)
RAINFALL INTENSITY 2-YEAR, 6-HOUR STORM	10.8	-	-	-	-	SEE IFD CHART FOR THE SITE

RUSLE FACTORS

RAINFALL EROSIVITY (R-FACTOR)	254	-	-	-	-	AUTOMATIC CALCULATION FROM ABOVE DATA
SOIL ERODIBILITY (K-FACTOR)	0.05	-	-	-	-	RUSLE DATA CAN BE OBTAINED FROM APPENDICES A, B AND C
SLOPE LENGTH (M)	250	-	-	-	-	
SLOPE GRADIENT (%)	1	-	-	-	-	
LENGTH/GRADIENT (LS-FACTOR)	0.26	-	-	-	-	
EROSION CONTROL PRACTICE (P-FACTOR)	13	23	33	43	53	63
GROUND COVER (C-FACTOR)	1	1	1	1	1	1

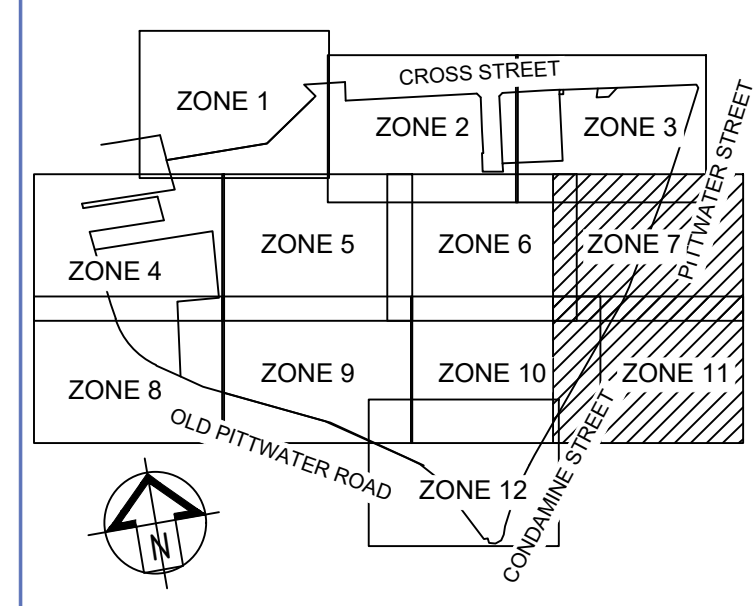
CALCULATIONS

SOIL LOSS (T/HA/YR)	42	-	-	-	-	
SOIL LOSS (CLASS)	1	-	-	-	-	SEE SECTION 4.4.2(B)
SOIL LOSS (M3/HA/YR)	33	-	-	-	-	
SEDIMENT BASIN STORAGE VOLUME (M3)	12	-	-	-	-	SEE SECTIONS 6.3.4(I) AND (J)

E 13/08/2018 CM DNA ISSUE FOR REVIEW
D 24/07/2018 CM DNA ISSUE FOR REVIEW
C 20/06/2018 CM DNA ISSUE FOR REVIEW
B 24/03/2017 CM DNA ISSUE FOR REVIEW
A 11/03/2017 CM DNA ISSUE FOR REVIEW

Rev Date By Chn Description

Key Plan



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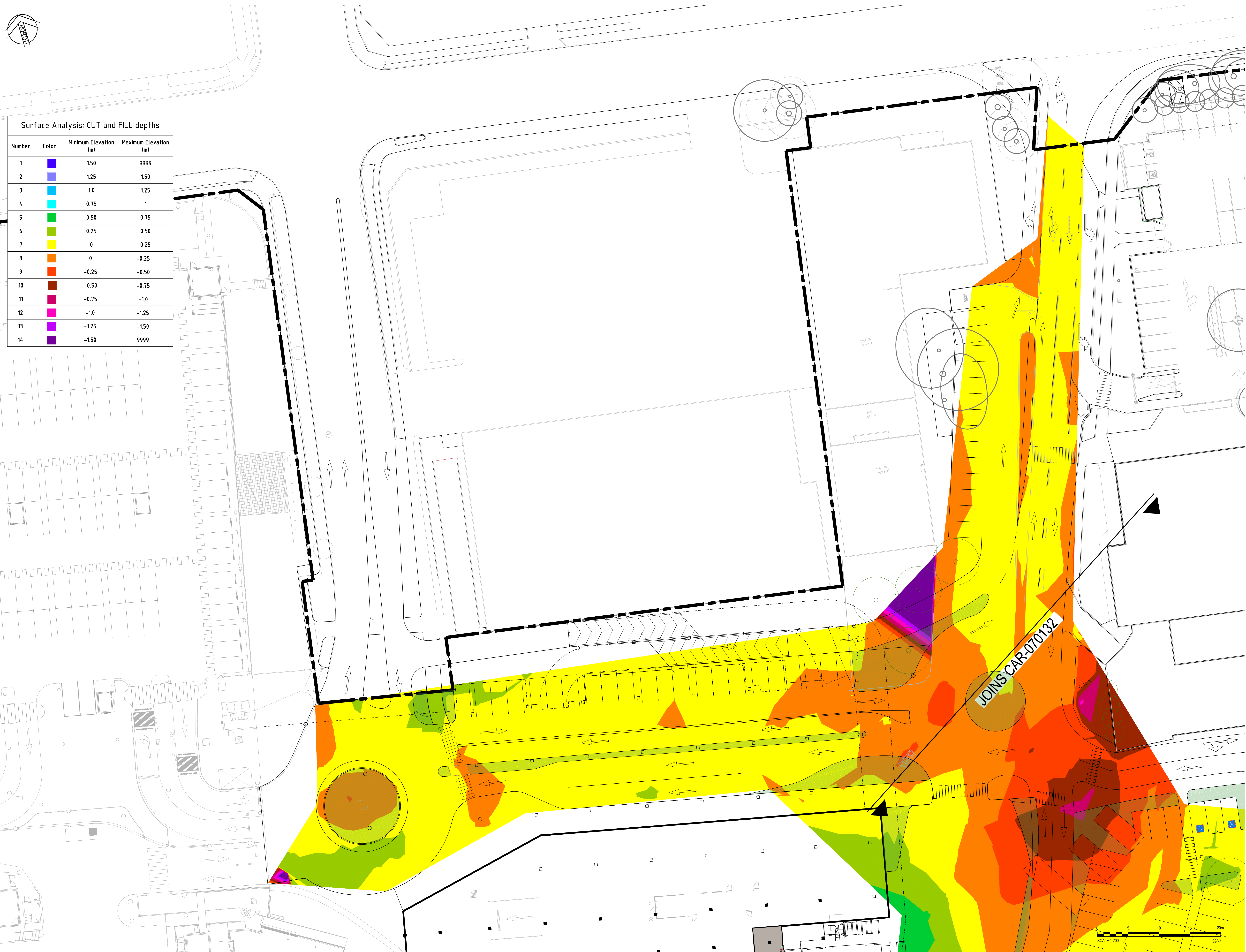
SCENTRE GROUP
Former and Operator of **Westfield** in Australia and New Zealand

Westfield
WARRINGAH
Scentre Design & Construction Pty Limited
85 Castlereagh Street, Sydney NSW 2011
Phone: (02) 9358 7000 Fax: (02) 9028 8500
GPO Box 4004 Sydney NSW 2001

Title: **WARRINGAH STAGE 2 WORKS**
CONCEPT CIVIL DESIGN

EROSION AND SEDIMENTATION DETAILS
SHEET 1 OF 1

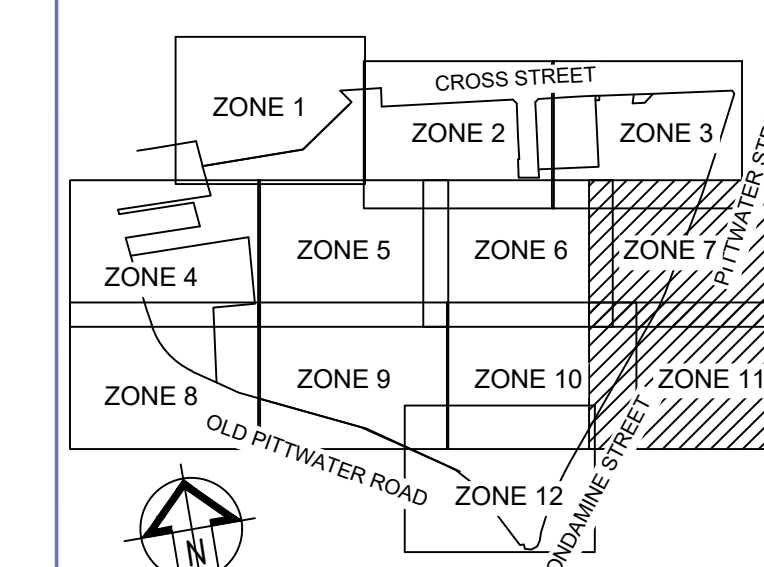
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Drawn By	CAD Filename	Plot Date
B.A.F.	CAR-070125.DWG	13/08/2018 4:40pm
Project No.	Drawing No.	Revision
D11754	CAR-070125	E



Surface Analysis: CUT and FILL depths			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		1.50	9999
2		1.25	1.50
3		1.0	1.25
4		0.75	1
5		0.50	0.75
6		0.25	0.50
7		0	0.25
8		0	-0.25
9		-0.25	-0.50
10		-0.50	-0.75
11		-0.75	-1.0
12		-1.0	-1.25
13		-1.25	-1.50
14		-1.50	9999



Rev	Date	By	Chk	Description
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General Note
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SCENTRE GROUP

Westfield



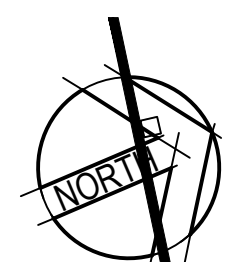
WARRINGAH

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GPO Box 4004 Sydney NSW 2001

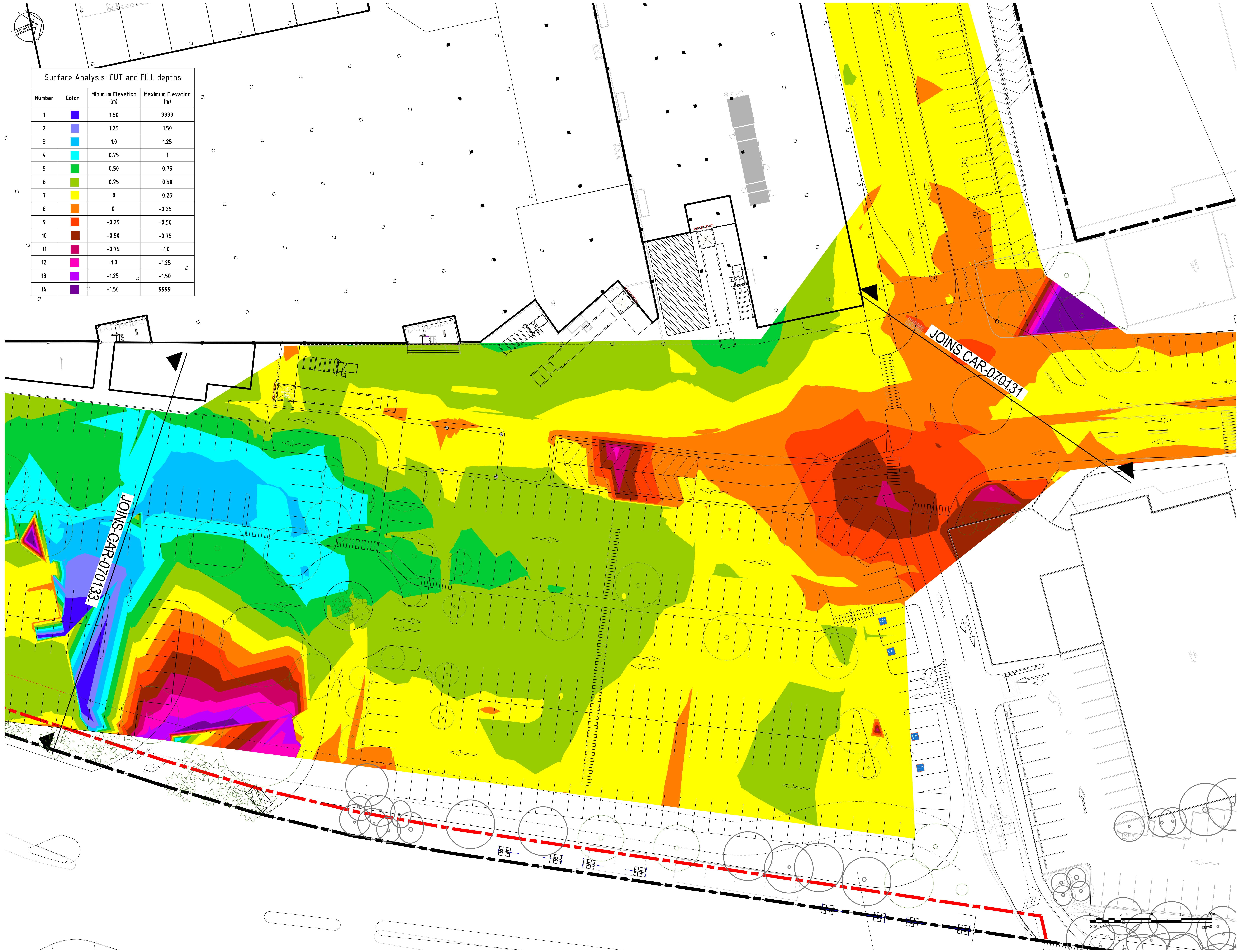
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WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

BULK EARTHWORKS PLAN
SHEET 1 OF 2

Drawing Scale	Scale Bar 1:1	
Drawn By B.A.F.	CAD Filename CAR-070131.DWG	Plot Date 13/8/2018 4:40pm
Project No. D11754	Drawing No. CAR-070131	Revision C

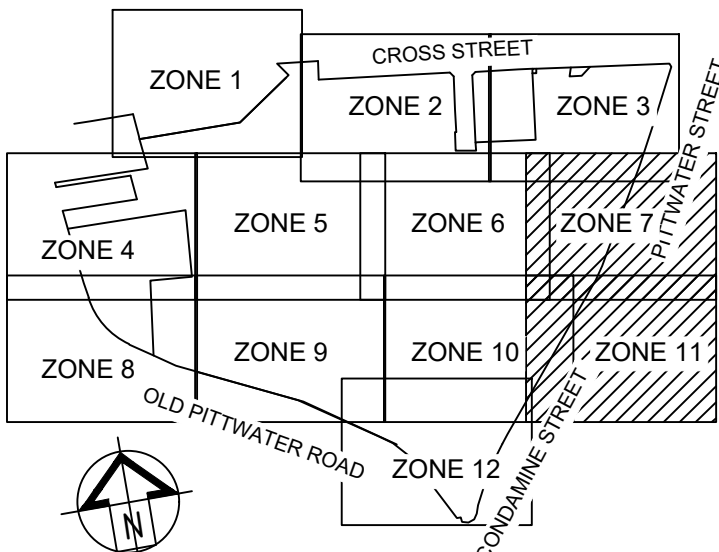


Surface Analysis: CUT and FILL depths			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Blue	1.50	9999
2	Light Blue	1.25	1.50
3	Cyan	1.0	1.25
4	Light Cyan	0.75	1
5	Green	0.50	0.75
6	Light Green	0.25	0.50
7	Yellow	0	0.25
8	Orange	0	-0.25
9	Red-Orange	-0.25	-0.50
10	Red	-0.50	-0.75
11	Dark Red	-0.75	-1.0
12	Magenta	-1.0	-1.25
13	Purple	-1.25	-1.50
14	Dark Purple	-1.50	9999



Rev	Date	By	Chk	Description
E	13/08/2018	CM	DNA	ISSUE FOR REVIEW
D	04/07/2018	CM	DNA	ISSUE FOR REVIEW
C	03/06/2018	CM	DNA	ISSUE FOR REVIEW
B	29/03/2017	CM	DNA	ISSUE FOR REVIEW
A	11/03/2017	CM	DNA	ISSUE FOR REVIEW

Key Plan



General Note
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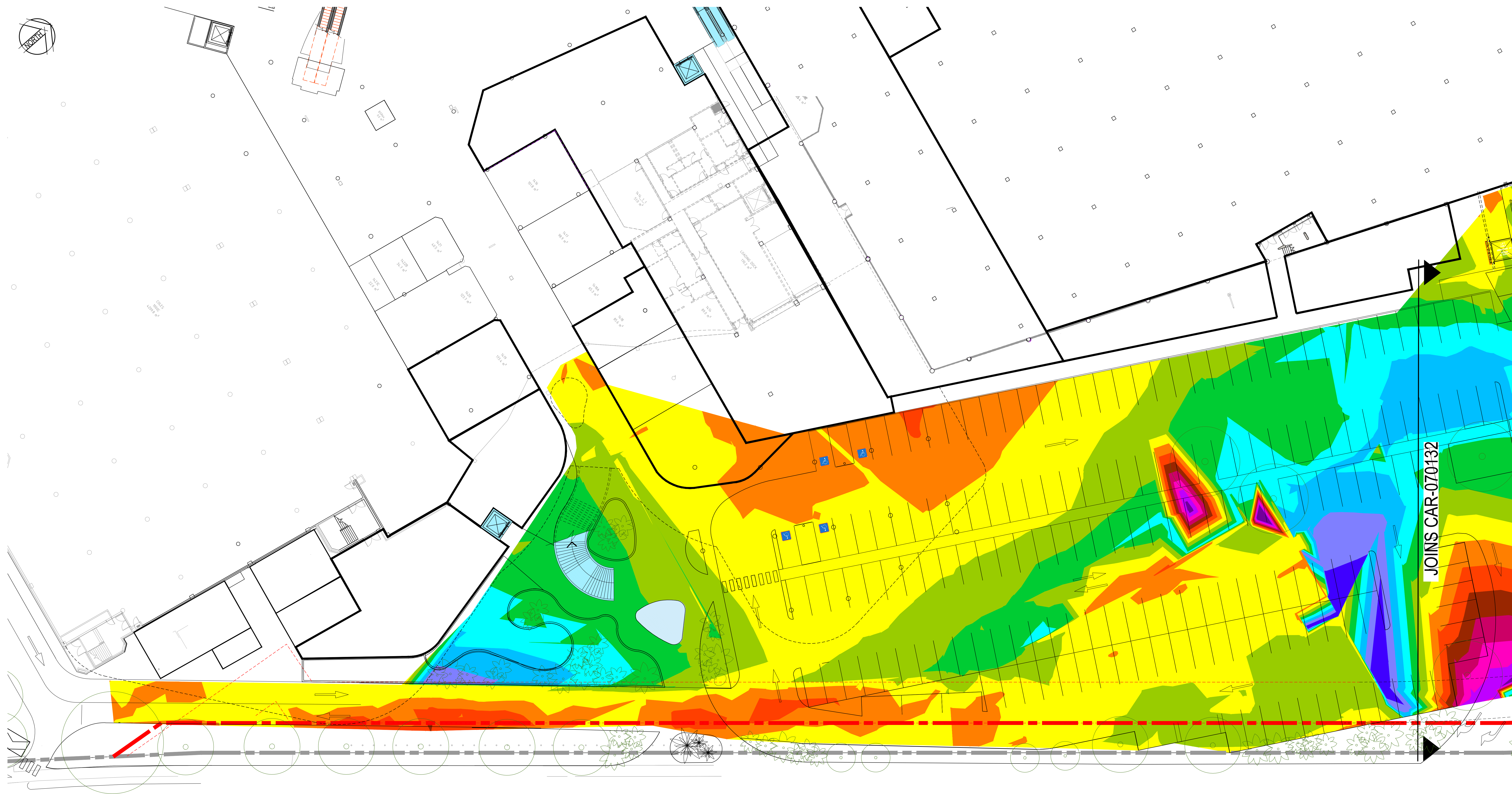
WARRINGAH

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GPO Box 4004 Sydney NSW 2001

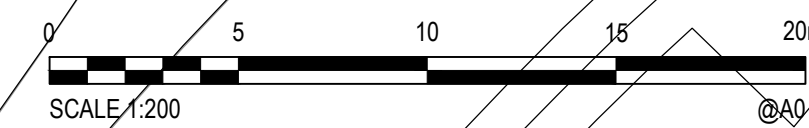
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WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

BULK EARTHWORKS PLAN
SHEET 1 OF 2

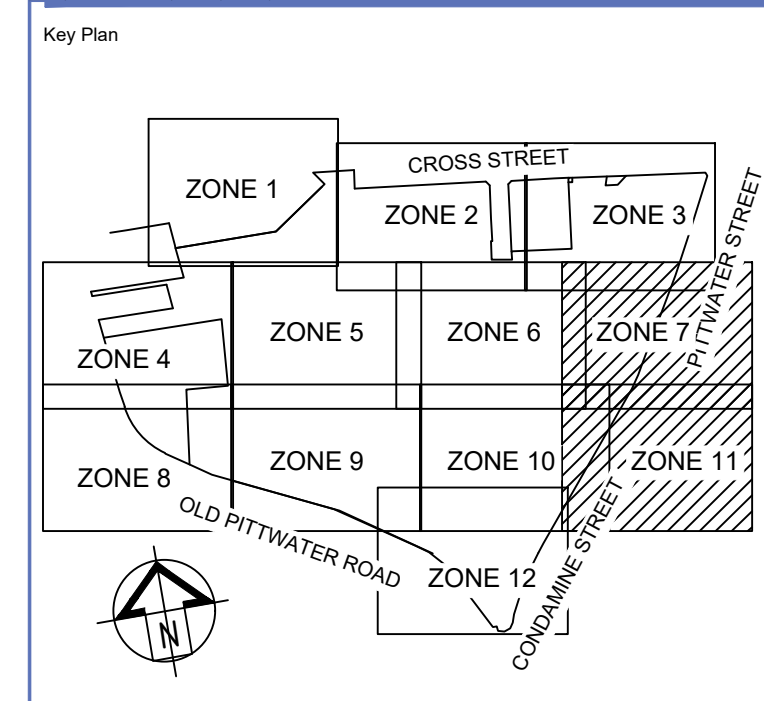
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Drawn By B.A.F.	CAD Filename CAR-070132.DWG
Project No. D11754	Plot Date 13/08/2018 4:41pm
Drawing No. CAR-070132	Revision E



Surface Analysis: CUT and FILL depths			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Blue	1.50	9999
2	Light Blue	1.25	1.50
3	Cyan	1.0	1.25
4	Light Green	0.75	1
5	Green	0.50	0.75
6	Light Yellow	0.25	0.50
7	Yellow	0	0.25
8	Orange	0	-0.25
9	Dark Orange	-0.25	-0.50
10	Brown	-0.50	-0.75
11	Magenta	-0.75	-1.0
12	Pink	-1.0	-1.25
13	Purple	-1.25	-1.50
14	Dark Purple	-1.50	9999



Rev	Date	By	Chk	Description
E	13/08/2018	CM	DNA	ISSUE FOR REVIEW
D	04/07/2018	CM	DNA	ISSUE FOR REVIEW
C	03/06/2018	CM	DNA	ISSUE FOR REVIEW
B	29/03/2017	CM	DNA	ISSUE FOR REVIEW
A	17/03/2017	CM	DNA	ISSUE FOR REVIEW



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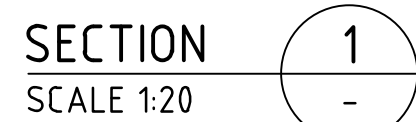
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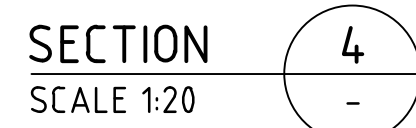
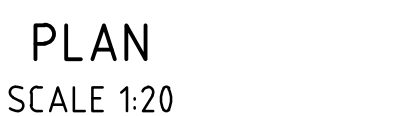
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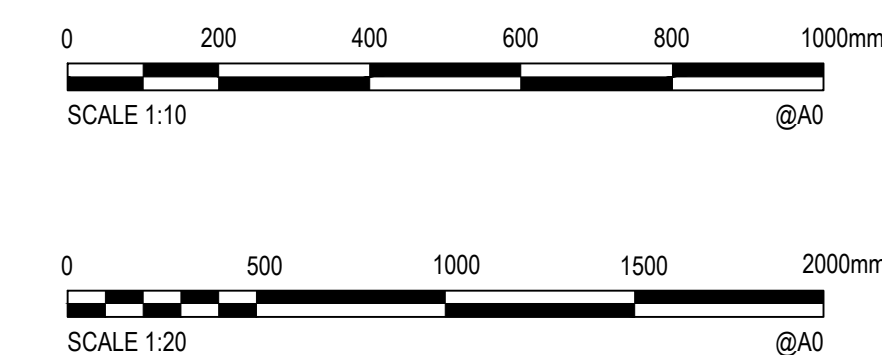
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BULK EARTHWORKS PLAN SHEET 2 OF 2		
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Drawn By B.A.F.	CAD Filename CAR-070133.DWG	Plot Date 13/08/2018 4:41pm
Project No. D11754	Drawing No. CAR-070133	Revision E

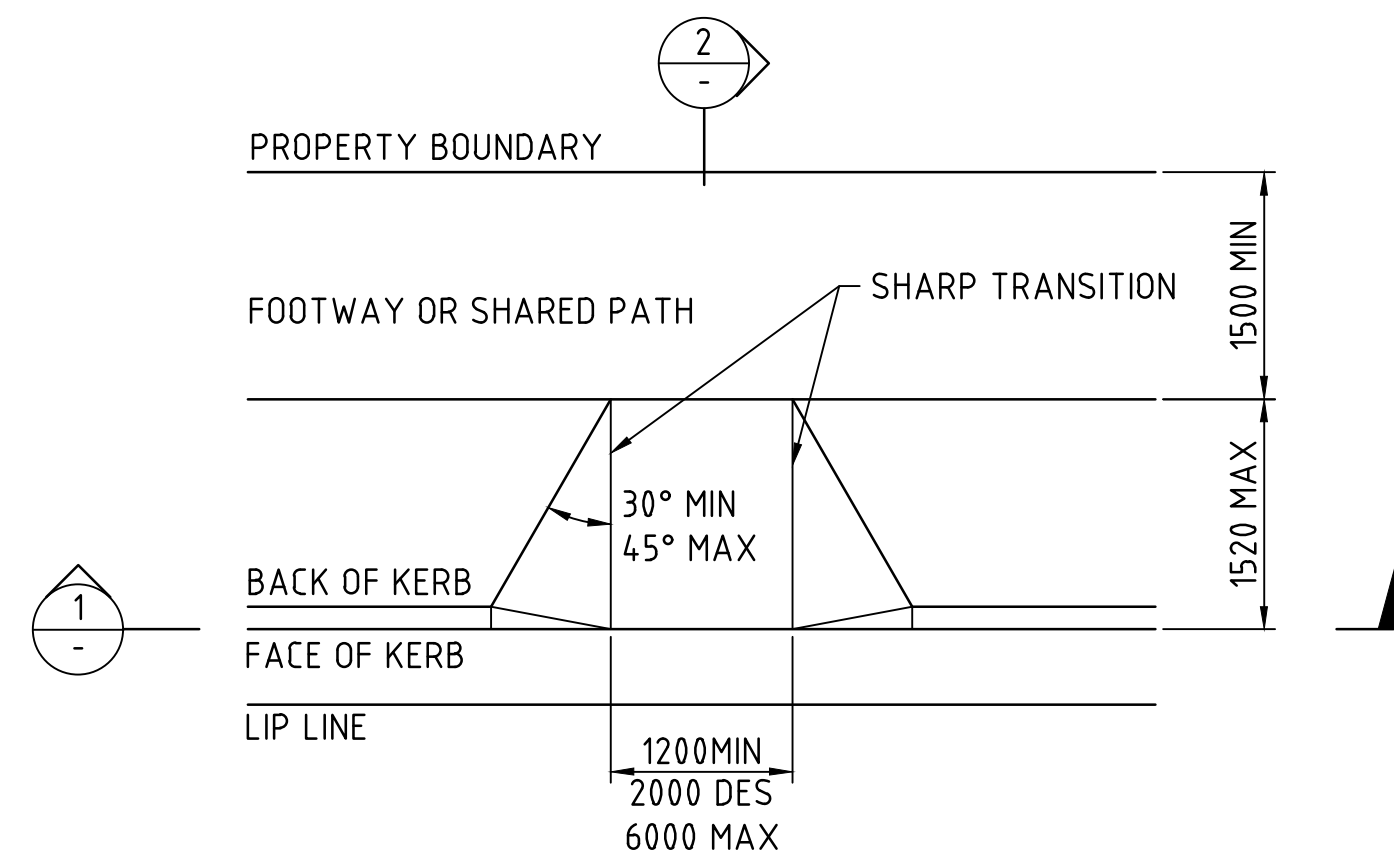


NOTE: STEP IRONS REQUIRED FOR PITS >1200 DEEP

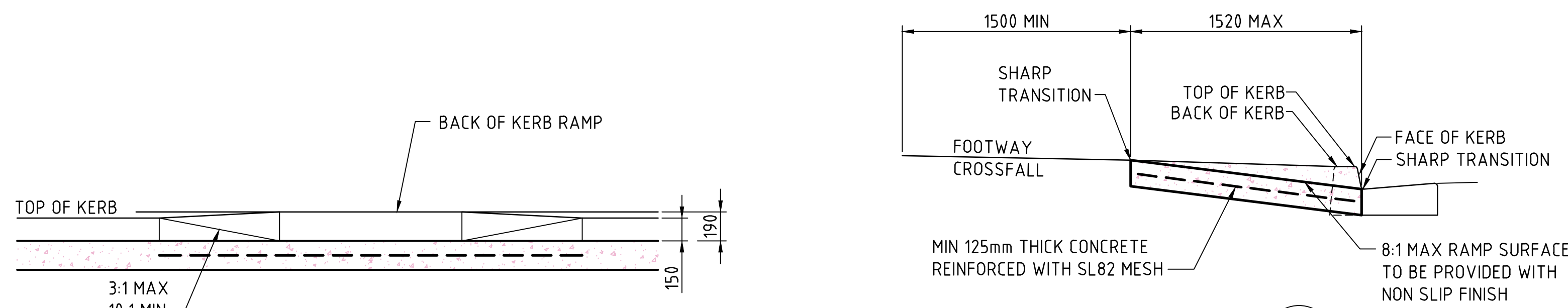


PIT ALIGNMENT REQUIREMENTS



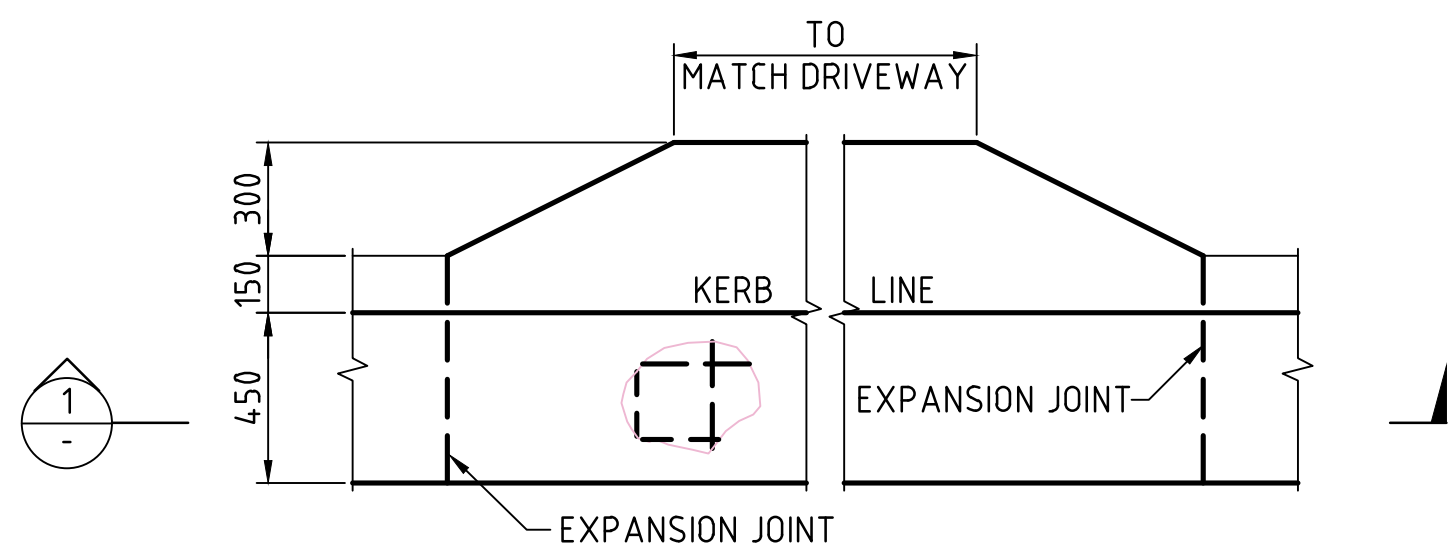


KERB RAMP PLAN
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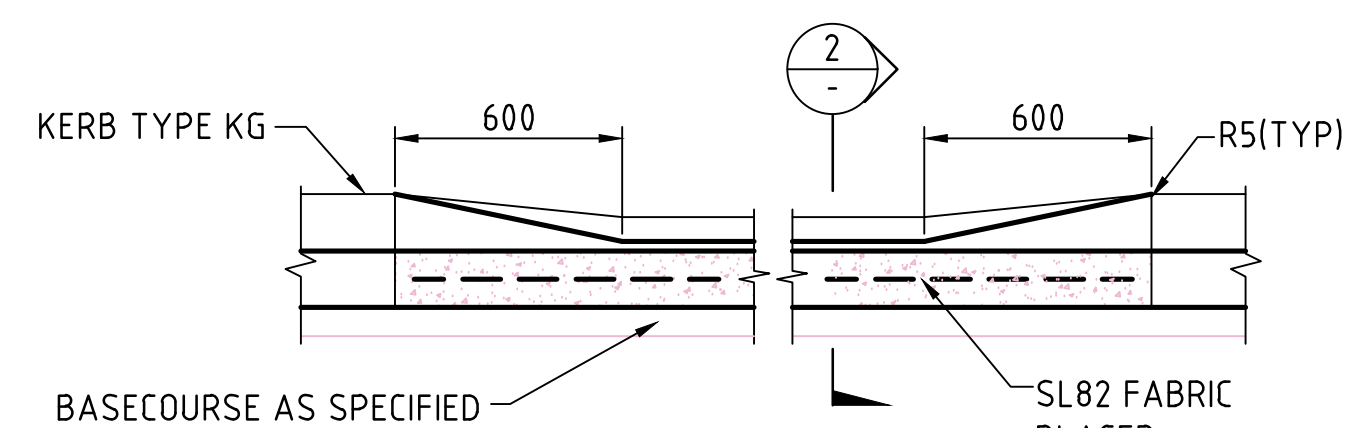


SECTION 1
SCALE 1:25

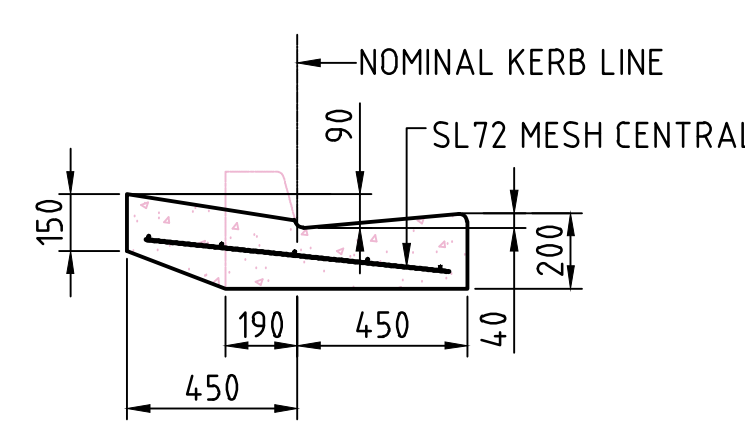
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SCALE 1:25



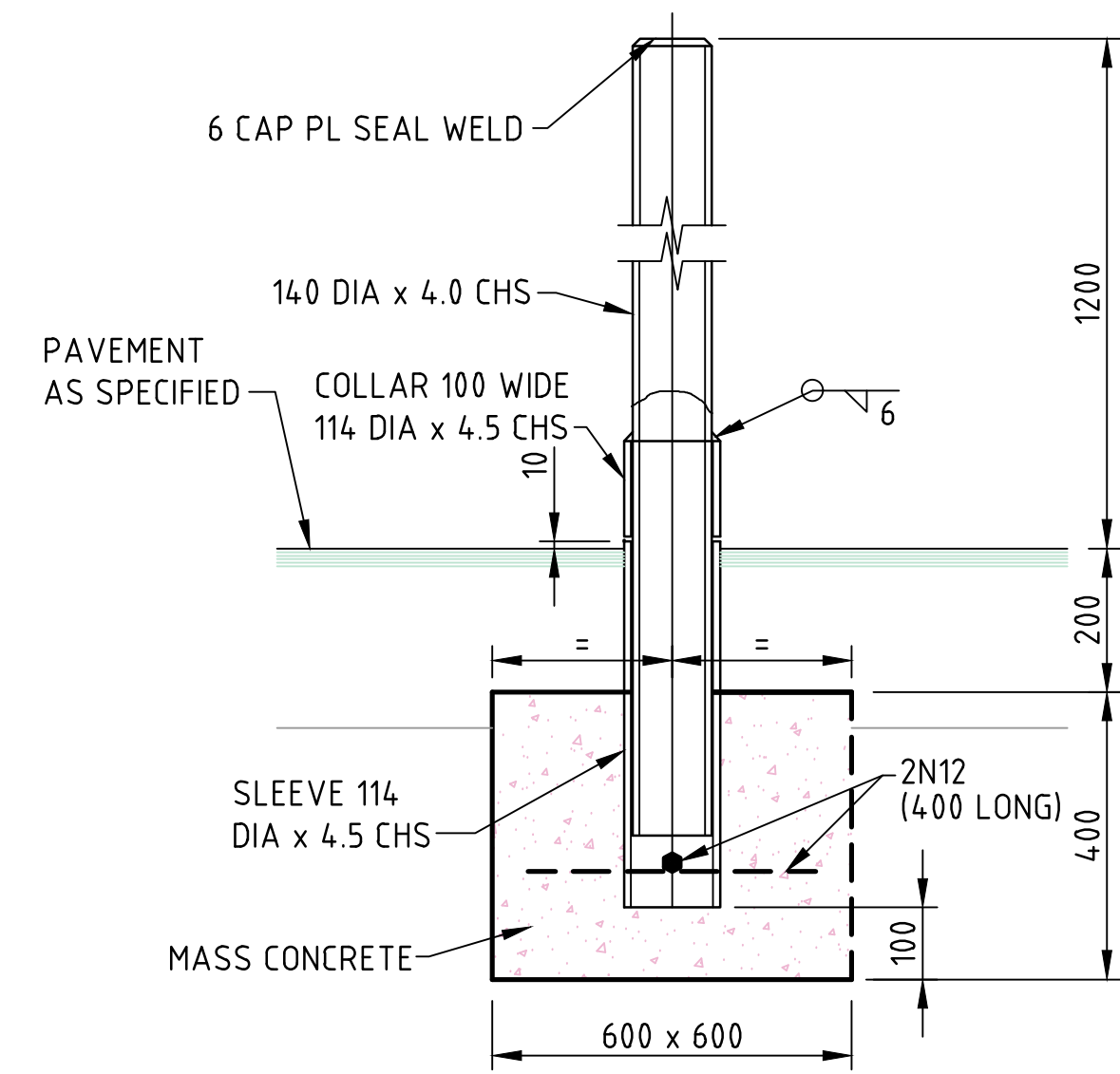
PLAN
VEHICULAR CROSSING
SCALE 1:20



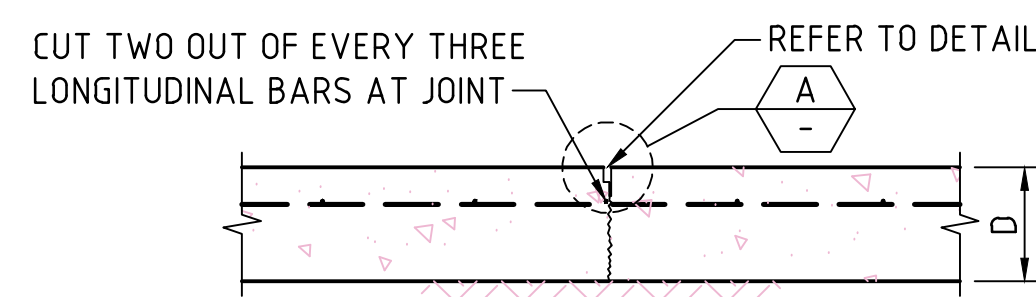
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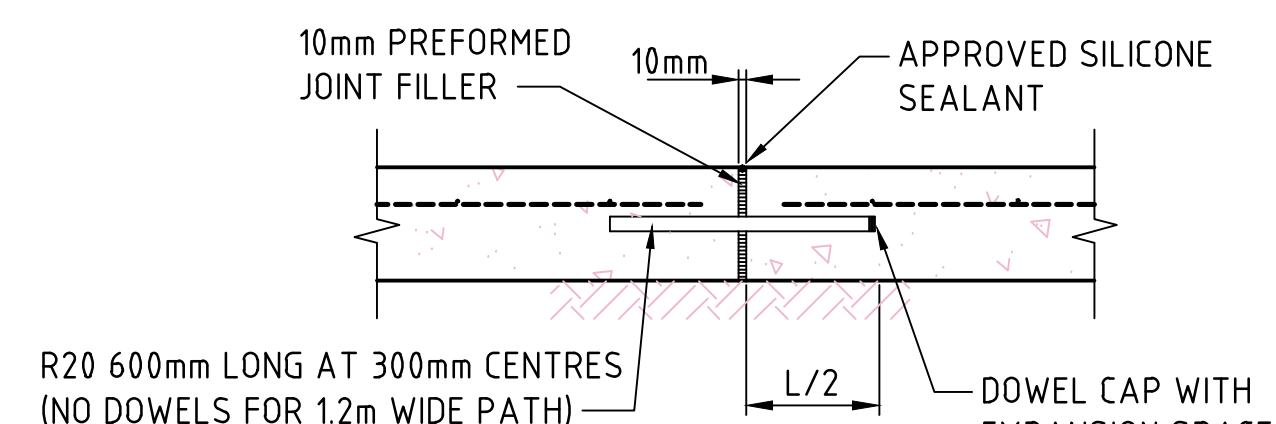
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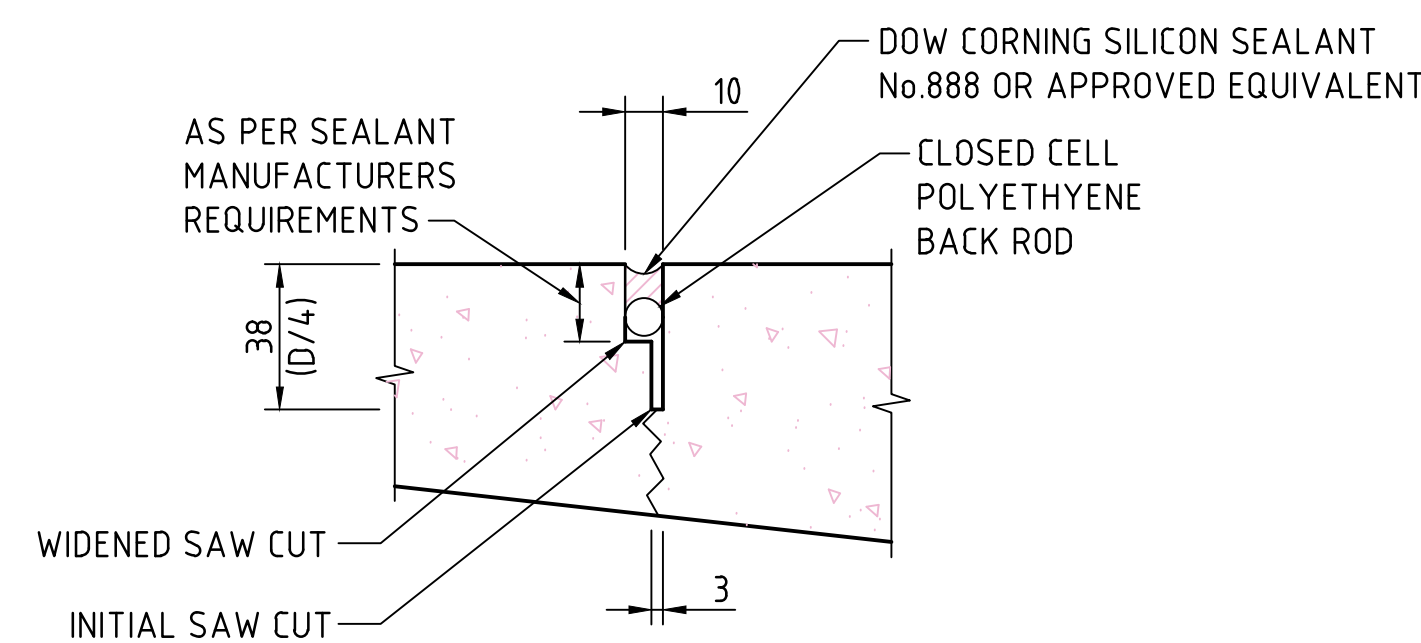
NON REMOVABLE BOLLARD TO FLEXIBLE PAVEMENT
SCALE 1:10
FINISH: HOT DIP GALVANISED 600gm / m²



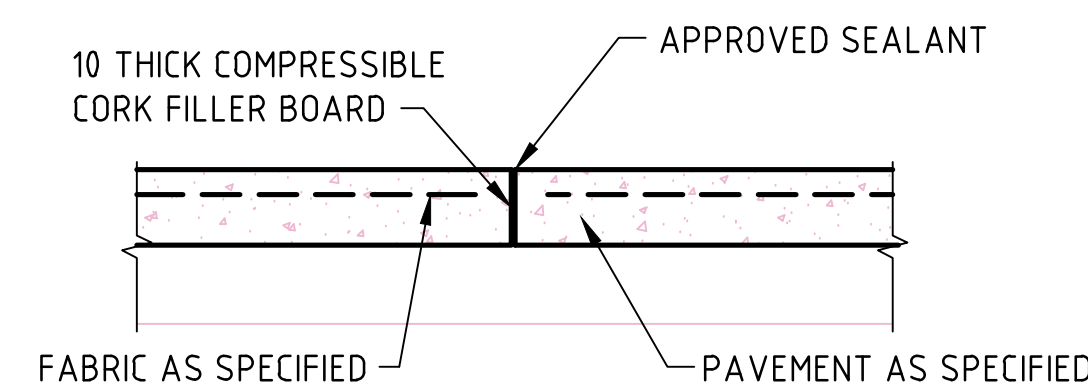
TRANSVERSE CONTRACTION JOINT (TCJ)
SCALE 1:10



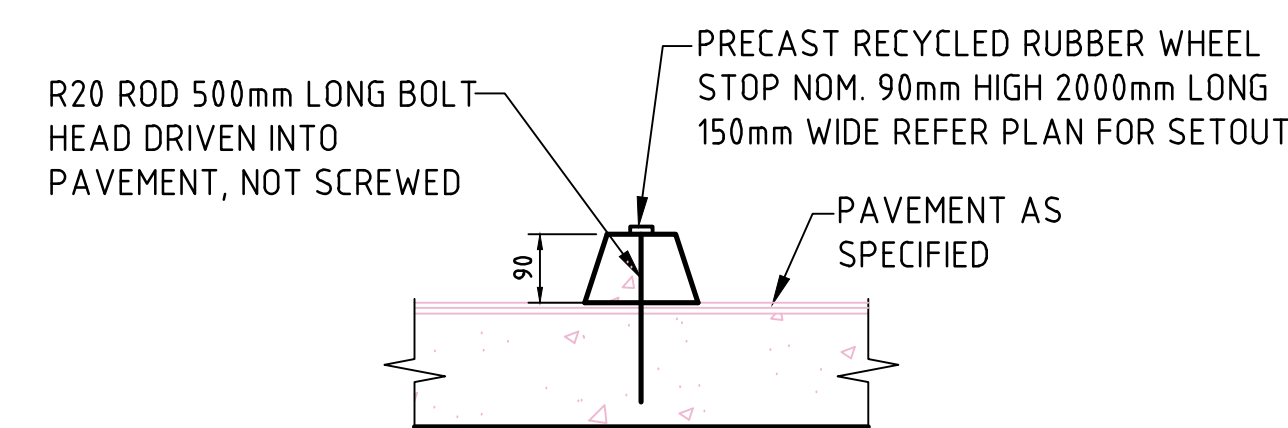
EXPANSION JOINT (EJ)
SCALE 1:10



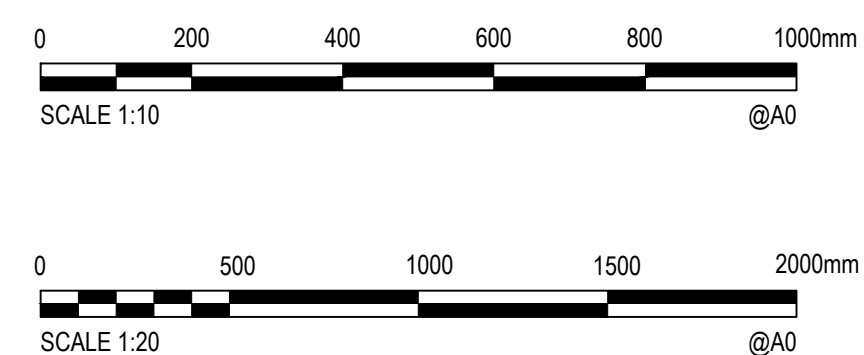
DETAIL A
SCALE 1:5



EXPANSION JOINT (EJ)
FOOTPATHS & MEDIANS/ISLANDS
SCALE 1:10

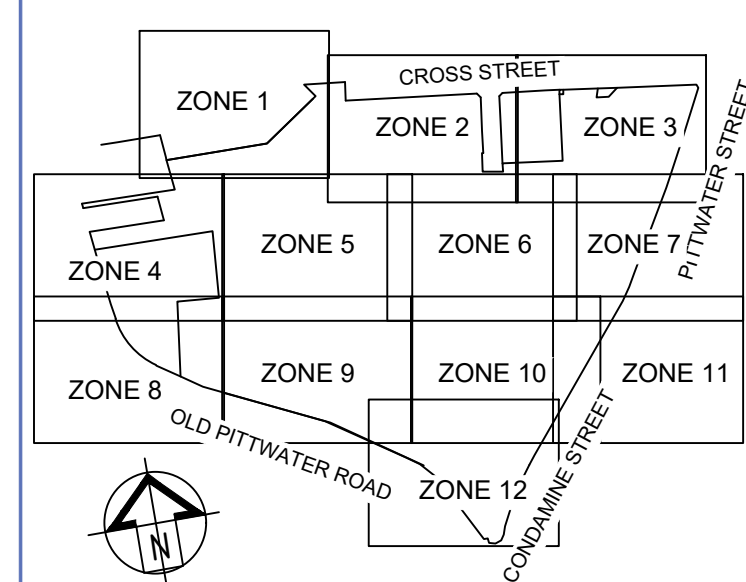


PRECAST WHEEL STOP (PWS)
SCALE 1:10



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D	14/07/2018	CM	DNA	ISSUE FOR REVIEW
C	20/06/2018	CM	DNA	ISSUE FOR REVIEW
B	29/03/2017	CM	DNA	ISSUE FOR REVIEW
A	11/03/2017	CM	DNA	ISSUE FOR REVIEW

Key Plan



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Title

WARRINGAH STAGE 2 WORKS
CONCEPT CIVIL DESIGN

TYPICAL DETAILS
SHEET 2 OF 2

Drawing Scale	Scale Bar 1:1	0 200 400 600 800 1000mm
Drawn By	CAD Filename	Plot Date
B.A.F.	CAR-070142.DWG	13/08/2018 4:41pm
Project No.	Drawing No.	Revision
D11754	CAR-070142	E