PART C – REFER DRAWING C04

PART A – REFER DRAWING C02

PART D – REFER DRAWING C05

PART B – REFER DRAWING C03

LEGEND

- SITE BOUNDARY
- 16.0 EXISTING CONTOUR
- 16.0 PROPOSED CONTOUR
- PROPOSED STORMWATER DRAIN
- PROPOSED INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED STORMWATER DRAIN
- PROPOSED RETAINING WALL WITH CRASH BARRIER AS REQUIRED
- PDP PAVEMENT DRAINAGE FROM UPPER LEVEL
- DP ROOF DRAINAGE
- I/O INSPECTION OPENING
- OVERLAND FLOW PATHS FOR GREATER THAN DESIGN STORM

10000 5000 0 10000 20000 30000 40000 50000

SCALE 1 : 500

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

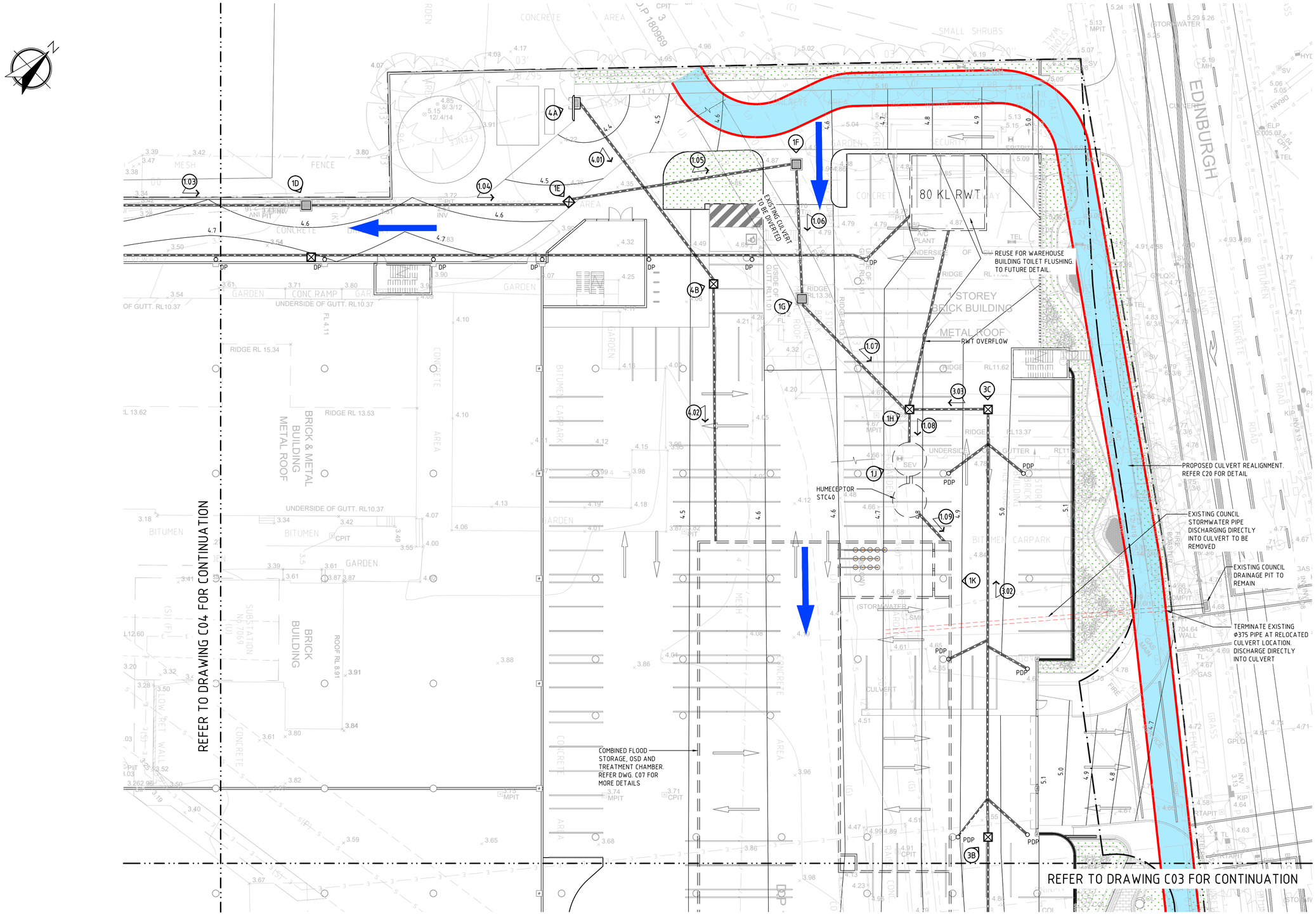
CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

OVERALL STORMWATER PLAN GROUND LEVEL

DATE:	AUGUST 2020
SCALE:	1:500 @A1
Project No.	190372

DRG.No. C01 REV-C



4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

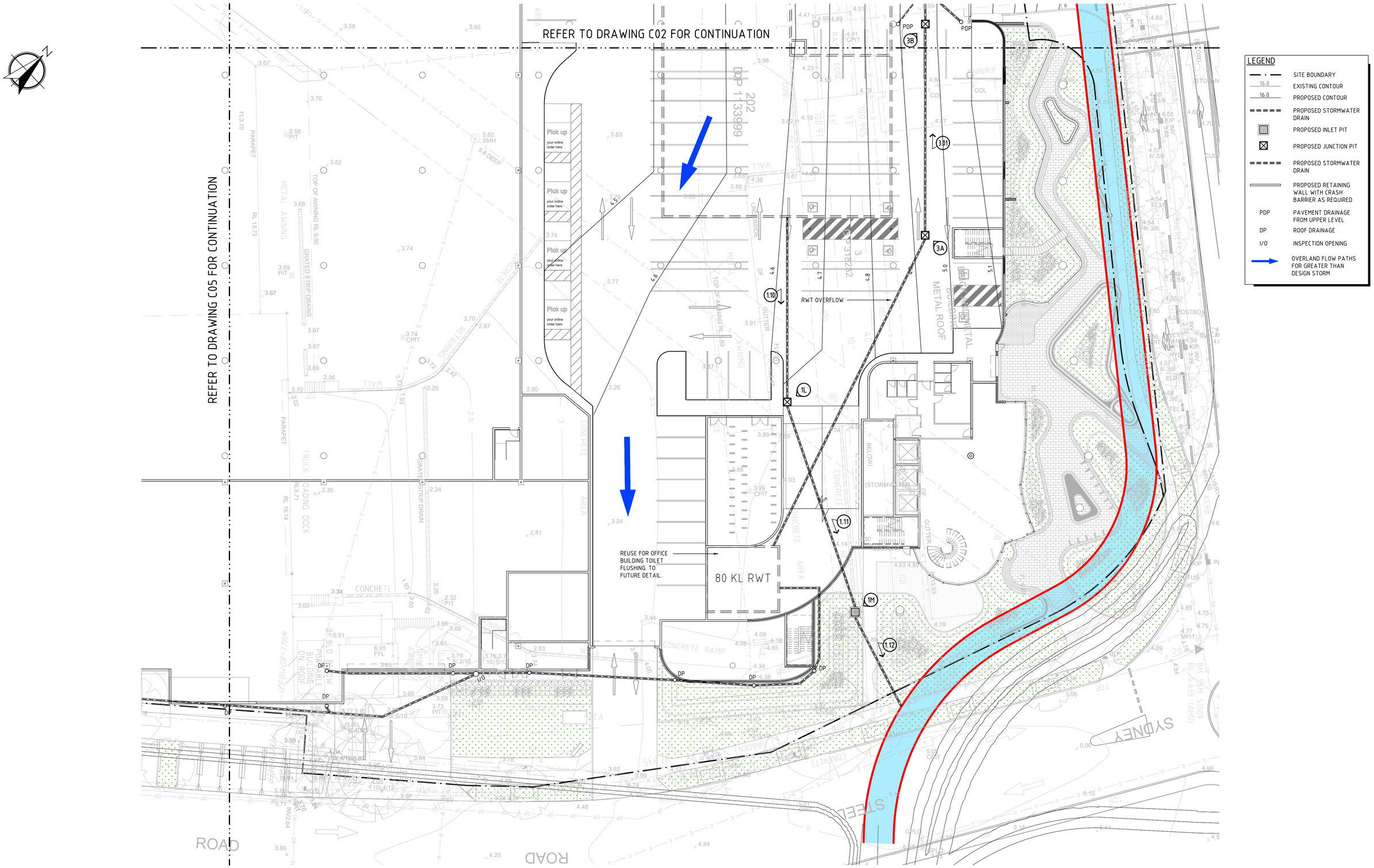
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER PLAN
GROUND LEVEL - PART A

DATE: AUGUST 2020
SCALE: 1:200 @A1
Project No. 190372
DRG.No. C02 REV-C



4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

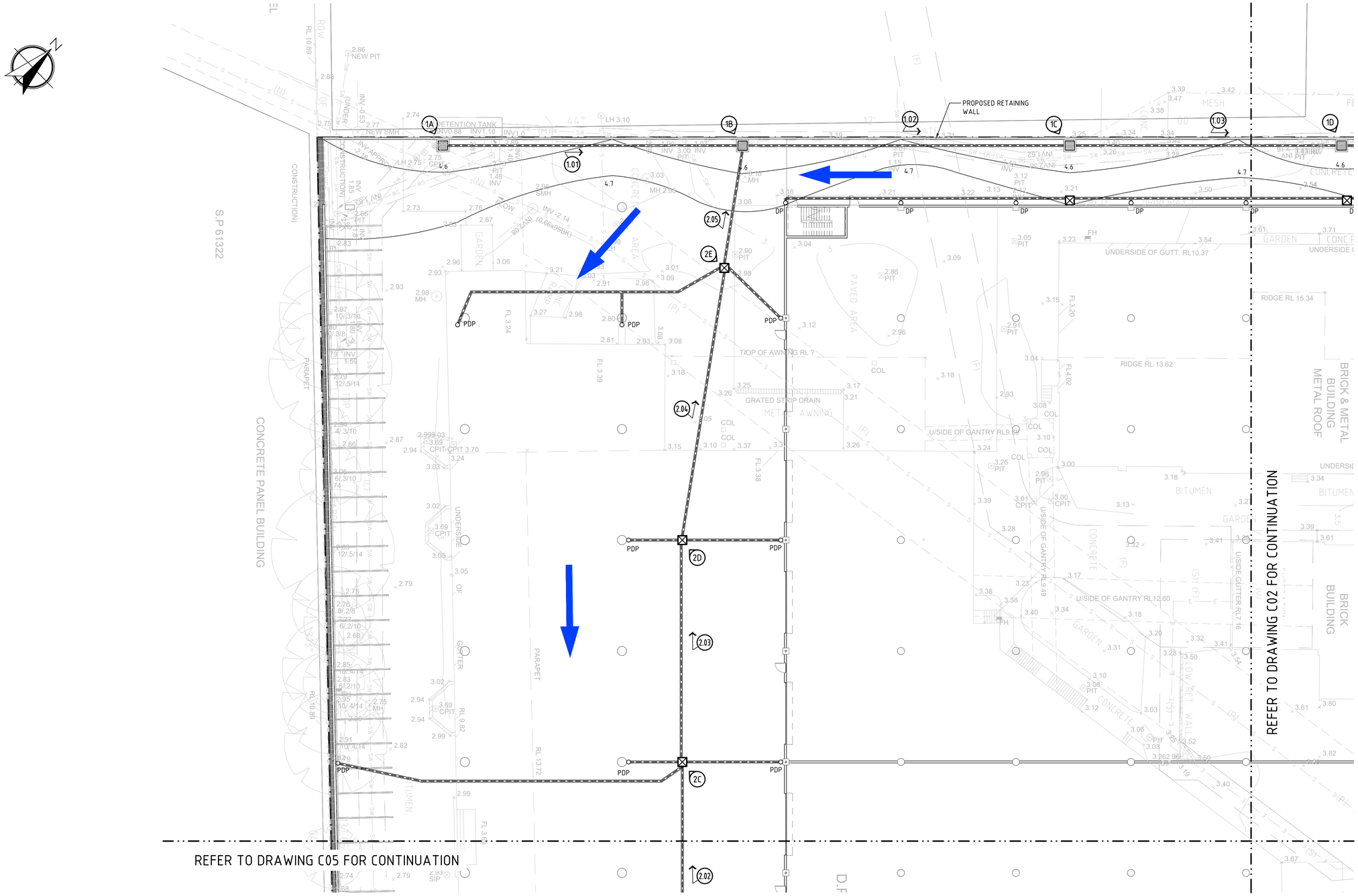
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER PLAN
GROUND LEVEL - PART B

DATE:	AUGUST 2020
SCALE:	1:200 @A1
Project No.	190372
DRG.No.	C03
	REV-C



4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

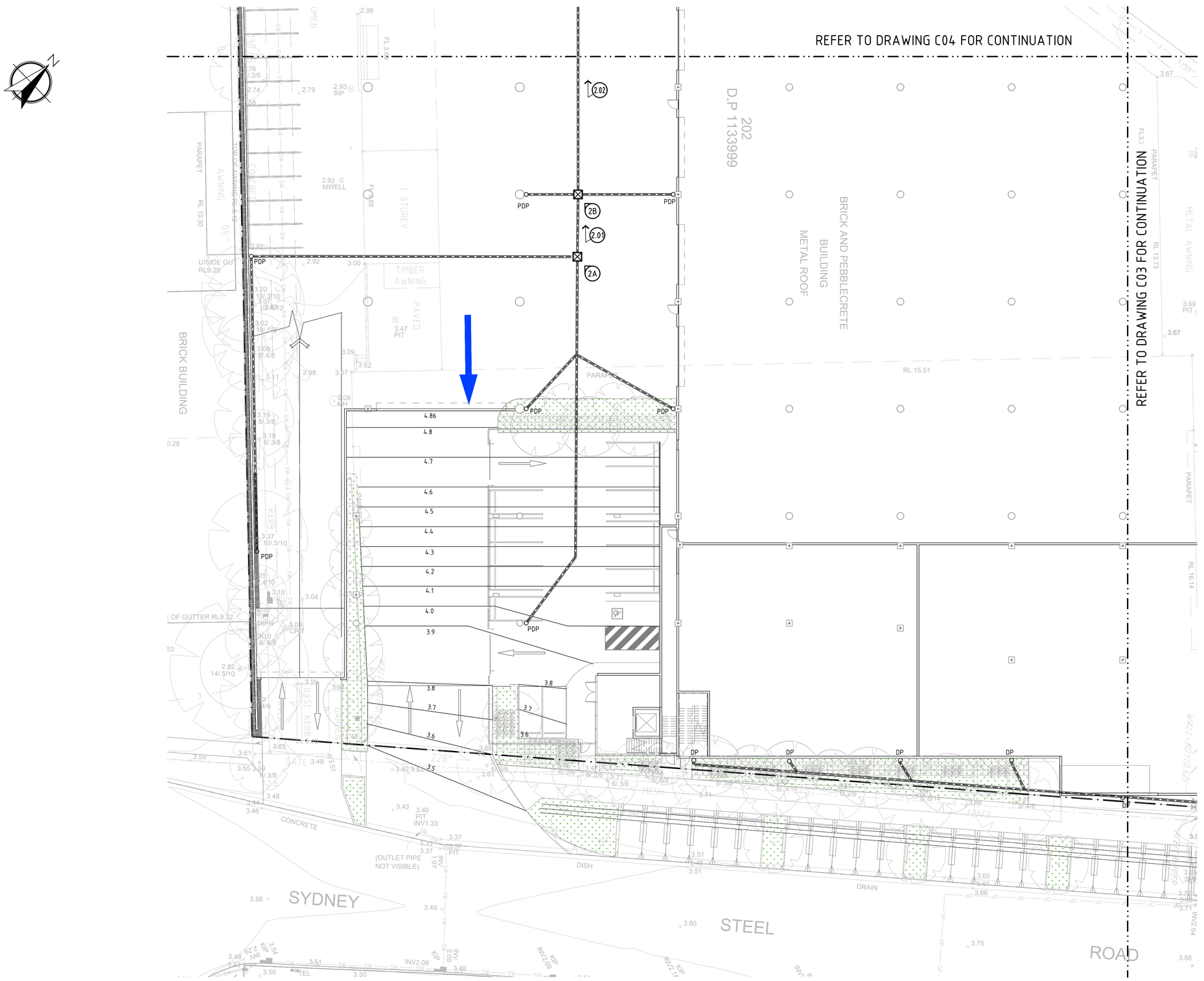
CLIENT:
WOOLWORTHS

Richmond + Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER PLAN
GROUND LEVEL - PART C

DATE:	AUGUST 2020
SCALE:	1:200 @A1
Project No.	190372

DRG.No. C04 REV-C



LEGEND

- SITE BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORMWATER DRAIN
- PROPOSED INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED STORMWATER DRAIN
- PROPOSED RETAINING WALL WITH CRASH BARRIER AS REQUIRED
- PDP — PAVEMENT DRAINAGE FROM UPPER LEVEL
- DP — ROOF DRAINAGE
- I/O — INSPECTION OPENING
- OVERLAND FLOW PATHS FOR GREATER THAN DESIGN STORM

4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond + Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER PLAN GROUND LEVEL - PART D

DATE:	AUGUST 2020	DRG.No.
SCALE:	1:200 @A1	C05
Project No.	190372	REV-C

LEGEND

*	SLAB PIT WITH DOWNPIPE

10000 5000 0 10000 20000 30000 40000 50000

SCALE 1 : 500

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

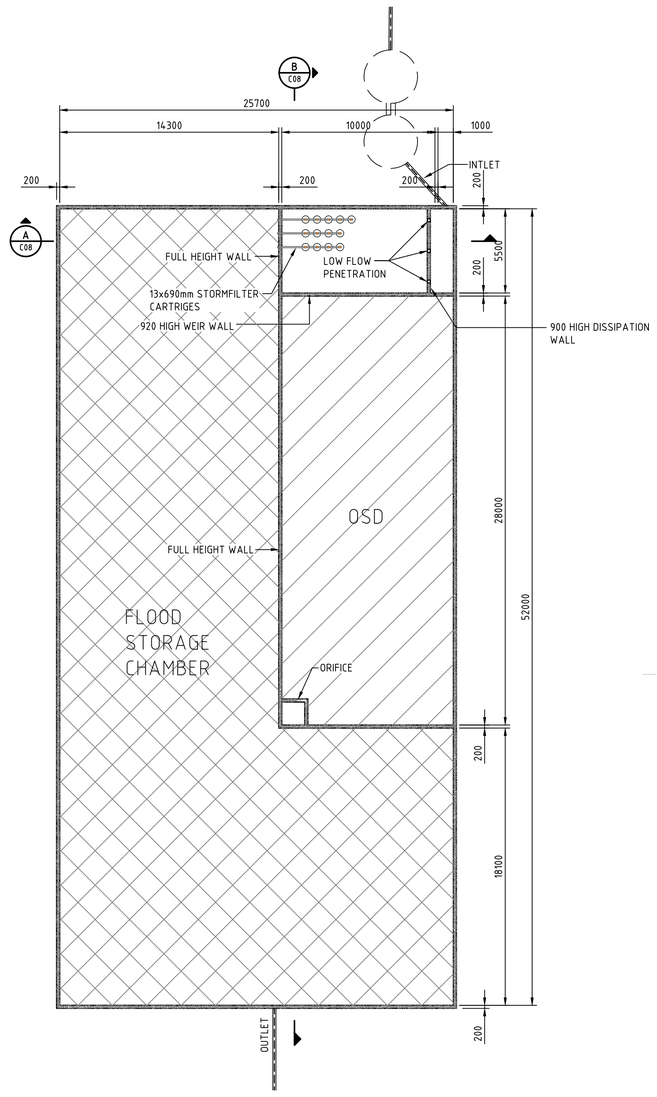
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER PLAN
ROOF LEVEL

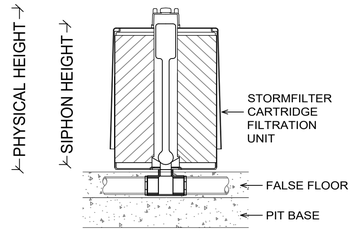
DATE:	AUGUST 2020	DRG.No.
SCALE:	1:500 @A1	C06
Project No.	190372	REV-C



STORMFILTER DESIGN TABLE

- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CERTIFYING ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 178mm.

CARTRIDGE NAME / SIPHON HEIGHT (mm)	690	460	310
CARTRIDGE PHYSICAL HEIGHT (mm)	840	600	600
TYPICAL WEIR HEIGHT [**H**] (mm)	920	690	540
CARTRIDGE FLOW RATE FOR ZPG MEDIA (L/s)	1.6	1.1	0.7
CARTRIDGE FLOW RATE FOR PSORB MEDIA (L/s)	0.9	0.46	0.39



STORMFILTER CARTRIDGE DETAIL

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	[ ]
NUMBER OF CARTRIDGES REQ'D	[ ]
SIPHON HEIGHT (310 / 460 / 690)	[ ]
MEDIA TYPE (ZPG / PSORB)	[ ]
WATER QUALITY FLOW RATE (L/S)	[ ]

DIMENSION A	[ ]
DIMENSION B	[ ]

TOTAL CARTRIDGE BAY AREA (A x B) TO MATCH AREA REQUIRED BY MUSIC MODELLING OR COUNCIL SPECIFIC REQUIREMENTS

GENERAL NOTES

1. INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
2. A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
3. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
4. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
5. THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
6. CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
8. DRAWINGS NOT TO SCALE.

INSTALLATION NOTES

1. UNDERDRAIN AND FALSE FLOOR INSTALLED BY OCEAN PROTECT.

OCEAN PROTECT
PHONE: 1300 354 722 www.oceanprotect.com.au

OCEAN PROTECT
STORMFILTER SYSTEM
DETENTION TANK ARRANGEMENT
SPECIFICATION DRAWING

2000 1000 0 2000 4000 6000 8000 10000
SCALE 1 : 100

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	13.08.20	MA
B	APPROVAL ISSUE	21.08.20	MA
C	APPROVAL ISSUE	31.08.20	MA
D	APPROVAL ISSUE	09.02.20	MA

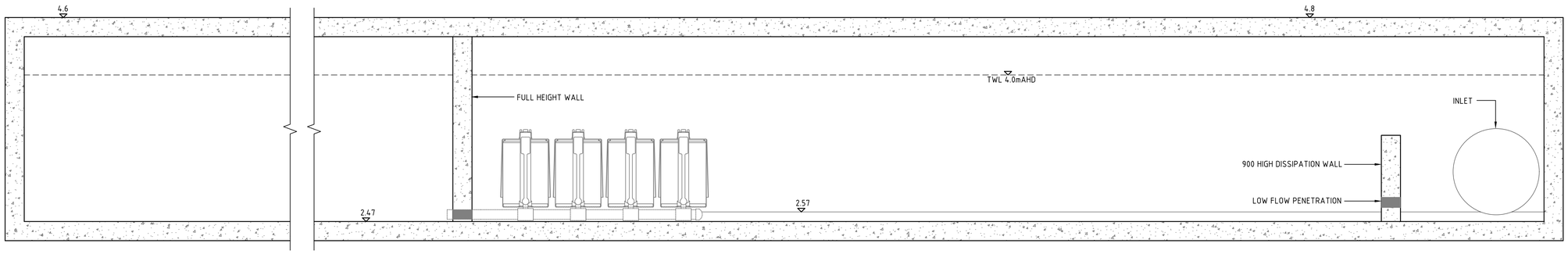
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

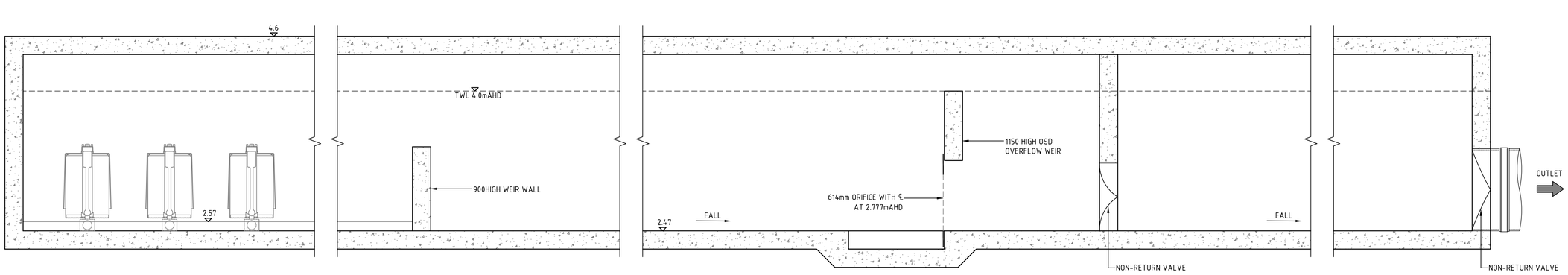
Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

OSD PLAN

DATE: AUGUST 2020
SCALE: AS SHOWN @A1
Project No. 190372
DRG.No. C07 REV-D



A SECTION
SCALE 1:25



B SECTION
SCALE 1:25

1000 500 0 1000 2000 3000 4000 5000
SCALE 1 : 50

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	31.08.20	MA
C	APPROVAL ISSUE	09.02.20	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

OSD SECTIONS

DATE:	AUGUST 2020	DRG.No.
SCALE:	AS SHOWN @A1	C08
Project No.	190372	REV-C

STORMWATER RUNOFF CALCULATIONS

USING FORMULA Q = 0.000278 CAI
WHERE Q = DISCHARGE IN LITRES PER SECOND
C = A RUNOFF COEFFICIENT (SEE TABLE)
A = CATCHMENT AREA IN SQ.M.
I = RAINFALL INTENSITY IN MILLIMETRES PER HOUR
$^{100}I_5$ = 236 MM/HR FOR 100 YEAR RETURN PERIOD

LINE	CATCHMENT AREA (SQM) (OVERLAND FLOWS)			FLOW INTO LINE FROM CATCHMENT (L/S)			TOTAL FLOW (L/S)	MINIMUM PIPE REQUIREMENT		
	ROOF	PAVE'T	L'SCAPE	ROOF	PAVE'T	L'SCAPE		SIZE (ØMM)	GRADE (V:H)	CAPACITY (L/S)
1.01		175			10.33		10.33	150	1:51	33.24
1.02		200			11.81		451.12	600	1:194	494.60
1.03		190			11.22		462.34	600	1:196	491.54
1.04		260			15.35		477.69	600	1:200	486.75
1.05							477.69	600	1:192	497.30
1.06		380			22.44		500.13	675	1:186	688.34
1.07		550			32.48		532.61	675	1:188	685.03
1.08	6950			455.98			1624.55	900	1:150	1629.24
1.09							1624.55	900	1:133	1728.57
1.10							1624.55			
1.11							1624.55			
1.12							1624.55			
2.01		3030			178.91		178.91	450	1:167	250.48
2.02		1155			68.20		247.11	450	1:167	250.48
2.03		1210			71.45		318.56	525	1:175	366.57
2.04		1320			77.94		396.50	525	1:130	425.75
2.05		550			32.48		428.98	600	1:183	508.56
3.01	8600			564.23			564.23	600	1:100	689.89
3.02		805			47.53		611.76	600	1:100	689.89
3.03		410			24.21		635.97	600	1:100	689.89

LINE SCHEDULE

TAG	UPSTREAM INVERT	SIZE	MATERIAL	LENGTH (m)	GRADE (ACTUAL)	DOWNSTREAM INVERT	NOTES
1.01	4.050	150	uPVC	28.0	1:51	3.500	
1.02	3.480	600	RCP	31.0	1:194	3.320	
1.03	3.300	600	RCP	25.5	1:196	3.170	
1.04	3.150	600	RCP	26.0	1:200	3.020	
1.05	3.000	600	RCP	23.0	1:192	2.880	
1.06	2.860	675	RCP	13.0	1:186	2.790	
1.07	2.770	675	RCP	15.0	1:188	2.690	
1.08	2.670	900	RCP	3.0	1:150	2.650	
1.09	2.570	900	RCP	4.0	1:133	2.540	
1.10	2.530	900	RCP	21.0	1:525	2.490	
1.11	2.470	900	RCP	24.0	1:480	2.420	
1.12	2.400	900	RCP	12.0	1:600	2.380	
2.01	4.110	450	RCP	5.0	1:167	4.080	
2.02	4.060	450	RCP	20.0	1:167	3.940	
2.03	3.920	525	RCP	21.0	1:175	3.800	
2.04	3.780	525	RCP	26.0	1:130	3.580	
2.05	3.560	600	RCP	11.0	1:183	3.500	
3.01	3.900	600	RCP	23.0	1:100	3.670	
3.02	3.650	600	RCP	40.0	1:100	3.250	
3.03	3.230	600	RCP	7.0	1:100	3.160	
4.01	3.850	450x900	RCP	22.0	1:200	3.740	
4.02	3.720	450x900	RCP	26.0	1:200	3.590	

PIT SCHEDULE

TAG	TYPE	SIZE	RL TOP	IL	COVER	NOTES
1.A	INLET	450x450	4.500	4.050	CLASS D GRATE	
1.B	INLET	600x900	4.500	3.480	CLASS D GRATE	
1.C	INLET	600x900	4.500	3.300	CLASS D GRATE	
1.D	INLET	900x900	4.500	3.150	CLASS D GRATE	
1.E	JUNCTION	900x900	4.550	3.000	CLASS D SEALED LID	
1.F	INLET	1200x1200	4.500	2.860	CLASS D GRATE	
1.G	INLET	1200x1200	4.500	2.770	CLASS D GRATE	
1.H	JUNCTION	1200x1200	4.750	2.670	CLASS D SEALED LID	
1.J	HUMECEPTOR	STC 40	4.750	2.570	CLASS D SEALED LID	
1.K	OSD + FLOOD CHAMBER	TBC	4.650	2.530		ACCESS HATCHES TO BE PROVIDED AT THE DETAILED DESIGN STAGE.
1.L	JUNCTION	1200x1200	4.720	2.470		
1.M	INLET	1200x1200	5.100	2.400	CLASS D GRATE	
2.A	JUNCTION	600x600	4.860	4.110	CLASS D SEALED LID	
2.B	JUNCTION	600x600	4.860	4.060	CLASS D SEALED LID	
2.C	JUNCTION	600x900	4.860	3.920	CLASS D SEALED LID	
2.D	JUNCTION	600x900	4.860	3.780	CLASS D SEALED LID	
2.E	JUNCTION	900x900	4.860	3.560	CLASS D SEALED LID	
3.A	JUNCTION	600x900	4.950	3.900	CLASS D SEALED LID	
3.B	JUNCTION	900x900	4.950	3.650	CLASS D SEALED LID	
3.C	JUNCTION	900x900	4.950	3.230	CLASS D SEALED LID	
4.A	KERB INLET PIT	1200X1200 WITH 2.4M LINTEL	4.300	3.850	CLASS D GRATE	
4.B	JUNCTION	900x900	4.520	3.720	CLASS D SEALED LID	

STORMWATER DISPOSAL PHILOSOPHY

1. COLLECT ALL SITE RUNOFF FROM SURFACE GRADES, SUMPS AND UNDERGROUND DRAINS PRIOR TO DISCHARGE TO EXISTING OUTFALL.

2. ROOF RUNOFF TO BE DIRECTED INTO SITE STORMWATER SYSTEM.

3. UNDERCANOPY RUNOFF TO BE COLLECTED SEPARATELY AND DIRECTED TO CPS UNIT PRIOR TO DISCHARGE TO SYSTEM. SYSTEM APPROVAL TO BE OBTAINED FROM RELEVANT AUTHORITY.

4. ON-SITE UNDERGROUND DRAINAGE HAS BEEN DESIGNED FOR 1 IN 100 YEAR FLOWS, TO CONNECT INTO COUNCIL SYSTEM VIA EXISTING OUTFALL.

GENERAL NOTES

1. FIT STEP IRONS TO PITS DEEPER THAN 1000 EXCLUDING CPS PIT.

2. ALL GRATES TO BE WELDED CONSTRUCTION SUPPLIED COMPLETE WITH H.D. BOLTS AND FRAMES. PROVIDE FLATTENED EXPANDED METAL TO ALL GRATES

3. ALL PIT COVERS & GRATES TO BE SECURELY BOLTED DOWN.

4. ALL UPVC PIPES TO HAVE SOLVENT WELDED JOINTS.

STORMWATER NOTES

1. THIS IS A STORMWATER DRAINAGE PLAN ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT INFORMATION.

2. ALL DRAINAGE LAYOUTS, LEVELS & DETAILS ARE DIAGRAMMATIC AND INDICATIVE ONLY.

3. DRAINAGE LAYOUTS SHOWN ARE DIAGRAMMATIC ONLY. NOTE ONLY MAJOR LINES ARE SHOWN.

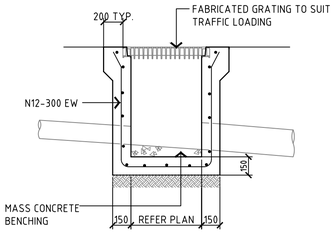
4. ALL PIPES TO BE 150 DIA UPVC LAID AT 1.0% MIN GRADE. UPVC PIPES TO BE SOLVENT WELDED JOINTS U.N.O.

5. ALL PITS AND COVERS TO PROPRIETARY PRECAST ITEMS, COVER LEVELS TO MATCH SURFACE. ALL PITS IN ROADWAYS TO BE TO CURRENT RTA REQUIREMENTS.

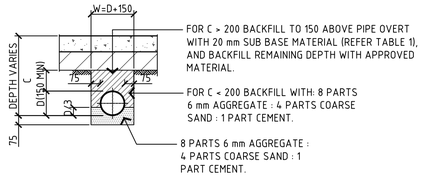
6. ALL GRATED DRAINS TO HAVE BASE GRADED 1.0% MIN WITH HEEL GUARD TYPE GRATES.

7. IT IS THE BUILDERS RESPONSIBILITY TO LAY ALL PIPES IN ACCORDANCE WITH ALL RELEVANT AUTHORITY REQUIREMENTS (EG. COUNCIL, EPA, SYDNEY WATER).

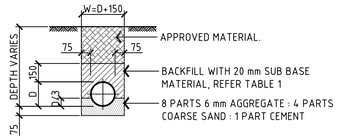
8. FIT STEP IRONS TO PITS DEEPER THAN 1000 EXCLUDING CPS PITS



TYPICAL CONCRETE STORMWATER DRAINAGE PIT
SCALE 1:25



STORMWATER PIPE BEDDING DETAIL UNDER PAVEMENT
SCALE 1:25



STORMWATER PIPE BEDDING DETAIL UNDER GROUND
SCALE 1:25

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	31.08.20	MA
C	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

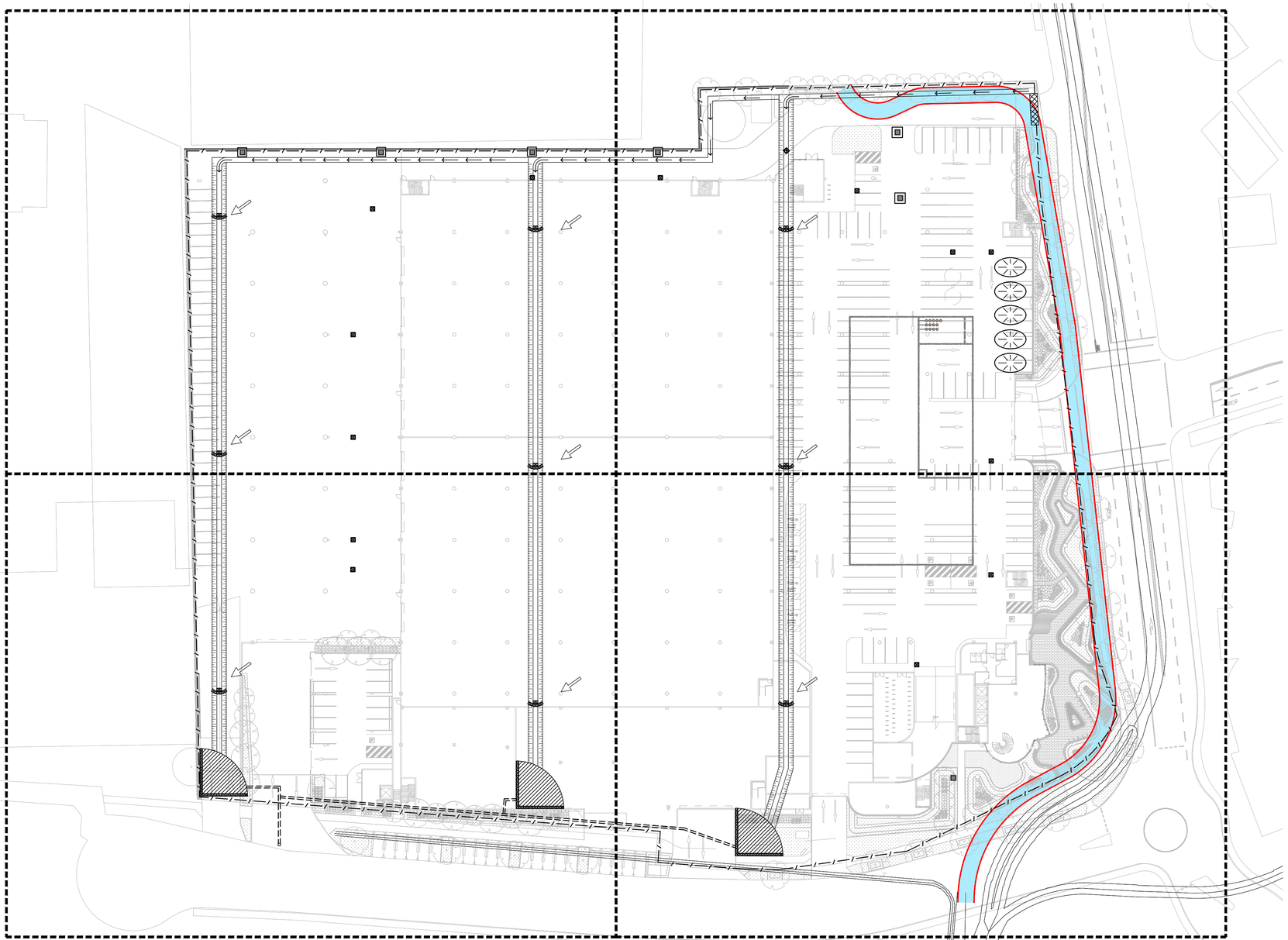
Richmond + Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

STORMWATER SCHEDULE AND DETAILS

DATE: AUGUST 2020
SCALE: 1:25 @A1
Project No. 190372
DRG.No. C09 REV-C

PART C - REFER DRAWING C14

PART A - REFER DRAWING C12



PART D - REFER DRAWING C15

PART B - REFER DRAWING C13

LEGEND:

- SEDIMENT FENCE
- SEDIMENT TRAP
- G GRAVEL BAG
- CONSTRUCTION ENTRY/EXIT
- HAY BALE FENCE/WALL (TYP. 2 BALES WIDE)
- HAY BALE SILT RETENTION DAM
- STOCK PILE LOCATION
- CATCH DRAIN
- TEMPORARY PUMP OUT LINE
- OVERLAND FLOW PATH
- PROPOSED HAY BALE FILTER
- EARTH BANK

EROSION AND SEDIMENTATION CONTROL NOTES

1. BUILDER SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE BOUNDARIES. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG.HUMES PROPEX SILT STOP) STANDING 300 ABOVE GROUND AND EXTENDING 150 BELOW GROUND.

2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.

3. NO PARKING OR STOCKPILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.

4. GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.

5. ROOF DRAINAGE, IF APPLICABLE, IS TO BE CONNECTED TO THE STORMWATER SYSTEM AS SOON AS PRACTICAL.

6. BUILDER SHALL CHECK ALL EROSION AND SEDIMENT CONTROL MEASURES EVERYDAY THERE IS ACTIVITY ON SITE AND AFTER EVERY STORM EVENT.

7. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED BEFORE COMMENCEMENT OF WORKS. DISTURBED SURFACES ARE TO BE TREATED AS DETAILED WITH LINING INSTALLED AS SPECIFIED IN DETAIL

10000 5000 0 10000 20000 30000 40000 50000

SCALE 1 : 500

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	09.02.21	MA

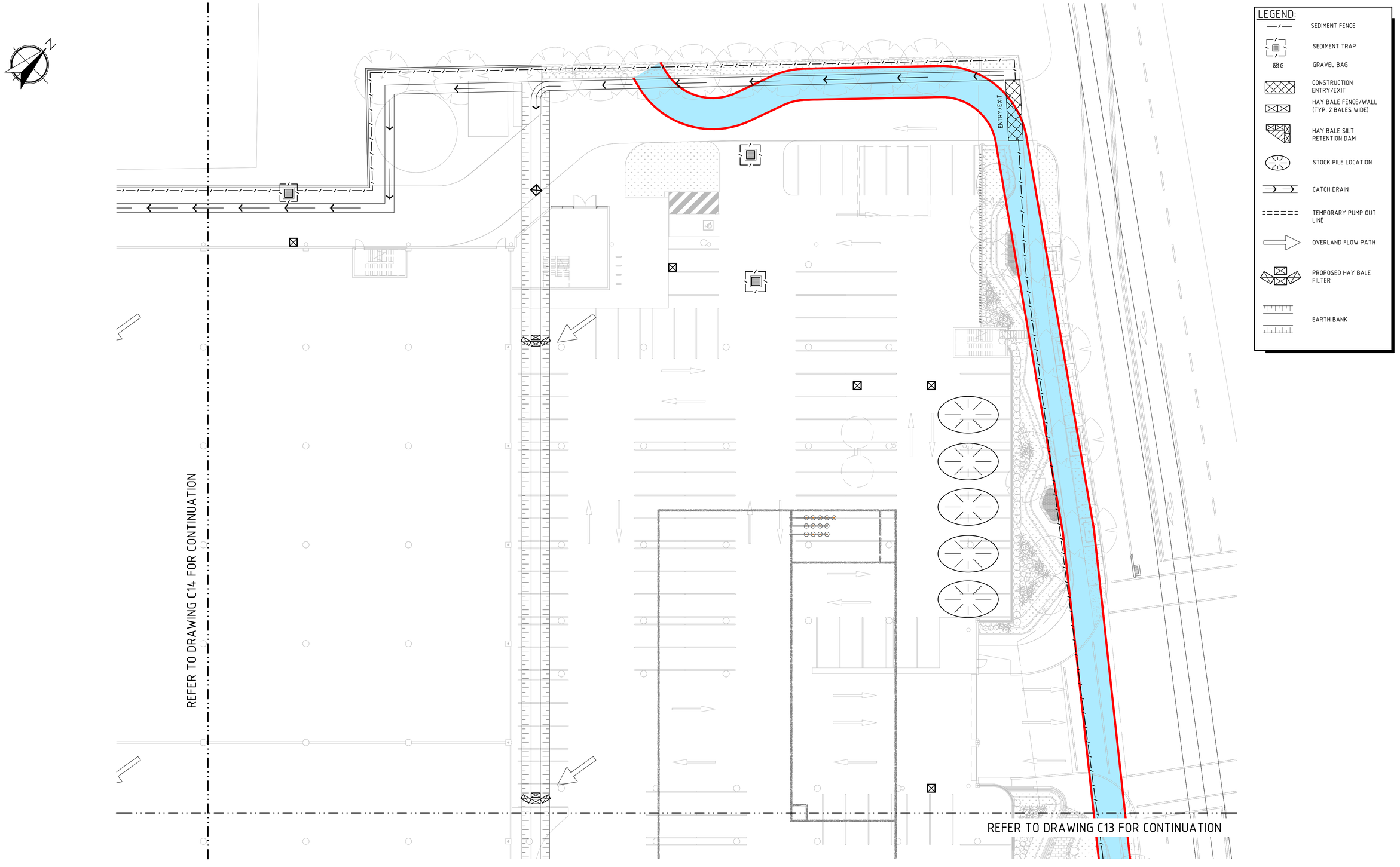
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

OVERALL EROSION AND SEDIMENT CONTROL PLAN

DATE:	AUGUST 2020	DRG.No.
SCALE:	1:500 @A1	C11
Project No.	190372	REV-B



4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	09.02.21	MA

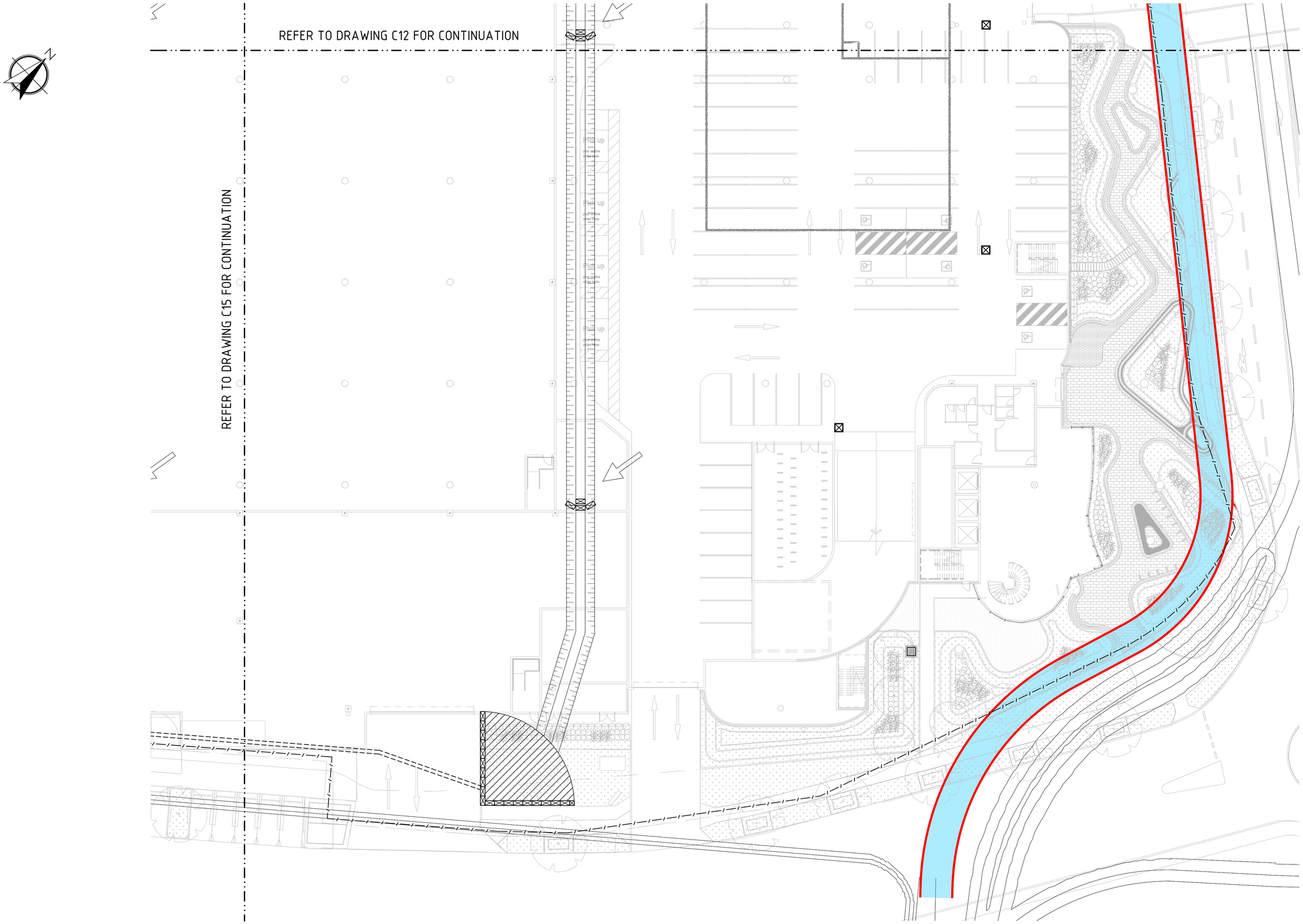
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

EROSION AND SEDIMENT CONTROL PLAN - PART A

DATE:	AUGUST 2020	DRG.No.
SCALE:	1:200 @A1	C12
Project No.	190372	REV-B



4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

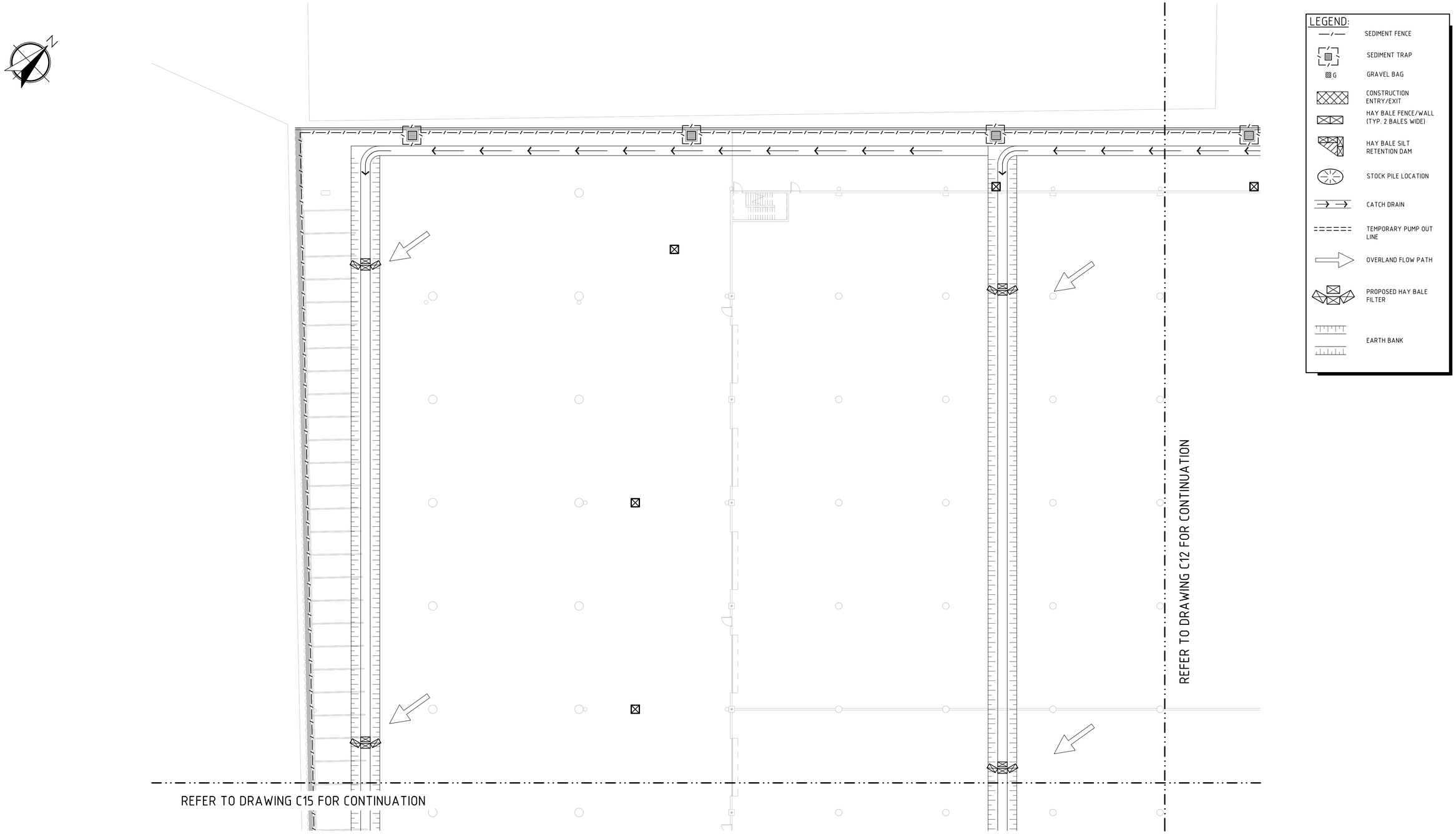
CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

EROSION AND SEDIMENT CONTROL PLAN - PART B

DATE:	AUGUST 2020
SCALE:	1:200 @A1
Project No.	190372

DRG.No. C13 REV-B



LEGEND:

- SEDIMENT FENCE
- SEDIMENT TRAP
- G GRAVEL BAG
- CONSTRUCTION ENTRY/EXIT
- HAY BALE FENCE/WALL (TYP. 2 BALES WIDE)
- HAY BALE SILT RETENTION DAM
- STOCK PILE LOCATION
- CATCH DRAIN
- TEMPORARY PUMP OUT LINE
- OVERLAND FLOW PATH
- PROPOSED HAY BALE FILTER
- EARTH BANK

4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

EROSION AND SEDIMENT CONTROL PLAN - PART C

DATE:	AUGUST 2020
SCALE:	1:200 @A1
Project No.	190372

DRG.No. C14 REV-B

REFER TO DRAWING C14 FOR CONTINUATION

REFER TO DRAWING C13 FOR CONTINUATION

LEGEND:

- SEDIMENT FENCE
- SEDIMENT TRAP
- G GRAVEL BAG
- CONSTRUCTION ENTRY/EXIT
- HAY BALE FENCE/WALL (TYP. 2 BALES WIDE)
- HAY BALE SILT RETENTION DAM
- STOCK PILE LOCATION
- CATCH DRAIN
- TEMPORARY PUMP OUT LINE
- OVERLAND FLOW PATH
- PROPOSED HAY BALE FILTER
- EARTH BANK

4000 2000 0 4000 8000 12000 16000 20000

SCALE 1 : 200

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	21.08.20	MA
B	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

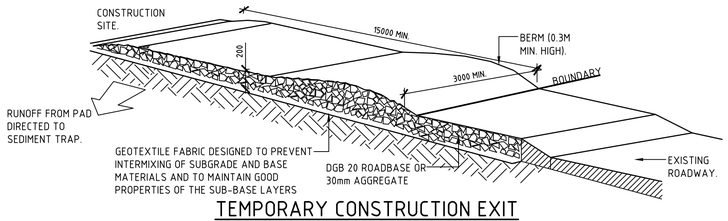
CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

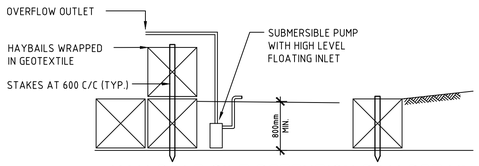
EROSION AND SEDIMENT CONTROL PLAN - PART D

DATE:	AUGUST 2020
SCALE:	1:200 @A1
Project No.	190372

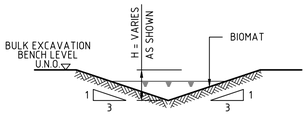
DRG.No. C15 REV-B



TEMPORARY CONSTRUCTION EXIT

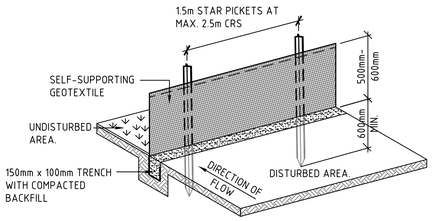


HAY BALE SILT RETENTION DAM DETAIL

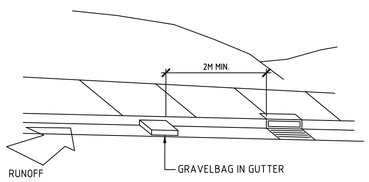


PERMANENT "VEE" DRAIN

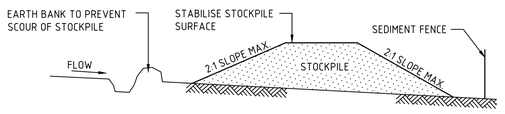
MIN GRADE 1%



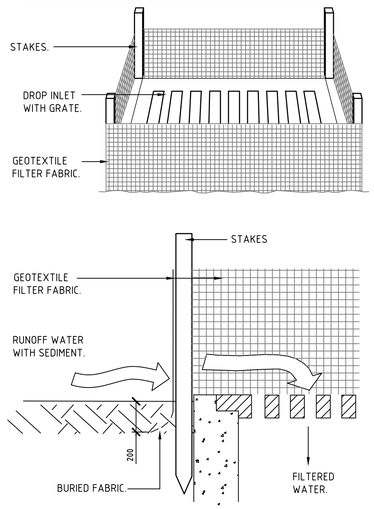
SEDIMENT FENCE



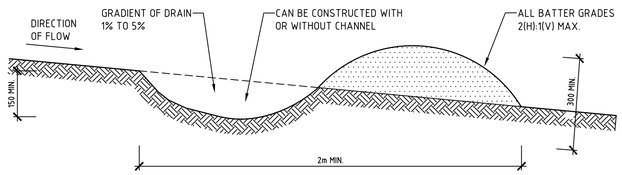
GRAVELBAG KERB SEDIMENT TRAP



BUILDING MATERIAL STOCKPILES



SEDIMENT TRAP TO STORMWATER SUMP



NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UNSLOPE LENGTH IS 80 METRES.

CATCH DRAIN

PRELIMINARY ISSUE

REV No.	COMMENTS	DATE	INIT.
A	PRELIMINARY ISSUE	xx.08.20	MA

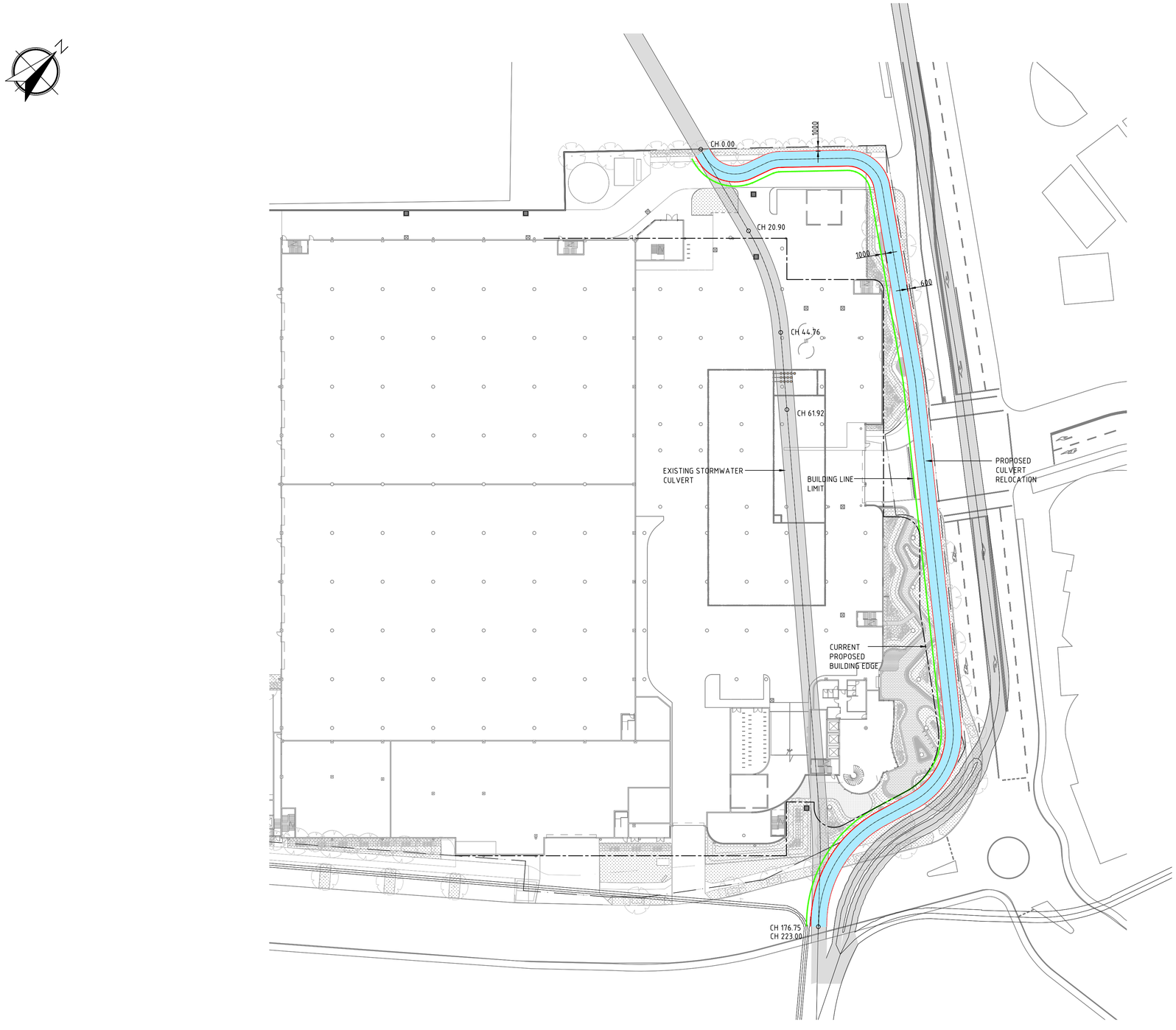
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

EROSION AND SEDIMENT CONTROL DETAILS

DATE:	AUGUST 2020	DRG.No. C16 REV-A
SCALE:	1:200 @A1	
Project No.	190372	



LEGEND

- EXISTING STORMWATER CULVERT
- PROPOSED STORMWATER CULVERT
- BUILDING LINE LIMIT (1m FROM OUTSIDE FACE OF CULVERT
- CURRENT PROPOSED BUILDING LIMIT

NOTE:

DETAILS OF EXISTING CULVERT BASED ON PUBLICLY PUBLISHED INFORMATION.

10000 5000 0 10000 20000 30000 40000 50000

SCALE 1 : 500

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	09.02.21	MA

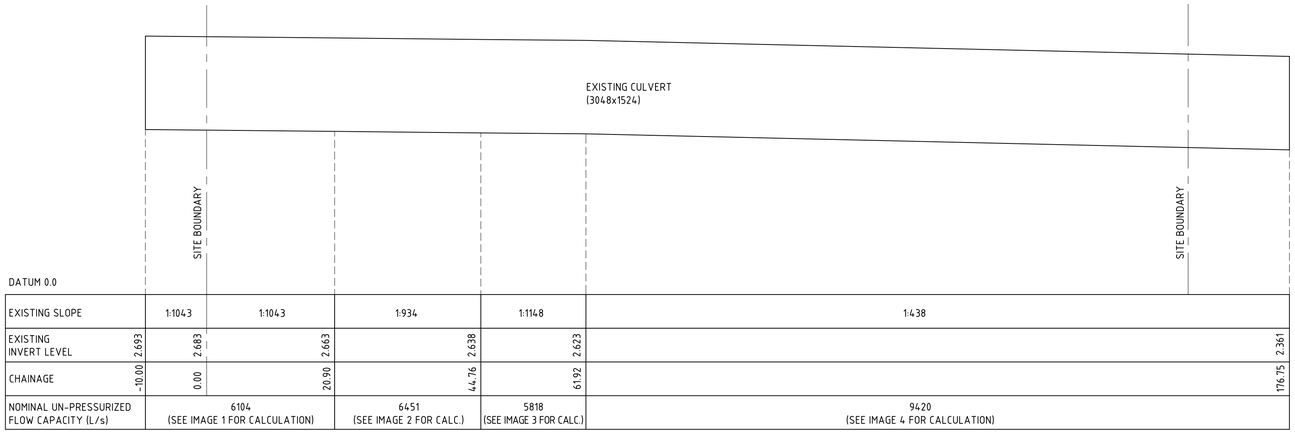
PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

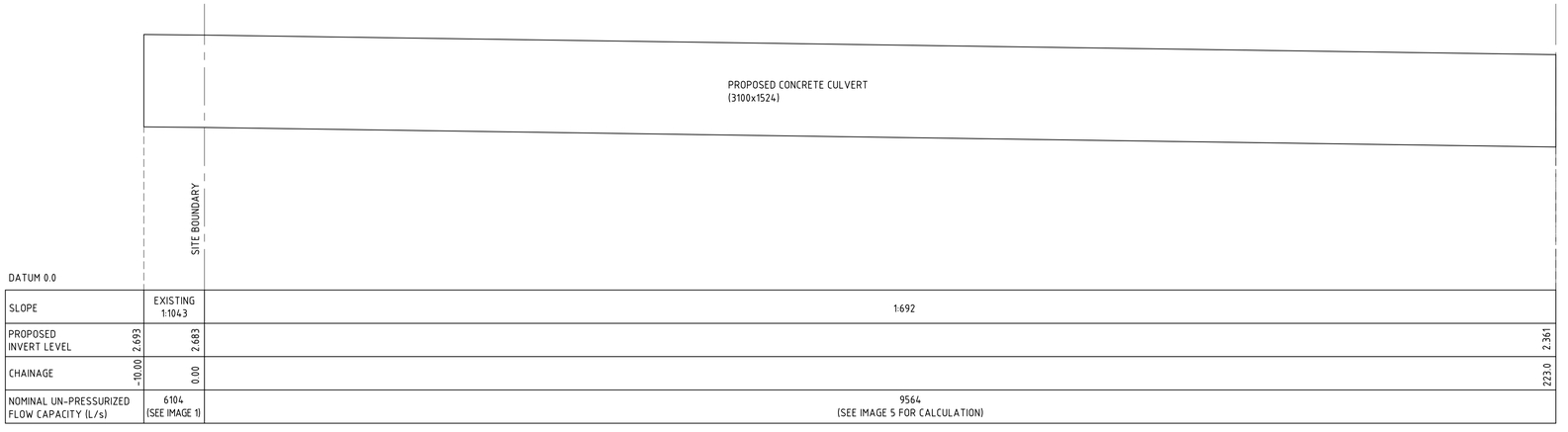
PROPOSED CULVERT RELOCATION

DATE:	AUGUST 2020	DRG.No.
SCALE:	1:500 @A1	C20
Project No.	190372	REV-A



01 – EXISTING CULVERT LONG SECTION
SCALE 1:500H, 1:50V

NOTE:
DETAILS OF EXISTING CULVERT BASED ON PUBLICLY PUBLISHED INFORMATION.



02 – PROPOSED CULVERT LONG SECTION
SCALE 1:500H, 1:50V

Flow capacity calculator (Closed triangular,trapezoid,rectangular channel)
Uses Manning's formula

Depth		1.524m
Bottom width		3.048m
Right edge slope	1V:	0.0H
Left edge slope	1V:	0.0H
Top width		3.048m
Mannings n		0.015
Channel bed slope	1V:	1043.0H
Area, A		4.645m²
Wetted Perimeter, W_p		9.144m
Hydraulic Radius, R_h		0.508m
Flow velocity, V		**1.314m/s**
Flow rate, Q		**6104.859L/s**

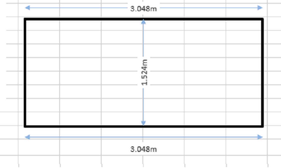


IMAGE 1

Flow capacity calculator (Closed triangular,trapezoid,rectangular channel)
Uses Manning's formula

Depth		1.524m
Bottom width		3.048m
Right edge slope	1V:	0.0H
Left edge slope	1V:	0.0H
Top width		3.048m
Mannings n		0.015
Channel bed slope	1V:	934.0H
Area, A		4.645m²
Wetted Perimeter, W_p		9.144m
Hydraulic Radius, R_h		0.508m
Flow velocity, V		**1.389m/s**
Flow rate, Q		**6451.257L/s**

IMAGE 2

Flow capacity calculator (Closed triangular,trapezoid,rectangular channel)
Uses Manning's formula

Depth		1.524m
Bottom width		3.048m
Right edge slope	1V:	0.0H
Left edge slope	1V:	0.0H
Top width		3.048m
Mannings n		0.015
Channel bed slope	1V:	1148.0H
Area, A		4.645m²
Wetted Perimeter, W_p		9.144m
Hydraulic Radius, R_h		0.508m
Flow velocity, V		**1.253m/s**
Flow rate, Q		**5818.980L/s**

IMAGE 3

Flow capacity calculator (Closed triangular,trapezoid,rectangular channel)
Uses Manning's formula

Depth		1.524m
Bottom width		3.048m
Right edge slope	1V:	0.0H
Left edge slope	1V:	0.0H
Top width		3.048m
Mannings n		0.015
Channel bed slope	1V:	438.0H
Area, A		4.645m²
Wetted Perimeter, W_p		9.144m
Hydraulic Radius, R_h		0.508m
Flow velocity, V		**2.028m/s**
Flow rate, Q		**9420.648L/s**

IMAGE 4

Flow capacity calculator (Closed triangular,trapezoid,rectangular channel)
Uses Manning's formula

Depth		1.524m
Bottom width		3.100m
Right edge slope	1V:	0.0H
Left edge slope	1V:	0.0H
Top width		3.100m
Mannings n		0.012
Channel bed slope	1V:	692.0H
Area, A		4.724m²
Wetted Perimeter, W_p		9.248m
Hydraulic Radius, R_h		0.511m
Flow velocity, V		**2.024m/s**
Flow rate, Q		**9564.118L/s**

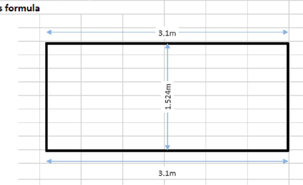


IMAGE 5

10000 5000 0 10000 20000 30000 40000 50000
SCALE 1 : 500

APPROVAL ISSUE

REV No.	COMMENTS	DATE	INIT.
A	APPROVAL ISSUE	09.02.21	MA

PROJECT:
WOOLWORTHS MARRICKVILLE
74 EDINBURGH ROAD,
MARRICKVILLE, NSW 2204

CLIENT:
WOOLWORTHS

Richmond+Ross PTY LIMITED
CONSULTING ENGINEERS
ABN 34 001 485 436
38 WILLOUGHBY ROAD,
CROWS NEST, NSW 2065
TEL : (02) 9490 9600
FAX : (02) 9438 1224

CULVERT LONG SECTION

DATE:	AUGUST 2020	DRG.No.
SCALE:	1:500 @A1	C21
Project No.	190372	REV-A