

PROPOSED RESIDENTIAL DEVELOPMENT

14-18 BOONDAH ROAD

WARRIEWOOD

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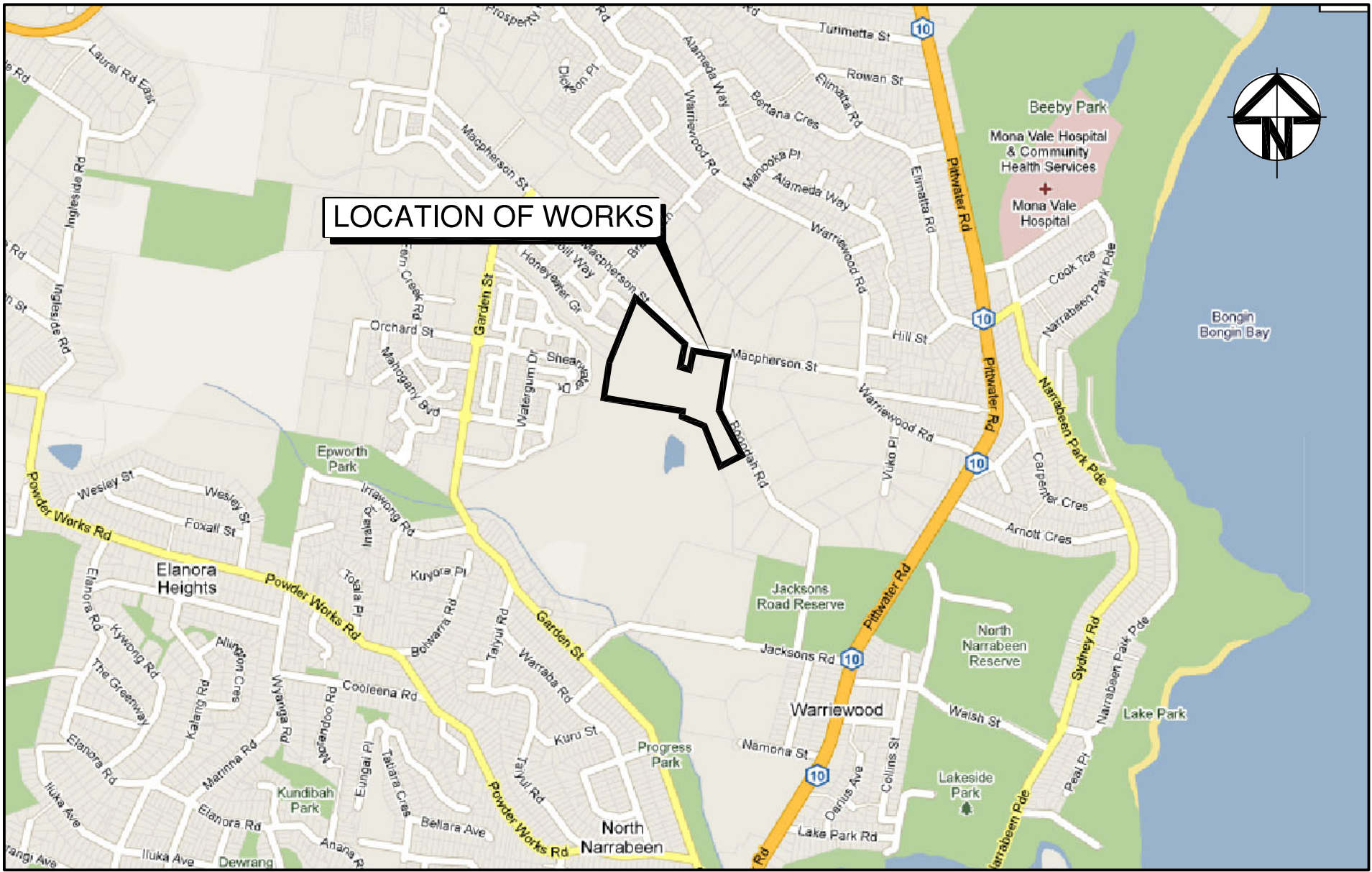
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LOCALITY PLAN

N.T.S

SECTION 75w - MODIFICATION

TO PROJECT APPROVAL (MP10_0177)

COUNCIL APPROVAL REFERS TO EXTERNAL WORKS ONLY

			THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client MERITON APARTMENTS PTY LTD	Scales NTS	Drawn	TS	Project PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD	 <div>Civil Engineers and Project Managers Suite 702, 6A Glen Street Milsons Point NSW 2061 ABN 96 130 882 405 Tel: 02 8920 2466 Fax: 02 9922 5102 www.atl.net.au info@atl.net.au</div>	
						Designed	TS			
						Grid	Checked			MM
						Height Datum	AHD			Approved
				Scale Bar				Title COVER SHEET	Status FOR APPROVAL	A1
A	ISSUED FOR APPROVAL	20/12/11								
Issue	Description	Date						Drawing No. 75W C201	Project No. 10-23	Issue A

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS 1289 5.7.1.
4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:
- | LOCATION | STANDARD DRY DENSITY (AS 1289 5.1.1) |
|---|--------------------------------------|
| UNDER BUILDING SLABS ON GROUND | 98% |
| UNDER ROADS AND CARPARKS | 98% |
| LANDSCAPED AREAS UNLESS NOTED OTHERWISE | 98% |
5. FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
6. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
7. FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN :- (A) 1 TEST PER 200m² OF FILL PLACED PER 300mm LAYER OF FILL. (B) 3 TESTS PER VISIT (C) 1 TEST PER 1000m² OF EXPOSED SUBGRADE TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798 (1996).
8. FILLING TO BE PLACED AND COMPACTED IN MAXIMUM 150mm LAYERS
9. NO FILLING SHALL TAKE PLACE TO EXPOSE SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF AT & L AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

EMBANKMENT CONSTRUCTION SEQUENCE

1. STRIP VEGETATION AND TOPSOIL FROM EMBANKMENT AREA AND STOCKPILE TOPSOIL FOR LATER USE. CUT BACK AREA TO FIRM GROUND.
2. CONSTRUCT EMBANKMENT IN PRESENCE OF QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IF NOT ROCK.
3. IN THE CASE WHERE THE EMBANKMENT AREAS SLUSH, GROUTING AND DENTAL CONCRETE MAY BE REQUIRED, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
4. COMPACT CLAY STABILIZED WITH GYPSUM (3% BY DRY MASS, MINIMUM) AS APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER INTO THE CUT-OFF TRENCH OF LAYERS NOT EXCEEDING 150mm LOOSE THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289 5.1.1) AND AT A MOISTURE CONTENT OF - 2% TO +2% OF OPTIMUM MOISTURE CONTENT.
5. GYPSUM STABILIZED NATURAL SOILS EXPOSED IN EMBANKMENT AREA WITH MINIMUM 3% GYPSUM BY DRY MASS AND COMPACT AS FOR #4. ALL TO THE APPROVAL OF A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
6. CONSTRUCT BODY OF EMBANKMENT WITH CLAYEY MATERIAL WON FROM SITE. COMPACT THE CLAYEY MATERIAL APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IN LAYERS NOT EXCEEDING 150mm THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289 5.1.1) AND AT A MOISTURE CONTENT OF - 2% TO +2% OF OPTIMUM MOISTURE CONTENT. MOST IMPORTANTLY, IF SHRINKAGE CRACKS OCCUR, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
7. OVERFILL THE EMBANKMENT AND TRIM OFF, SO THAT THE ENTIRE BODY OF THE EMBANKMENT IS COMPACTED.
8. TRIM THE EMBANKMENTS BATTERS TO THE OVERFILLED MATERIAL, STABILIZE THE UPSTREAM CLAY BATTERS WITH WELL MIXED GYPSUM (3% BY DRY MASS, MINIMUM) AND COMPACT TO MIN. 98% STD - 2% TO +2% OMC.
9. PLACE ROCK RIP-RAP AS SHOWN.
10. RECOVER TOPSOIL FROM STOCKPILE AND SPREAD OVER EMBANKMENT AND CUT BATTERS (A THIN COVER OF TOPSOIL ONLY HAS BEEN NOMINATED). ONLY LIGHTLY TRACK-ROLL THE TOPSOIL AND THEN LANDSCAPE IN ACCORDANCE WITH THE LANDSCAPE AREA DRAWINGS.
11. WATER AND FERTILIZE LANDSCAPE AS REQUIRED BY CLIMATIC CONDITIONS TO ENSURE THE LANDSCAPE IS SUCCESSFUL.
12. AT THE COMPLETION OF WORK WRITTEN CONFIRMATION & CERTIFICATION IS TO BE PROVIDED FROM A QUALIFIED & EXPERIENCED GEOTECHNICAL ENGINEER THAT THE EMBANKMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS.

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 (OR A DENSITY INDEX OF NOT LESS THAN 75)
6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO R.T.A. SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051 (UNBOUND), R.T.A. FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF BASECOURSE MATERIAL PLACED.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF SUB-BASE COURSE MATERIAL PLACED.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.T.A. FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
(A) AVERAGE RECURENCE INTERVAL:
1100 YEARS
120 YEARS OR 5% AEP EXTERNAL PAVEMENTS
(B) RAINFALL INTENSITIES:
TIME OF CONCENTRATION: 5 MINUTES
1100 YEARS= 2615 mm/hr
120 YEARS= 206.6 mm/hr
(C) RUNOFF COEFFICIENTS:
ROOF AREAS: C 100 =1.0
EXTERNAL PAVEMENTS: C 20 =1.0
2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE UPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE UPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE UPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
14. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

EROSION AND SEDIMENT CONTROL NOTES:

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
a. LOCAL AUTHORITY REQUIREMENTS
b. EPA REQUIREMENTS
c. MANAGING URBAN STORMWATER - SOIL & CONSTRUCTION VOLUME 1, (2004) LANDCOM
3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.
- LAND DISTURBANCE
6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
(A) INSTALL A WIND FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
(B) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
(C) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
(D) INSTALL SEDIMENT BASIN AS SHOWN ON PLAN
(E) INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
(F) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. STOCKPILES WILL NOT BE LOCATED WITHIN 5 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
- OTHER MATTERS
13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
(A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
(B) ENSURING THAT NOTHING IS NAILED TO THEM
(C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
(i) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
(ii) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
(iii) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

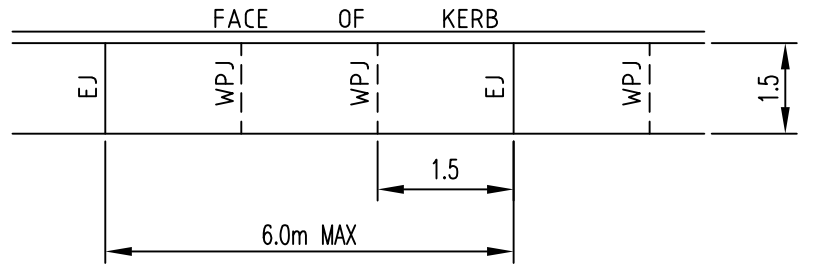
CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS & PITTWATER COUNCIL SPECIFICATIONS
2. CONCRETE QUALITY
ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.
- | ELEMENT | AS 3600 F _{ck} MPa AT 28 DAYS | SPECIFIED SLUMP | NOMINAL AGG. SIZE |
|------------------------|--|-----------------|-------------------|
| VEHICULAR BASE | 32 | 60 | 20 |
| KERBS, PATHS, AND PITS | 25 | 80 | 20 |
- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL SPECIFICATIONS.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304
- NUMBER OF BARS IN GROUP
- 17 N 20 250
- NOMINAL BAR SIZE in mm
- SPACING in mm
- THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:
- 25 MIN
- LAP TWO WIRES

JOINTING NOTES

PEDESTRIAN PAVEMENT JOINTS

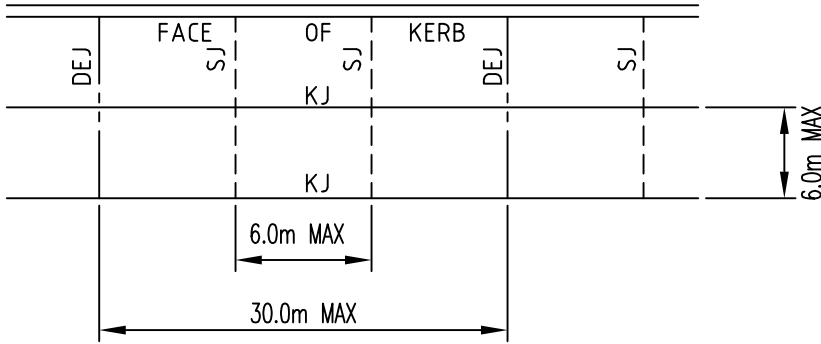
1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
2. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
3. WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 15 x WIDTH OF THE PAVEMENT.
4. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
5. PEDESTRIAN PAVEMENT JOINT DETAIL.



NB: CHECK RELEVANT COUNCIL REQUIREMENTS IF IN PUBLIC ROAD.

VEHICULAR PAVEMENT JOINTS

6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS. (U.N.O)
7. KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES
8. SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 30.0m CENTRES
9. VEHICULAR PAVEMENT JOINT DETAIL.



KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF N25 U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (E.J.) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER -
EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
- EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.
- EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

EXISTING UNDERGROUND SERVICES NOTES

- THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
- AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
- CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
- CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

SURVEY NOTES

- THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY JBW SURVEYORS PTY LTD, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
- SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.
- THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.
1. COPYRIGHT THIS DRAWING AND/OR DESIGN IS THE PROPERTY OF JBW SURVEYORS PTY LTD AND SHOULD NOT BE REPRODUCED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION OF THE COMPANY.
2. RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY, DO NOT SCALE OFF THIS PLAN WHERE OFFSETS ARE CRITICAL. THEY SHOULD BE CONFIRMED BY A FURTHER SURVEY.
- CONTOURS SHOWN DEPICT THE TOPOGRAPHY, EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
3. SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.
4. THE BEARINGS ON THESE PLAN BOUNDARIES ARE FROM LAND TITLES OFFICE PLANS. THEY ARE ON MAGNETIC MERIDIAN. IF ACCURATE, TRUE NORTH IS REQUIRED A FURTHER SURVEY WOULD BE NECESSARY.

WORKS LEGEND

EXISTING

- +18.48
- 19
- PP
- SURFACE LEVEL
CONTOUR
KERB LINE
BATTER
RETAINING WALL
POWER POLE
EASEMENT
FENCE
TREE TO REMAIN
TREE TO BE REMOVED
BOUNDARY TO BE EXTINGUISHED

PROPOSED


- BE 8.35
F22.20
- 23.00
- K&G
- K&T
- KO
- DD
- VC
- PR
- 20.1
- K&I
- JUN
- STW
- GR
- GC
- SS
- FL
- IR
- KJ
- DEJ
- SJ
- DJ
- TCJ
- TE
- EJTE
- WPJ
- B
- 52
- FOR
- PROPOSED BOUNDARY
BULK EARTHWORKS LEVEL
FINISHED PAVEMENT LEVEL
PROPOSED CONTOUR
KERB AND GUTTER
KERB AND TOE
KERB ONLY
DISH DRAIN
VEHICLE CROSSING
PRAM RAMP
STORMWATER PIT WITH GRATE AND LINE
STORMWATER PIT REFERENCE NUMBER
KERB INLET PIT
JUNCTION PIT WITH INFILL
STORMWATER LINE WITH CAP
GRATED DRAIN
GRASS CATCH DRAIN
SUBSOIL DRAINAGE LINE
FLUSHING POINT
INTERMEDIATE RISER
KEYED CONSTRUCTION JOINT
DOWELED EXPANSION JOINT
SAWN JOINT
DOWELED CONSTRUCTION JOINT
TIE CONSTRUCTION JOINT
WEAKENED PLANE JOINT
THICKENED EDGE
THICKENED EDGE WITH EXPANSION JOINT
WEAKENED PLAIN JOINT
BOLLARD
CO-ORDINATE SETOUT POINT
PEDESTRIAN LIGHT POLE
LIGHT POLE
SIGN BOARD
ROAD NAME SIGN

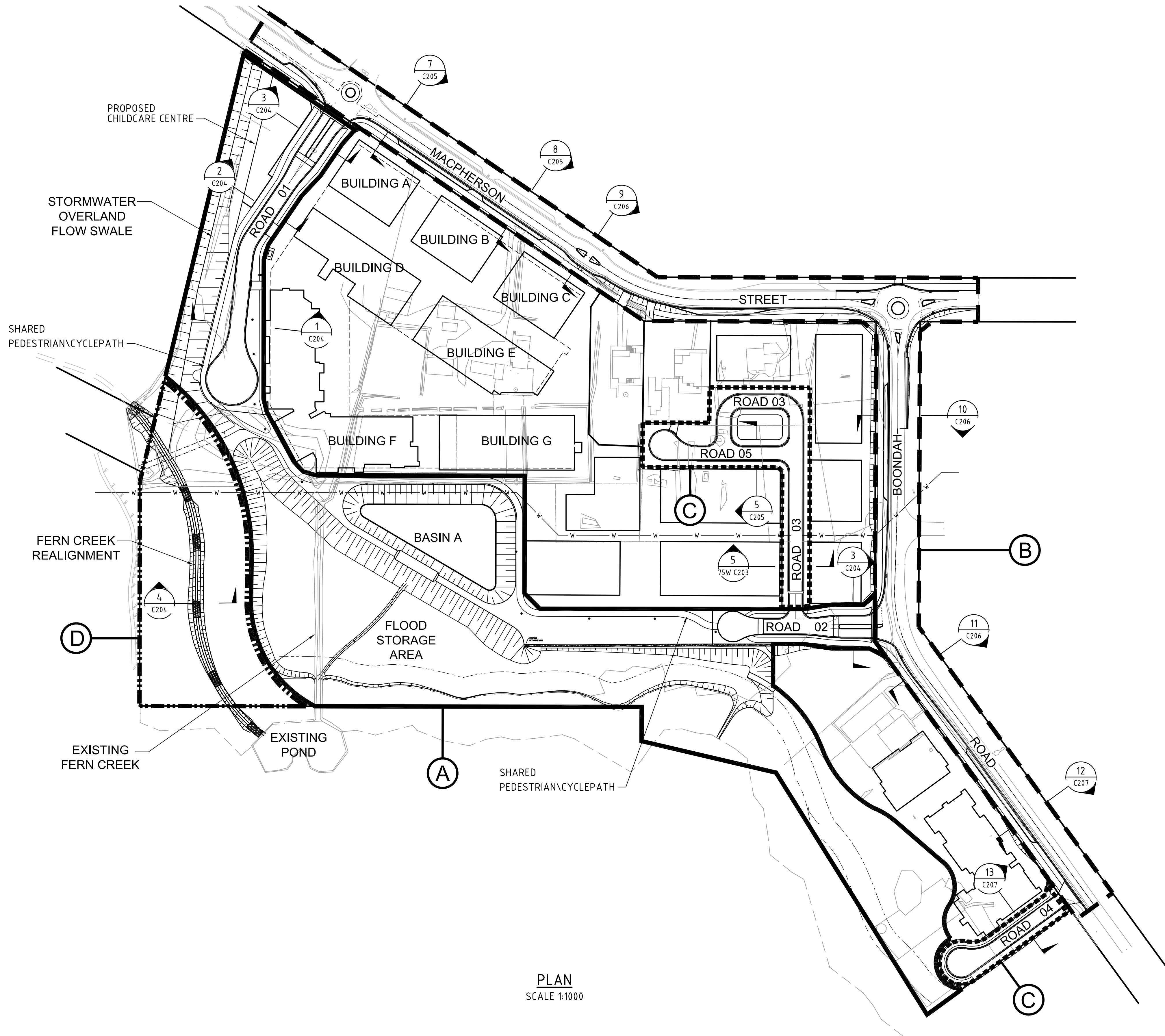
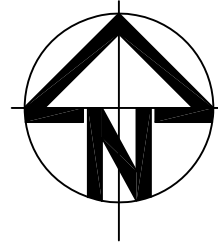
EXISTING SERVICES LEGEND

- G
- T
- W
- S
- O
- X
- EXISTING GAS
EXISTING TELSTRA
EXISTING WATER
EXISTING SEWER
EXISTING SEWER MANHOLE
EXISTING OVERHEAD ELECTRICAL

PROPOSED SERVICES LEGEND

- G
- T
- W
- S
- O
- E
- PROPOSED GAS
PROPOSED TELSTRA
PROPOSED WATER
PROPOSED SEWER
PROPOSED SEWER MANHOLE
PROPOSED ELECTRICAL
PROPOSED LIGHTPOLES



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							Designed			TS	
							Checked			MM	
							Approved			AMc	
A	ISSUED FOR APPROVAL	20/12/11	KEY PLAN					Title NOTES AND LEGENDS	Status FOR APPROVAL	A1	
Issue	Description	Date							Drawing No. 75W C202	Project No. 10-23	Issue A

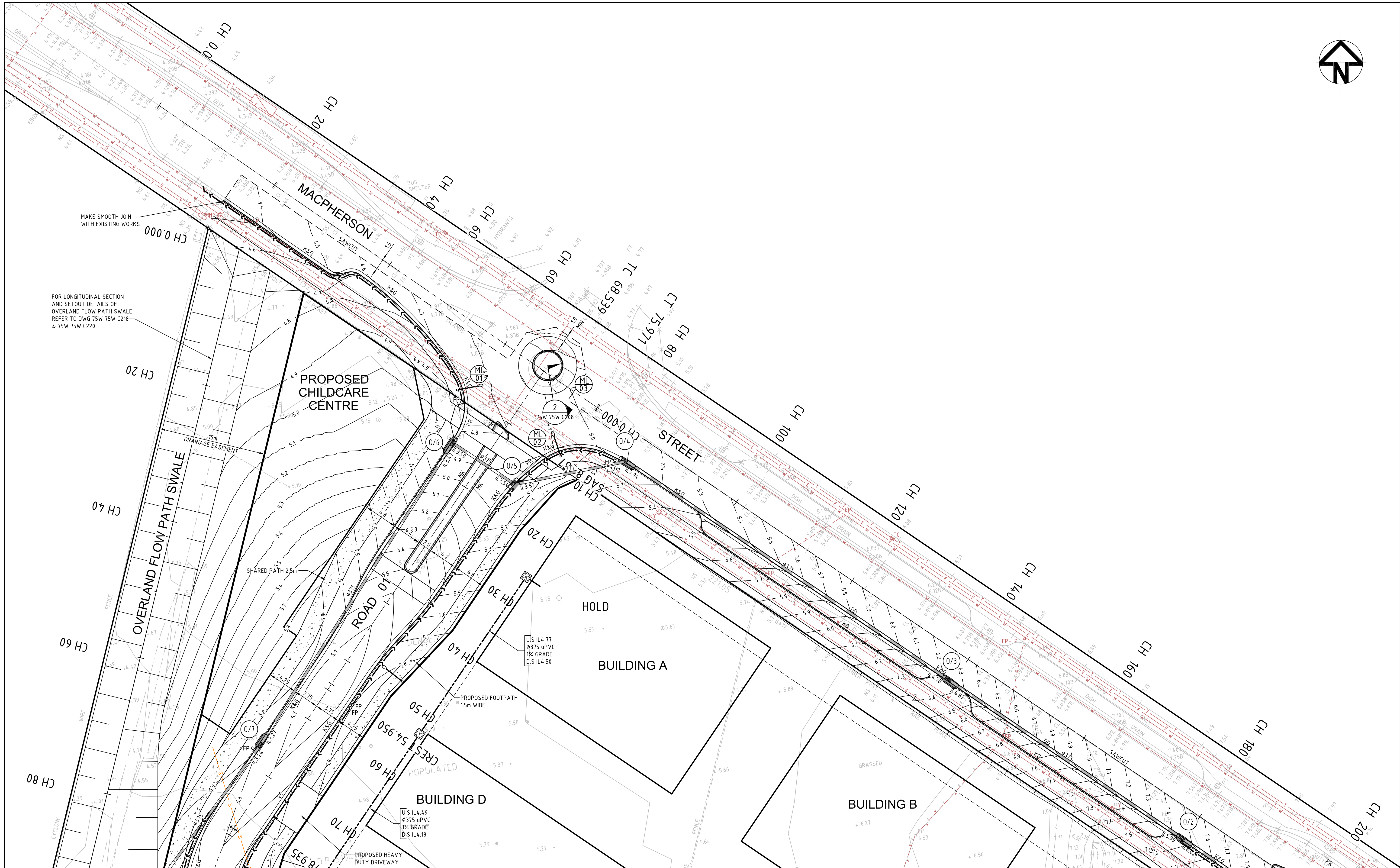


APPROVALS SCHEDULE

- AREA 'A' - PRIVATE CERTIFIER
FUTURE PRIVATE ROAD
- AREA 'B' - SECTION 138 EXISTING
COUNCIL ROAD
- AREA 'C' - PRIVATE CERTIFIER
PRIVATE ROAD
- AREA 'D' - PITTWATER COUNCIL
FERN CREEK

PLAN
SCALE 1:1000

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A		ISSUED FOR APPROVAL		20/12/11		Scale Bar  1 : 1000		Height Dafum AHD				Title GENERAL ARRANGEMENT PLAN		Status FOR APPROVAL		A1	
Issue		Description		Date		KEY PLAN								Drawing No. 75W C203		Project No. 10-23	Issue A



A ISSUED FOR APPROVAL 20/12/11		
Issue	Description	Date

75W C210

75W C211

75W C212

75W C213

75W C214

75W C215

KEY PLAN

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Client

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Scale Bar

0 5 10 15 20 25m

1: 250

Scales	1: 250	Drawn	TS
		Designed	MM
		Checked	AMc
Grid	MGA	Approved	AMc
Height Datum	AHD		

Project

PROPOSED RESIDENTIAL DEVELOPMENT
14-18 BOONDAH ROAD
WARRIEWOOD

Title

ROADWORKS AND STORMWATER DRAINAGE
PLAN
SHEET 1

Civil Engineers and Project Managers

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ABN 96 130 882 405
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Status

FOR APPROVAL

A1

Drawing No.

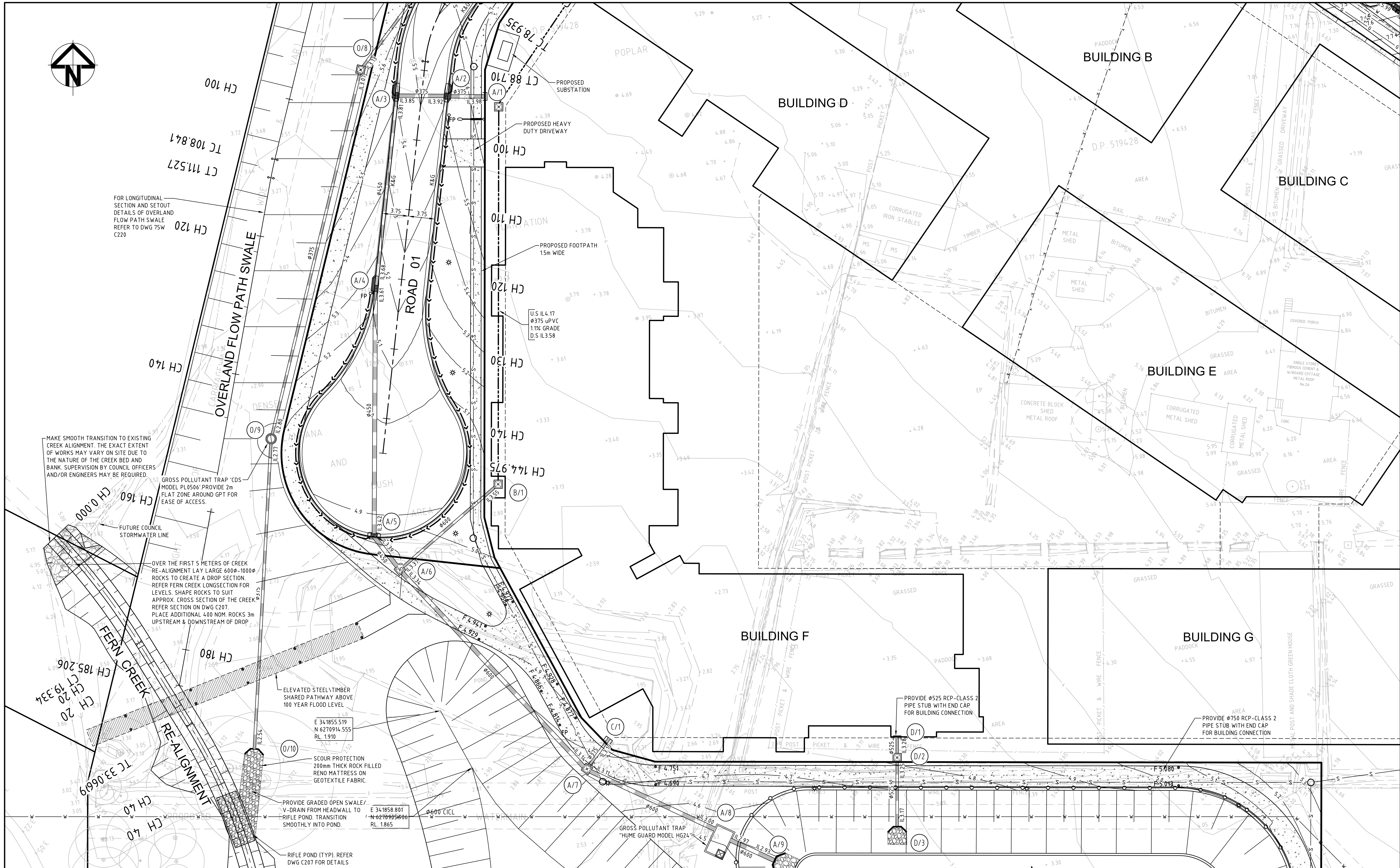
75W C210

Project No.

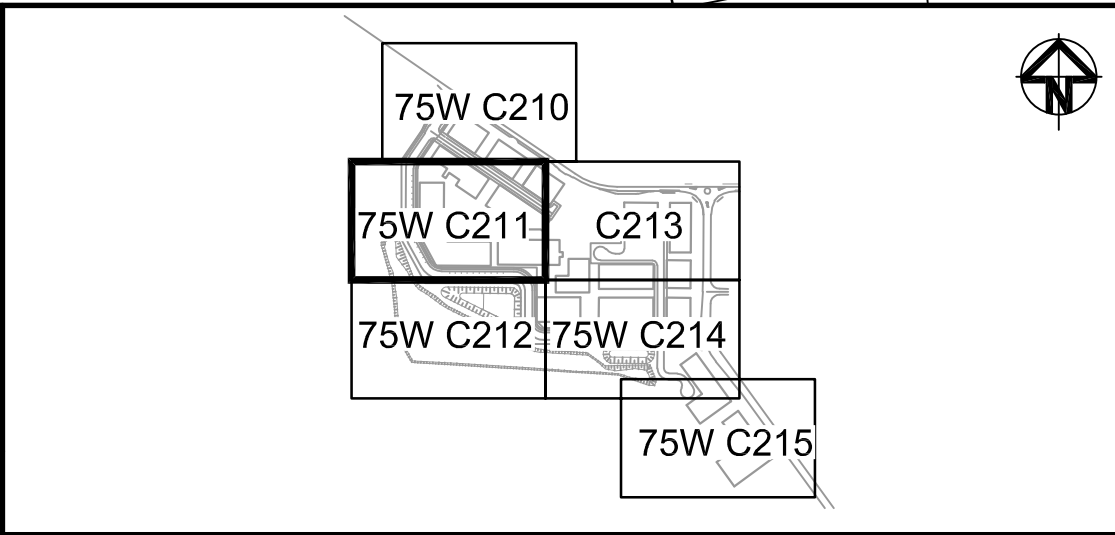
10-23

Issue

A



A	ISSUED FOR APPROVAL	20/12/11
Issue	Description	Date



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MERITON APARTMENTS PTY LTD

Scale Bar
0 5 10 15 20 25m
1: 250

Scales	1: 250	Drawn	TS
		Designed	MM
Grid	MGA	Checked	AMc
Height Datum	AHD	Approved	AMc

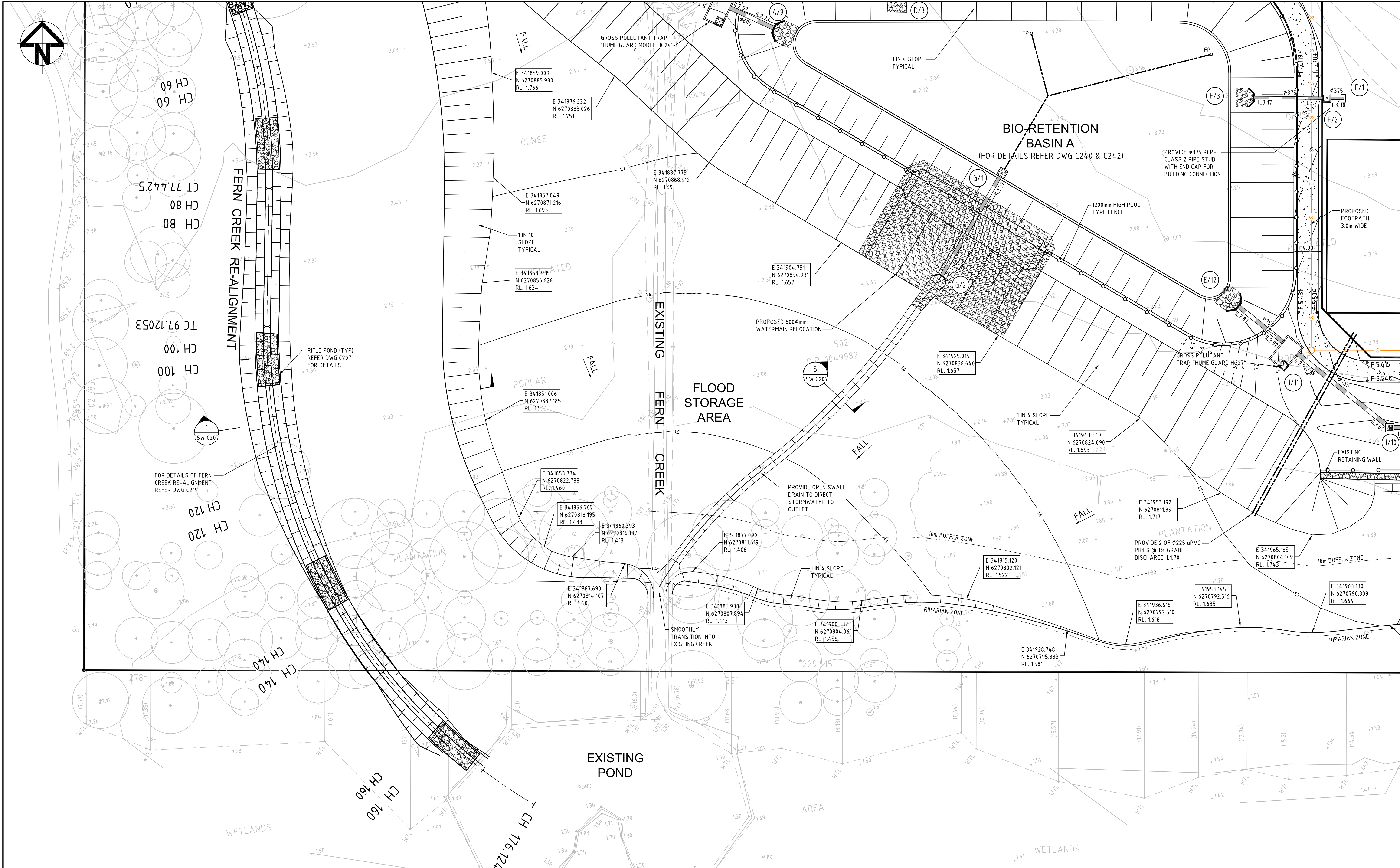
Project
**PROPOSED RESIDENTIAL DEVELOPMENT
14-18 BOONDAH ROAD
WARRIEWOOD**

Title
**ROADWORKS AND STORMWATER DRAINAGE
PLAN
SHEET 2**

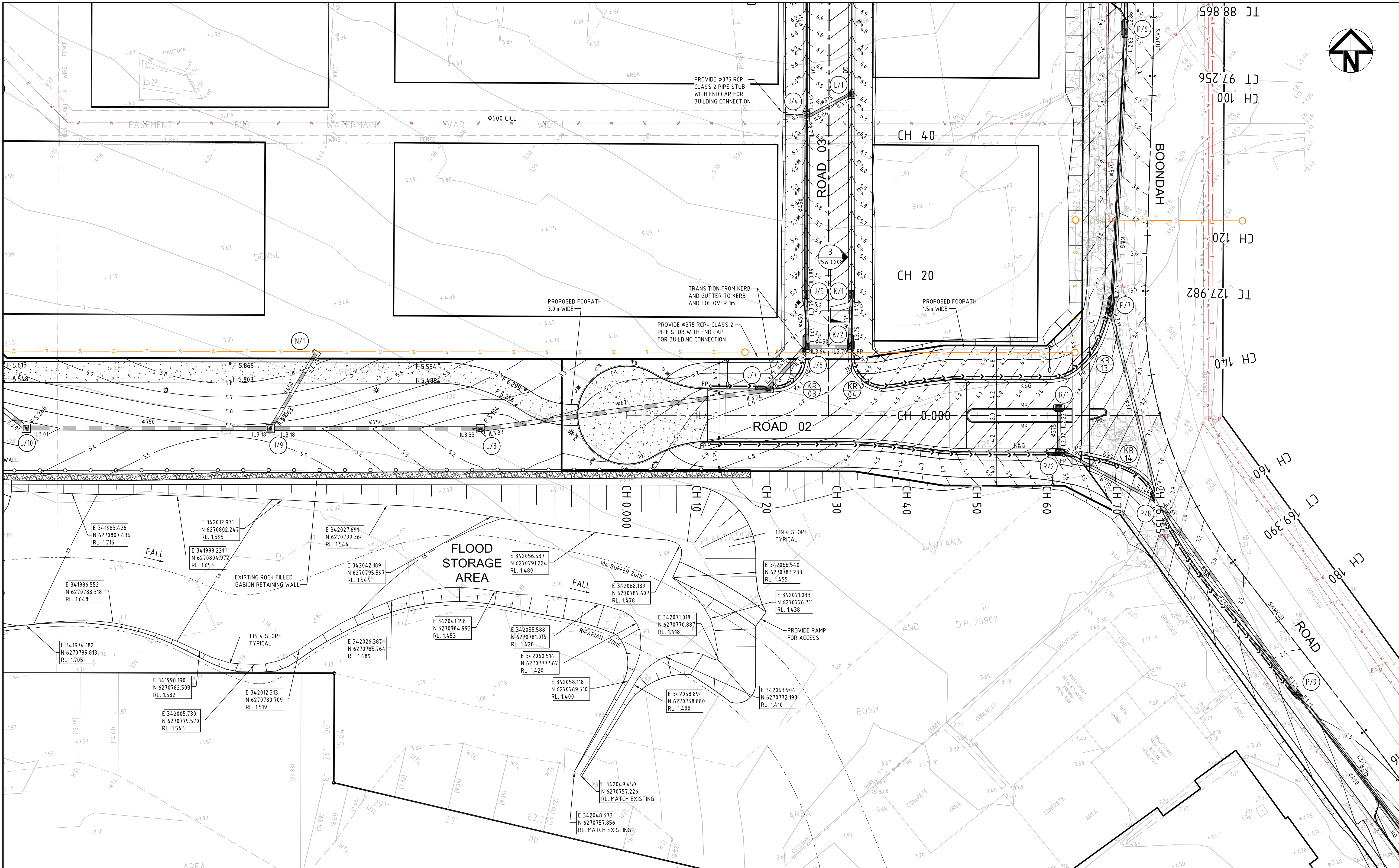
Civil Engineers and Project Managers

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ABN 96 130 882 405
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Fax: 02 9922 5102
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info@atl.net.au

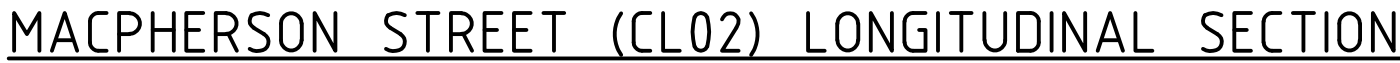
Status	FOR APPROVAL	A1
Drawing No.	75W C211	Issue
Project No.	10-23	A

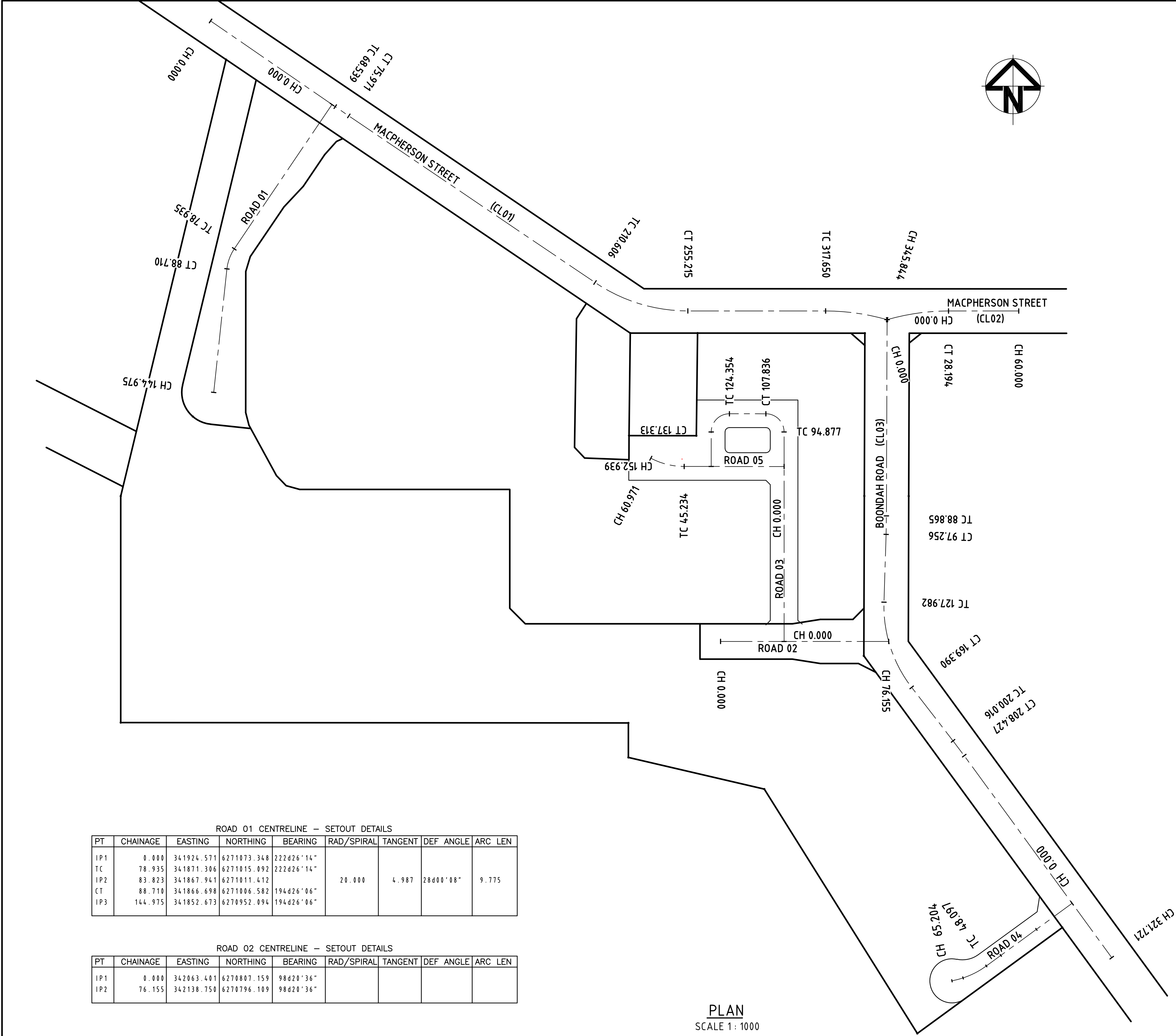


A		ISSUED FOR APPROVAL	20/12/11	KEY PLAN		THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L		Client MERITON APARTMENTS PTY LTD		Scales 1 : 250		Drawn Designed Checked Approved TS MM AMc AMc		Project PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD		Civil Engineers and Project Managers Suite 702, 6A Glen Street Milsons Point NSW 2061 ABN 96 130 882 405 Tel: 02 8920 2466 Fax: 02 9922 5102 www.atl.net.au info@atl.net.au	
Issue		Description		Date		Scale Bar 0 5 10 15 20 25m 1 : 250		Grid MGA		Height Datum AHD		Title ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 3		Status FOR APPROVAL		A1	
														Drawing No. 75W C212		Project No. 10-23	
																Issue A	



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A ISSUED FOR APPROVAL			Meriton Apartments Pty Ltd	1: 250	Designed	MM	Roadworks and Stormwater Drainage Plan Sheet 5				
Issue			Scale Bar	Grid	Checked	AMc		Title	Status	FOR APPROVAL	A1
Description			0 5 10 15 20 25m	Height	Approved	AMc	Drawing No.				
Date			1: 250	Datum			75W C214	10-23	A		





ROAD 01 CENTRELINE – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	341924.571	6271073.348	222d26'14"	20.000	4.987	28d00'08"	9.775
TC	78.935	341871.306	6271015.092	222d26'14"				
IP2	83.823	341867.941	6271011.412					
CT	88.710	341866.698	6271006.582	194d26'06"				
IP3	144.975	341852.673	6270952.094	194d26'06"				

ROAD 02 CENTRELINE – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342063.401	6270807.159	98d20'36"				
IP2	76.155	342138.750	6270796.109	98d20'36"				

MACPHERSON STREET (CL01) – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	341875.660	6271118.784	132d51'22"	1000.000	3.716	0d25'33"	7.433
TC	68.539	341925.903	6271072.167	132d51'22"				
IP2	72.255	341928.627	6271069.639					
CT	75.971	341931.370	6271067.132	132d25'49"				
TC	210.606	342030.745	6270976.295	132d25'49"				
IP3	232.911	342047.710	6270960.786		75.000	22.986	34d04'42"	44.608
CT	255.215	342070.452	6270957.448	98d21'07"				
TC	317.650	342132.226	6270948.378	98d21'07"				
IP4	331.747	342146.266	6270946.317		100.000	14.191	16d09'13"	28.194
IP5	345.844	342159.179	6270940.431	114d30'21"				

MACPHERSON STREET (CL02) – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342159.179	6270940.431	82d11'54"	100.000	14.191	16d09'13"	28.194
IP2	14.097	342173.238	6270942.357					
CT	28.194	342187.279	6270940.296	98d21'07"				
IP3	60.000	342218.748	6270935.676	98d21'07"				

BOONDAH ROAD (CL03) – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342159.179	6270940.431	188d31'47"	300.000	4.195	1d36'09"	8.390
TC	88.865	342145.998	6270852.548	188d31'47"				
IP2	93.061	342145.376	6270840.399					
CT	97.256	342144.638	6270844.270	190d07'56"				
TC	127.982	342139.232	6270814.023	190d07'56"				
IP3	148.686	342135.438	6270792.792		60.000	21.567	39d32'32"	41.408
CT	169.390	342146.029	6270774.004	150d35'24"				
TC	200.016	342161.068	6270747.325	150d35'24"				
IP4	204.222	342163.133	6270743.661		300.000	4.206	1d36'23"	8.411
CT	208.427	342165.095	6270739.941	152d11'47"				
IP5	321.721	342217.940	6270639.727	152d11'47"				

ROAD 03 CENTRELINE – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342091.887	6270802.982	8d20'36"	8.250	8.250	89d59'60"	12.959
TC	94.877	342105.654	6270896.855	8d20'36"				
IP2	101.356	342106.851	6270905.017					
CT	107.836	342098.688	6270906.214	278d20'36"				
TC	124.354	342082.345	6270908.611	278d20'36"				
IP3	130.834	342074.182	6270909.808		8.250	8.250	90d00'00"	12.959
CT	137.313	342072.985	6270901.646	188d20'36"				
IP4	152.939	342070.718	6270886.186	188d20'36"				

ROAD 04 CENTRELINE – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342203.727	6270666.681	242d11'47"	38.375	8.698	25d32'26"	17.106
TC	48.097	342161.182	6270644.246	242d11'47"				
IP2	56.650	342153.489	6270640.190					
IP3	65.204	342144.798	6270639.846	267d44'13"				

ROAD 05 CENTRELINE – SETOUT DETAILS								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342103.386	6270881.394	278d20'36"	32.375	8.027	27d51'02"	15.737
TC	45.234	342058.631	6270887.958	278d20'36"				
IP2	53.103	342050.689	6270889.123					
IP3	60.971	342044.211	6270893.863	306d11'37"				

PLAN
SCALE 1 : 1000

A

ISSUED FOR APPROVAL

20/12/11

Issue

Description

Date

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Client

MERITON APARTMENTS PTY LTD

Scale Bar

020406080100m

1 : 1000

Scales

1 : 1000

Grid

MGA

Height Datum

AHD

Drawn

TS

Designed

TS

Checked

MM

Approved

AMc

Project

PROPOSED RESIDENTIAL DEVELOPMENT
14-18 BOONDAH ROAD
WARRIEWOOD

Title

SETOUT PLAN
SHEET 1

Civil Engineers and Project Managers

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info@atl.net.au

Status

FOR APPROVAL

A1

Drawing No.

75W C220

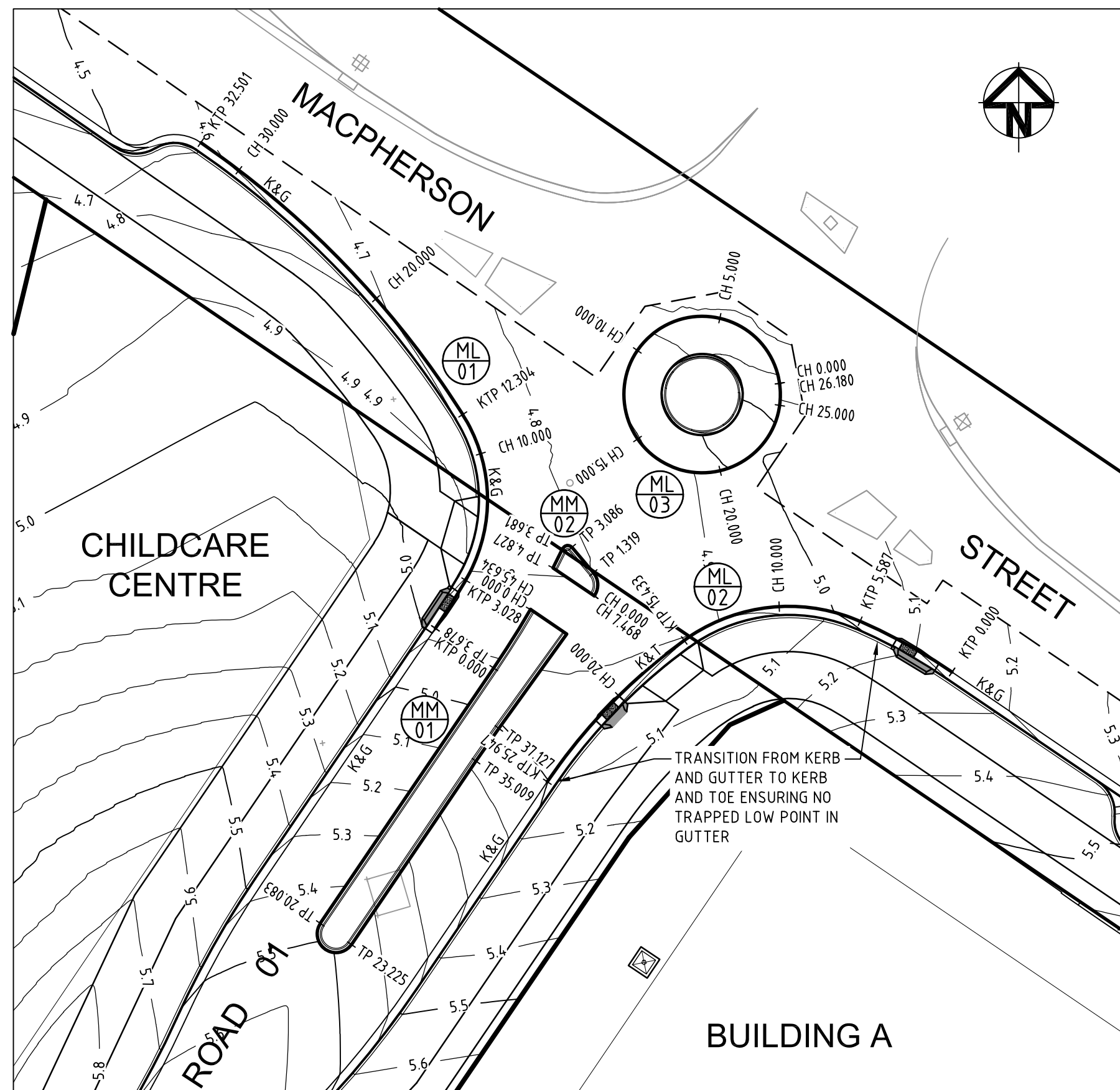
Project No.

10-23

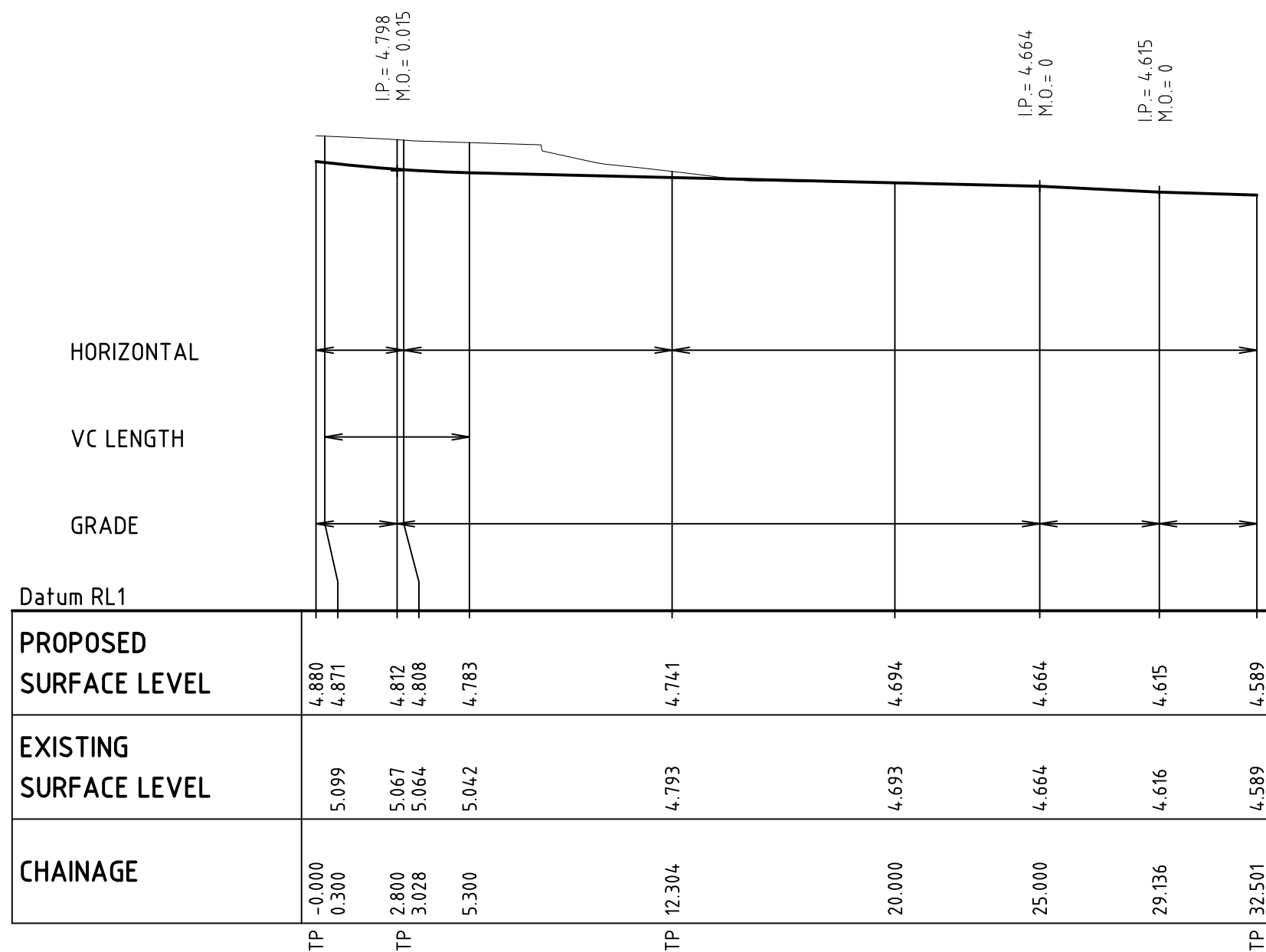
Issue

A

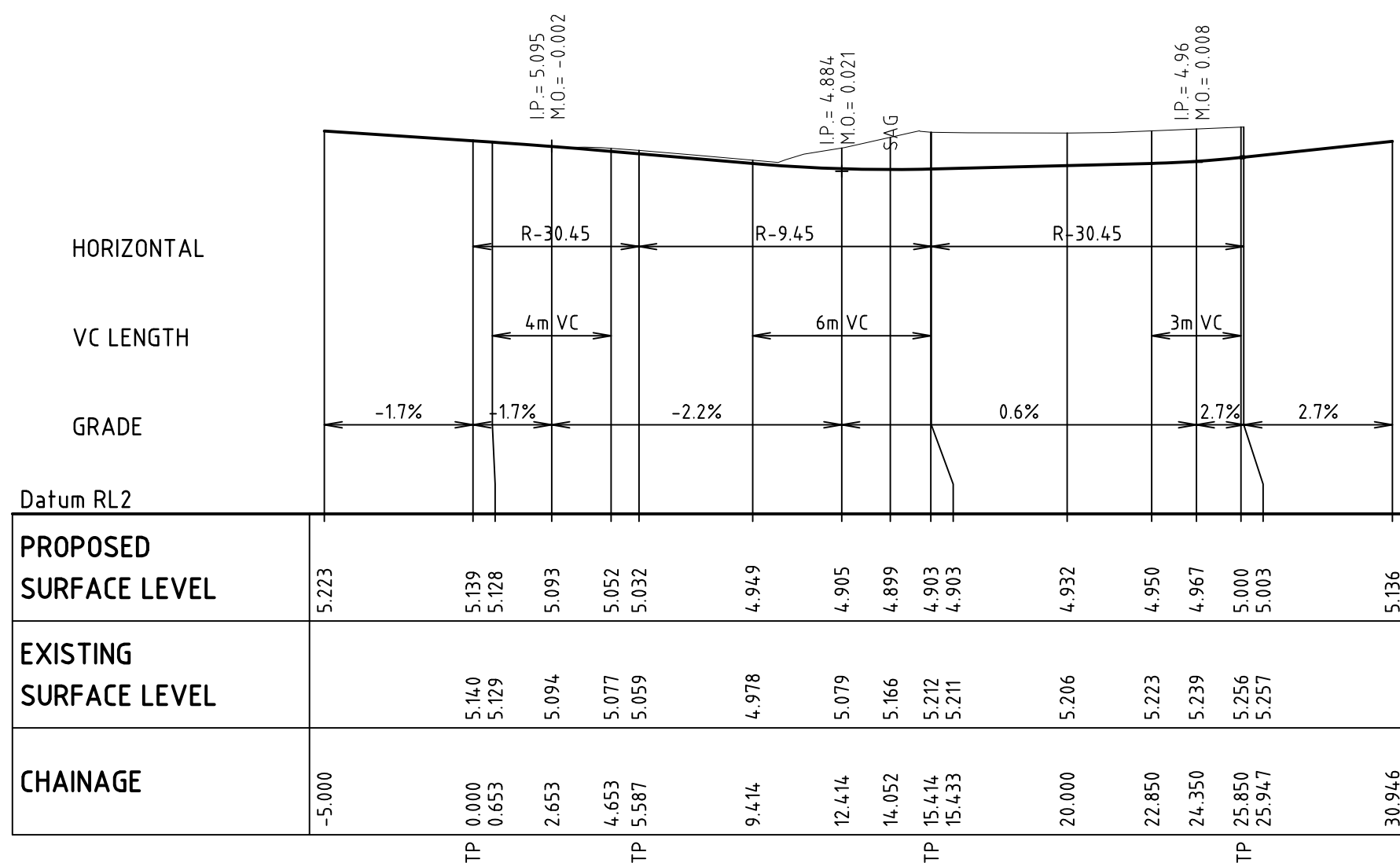
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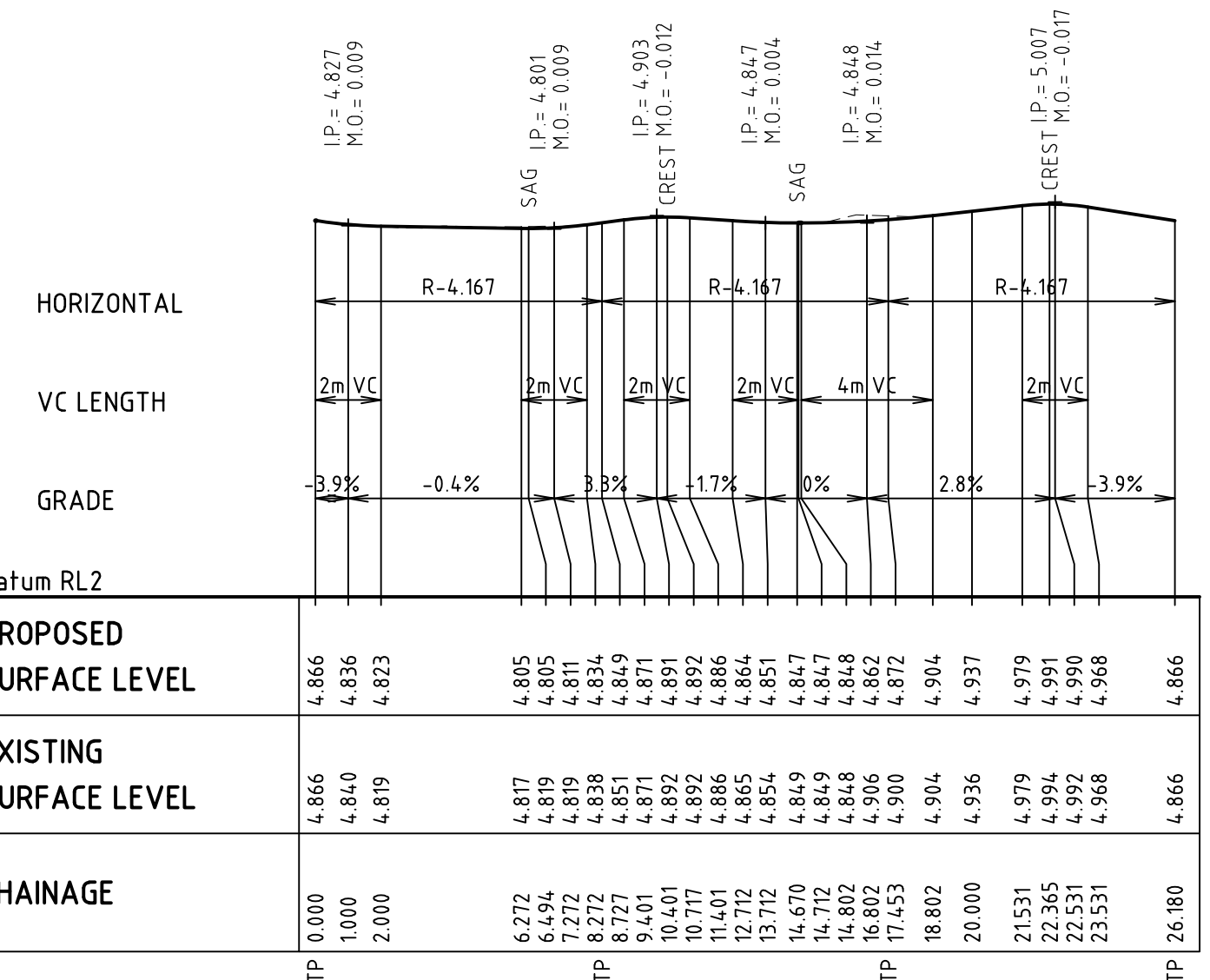
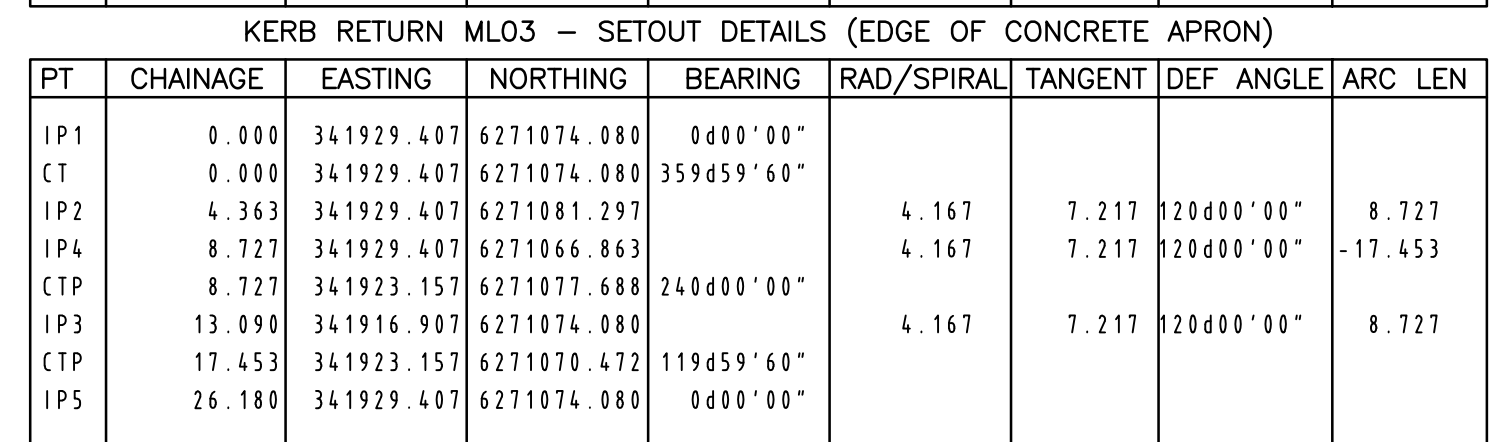
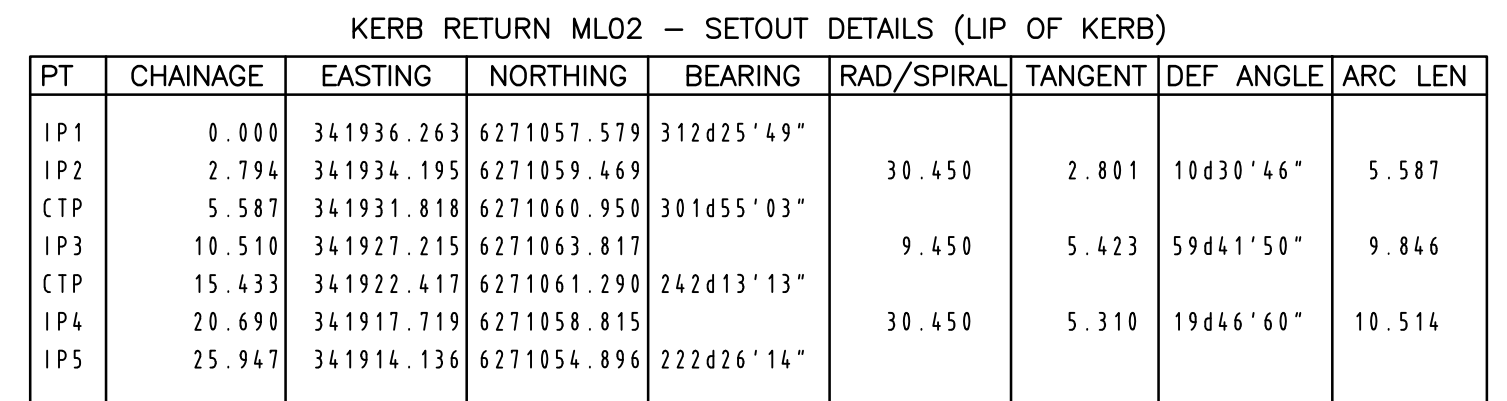
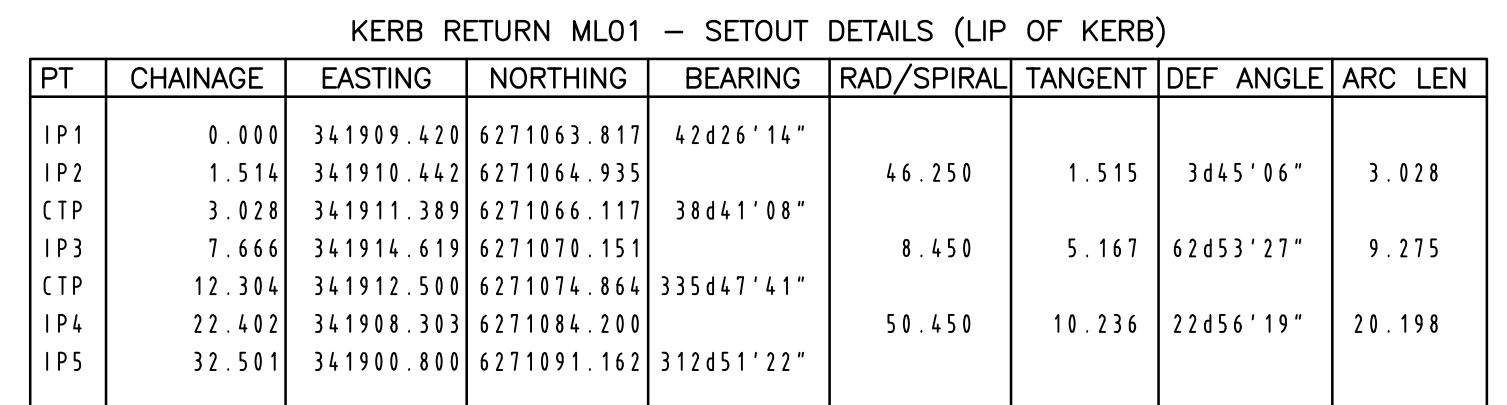
INTERSECTION PLAN - ROAD 01 AND MACPHERSON STREET
SCALE 1:250




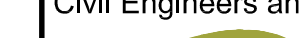
ML01 LONGITUDINAL SECTION
SCALE 1:200 HORI.
1:50 VERT.

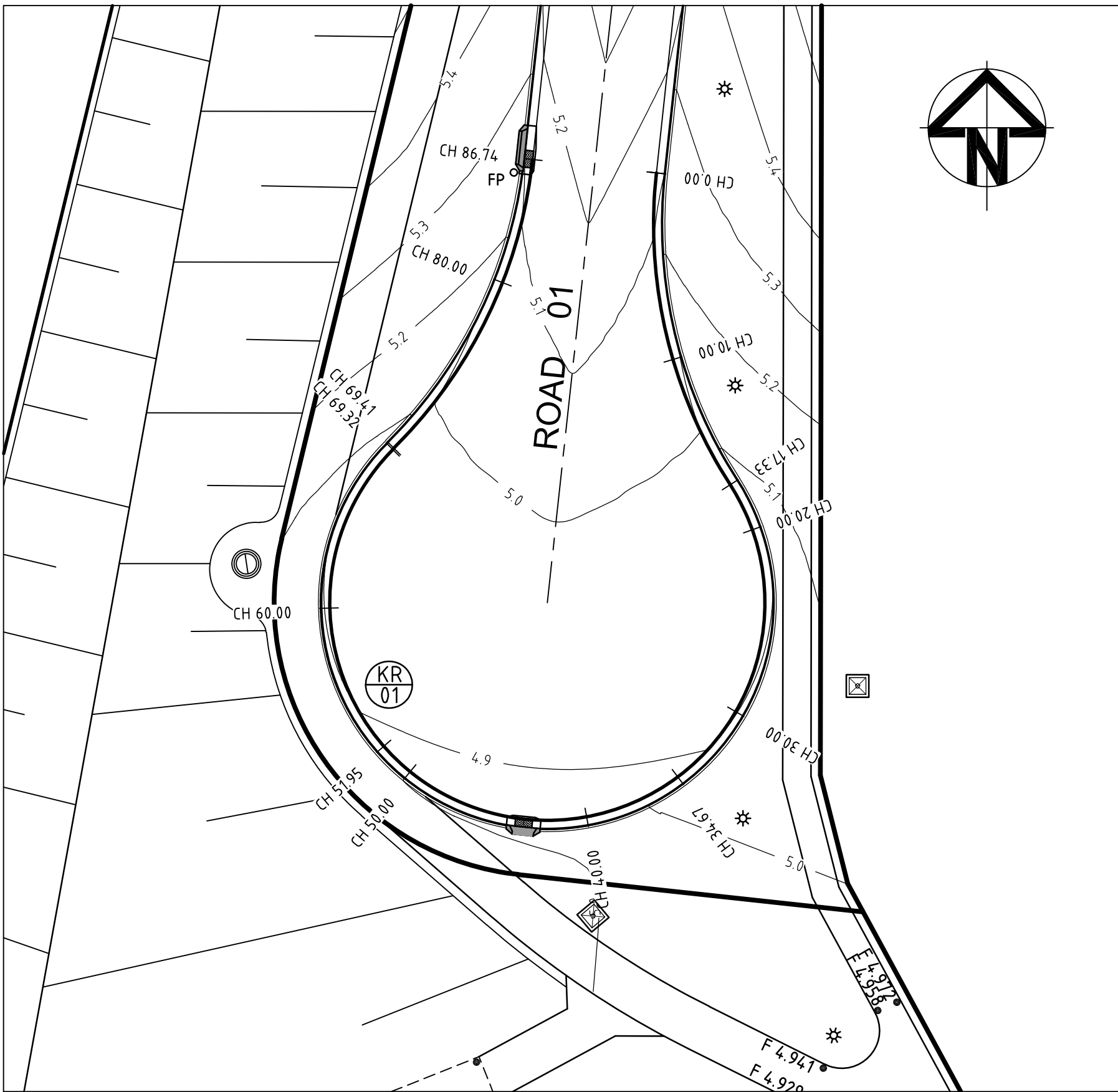


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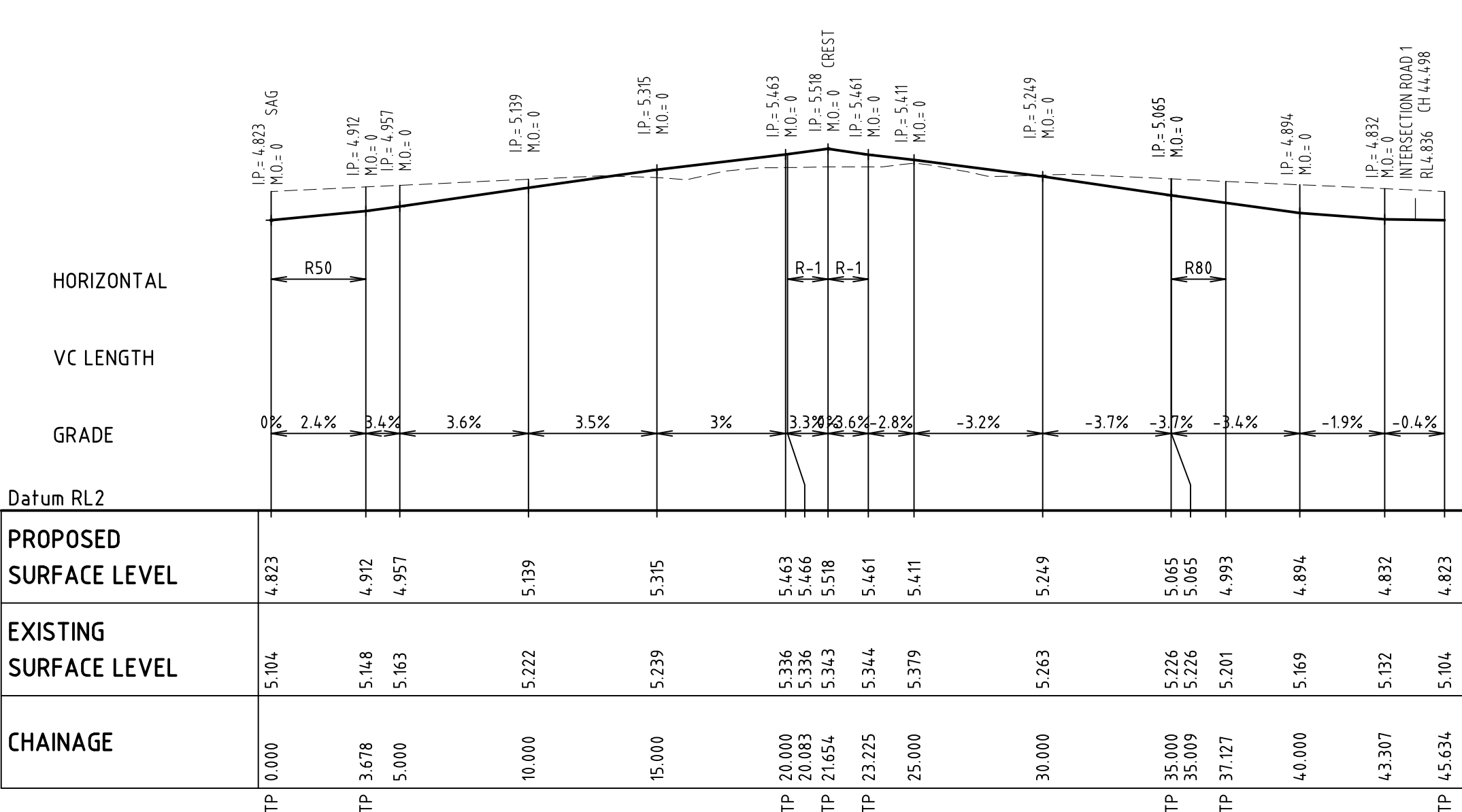


ML03 LONGITUDINAL SECTION

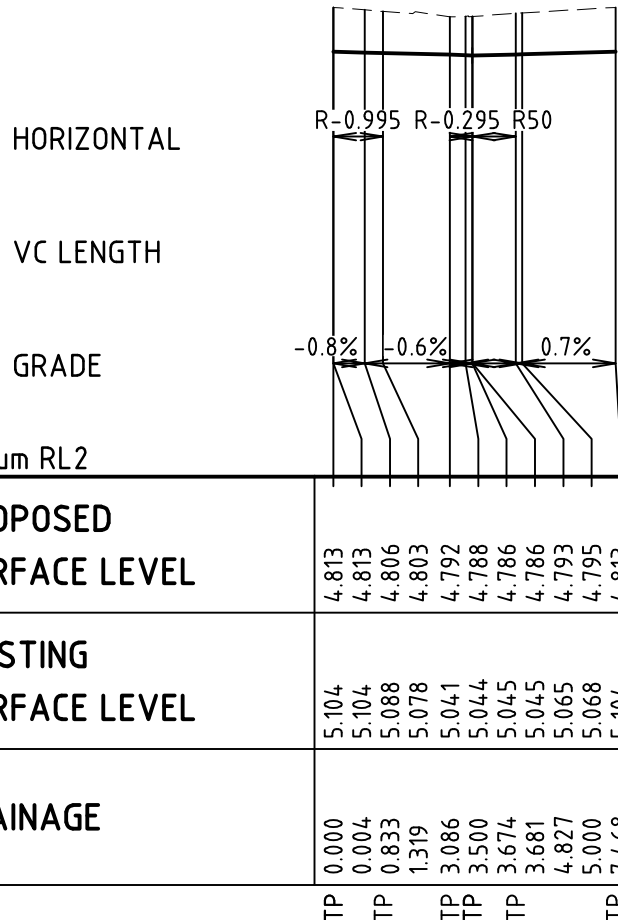
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A	ISSUED FOR APPROVAL	20/12/11				Designed	TS			Title INTERSECTION LAYOUT PLAN AND KERB RETURN PROFILES SHEET 1	Status FOR APPROVAL	A1			
Issue	Description	Date											Drawing No. C230	Project No. 10-23	Issue A



CUL-DE-SAC - ROAD 01
SCALE 1:250



MM01 LONGITUDINAL SECTION
SCALE 1:200 HORI.
1:50 VERT.



MM02 LONGITUDINAL SECTION
SCALE 1:200 HORI.
1:50 VERT.

RAISED MEDIAN MM01 — SETOUT DETAILS (FACE OF KERB)

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	341914.568	6271064.090	218d13'21"				
IP2	1.839	341913.429	6271062.644		50.000	1.840	4d12'53"	3.678
CT	3.678	341912.188	6271061.287	222d26'14"				
TP	20.083	341901.118	6271049.179	222d26'14"				
IP3	20.868	341900.443	6271048.441		1.000	1.000	90d00'00"	1.571
CTP	21.654	341901.181	6271047.767	132d26'14"				
IP4	22.439	341901.919	6271047.092		1.000	1.000	90d00'00"	1.571
CT	23.225	341902.594	6271047.830	42d26'14"				
TP	35.009	341910.546	6271056.527	42d26'14"				
IP5	36.068	341911.261	6271057.308		80.000	1.059	1d31'01"	2.118
CT	37.127	341911.996	6271058.071	43d57'14"				
IP6	43.307	341916.285	6271062.520	43d57'14"				
IP7	45.634	341914.568	6271064.090	312d26'14"				

RAISED MEDIAN MM02 — SETOUT DETAILS (FACE OF KERB)

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	341918.021	6271064.320	43d57'14"				
IP2	0.661	341918.560	6271064.880		0.995	0.773	75d42'41"	1.315
CT	1.319	341918.153	6271065.537	328d14'33"				
TP	3.086	341917.223	6271067.040	328d14'33"				
IP3	3.380	341916.983	6271067.428		0.295	0.456	114d12'36"	0.588
CT	3.674	341916.728	6271067.050	214d01'58"				
TP	3.681	341916.724	6271067.043	214d01'58"				
IP4	4.254	341916.403	6271066.569		50.000	0.573	1d18'45"	1.145
CT	4.827	341916.072	6271066.102	35d20'43"				
IP5	4.827	341916.072	6271066.102	35d20'43"				
IP6	7.468	341918.021	6271064.320	132d26'14"				

KERB RETURN KR01 — SETOUT DETAILS (LIP OF KERB)

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	341861.674	6270973.826	194d26'06"				
IP2	8.664	341859.427	6270965.096		25.450	9.015	39d00'39"	17.328
CTP	17.328	341863.176	6270956.897	155d25'27"				
IP3	25.997	341867.656	6270947.101		11.550	10.772	86d00'26"	17.338
CT	34.666	341858.196	6270941.950	241d25'53"				
TP	34.759	341858.114	6270941.905	241d25'53"				
IP4	43.353	341848.735	6270936.799		11.450	10.679	86d00'26"	17.188
CT	51.947	341842.988	6270945.799	327d26'19"				
TP	52.133	341842.888	6270945.956	327d26'19"				
IP5	60.727	341837.141	6270954.956		11.450	10.679	86d00'26"	17.188
CT	69.321	341845.719	6270961.316	53d26'45"				
TP	69.414	341845.794	6270961.372	53d26'45"				
IP6	78.078	341853.035	6270966.741		25.450	9.015	39d00'39"	17.328
IP7	86.742	341855.283	6270975.471	144d26'06"				

KR01 LONGITUDINAL SECTION
SCALE 1:200 HORI.
1:50 VERT.

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Client

MERITON APARTMENTS PTY LTD

Scale Bar

0 1 2 3 4 5m

0 5 10 15 20m

1 : 50

1 : 200

Scales

AS SHOWN

Grid

Height Datum

AHD

Drawn

Designed

Checked

Approved

TS

MM

AMc

Project

PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD

Title

INTERSECTION LAYOUT PLAN AND KERB RETURN PROFILES SHEET 2

Civil Engineers and Project Managers

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Status

FOR APPROVAL

A1

Drawing No.

Project No.

Issue

75W C231

10-23

A

A

ISSUED FOR APPROVAL

20/12/11

Issue

Description

Date

100mm on Original

F:\10-23 Warriewood\Drgs\Civil\Section 75w\75W C231-INTERSECTION LAYOUT PLAN AND KERB RETURN PROFILES SHEET 2.dwg

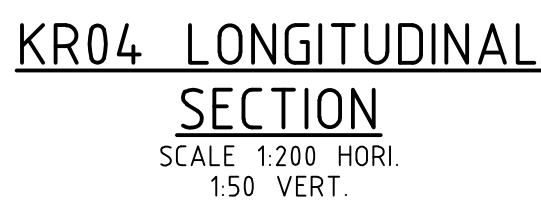
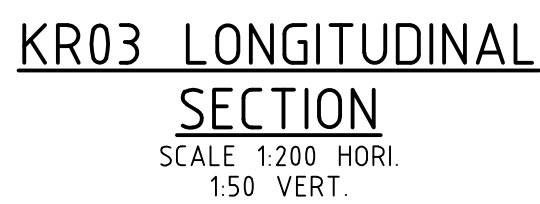
V1



KERB RETURN KR13 – SETOUT DETAILS (LIP OF KERB)								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF. ANGLE	ARC LEN
IP1	0.000	342123.901	6270803.088	98d20'42"				
TC	0.003	342123.904	6270803.087	98d20'42"				
IP2	2.131	342126.089	6270802.767		6.440	2.208	37d51'07"	4.255
CT	4.258	342128.011	6270803.854	60d29'35"				
TC	4.264	342128.016	6270803.857	60d29'35"				
IP3	7.593	342130.991	6270805.541		11.940	3.418	31d57'01"	6.658
CT	10.922	342132.624	6270808.543	28d32'34"				
TC	10.925	342132.626	6270808.546	28d32'34"				
IP4	14.803	342134.493	6270811.980		25.450	3.909	17d27'45"	7.757
IP5	18.682	342135.244	6270815.815	11d04'48"				


KERB RETURN KR14 – SETOUT DETAILS (LIP OF KERB)								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342136.519	6270785.815	344d03°10'0"				
IP2	2.159	342135.903	6270787.972		6.450	2.243	38d21°13"	4.318
CT	4.318	342134.081	6270789.281	305d41°57"				
IP3	4.318	342134.081	6270789.281	305d41°57"			0d00°00"	
T	4.318	342134.081	6270789.281	305d41°57"				
IP4	5.541	342133.086	6270789.996		17.450	1.225	8d02°04"	2.447
CT	6.765	342132.001	6270790.565	297d39°53"				
IP5	6.765	342132.001	6270790.565	297d39°53"			0d00°00"	
T	6.765	342132.001	6270790.565	297d39°53"				
IP6	11.899	342127.410	6270792.971		30.450	5.183	19d19°17"	10.268
IP7	17.033	342122.281	6270793.724	278d20°36"				

KERB RETURN KR14 – SETOUT DETAILS (LIP OF KERB)								
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	TANGENT	DEF ANGLE	ARC LEN
IP1	0.000	342136.519	6270785.815	344d03°10'0"				
IP2	2.159	342135.903	6270787.972		6.450	2.243	38d21°13"	4.318
CT	4.318	342134.081	6270789.281	305d41°57"				
IP3	4.318	342134.081	6270789.281	305d41°57"			0d00°00"	
T	4.318	342134.081	6270789.281	305d41°57"				
IP4	5.541	342133.086	6270789.996		17.450	1.225	8d02°04"	2.447
CT	6.765	342132.001	6270790.565	297d39°53"				
IP5	6.765	342132.001	6270790.565	297d39°53"			0d00°00"	
T	6.765	342132.001	6270790.565	297d39°53"				
IP6	11.899	342127.410	6270792.971		30.450	5.183	19d19°17"	10.268
IP7	17.033	342122.281	6270793.724	278d20°36"				



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Scales	AS SHOWN	Drawn	TS
		Designed	TS
Grid		Checked	MM
Height Datum	AHD	Approved	AMc



AT&L

Civil Engineers and Project Managers

Suite 702, 6A Glen Street
 Milsons Point NSW 2061

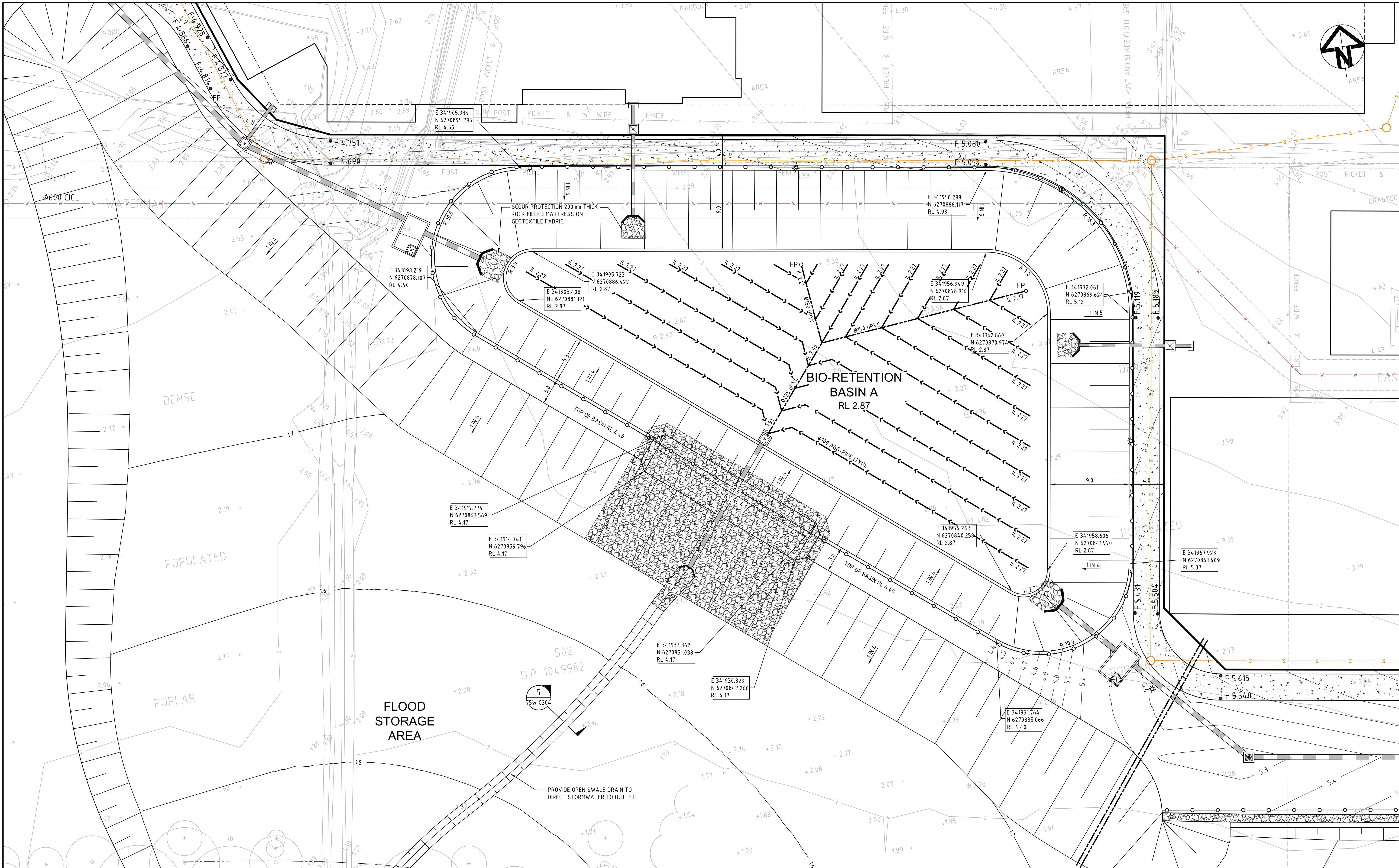
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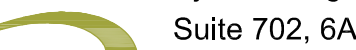
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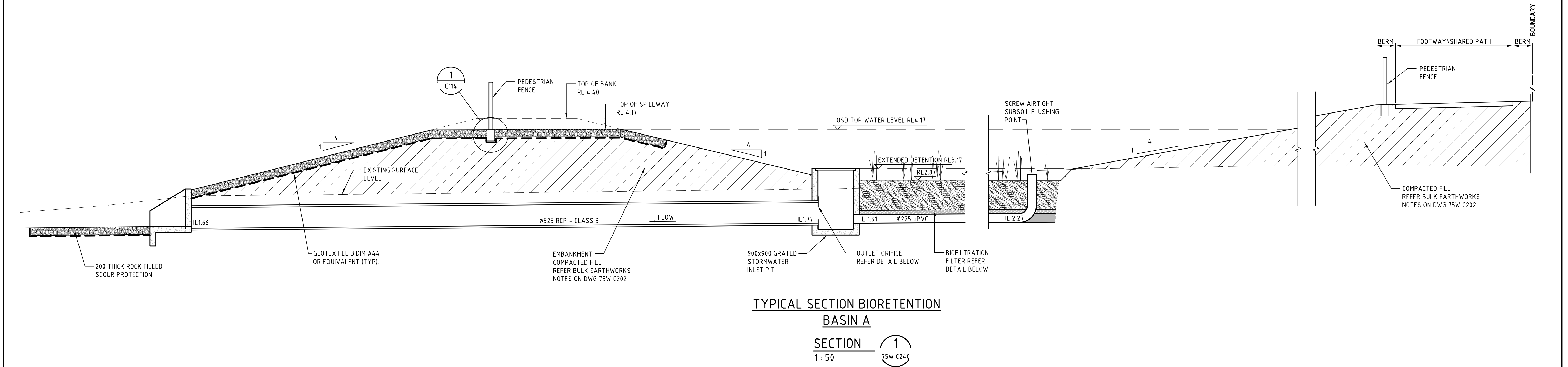
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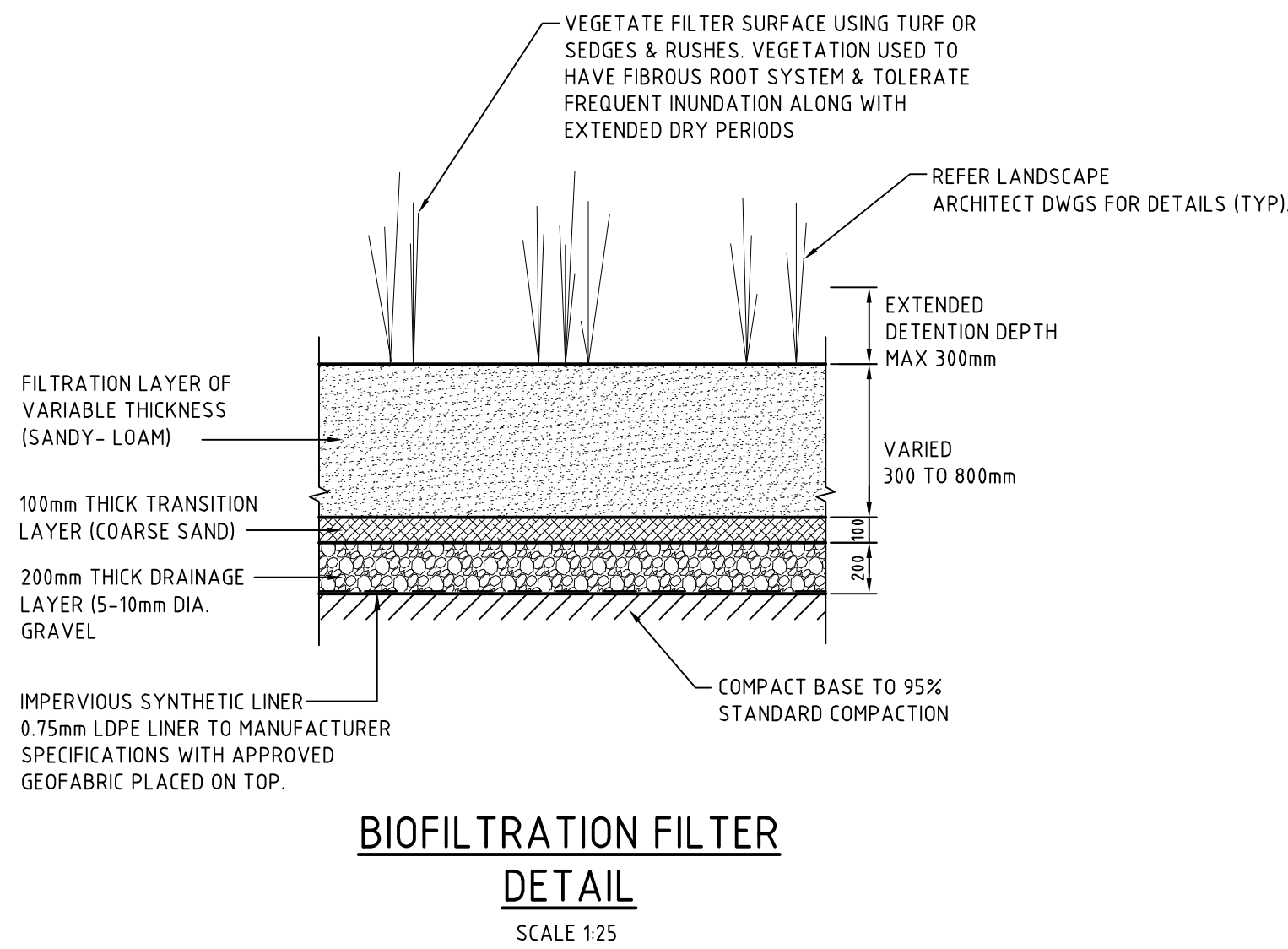
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Drawing No. 75W C234	Project No. 10-23	Issue A



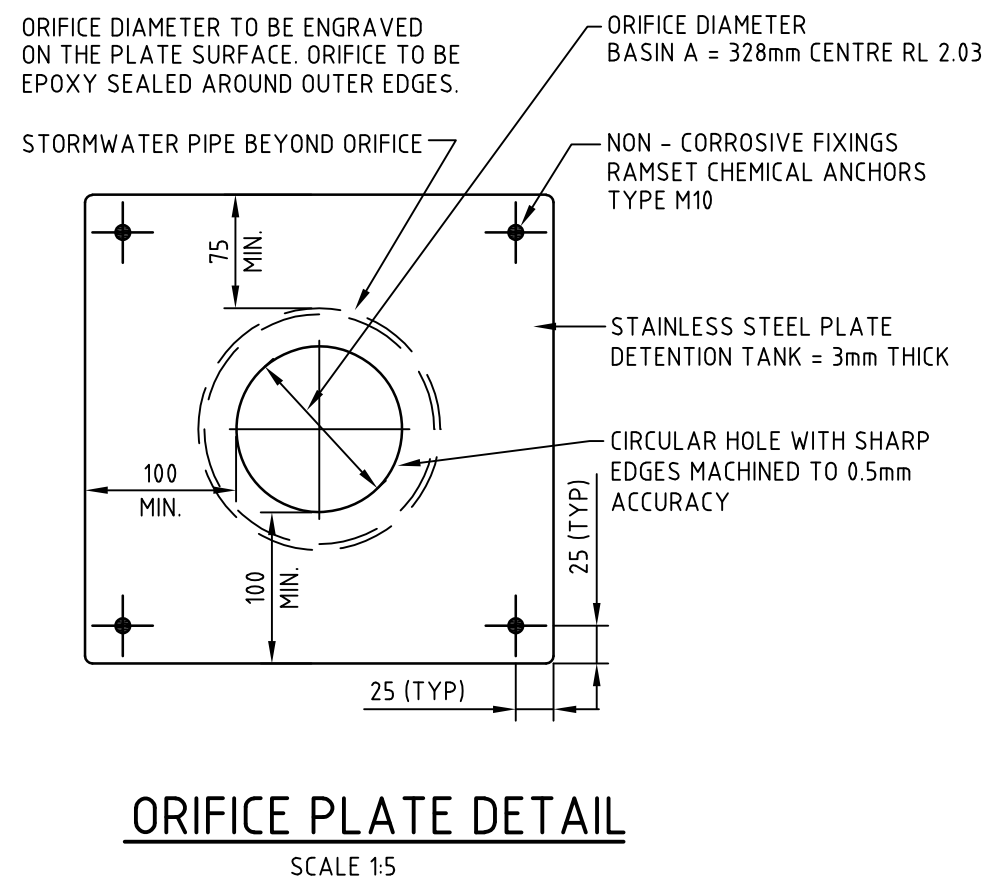
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			MERITON APARTMENTS PTY LTD		1 : 200		TS		PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD		<div><div>Suite 702, 6A Glen Street Milsoms Point NSW 2061 ABN 96 130 882 405 Tel: 02 8920 2466 Fax: 02 9922 5102 www.atl.net.au info@atl.net.au</div></div>						
					Grid		Checked										
			Scale Bar		Height Datum		Approved						Title				
			<div><div>05101520m</div><div>1 : 200</div></div>		AHD		AMc		BIO RETENTION BASIN A DETAIL PLAN								
A	ISSUED FOR APPROVAL	20/12/11										Status		FOR APPROVAL		A1	
Issue	Description	Date										Drawing No.		Project No.		Issue	
												75W C240		10-23		A	



TYPICAL SECTION BIORETENTION
BASIN A
SECTION 1
1: 50 75W C240




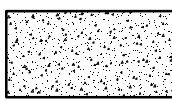
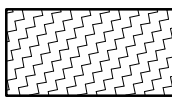
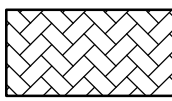
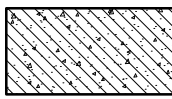
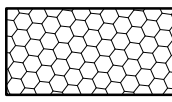
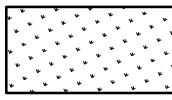
BIOFILTRATION FILTER
DETAIL
SCALE 1:25



ORIFICE PLATE DETAIL
SCALE 1:5

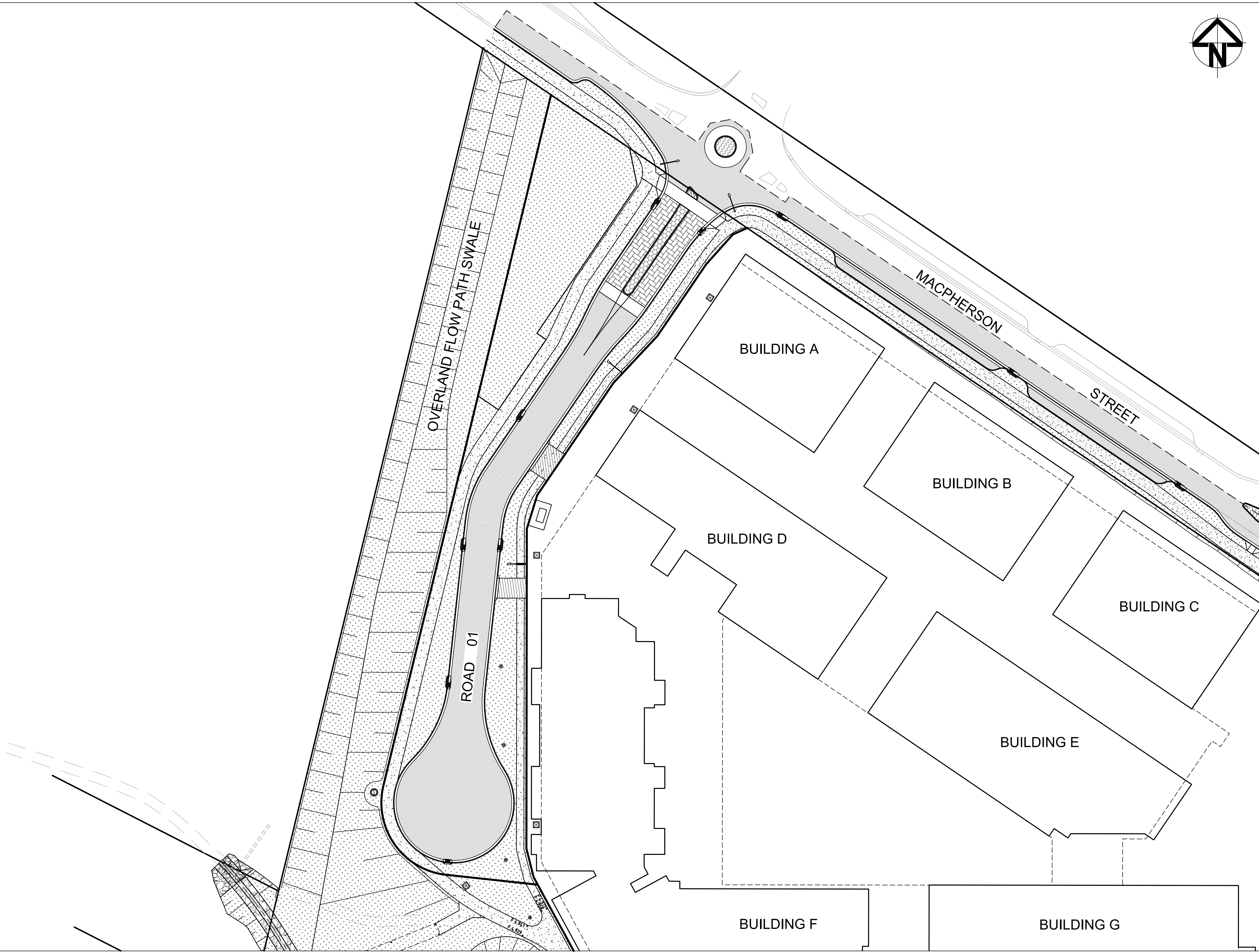
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							Designed			TS
							Checked			MM
							Approved			AMc
A	ISSUED FOR APPROVAL	20/12/11							Status FOR APPROVAL	A1
Issue	Description	Date						Drawing No. 75W C242	Project No. 10-23	Issue A

PAVEMENT SCHEDULE

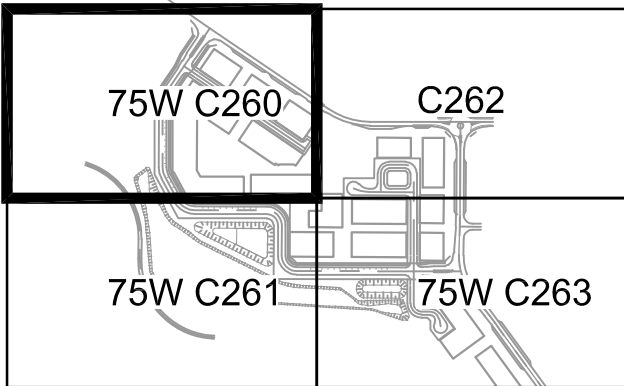
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	PAVEMENT TYPE B REFER DETAIL ON DWG C208
	PAVEMENT TYPE C REFER DETAIL ON DWG C208
	PAVEMENT TYPE D REFER DETAIL ON DWG C208
	PAVEMENT TYPE E REFER DETAIL ON DWG C208
	LANDSCAPE INFILL REFER LANDSCAPE ARCHITECTS DWGS
	LANDSCAPING REFER LANDSCAPE ARCHITECTS DWGS

NOTES

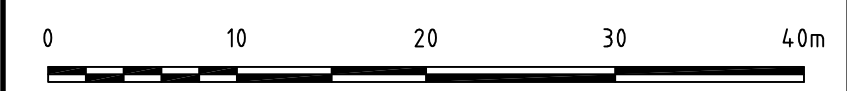
- FOR GENERAL NOTES REFER DWG 75W C202
- FOR TYPICAL DETAILS REFER DWG C208 AND C209.



A		ISSUED FOR APPROVAL	20/12/11
Issue	Description	Date	



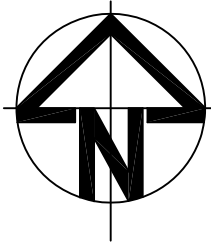
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Scale Bar	 1 : 400


Scales	1 : 400	Drawn	TS
		Designed	MM
		Checked	AMc
Grid		Approved	AMc
Height Datum	AHD		

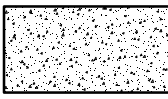
Project	PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD
Title	PAVEMENT PLAN SHEET 1

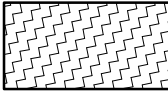
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Status	FOR APPROVAL	A1
Drawing No.	Project No.	Issue
75W C260	10-23	A

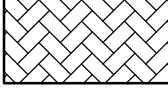



PAVEMENT SCHEDULE


- 

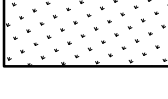
PAVEMENT TYPE A
REFER DETAIL ON DWG C208
- 

PAVEMENT TYPE B
REFER DETAIL ON DWG C208
- 

PAVEMENT TYPE C
REFER DETAIL ON DWG C208
- 

PAVEMENT TYPE D
REFER DETAIL ON DWG C208
- 

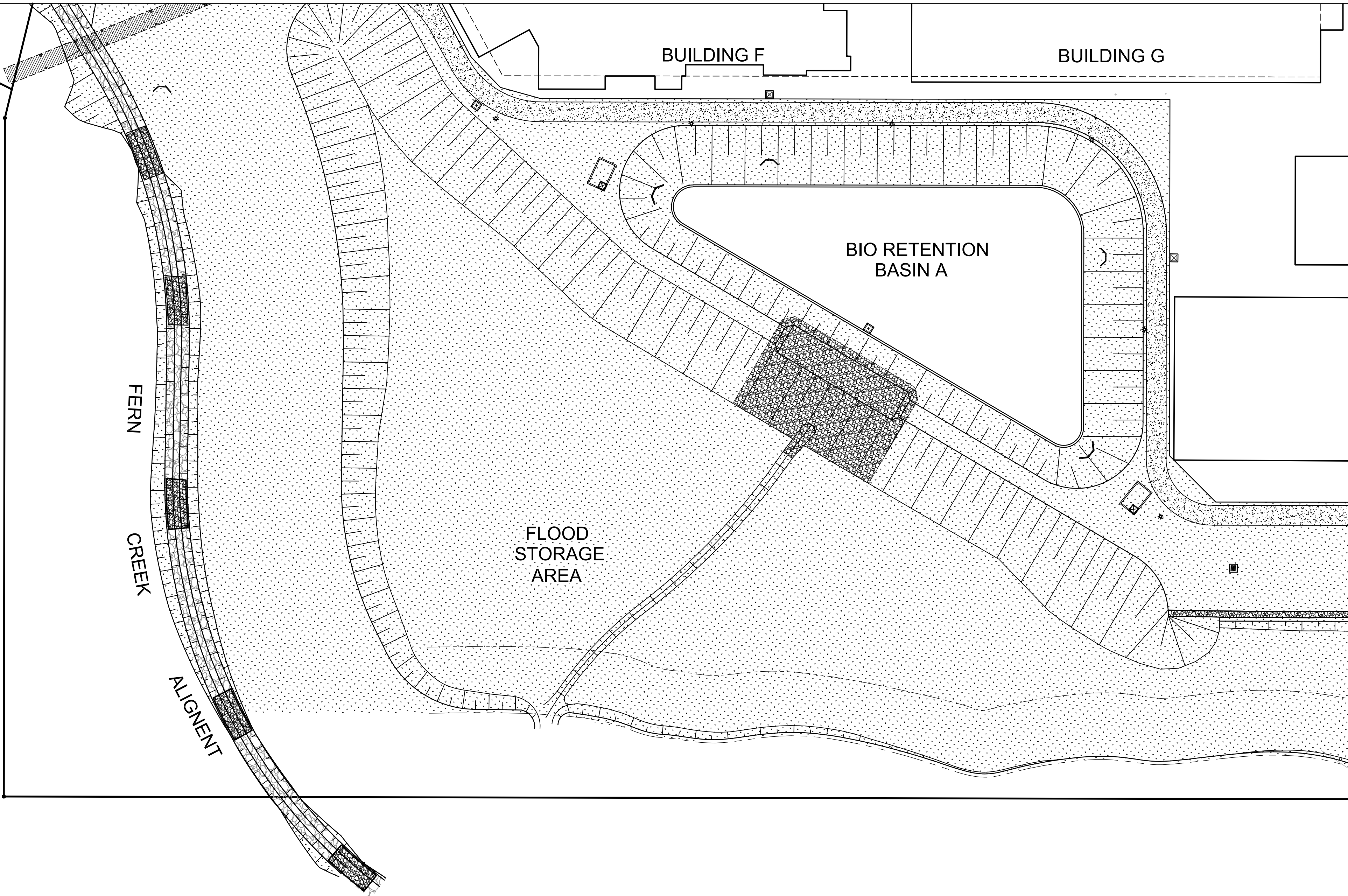
PAVEMENT TYPE E
REFER DETAIL ON DWG C208
- 

LANDSCAPE INFILL
REFER LANDSCAPE ARCHITECTS DWGS
- 

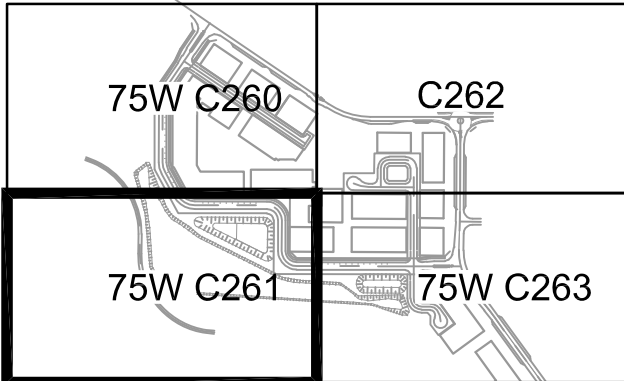
LANDSCAPING
REFER LANDSCAPE ARCHITECTS DWGS

NOTES

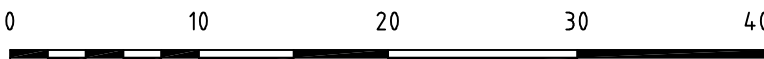
1. FOR GENERAL NOTES REFER DWG 75W C202
2. FOR TYPICAL DETAILS REFER DWG C208 AND C209.



A		ISSUED FOR APPROVAL	20/12/11
Issue	Description		Date




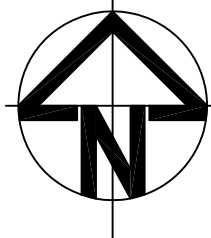
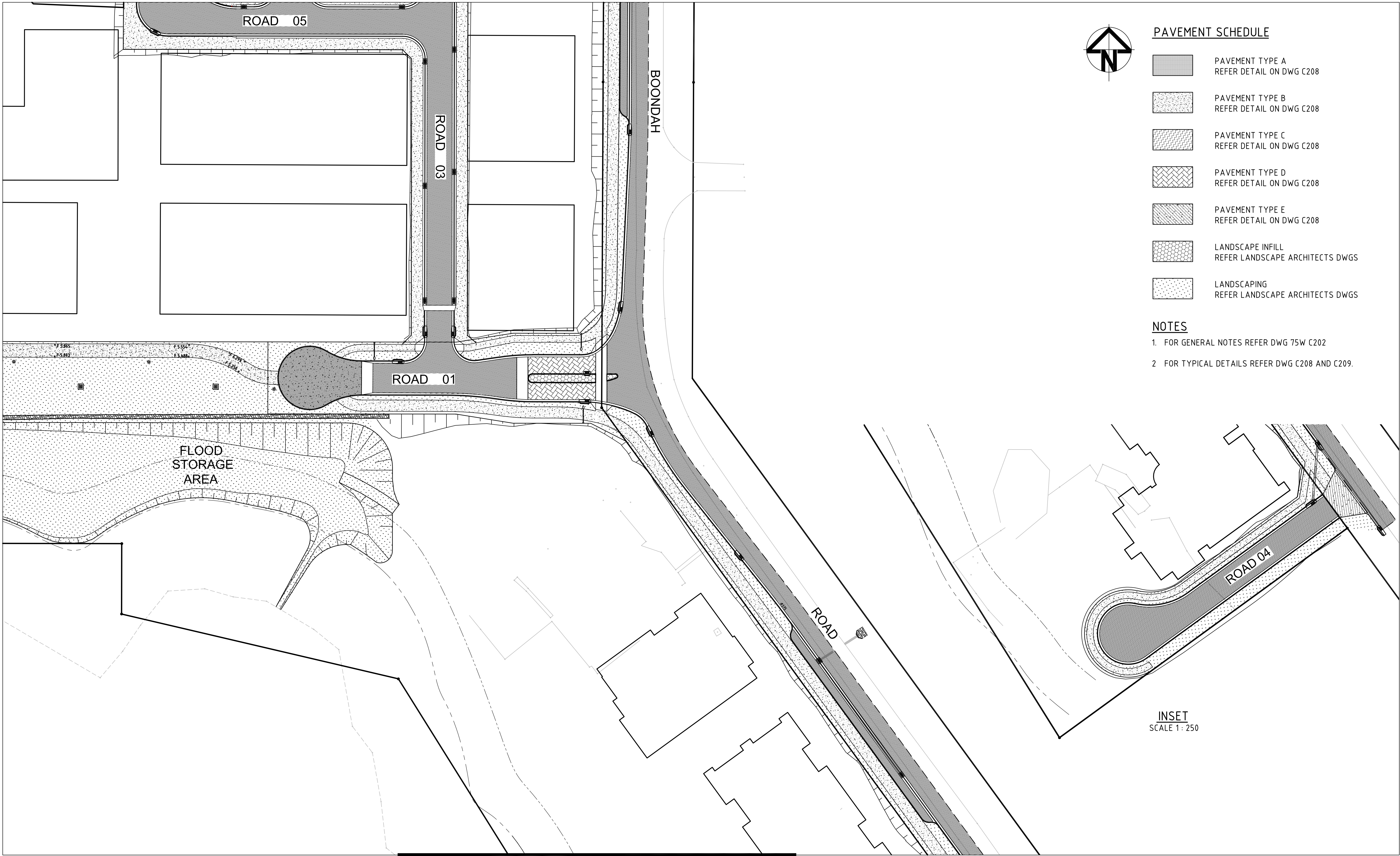
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Client	MERITON APARTMENTS PTY LTD
Scale Bar	 1 : 400

Scales	1 : 400	
	Drawn	TS
Grid	Designed	MM
	Checked	AMc
Height Datum	Approved	AMc
	AHD	

Project		PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD
Title		PAVEMENT PLAN SHEET 2

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Status	FOR APPROVAL	A1
Drawing No.	Project No.	Issue
75W C261	10-23	A

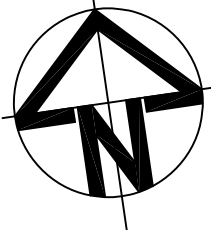


PAVEMENT SCHEDULE	
	PAVEMENT TYPE A REFER DETAIL ON DWG C208
	PAVEMENT TYPE B REFER DETAIL ON DWG C208
	PAVEMENT TYPE C REFER DETAIL ON DWG C208
	PAVEMENT TYPE D REFER DETAIL ON DWG C208
	PAVEMENT TYPE E REFER DETAIL ON DWG C208
	LANDSCAPE INFILL REFER LANDSCAPE ARCHITECTS DWGS
	LANDSCAPING REFER LANDSCAPE ARCHITECTS DWGS

- NOTES**
- FOR GENERAL NOTES REFER DWG 75W C202
 - FOR TYPICAL DETAILS REFER DWG C208 AND C209.

FOR CONTINUATION REFER INSET PLAN

<div><div>75W C060</div><div>C062</div><div>75W C061</div><div>75W C063</div></div>	<div><div></div><div></div></div>	<div>THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L</div>	<div>Client<div>MERITON APARTMENTS PTY LTD</div><div>Scale Bar<div>010203040m</div>1 : 400</div></div>	<div>Scales<div>1 : 400</div><div>Grid</div><div>Height Datum<div>AHD</div></div></div> <div><div>Drawn<div>Designed</div><div>Checked</div><div>Approved</div></div><div>TS<div>MM</div><div>AMc</div><div>AMc</div></div></div> <tr></tr> <tr><td><div><div>A</div><div>ISSUED FOR APPROVAL</div><div>20/12/11</div></div><div><div>Issue</div><div>Description</div><div>Date</div></div></td><td><div>Project<div>PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD</div><div>PAVEMENT PLAN SHEET 4</div></div></td><td><div>Civil Engineers and Project Managers<div><div><div></div><div>AT&L</div></div><div>Suite 702, 6A Glen Street Milsons Point NSW 2061 ABN 96 130 882 405 Tel: 02 8920 2466 Fax: 02 9922 5102 www.atl.net.au info@atl.net.au</div></div><div><div>Status<div>FOR APPROVAL</div></div><div><div>Drawing No.<div>75W C263</div></div><div>Project No.<div>10-23</div></div><div>Issue<div>A</div></div></div></div></div></td></tr>	<div><div>A</div><div>ISSUED FOR APPROVAL</div><div>20/12/11</div></div> <div><div>Issue</div><div>Description</div><div>Date</div></div>	<div>Project<div>PROPOSED RESIDENTIAL DEVELOPMENT 14-18 BOONDAH ROAD WARRIEWOOD</div><div>PAVEMENT PLAN SHEET 4</div></div>	<div>Civil Engineers and Project Managers<div><div><div></div><div>AT&L</div></div><div>Suite 702, 6A Glen Street Milsons Point NSW 2061 ABN 96 130 882 405 Tel: 02 8920 2466 Fax: 02 9922 5102 www.atl.net.au info@atl.net.au</div></div><div><div>Status<div>FOR APPROVAL</div></div><div><div>Drawing No.<div>75W C263</div></div><div>Project No.<div>10-23</div></div><div>Issue<div>A</div></div></div></div></div>
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PLAN
SCALE 1:1000

CUT/FILL DEPTH RANGE TABLE			
Lower_value	Upper_value	Colour	
4m	to 3m	Blue	
3m	to 2m	Purple	
2m	to 1m	Pink	
1m	to 0m	Green	
0m	to -1m	Yellow	
-1m	to -2m	Brown	

DEPTH		INCREMENTAL		Accumulative		
		CUT	FILL	CUT	FILL	BALANCE
10	15	0	0	0	0	0
5	10	0	0	0	0	0
4	5	0	0	0	0	0
3	4	0	141.618	0	141.618	141.618
2	3	0	1766.489	0	1908.106	1908.106
1	2	0	5536.823	0	7444.929	7444.929
0	1	0	9976.273	0	17421.202	17421.202
-1	0	-4444.01	0	-4444.01	17421.202	12977.192
-2	-1	-68.588	0	-4512.598	17421.202	12908.604
-3	-2	0	0	-4512.598	17421.202	12908.604
-4	-3	0	0	-4512.598	17421.202	12908.604
-5	-4	0	0	-4512.598	17421.202	12908.604
-10	-5	0	0	-4512.598	17421.202	12908.604
-15	-10	0	0	-4512.598	17421.202	12908.604

NOTE: Totals	are for the	above depth
Total cut		-4512.598
Total fill		17421.202
Total balance		12908.604
ie excess of	fill over cut	12908.604

NOTES:
1. EARTHWORKS QUANTITIES ARE FOR INFORMATION PURPOSES ONLY.
2. ACTUAL EARTHWORKS TO BE DETERMINED AT DETAILED DESIGN STAGE

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						Designed	TS				Status FOR INFORMATION NOT TO BE USED FOR CONSTRUCTION	A1	
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Issue	Description	Date					Approved		AMc				