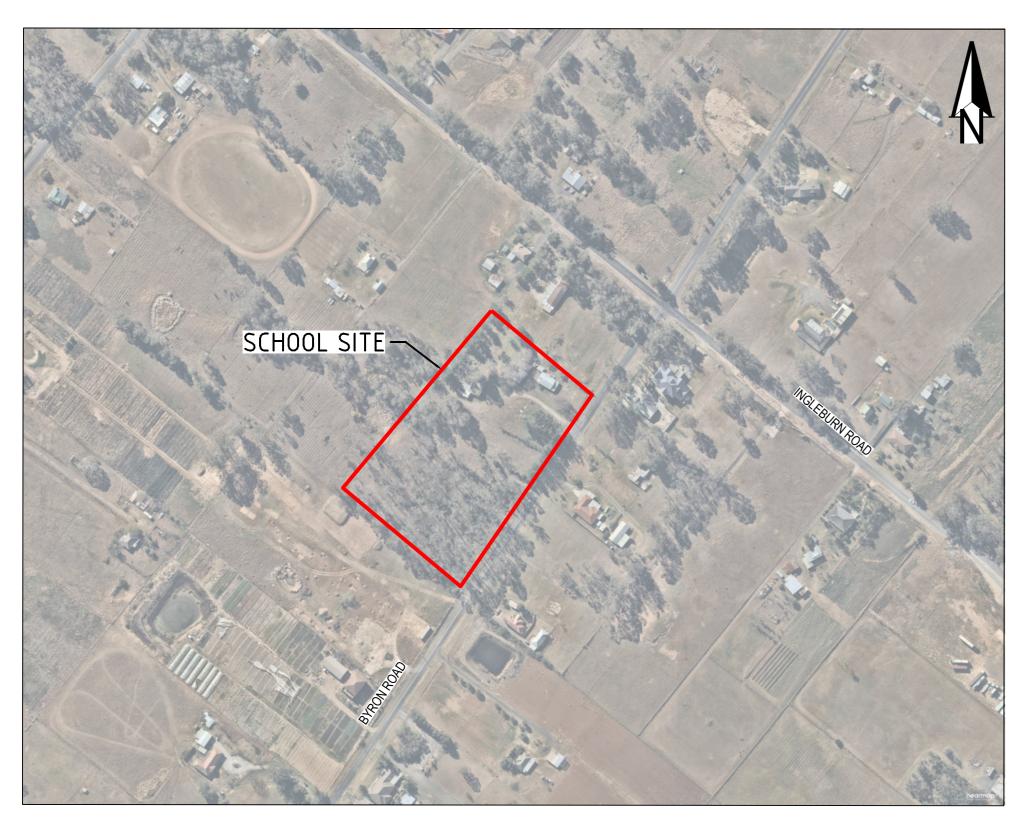
PROJECT: AMITY COLLEGE LEPPINGTON CAMPUS

PLANSET: CIVIL WORKS PLAN

CLIENT: AMITY COLLEGE



LOCALITY PLAN NOT TO SCALE

LGA: CAMDEN COUNCIL 85 BYRON RD, LEPPINGTON, NSW 2171

LOT 1 & 2 DP 525996

DRAW	NG	LIST
DWG NO.	REV	DWG TITLE
GENERAL		
PS01-A000	li	COVER SHEET
PS01-A050	Н	DEVELOPMENT OVERVIEW PLAN
CONSTRU	<u>ic Tiol</u>	N MANAGEMENT WORKS
PS01-B100	<u>Н</u>	STAGE 1 OVERVIEW PLAN
PS01-B300	I	SEDIMENT & EROSION CONTROL AND CLEARING PLAN (ULTIMATE DEVELOPMENT)
PS01-B301	G	SEDIMENT & EROSION CONTROL AND CLEARING PLAN (STAGE 1)
PS01-B305	В	SEDIMENT & EROSION CONTROL RUSLE CALCULATION
PS01-B310	С	SEDIMENT & EROSION CONTROL DETAILS SHEET 1
PS01-B311	В	SEDIMENT & EROSION CONTROL DETAILS SHEET 2
EARTHW	ÖRKS	
PS01-C100	Н	EARTHWORKS GRADING PLAN (ULTIMATE DEVELOPMENT)
PS01-C101	E	EARTHWORKS GRADING PLAN (STAGE 1)
PS01-C500	F	BULK EARTHWORKS CUT-FILL PLAN (ULTIMATE DEVELOPMENT)
PS01-C501	D	BULK EARTHWORKS CUT-FILL PLAN (STAGE 1)
PS01-C600	E	EARTHWORKS SECTION (SHEET 1)
PS01-C601	<u>-</u>	EARTHWORKS SECTION (SHEET 2)
PS01-C602	C	EARTHWORKS SECTION (SHEET 3)
ROADWO		ENTITIONIS SECTION (SILET 3)
PS01-D100	H	ROADWORKS PLAN (ULTIMATE DEVELOPMENT)
PS01-D101	E	ROADWORKS PLAN (OF ITHATE DEVELOPMENT)
PS01-D101	D	CONCEPT FUTURE BYRON ROAD (21-MRC01) LONGITUDINAL & TYPICAL SECTION
PS01-D201	F	ROAD 1 (21-MRC02) & PRIMARY DROP-OFF (21-MSC01) LONGITUDINAL & TYPICAL SECTIONS
PS01-D202	С	ROAD 2 (21-MRC03) & FUTURE ROAD 2 (21-MRC03A) LONGITUDINAL & TYPICAL SECTIONS
PS01-D300	F	ROADWORKS DETAILS PLAN
DRAINAG	Ė WO	ŔKS
PS01-E100	li	DRAINAGE PLAN (ULTIMATE DEVELOPMENT)
PS01-E101	F	DRAINAGE PLAN (STAGE 1)
PS01-E110	В	BASEMENT FLOOR PLAN (ULTIMATE DEVELOPMENT)
PS01-E200	G	OSD AND DRAINAGE DETAILS
PS01-E300	F	DRAINAGE LONGITUDINAL SECTIONS (SHEET 1)
PS01-E301	F.	DRAINAGE LONGITUDINAL SECTIONS (SHEET 2)
PS01-E302	F.	DRAINAGE LONGITUDINAL SECTIONS (SHEET 3)
PS01-E303	E E	DRAINAGE LONGITUDINAL SECTIONS (SHEET 4)
PS01-E304	F	DRAINAGE LONGITUDINAL SECTIONS (SHEET 5) & PIT SCHEDULE
PS01-E310	В	DRAINAGE LONGITUDINAL SECTIONS (SHEET 6) & PIT SCHEDULE
PS01-E310	Н	POST-DEVELOPMENT OSD CATCHMENT PLAN, MODEL LAYOUT AND RESULT (ULTIMATE STAGE)
PS01-E611	F	POST-DEVELOPMENT OSD CATCHMENT PLAN, MODEL LAYOUT AND RESULT (STAGE 1)
PS01-E700	G	PRE-DEVELOPMENT MUSIC CATCHMENT PLAN, MODEL LAYOUT AND RESULT
PS01-E710	Н	POST-DEVELOPMENT MUSIC CATCHMENT PLAN, MODEL LAYOUT AND RESULT (ULTIMATE STAGE)
PS01-E711	E	MUSIC CATCHMENT PLAN, MODEL LAYOUT AND RESULT (STAGE 1)
FINAL CIV		ORKS
PS01-G400	F	PAVEMENT PLAN AND DETAILS (ULTIMATE DEVELOPMENT)
PS01-G401	 D	PAVEMENT PLAN AND DETAILS (STAGE 1)
- 201-0401	ال	I ATELIENT LEUM MIN DETAILS (STAGE I)

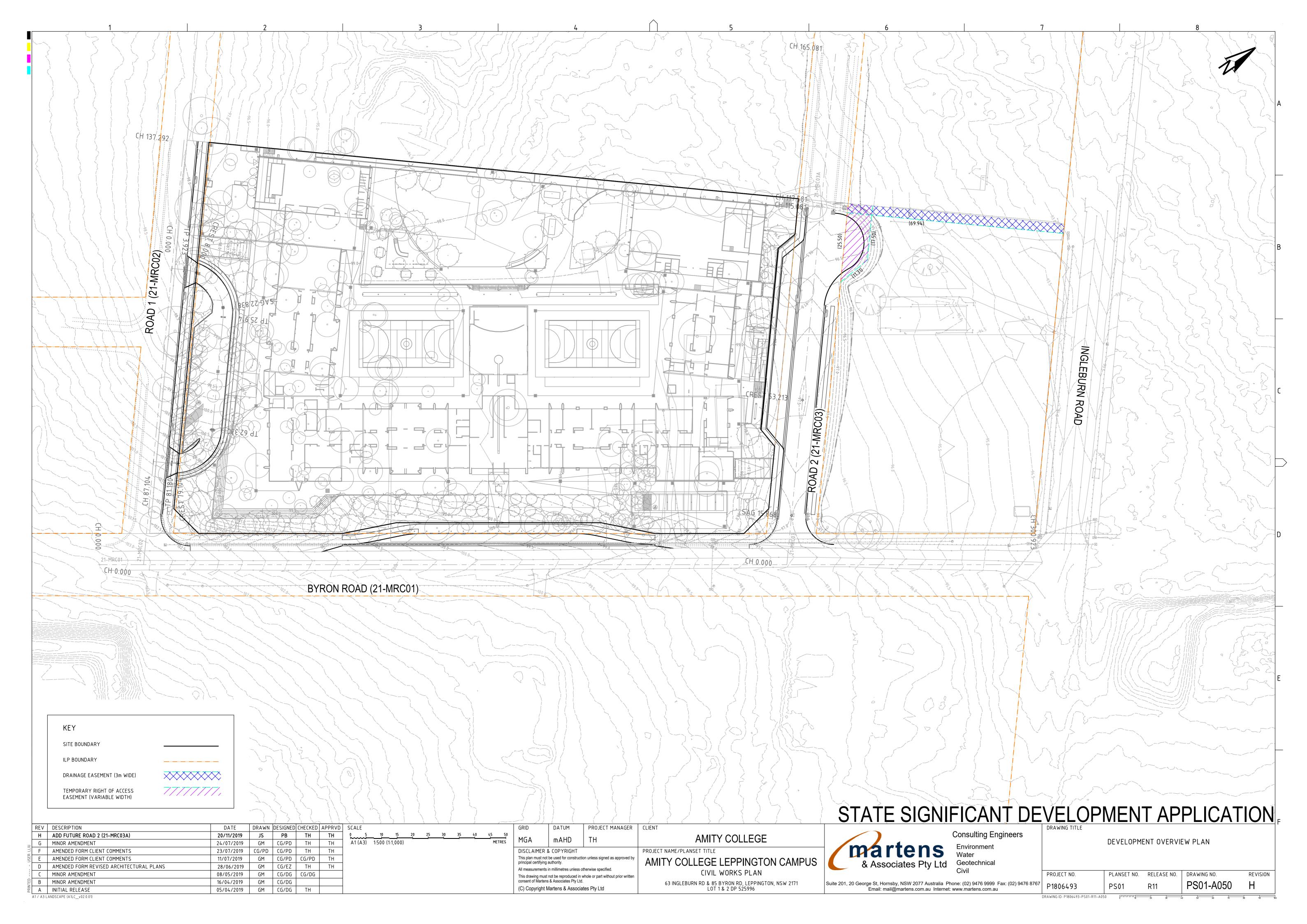
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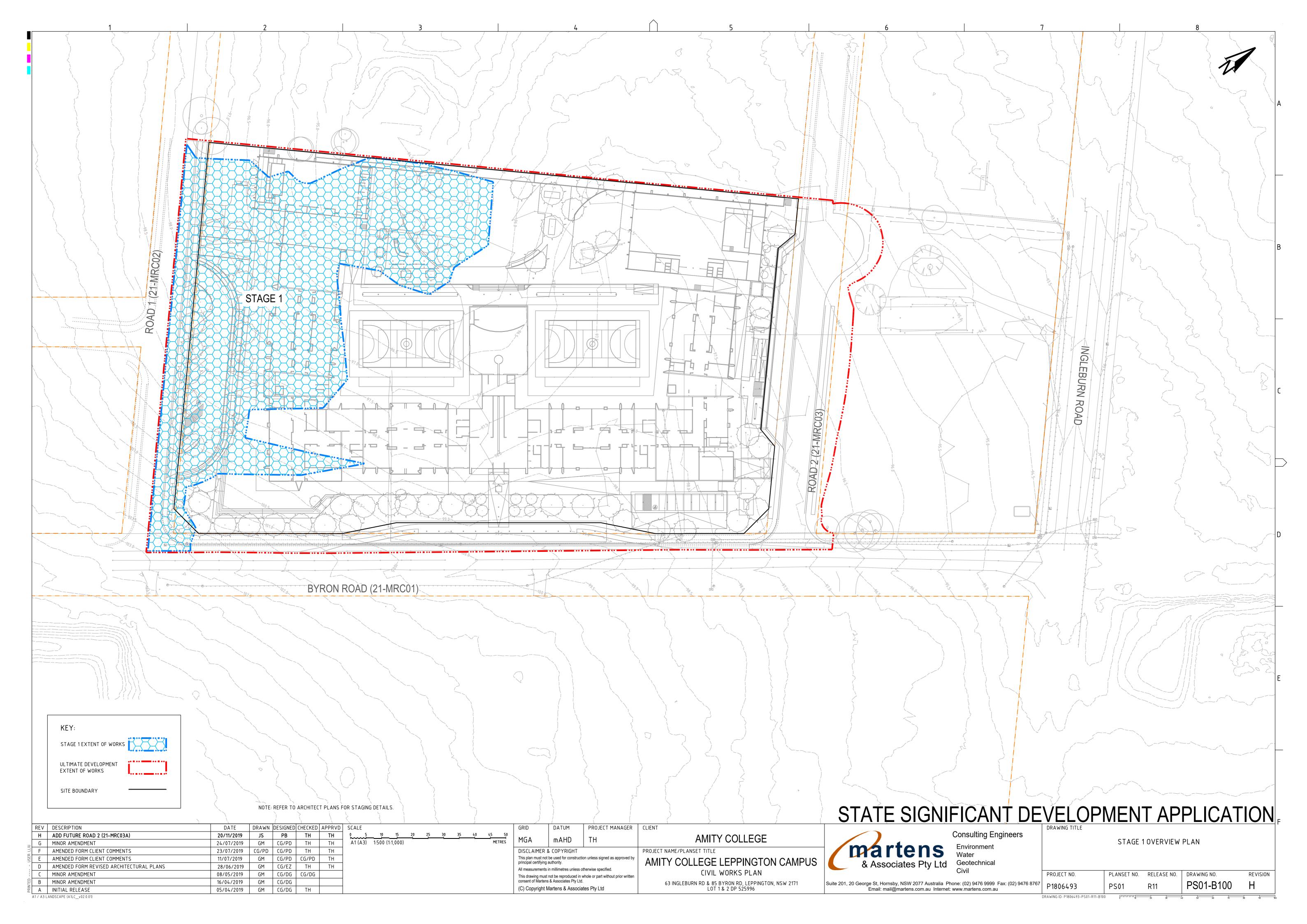
- 1 THIS PLAN IS FOR DEVELOPMENT APPLICATION PURPOSE AND NOT FOR CONSTRUCTION. DESIGN TO BE REVIEWED AND UPDATED FOR CONSTRUCTION CERTIFICATE.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH, AND THESE NOTES ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT AUSTRALIAN STANDARDS, COUNCIL SPECIFICATIONS, AND ALL PROJECT CONSULTANT'S PLANS AND REPORTS.
- SURVEY INFORMATION SHOWN BASED ON SURVEY INFORMATION PROVIDED BY TOTAL SURVEYING SOLUTION SURVEYORS.
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED AND EXISTING SURFACE.

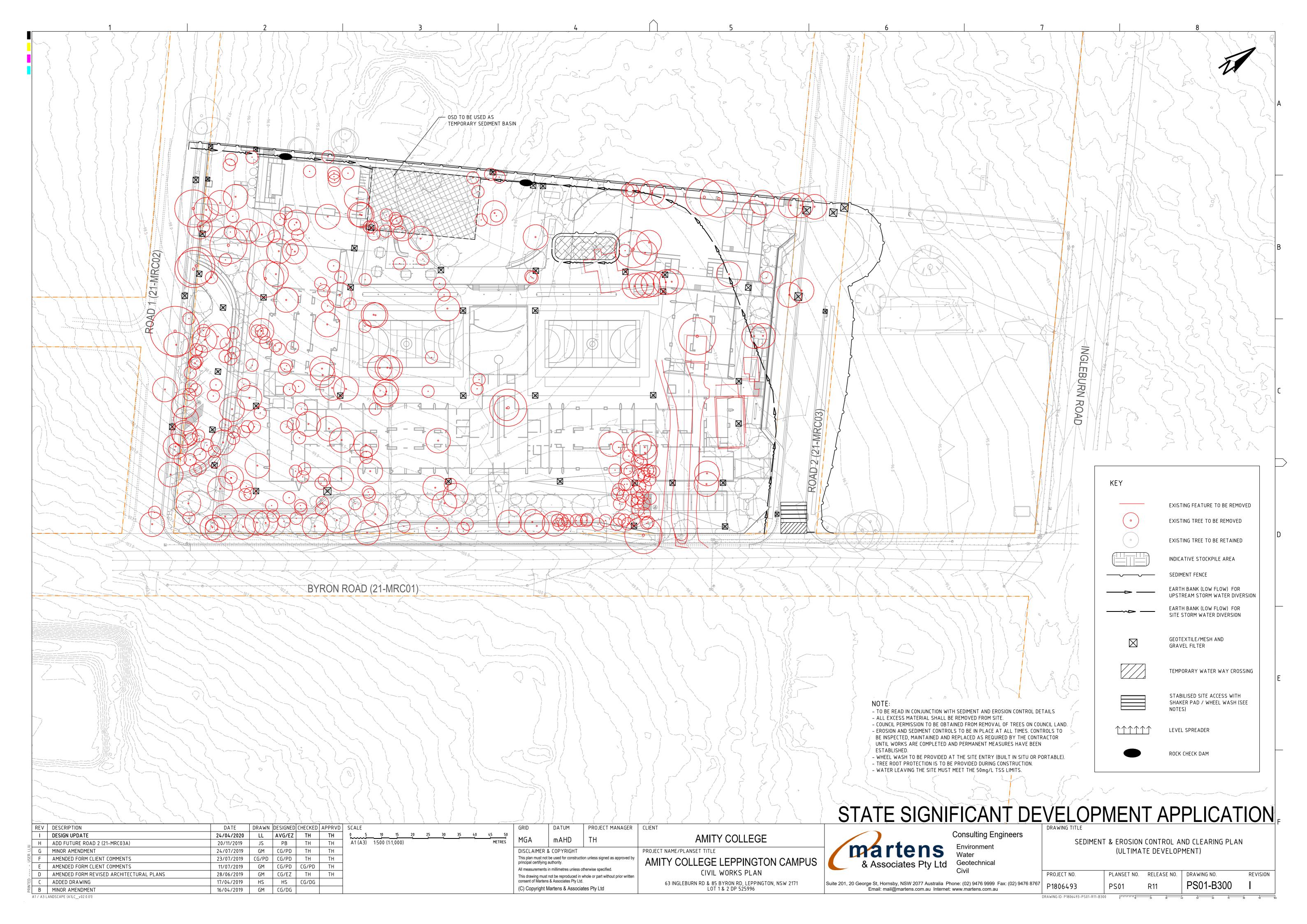
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ı	DESIGN UPDATE	24/04/2020	LL	AVG/EZ	TH	TH				TU	AMITY COLLEGE
_⊃ H	ADD FUTURE ROAD 2 (21-MRC03A)	20/11/2019	JS	PB	TH	TH				'	AWITT COLLEGE
∃ G	MINOR AMENDMENT	24/07/2019	GM	CG/PD	TH	TH	DISCLA	.AIMER &	COPYRIGHT		PROJECT NAME/PLANSET TITLE
F F	AMENDED FORM CLIENT COMMENTS	23/07/2019	CG/PD	CG/PD	TH	TH		This plan must not be used for construction unless signed as approved by principal certifying authority.			AMITY COLLEGE LEPPINGTON CAMP
; E	AMENDED FORM CLIENT COMMENTS	11/07/2019	GM	CG/PD	CG/PD	TH			•	otherwise specified.	
D	AMENDED FORM REVISED ARCHITECTURAL PLANS	28/06/2019	GM	CG/EZ	TH	TH				whole or part without prior written	CIVIL WORKS PLAN
Ë C	MINOR AMENDMENT	08/05/2019	GM	CG/DG	CG/DG		consent of	t of Martens 8	& Associates Pty Ltd	d. '	63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171
PRIN B	MINOR AMENDMENT	16/04/2019	GM	CG/DG			(C) Cop	opyright Ma	artens & Associ	ates Pty Ltd	LOT 1 & 2 DP 525996
A1 / A3	LANDSCAPE (A1LC_v02.0.01)	•		-	-		'				

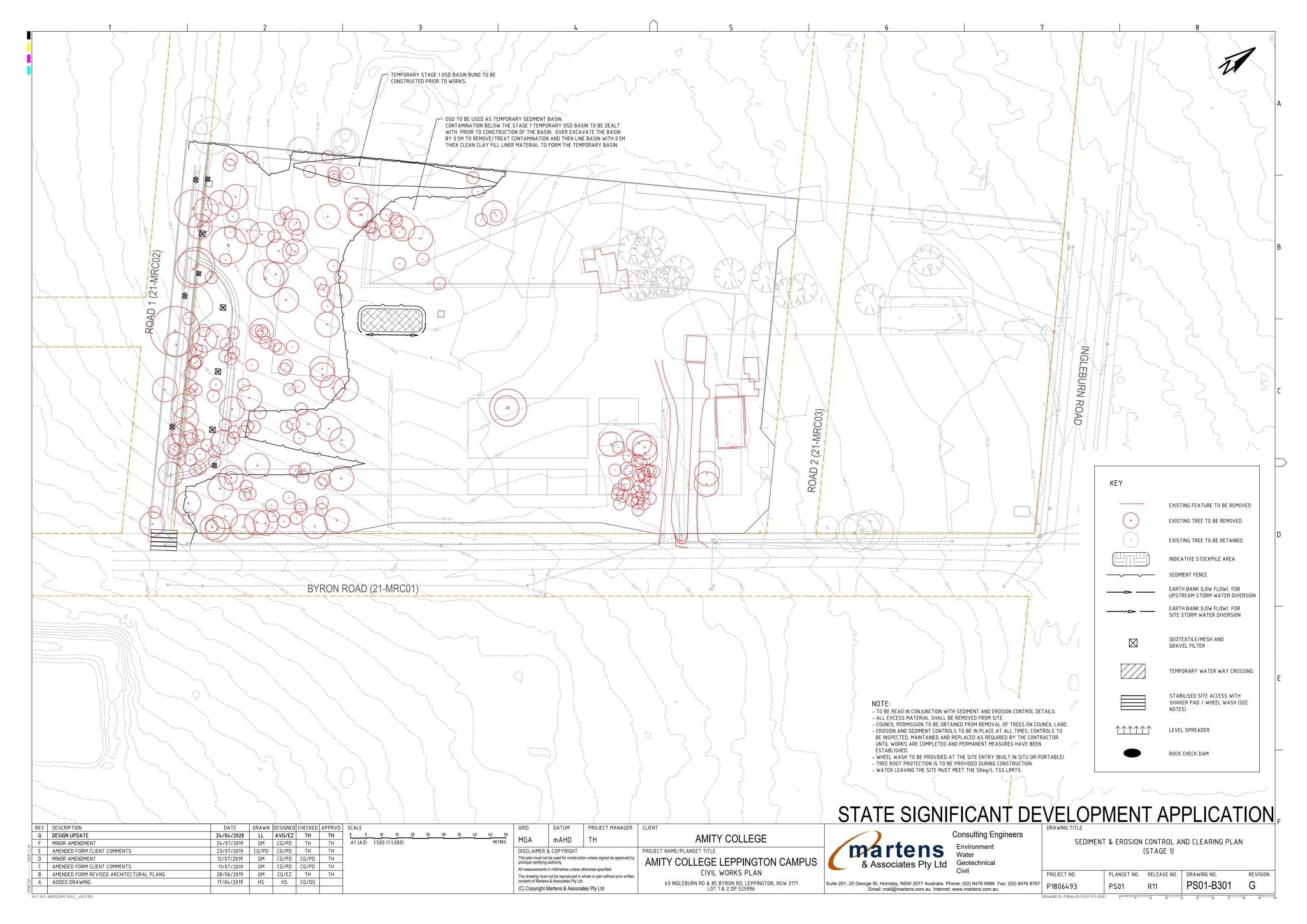
STATE SIGNIFICANT DEVELOPMENT APPLICATION Consulting Engineers Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au

COVER SHEET PLANSET NO. RELEASE NO. DRAWING NO. REVISION PS01-A000 P1806493









Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE 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 RUSLE in calculations. 1. Site Data Sheet

Site Name: P1806493

Site Location: 63 Ingleburn Road & 85 Byron Road, Leppington, NSW

Precinct: N/A

Description of Site: Blacktown (bt) - Penrith Soil Landscaspe

Site area			Si	Remarks		
Site area	CAT 1	CAT 2				Remarks
Total catchment area (ha)	1.77	0.73				
Disturbed catchment area (ha)	1.77	0.73				

Soil analysis

% sand (faction 0.02 to 2.00 mm	5	5	Soil texture should be assessed through
% silt (fraction 0.002 to 0.02 mm)	30	30	mechanical dispersion only. Dispersing
% clay (fraction finer than 0.002 mm)	65	65	agents (e.g. Calgon) should not be used
Dispersion percentage	15.0	15.0	E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	12	12	See Section 6.3.3(e)
Soil Texture Group	D	D	See Section 6.3.3(c), (d) and (e)

Rainfall data

Training a data					
Design rainfall depth (days)	6	6			See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	75	75			See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	21.84	21.84			See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	9.7	9.7			See IFD chart for the site

RUSLE Factors

Rainfall erosivity (<i>R</i> -factor)	2100	2100	0	0	0	0	Automatic calculation from above data
Soil erodibility (K-factor)	0.038	0.038					
Slope length (m)	140	130					
Slope gradient (%)	5.5	3					RUSLE data can be obtained from
Length/gradient (LS -factor)	1.84	0.81					Appendixes A, B and C
Erosion control practice (P-factor)	1.3	1.3					
Ground cover (C-factor)	1	1					

Calculations					
Soil loss (t/ha/yr)	191	84			
Soil Loss Class	2	1			See Section 4.4.2(b)
Soil loss (m³/ha/yr)	147	65			
Soil loss (m ³ /yr)	260	47			Noted Cat 2 does not require sedimentation basin due to Soil Loss per year < 150 m3/yr
Sediment basin storage volume, m³	44	8			See Sections 6.3.4(i) and 6.3.5 (e)

2. Storm Flow Calculations

Peak flow is given by the Rational Formula:

$Qy = 0.00278 \times C_{10} \times F_Y \times I_{y, tc} \times A$

where: Q_y is peak flow rate (m³/sec) of average recurrence interval (ARI) of "Y" years C₁₀ is the runoff coefficient (dimensionless) for ARI of 10 years. Rural runoff coefficients are given in Volume 2, figure 5 of Pilgrim (1998), while urban runoff coefficients are given in Volume 1, Book VIII, figure 1.13 of Pilgrim (1998) and construction runoff coefficients are given in Appendix F F_v is a frequency factor for "Y" years. Rural values are given in Volume 1,

Book IV, Table 1.1 of Pilgrim (1998) while urban coefficients are given in Volume 1, Book VIII, Table 1.6 of Pilgrim (1998) A is the catchment area in hectares (ha)

Rainfall intensity, I, mm/hr

ly, tc is the average rainfall intensity (mm/hr) for an ARI of "Y" years and a design duration of "tc" (minutes or hours)

Time of concentration $(t_c) = 0.76 \times (A/100)^{0.38}$ hrs (Volume 1, Book IV of Pilgrim, 1998)

Note: For urban catchments the time of concentration should be determined by more precise calculations or reduced by a factor of 50 per cent.

Peak flow calculations, 1

Site	(ha)	(mins)	1 yr,tc	5 yr,tc	10 _{yr,tc}	20 yr,tc	50 yr,tc	100 _{yr,tc}	C ₁₀
CAT 1	1.77	10	58.5	96.4	109	125.5	146	162.4	0.83

Peak flow calculations, 2

	Frequency factor (F _y)							
ARI (yrs)		CAT 1 (m³/s)	(m³ls)	(m³ls)	(m³ls)	(m³/s)	(m 3/s)	Comment
1 yr,tc	8.0	0.191						
5 yr,tc	0.95	0.374						
10 yr,tc	1	0.445						
20 yr,tc	1.05	0.538						
50 yr,tc	1.15	0.686						
100 yr,tc	1.2	0.796						

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

The settling zone volume for Type F and Type D soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

 $V = 10 \times C_v \times A \times R_{x-day, y-\%ile} (m^3)$

10 = a unit conversion factor

 C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

 $R_{x-day, y-\%ile}$ = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g)

A = total catchment area (ha)

Sediment Storage Zone Volume In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii).

Place an "X" in the box below to show the sediment storage zone design parameters used here: 50% of settling zone capacity,

X 2 months soil loss calculated by RUSLE

Total Basin Volume

	SIII VOIG					
Site	C _v	R _{x-day, y-%ile}	Total catchment area (ha)	Settling zone volume (m³)	Sediment storage volume (m³)	Total basin volume (m³)
CAT 1	0.35	21.84	1.77	135.2988	44	179.2988

NOTE: SOURCED FROM LANDCOM BLUE BOOK.

	REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SC
	В	AMENDED FORM CLIENT COMMENTS	11/07/2019	GM	CG/PD	CG/PD	TH	0
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TH	0 	10	20	30	40	50	60	70	80	90	100
TH	A1 (A	(3)	1:1,000	(1:2,000))					ME	TRES

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DATUM

All measurements in millimetres unless otherwise specified.

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PROJECT MANAGER | CLIENT

PROJECT NAME/PLANSET TITLE AMITY COLLEGE LEPPINGTON CAMPUS CIVIL WORKS PLAN 63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996

AMITY COLLEGE

STATE SIGNIFICANT DEVELOPMENT APPLICATION Consulting Engineers

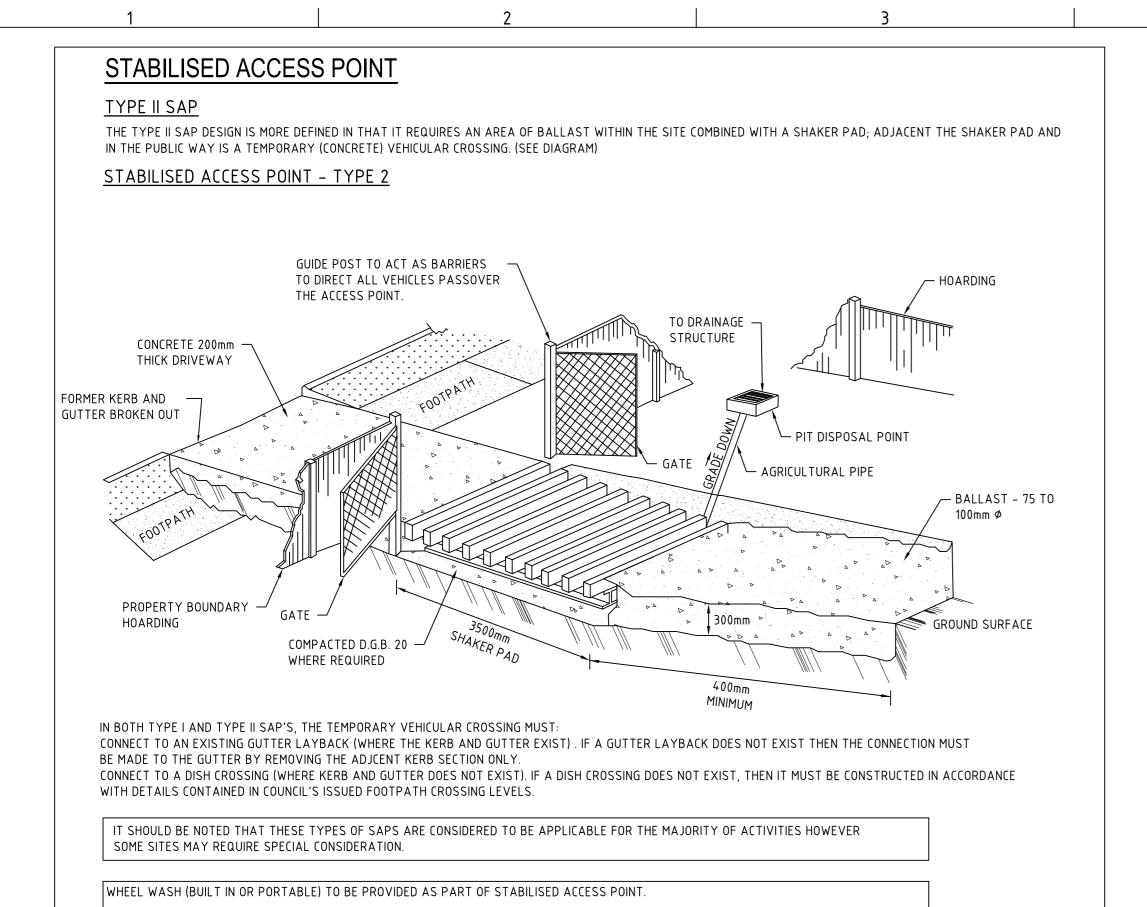
Email: mail@martens.com.au Internet: www.martens.com.au

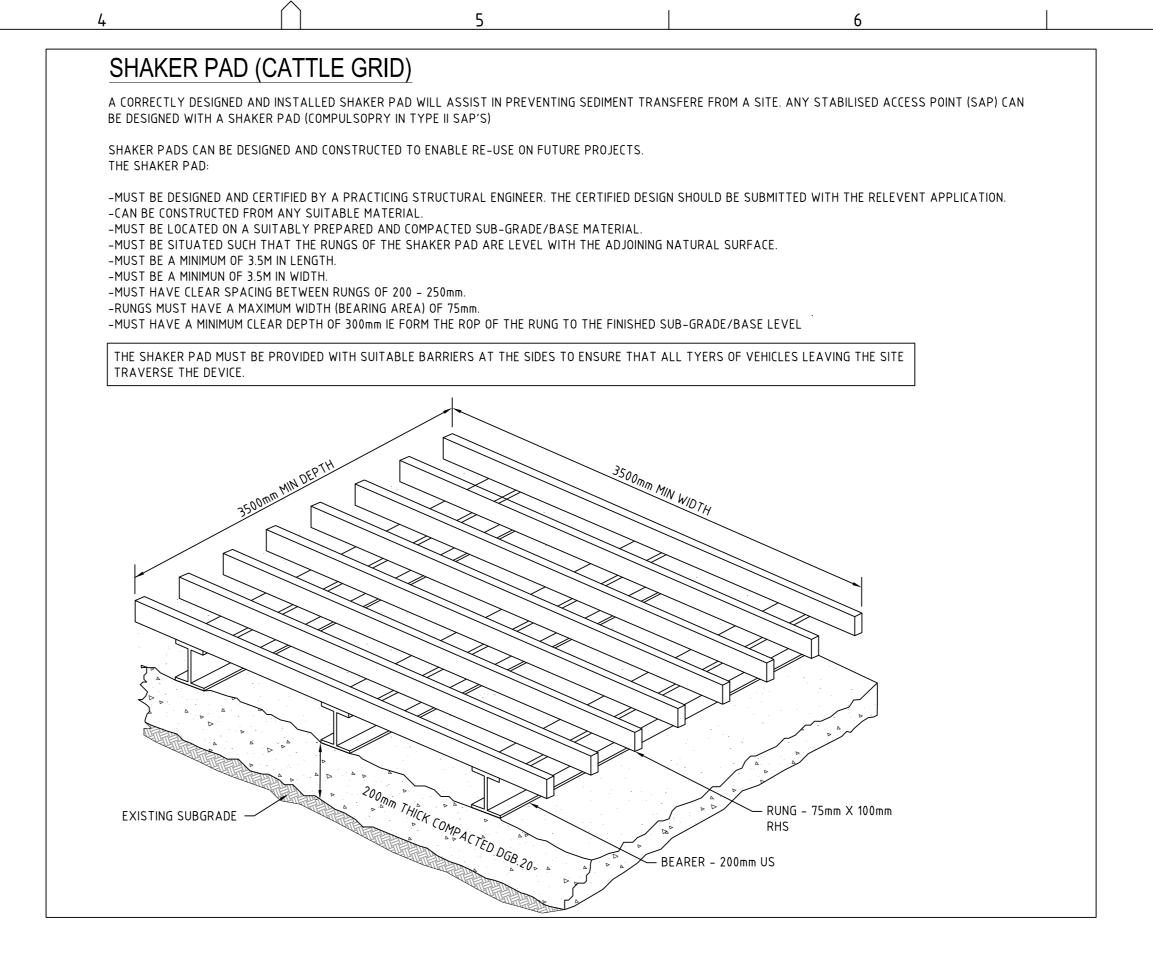


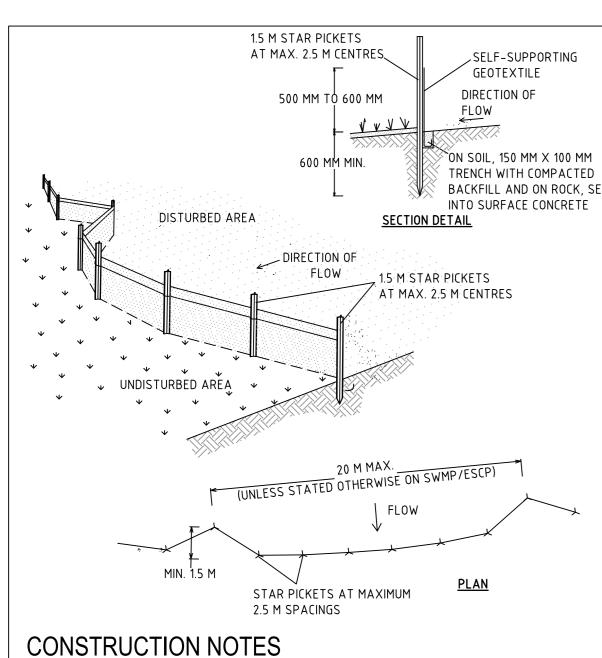
Environment

SEDIMENT & EROSION CONTROL RUSLE CALCULATION

PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 876 PS01-B305 P1806493







1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION.THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE

2. CUT A 150-MM DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE

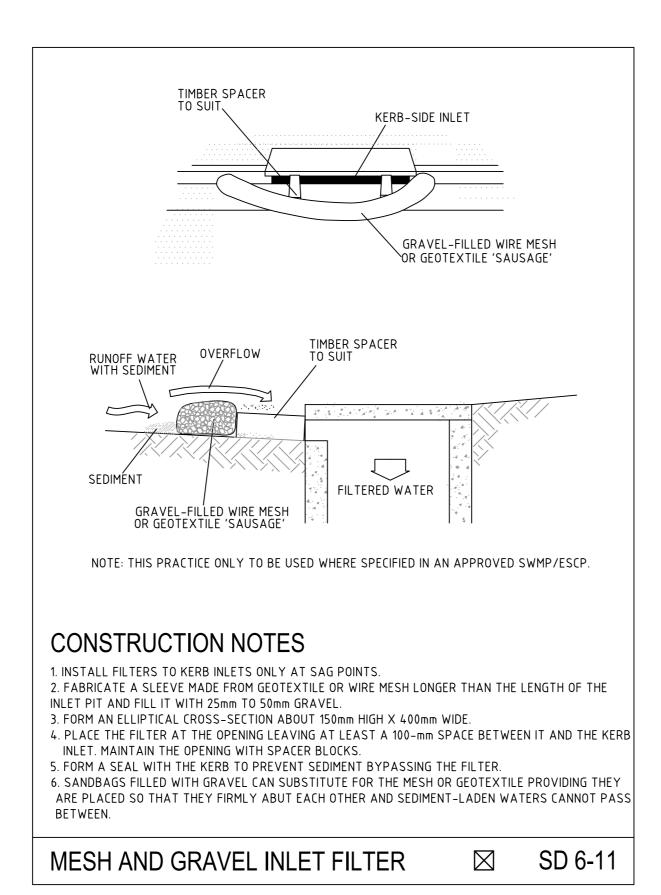
FABRIC TO BE ENTRENCHED.

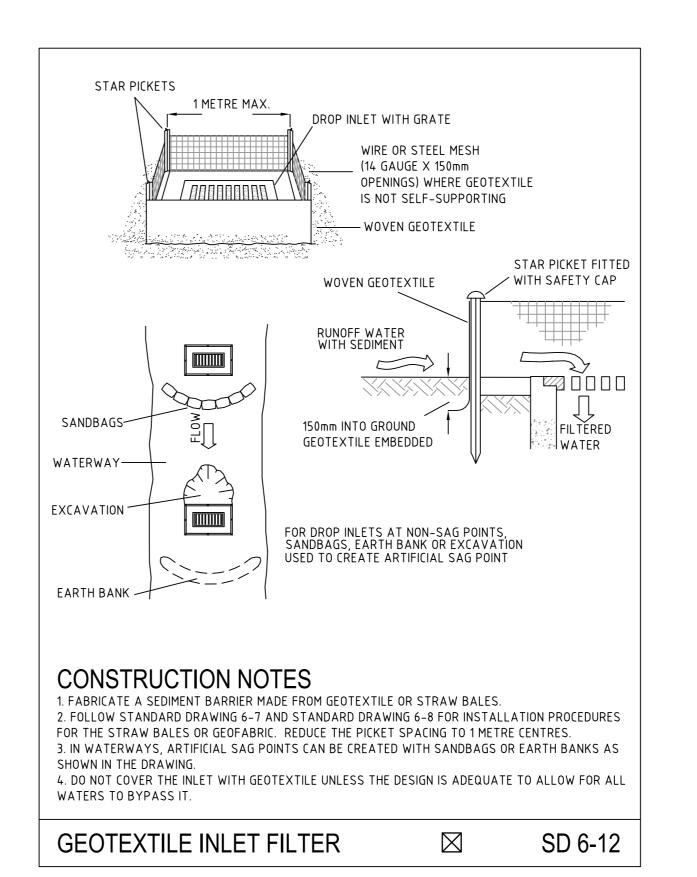
GEOTEXTILE.

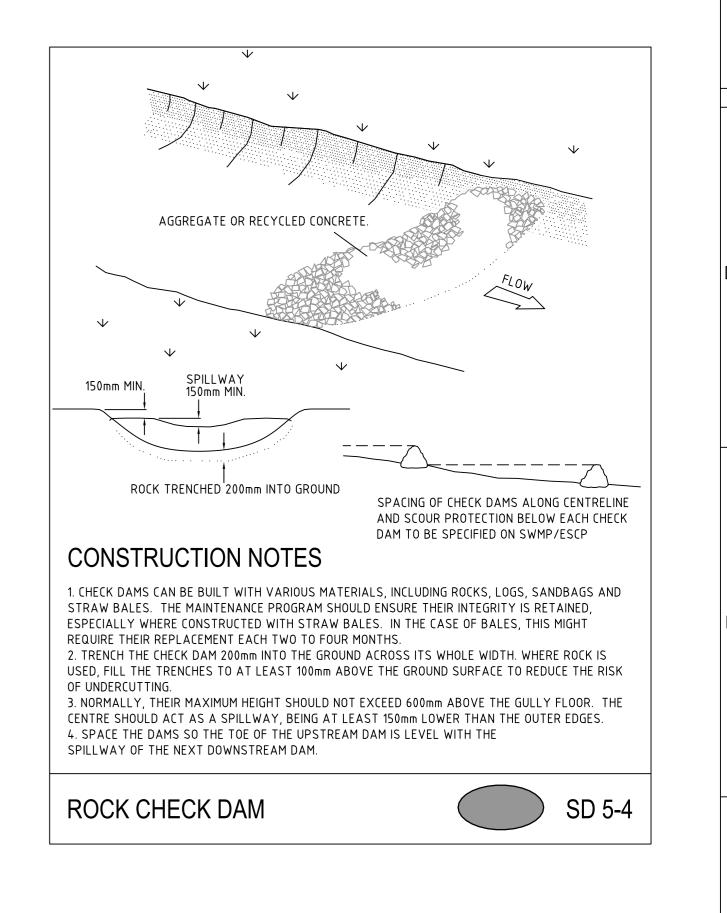
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOP EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS. 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE

OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.

5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150-MM OVERLAP. 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE

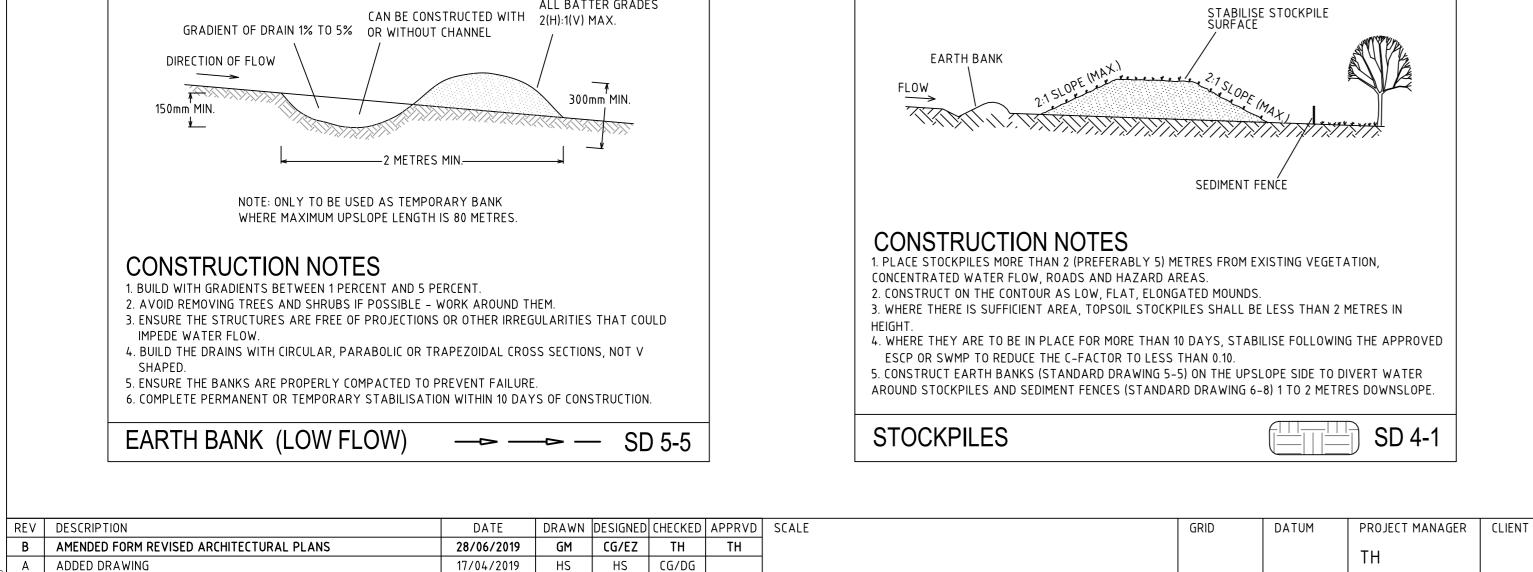




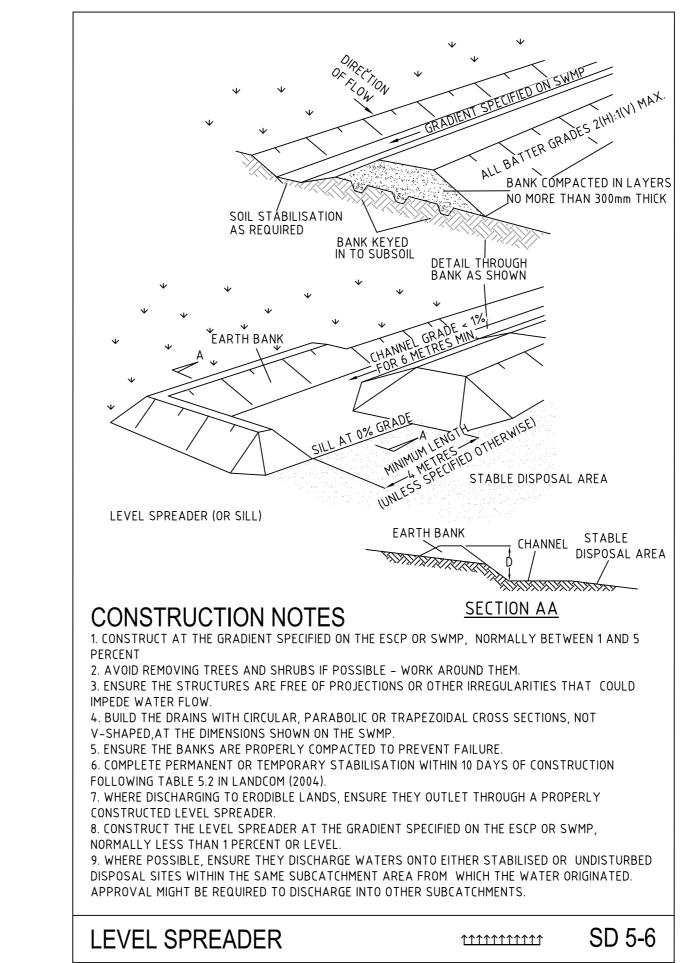


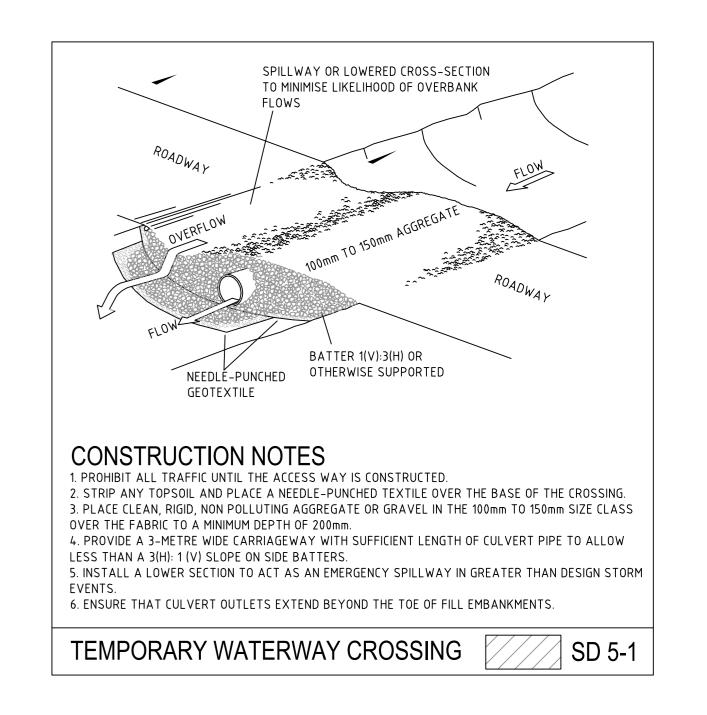
STATE SIGNIFICANT DEVELOPMENT APPLICATION, REV DESCRIPTION DATE | DRAWN | DESIGNED | CHECKED | APPRVD | SCALE DATUM PROJECT MANAGER CLIENT

C AMENDED FORM REVISED ARCHITECTURAL PLANS B ADDED DRAWING	28/06/2019 17/04/2019	GM HS	CG/EZ HS	Z TH	TH G	-		TH	AMITY COLLEGE		/	Consulting Engineers	SE	DIMENT & E	ROSION CON	TROL DETAILS	
A INITIAL RELEASE	05/04/2019	GM	CG/DC	G TH		DISCLAIMER & CO	OPYRIGHT	•	PROJECT NAME/PLANSET TITLE	7	martens	Environment Water			SHEET 1		
n N SEF						This plan must not be uprincipal certifying author	used for construction	ion unless signed as approved by	AMITY COLLEGE LEPPINGTON CAMPUS		& Associates Pty Ltd	Geotechnical					
						All measurements in mi This drawing must not b	nillimetres unless o be reproduced in v	whole or part without prior written	CIVIL WORKS PLAN		j	Civil	PROJECT NO.	PLANSET NO.	. RELEASE NO.	DRAWING NO.	REVISI0
A PINAL PRINCIPLE PRINCIPL						consent of Martens & A		t. ates Pty Ltd	63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996	Suite 20	201, 20 George St, Hornsby, NSW 2077 Australia Email: mail@martens.com.au Intern	Phone: (02) 9476 9999 Fax: (02) 9476 8767 et: www.martens.com.au	P1806493	PS01	R11	PS01-B310	С
A1 / A3 LANDSCAPE (A1LC_v02.0.01)								•	<u> </u>				DRAWING ID: P1806493-PS01-R11-B3	10		40 50 60 70	80 90



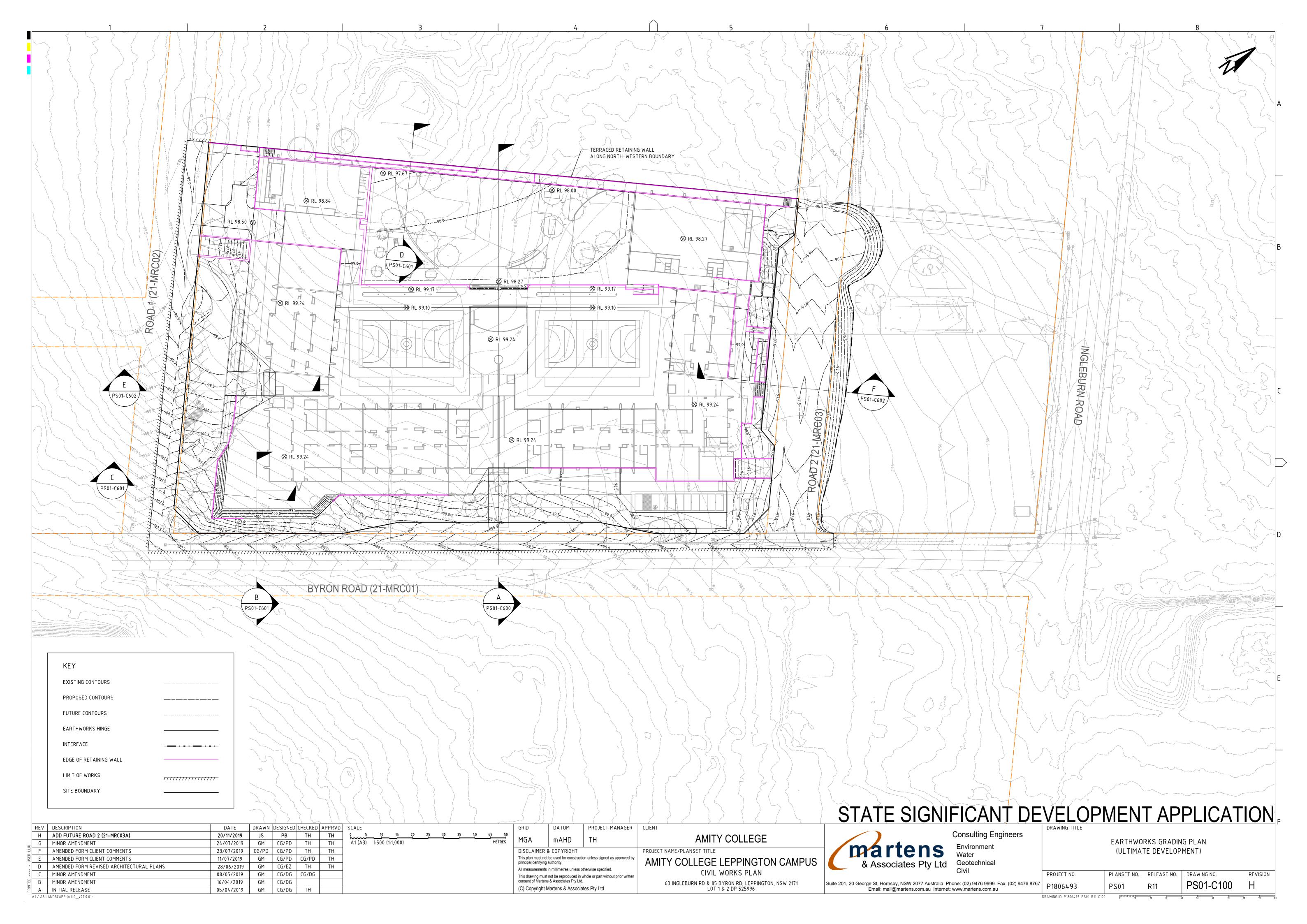
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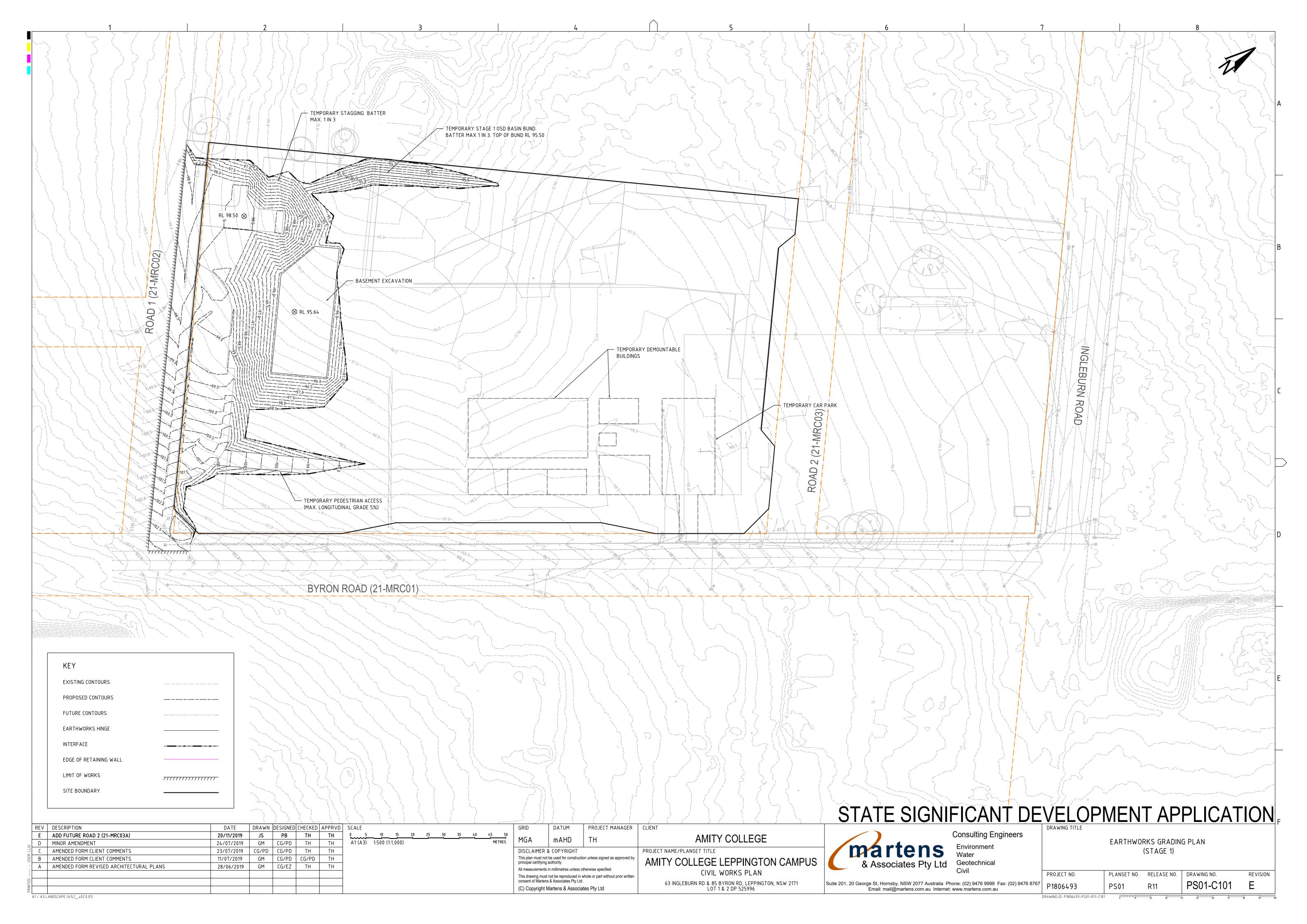


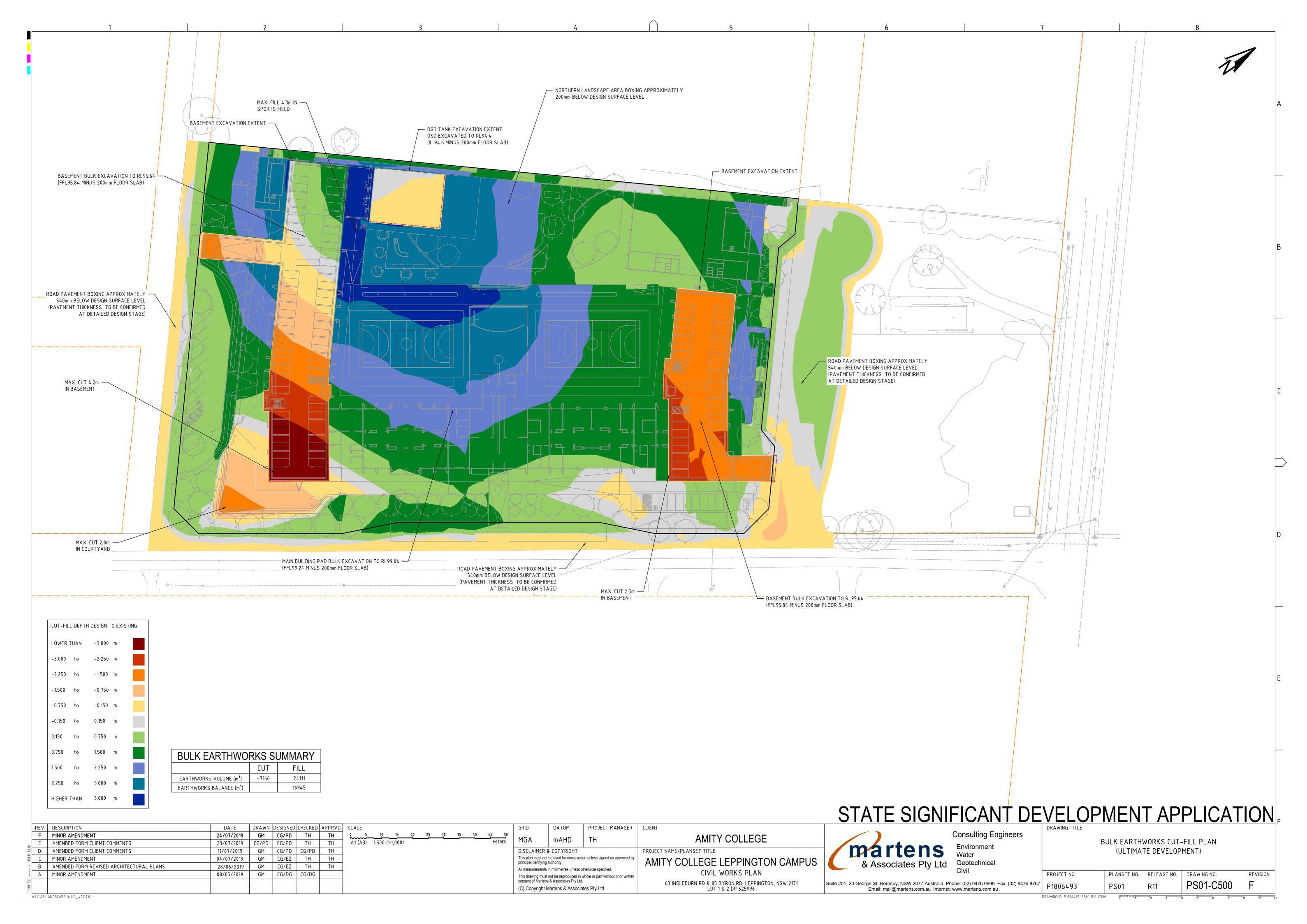


STATE SIGNIFICANT DEVELOPMENT APPLICATION PRAWING TITLE

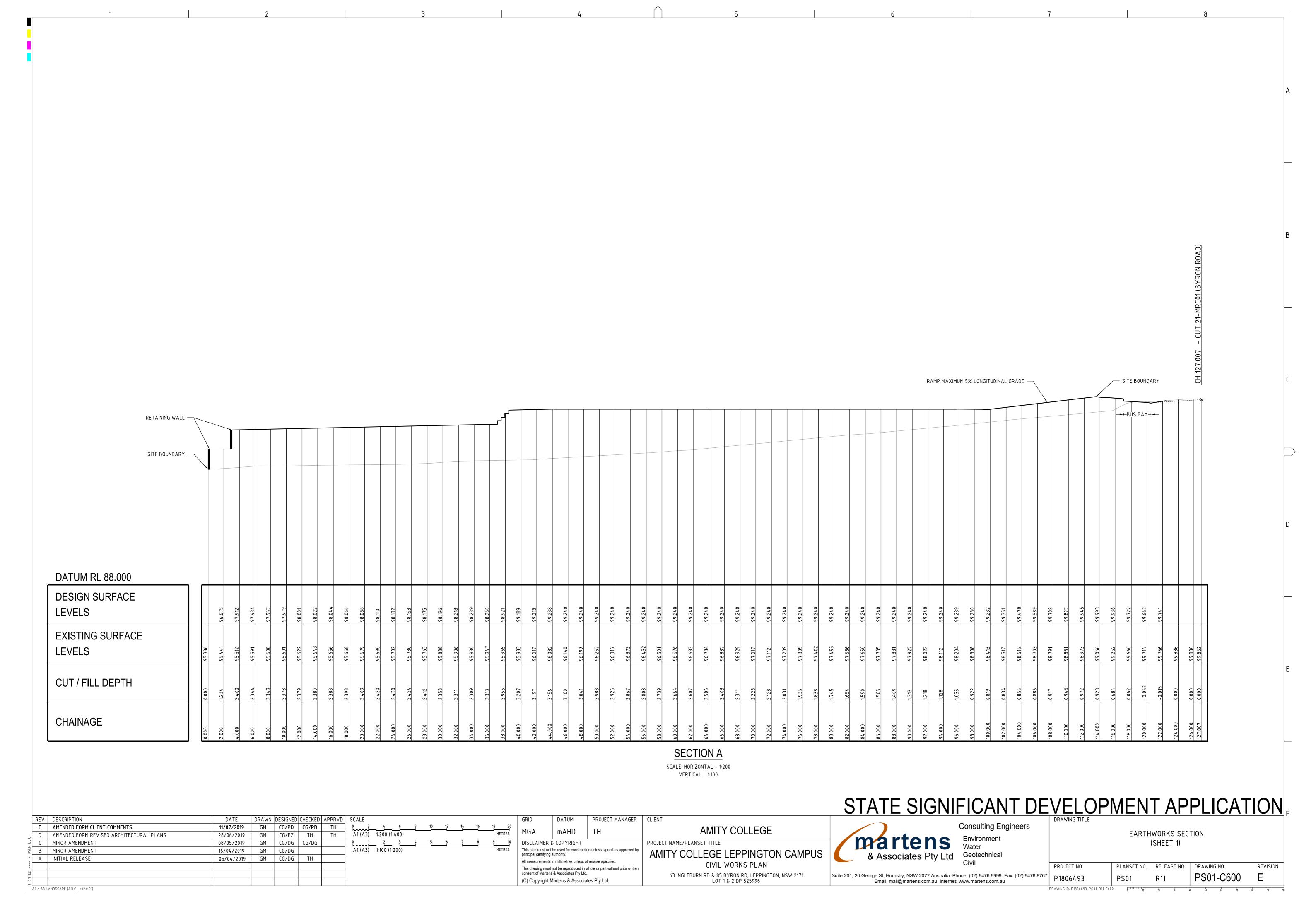
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B AMENDED FORM REVISED ARCHITECTURAL PLANS A ADDED DRAWING	28/06/2019 GM CG/EZ TH TH 17/04/2019 HS HS CG/DG	ТН	AMITY COLLEGE	Consulting Engineers Environment	SEC	DIMENT & EROS	SION CONTR	OL DETAILS	
- USER: LLI		DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority.	PROJECT NAME/PLANSET TITLE AMITY COLLEGE LEPPINGTON CAMPUS	** Associates Pty Ltd **Geotechnical**		Sł	HEET 2		
ä		All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Ptv I td	CIVIL WORKS PLAN	Civil		PLANSET NO. R		DRAWING NO.	REVISION
PRINTE		(C) Copyright Martens & Associates Pty Ltd.	63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996	Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 876 Email: mail@martens.com.au Internet: www.martens.com.au	P1806493	PS01 R	R11	PS01-B311	В
A1 / A3 LANDSCAPE (A1LC_v02.0.01)					DRAWING ID: P1806493-PS01-R11-B311	1 0 10 2	20 30 40	50 60 70	80 90 10

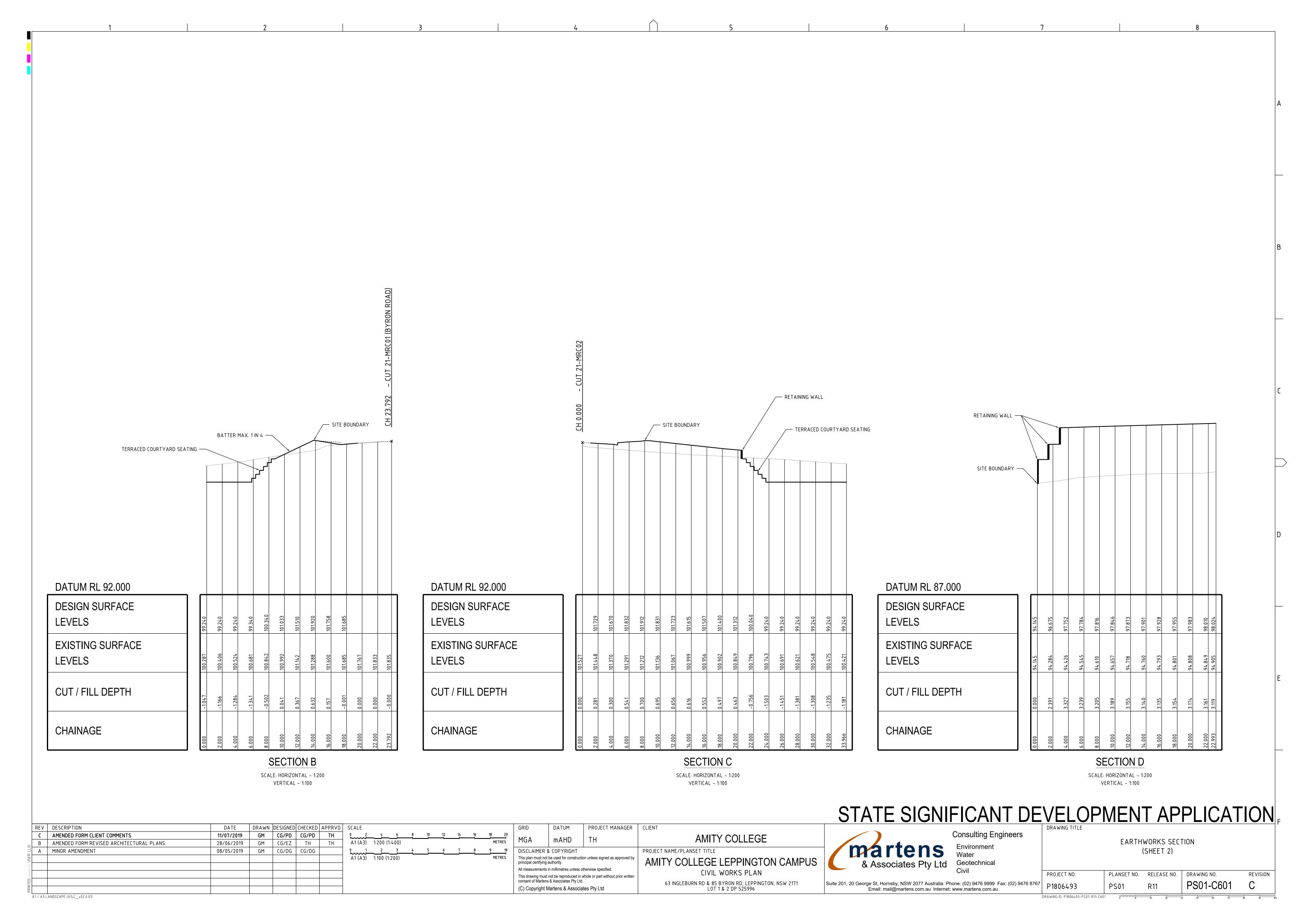


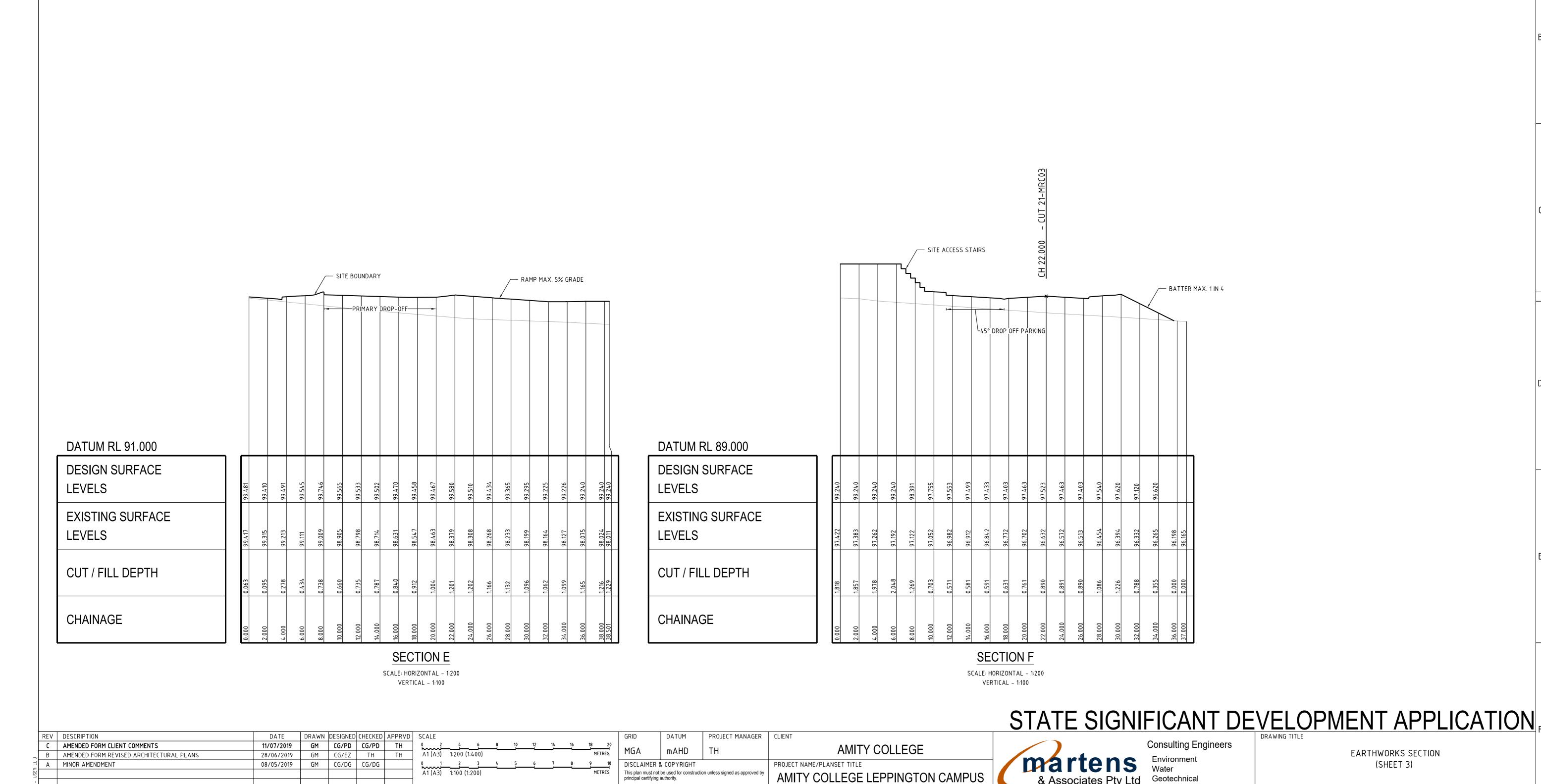












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CIVIL WORKS PLAN

63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996 PROJECT NO.

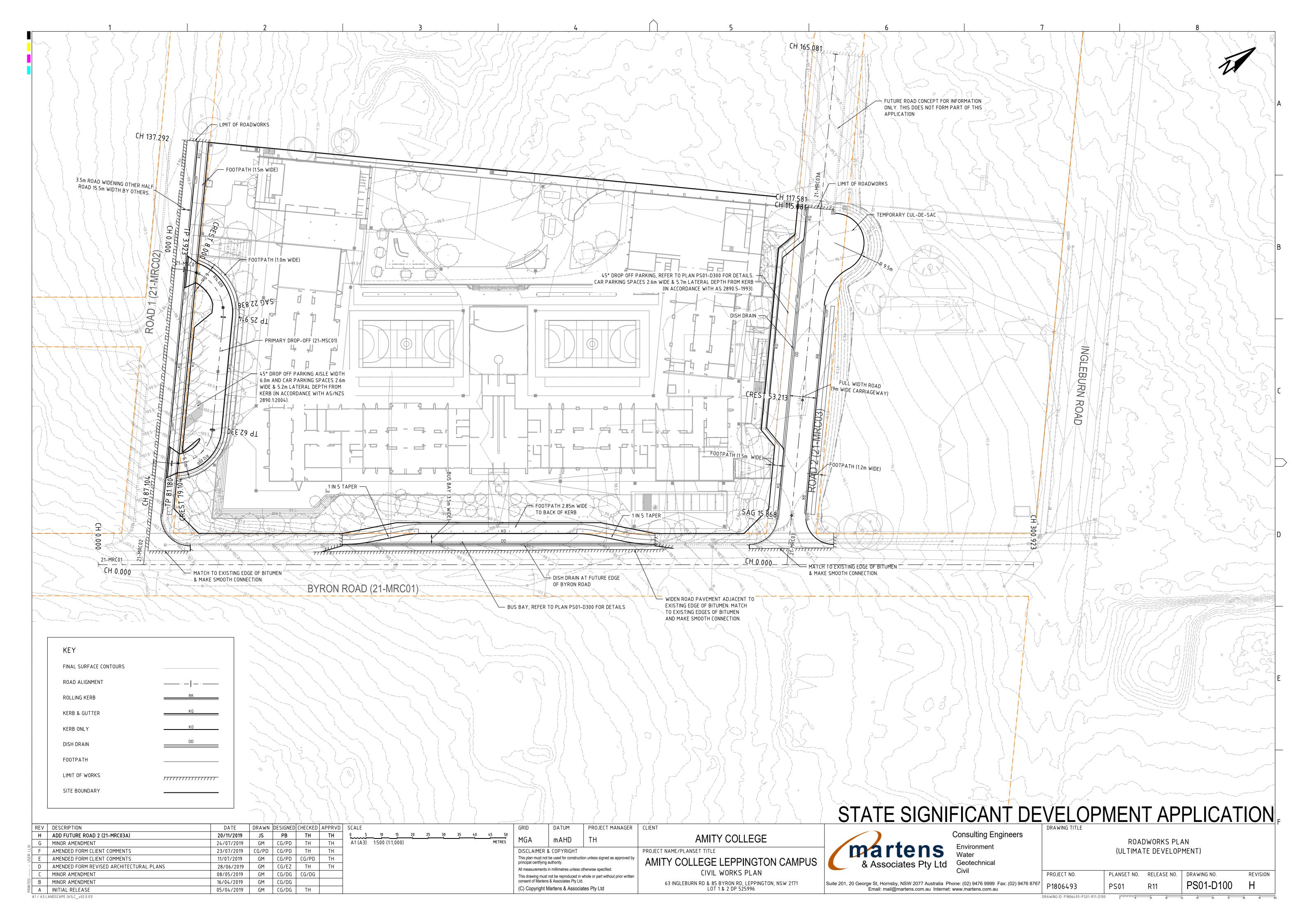
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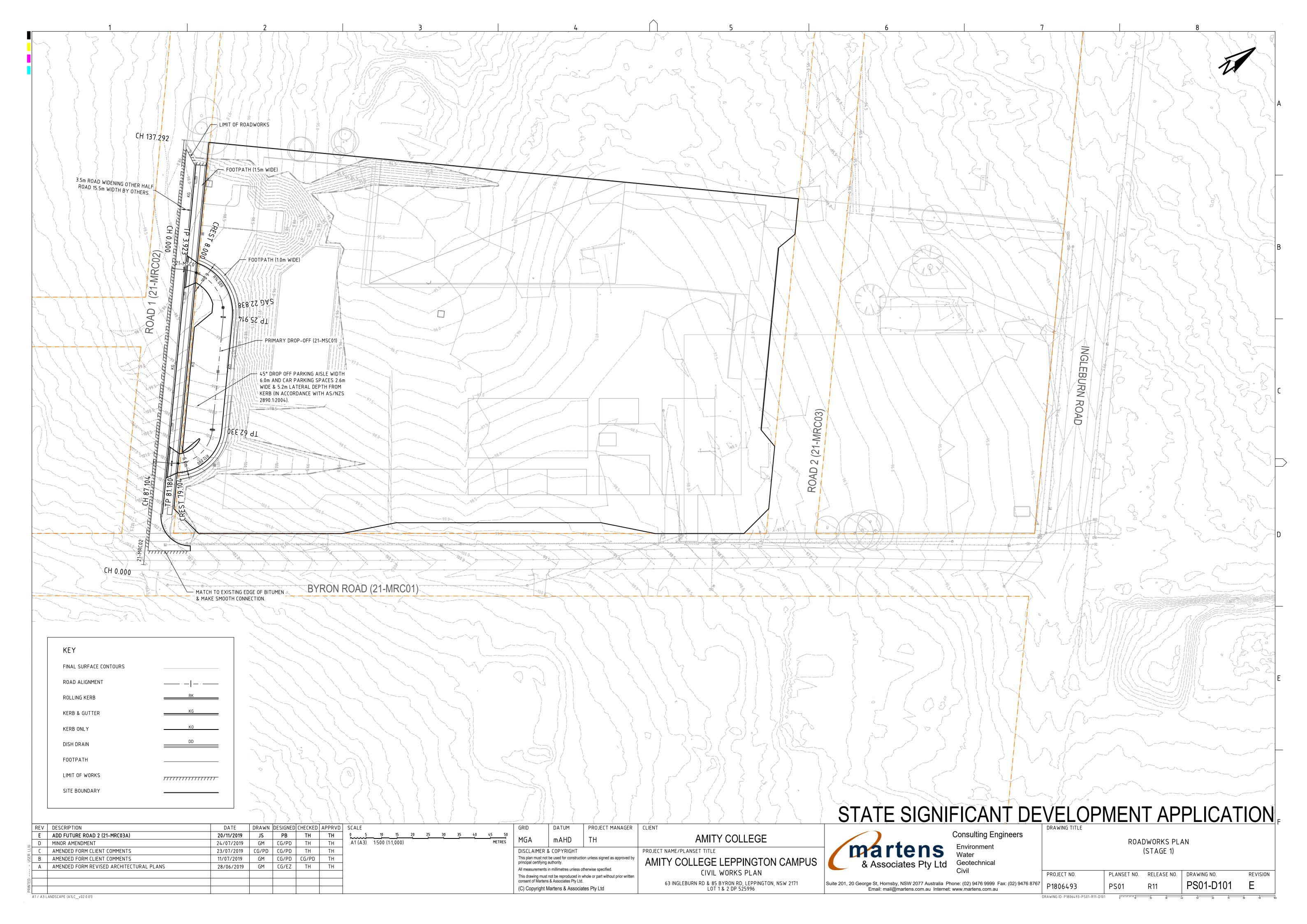
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au PLANSET NO. RELEASE NO.

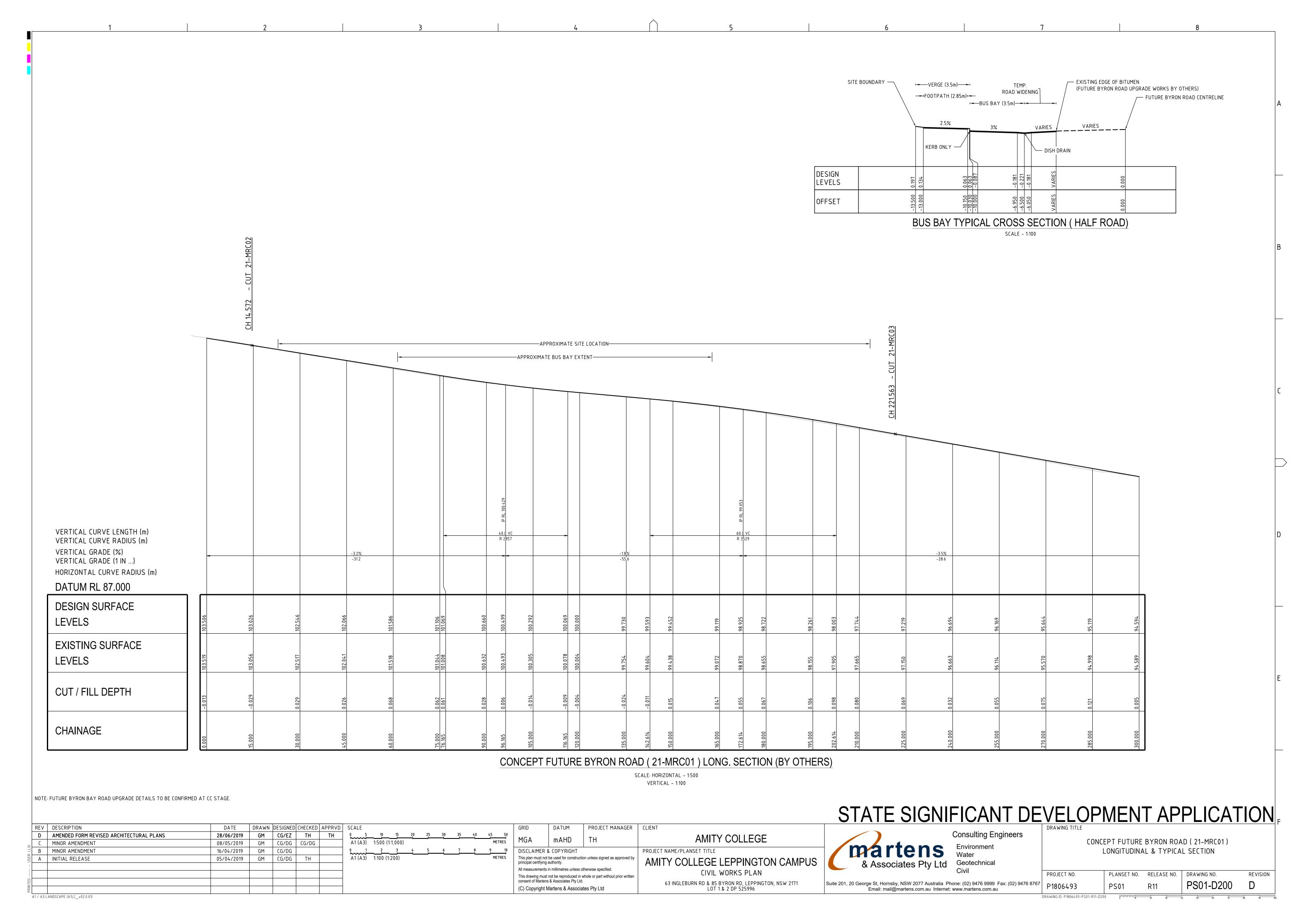
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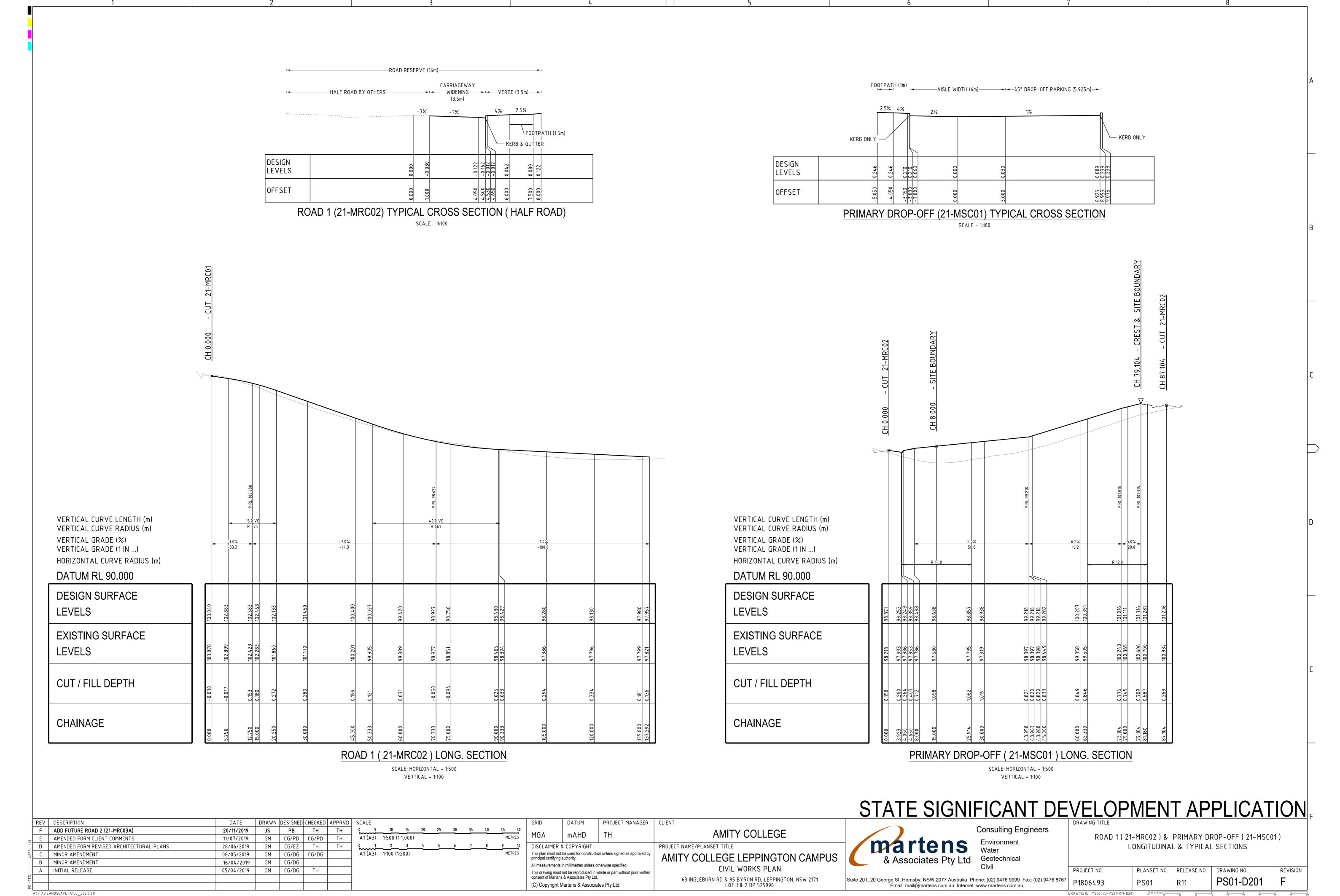
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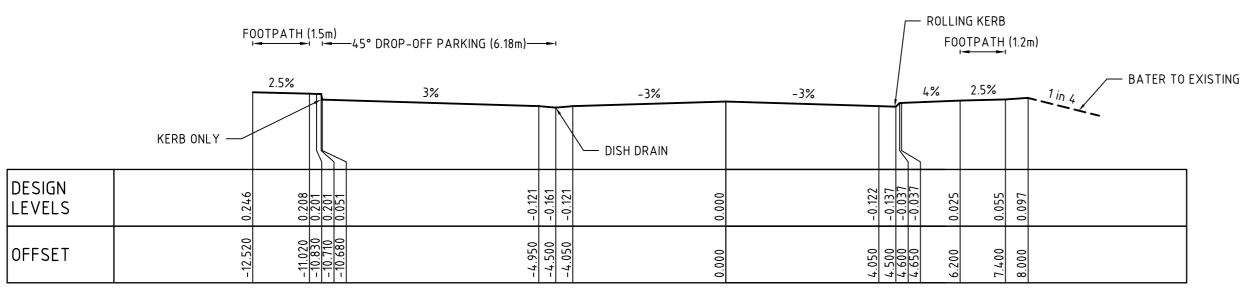
REVISION



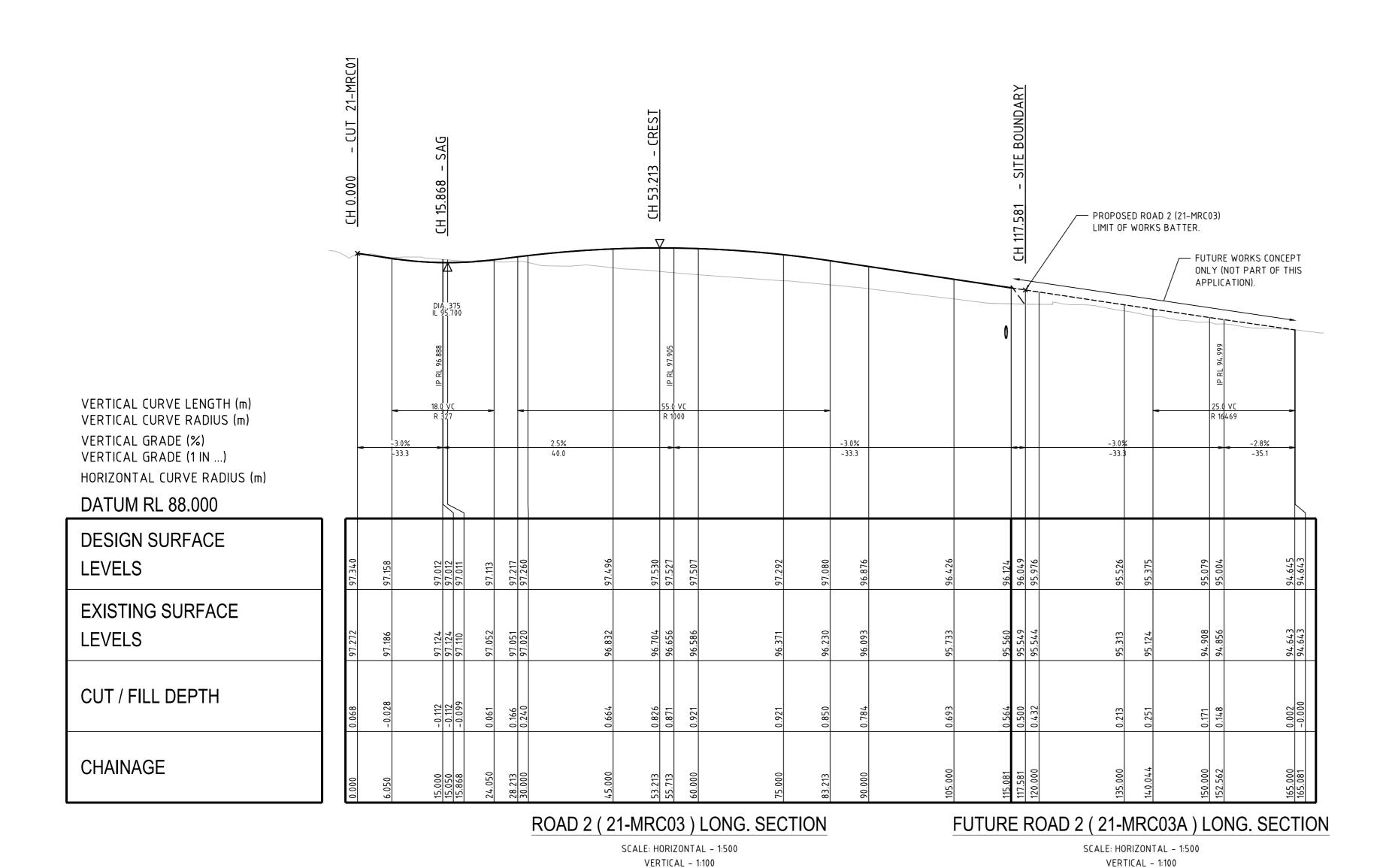








ROAD 2 (21-MRC03) TYPICAL CROSS SECTION SCALE - 1:100



STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWN DESIGNED CHECKED APPRVD SCALE PROJECT MANAGER | CLIENT REV DESCRIPTION ADD FUTURE ROAD 2 (21-MRC03A) TH 20/11/2019 PB **AMITY COLLEGE** mAHD A1 (A3) 1:500 (1:1,000) B AMENDED FORM REVISED ARCHITECTURAL PLANS GM CG/EZ TH 28/06/2019 0 1 2 3 4 5 6 7 8 A1 (A3) 1:100 (1:200) PROJECT NAME/PLANSET TITLE A MINOR AMENDMENT DISCLAIMER & COPYRIGHT 08/05/2019 GM | CG/DG | CG/DG This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. CIVIL WORKS PLAN This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. 63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996 (C) Copyright Martens & Associates Pty Ltd

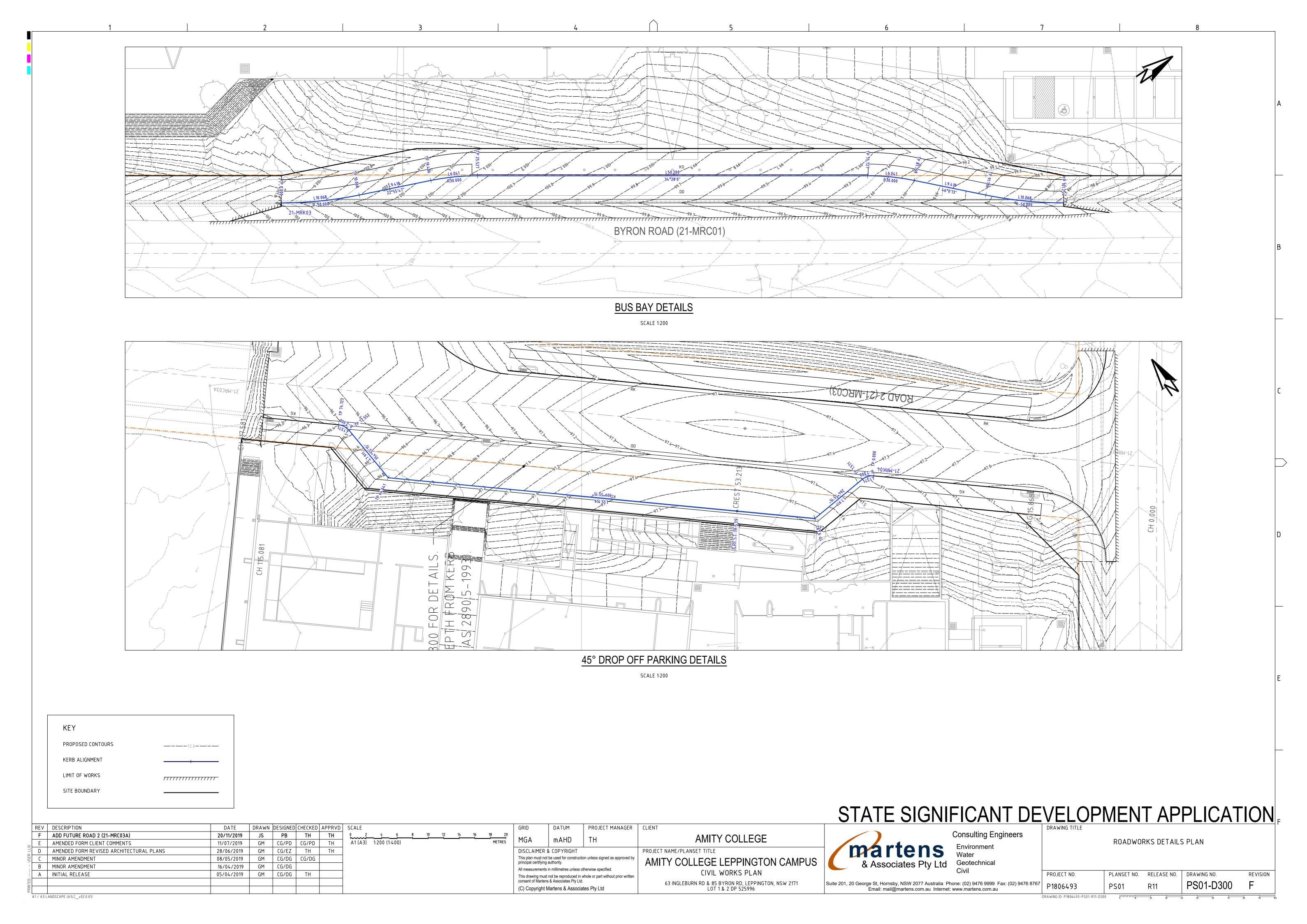
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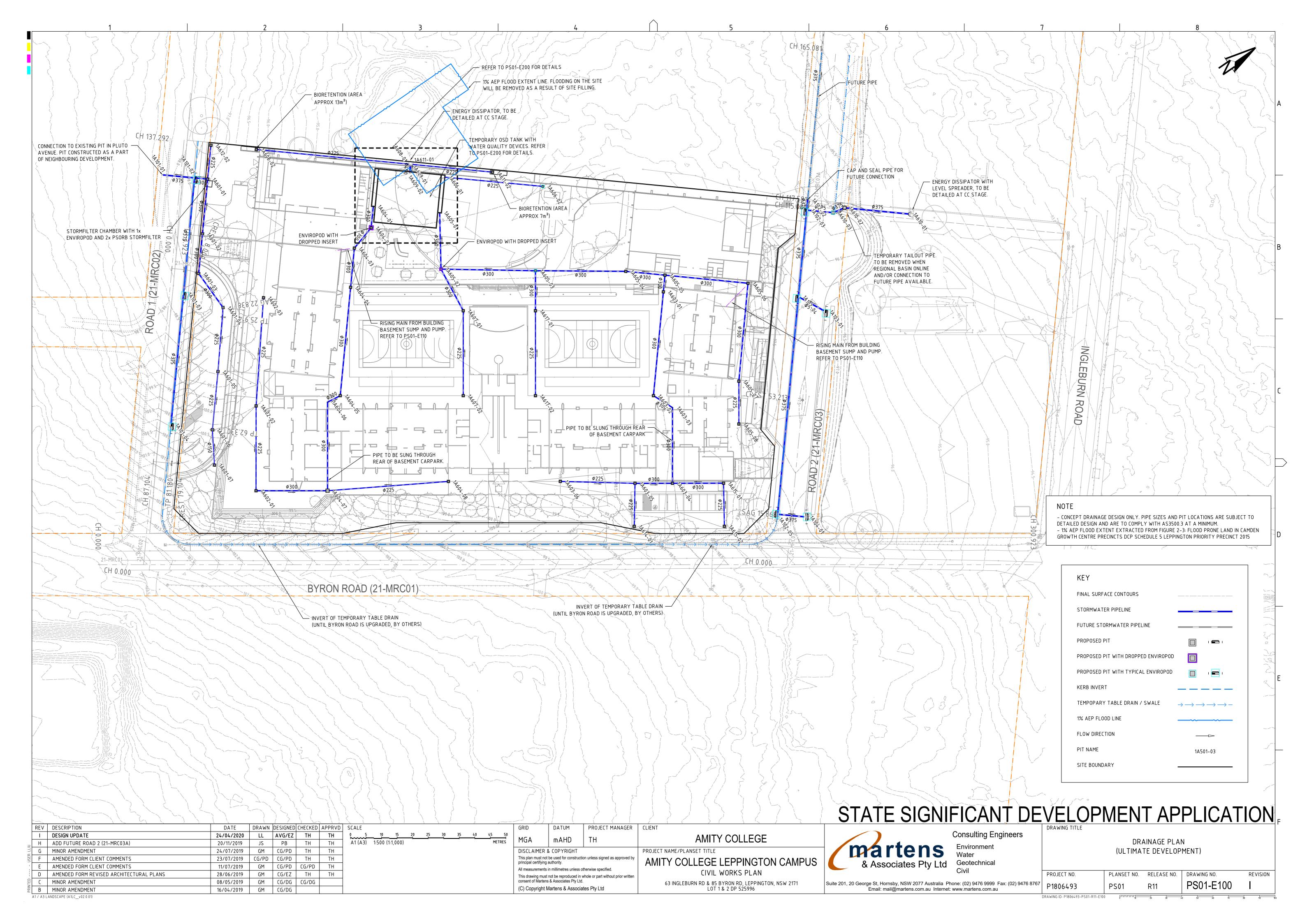
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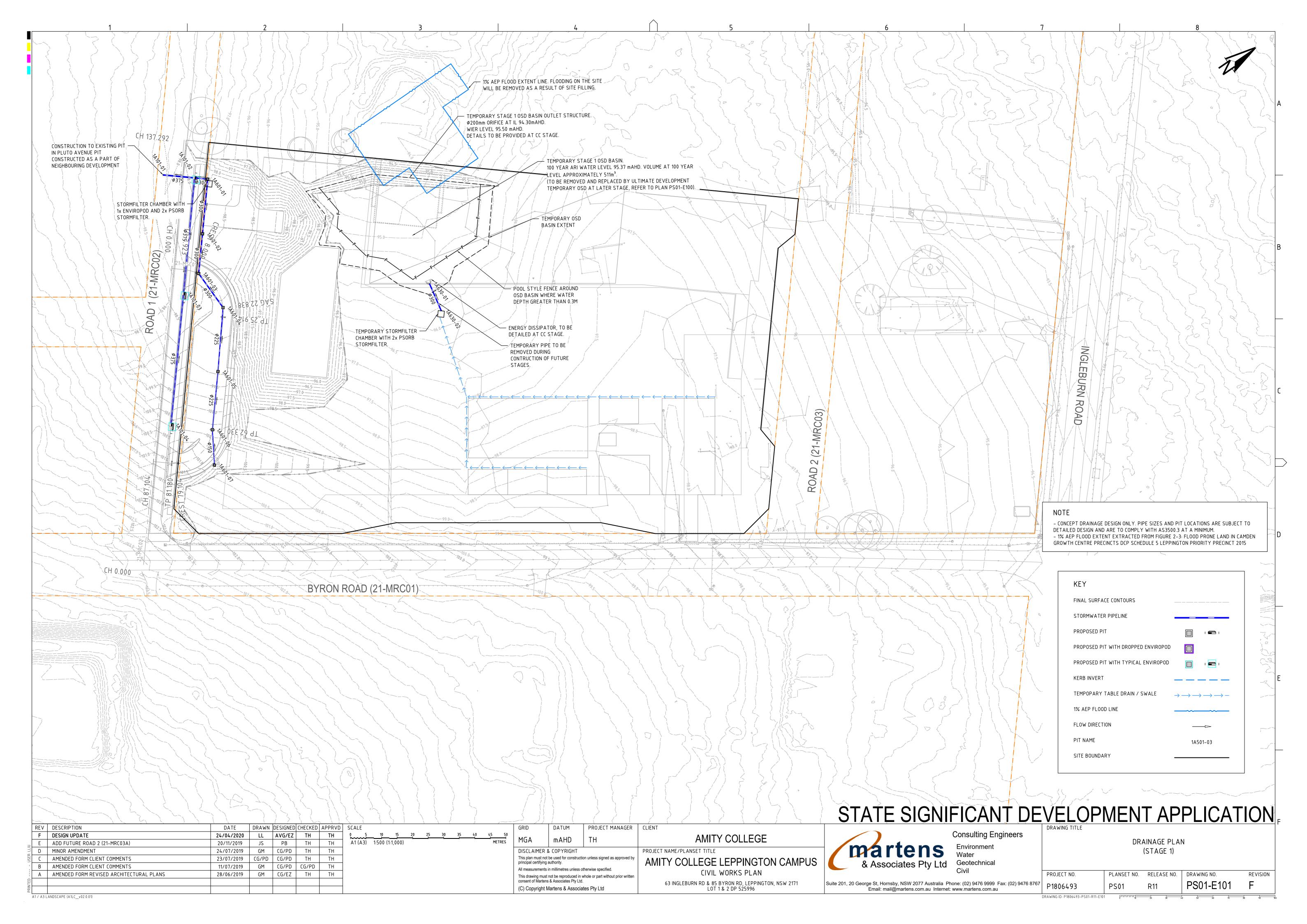
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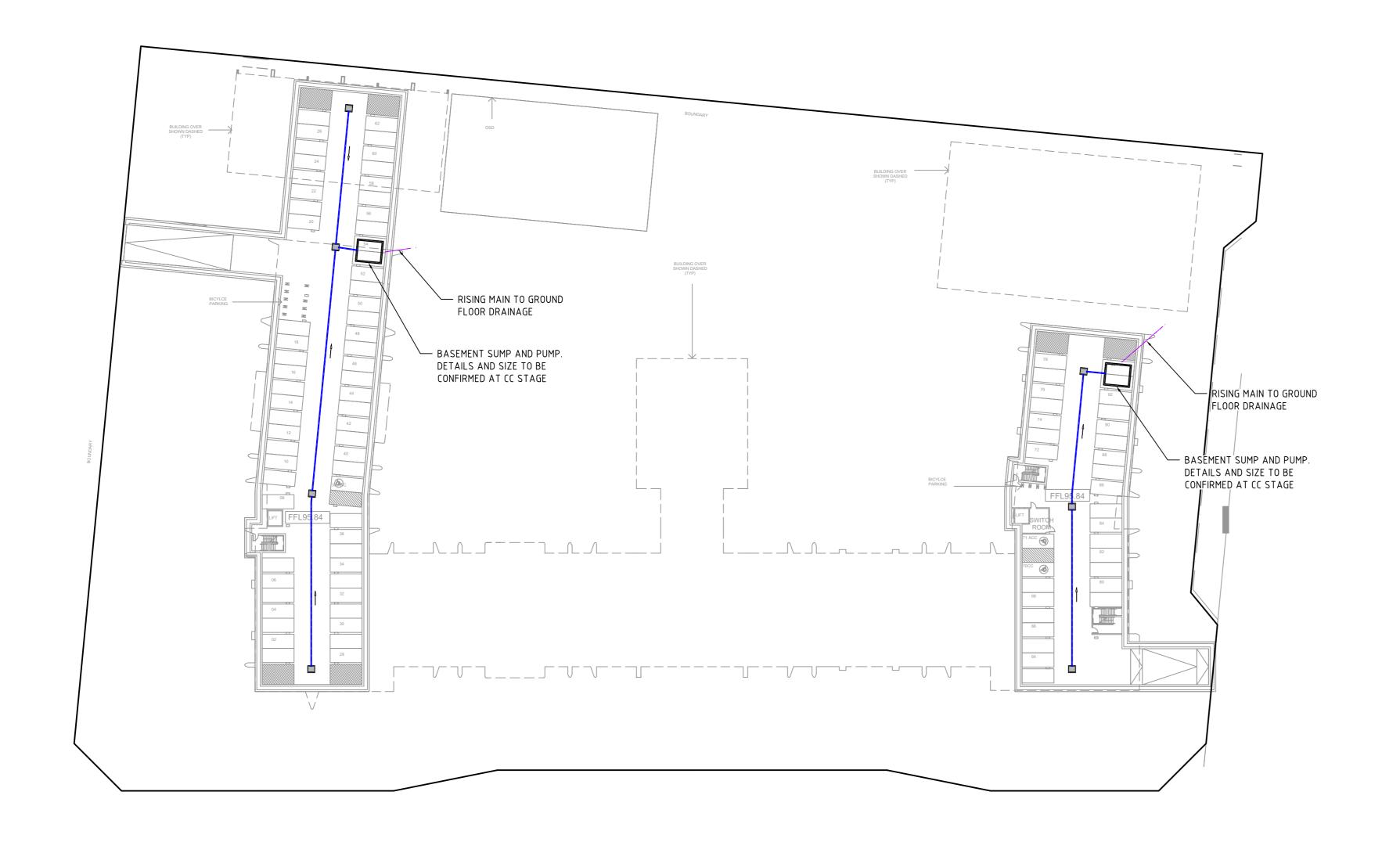
ROAD 2 (21-MRC03) & FUTURE ROAD 2 (21-MRC03A) LONGITUDINAL & TYPICAL SECTIONS

PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION PS01-D202 Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 P1806493 DRAWING ID: P1806493-PS01-R11-D202









NOTE

CONCEPT DRAINAGE DESIGN ONLY. PIPE SIZES AND PIT LOCATIONS ARE SUBJECT TO DETAILED DESIGN AND ARE TO COMPLY WITH AS3500.3 AT A MINIMUM.
 1% AEP FLOOD EXTENT EXTRACTED FROM FIGURE 2-3: FLOOD PRONE LAND IN CAMDEN GROWTH CENTRE PRECINCTS DCP SCHEDULE 5 LEPPINGTON PRIORITY PRECINCT 2015

KEY

FINAL SURFACE CONTOURS

STORMWATER PIPELINE

FUTURE STORMWATER PIPELINE

PROPOSED PIT

PROPOSED PIT WITH DROPPED ENVIROPOD

PROPOSED PIT WITH TYPICAL ENVIROPOD

KERB INVERT

TEMPOPARY TABLE DRAIN / SWALE

1% AEP FLOOD LINE

FLOW DIRECTION

PIT NAME

SITE BOUNDARY

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWN DESIGNED CHECKED APPRVD SCALE PROJECT MANAGER | CLIENT REV DESCRIPTION B DESIGN UPDATE 24/04/2020 LL AVG/EZ TH TH mAHD A1 (A3) 1:500 (1:1,000) A INITIAL RELEASE 18/11/2019 JS AVG TH TH DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

MGA mAHD TH

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AMITY COLLEGE LEPPINGTON CAMPUS

CIVIL WORKS PLAN

63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171

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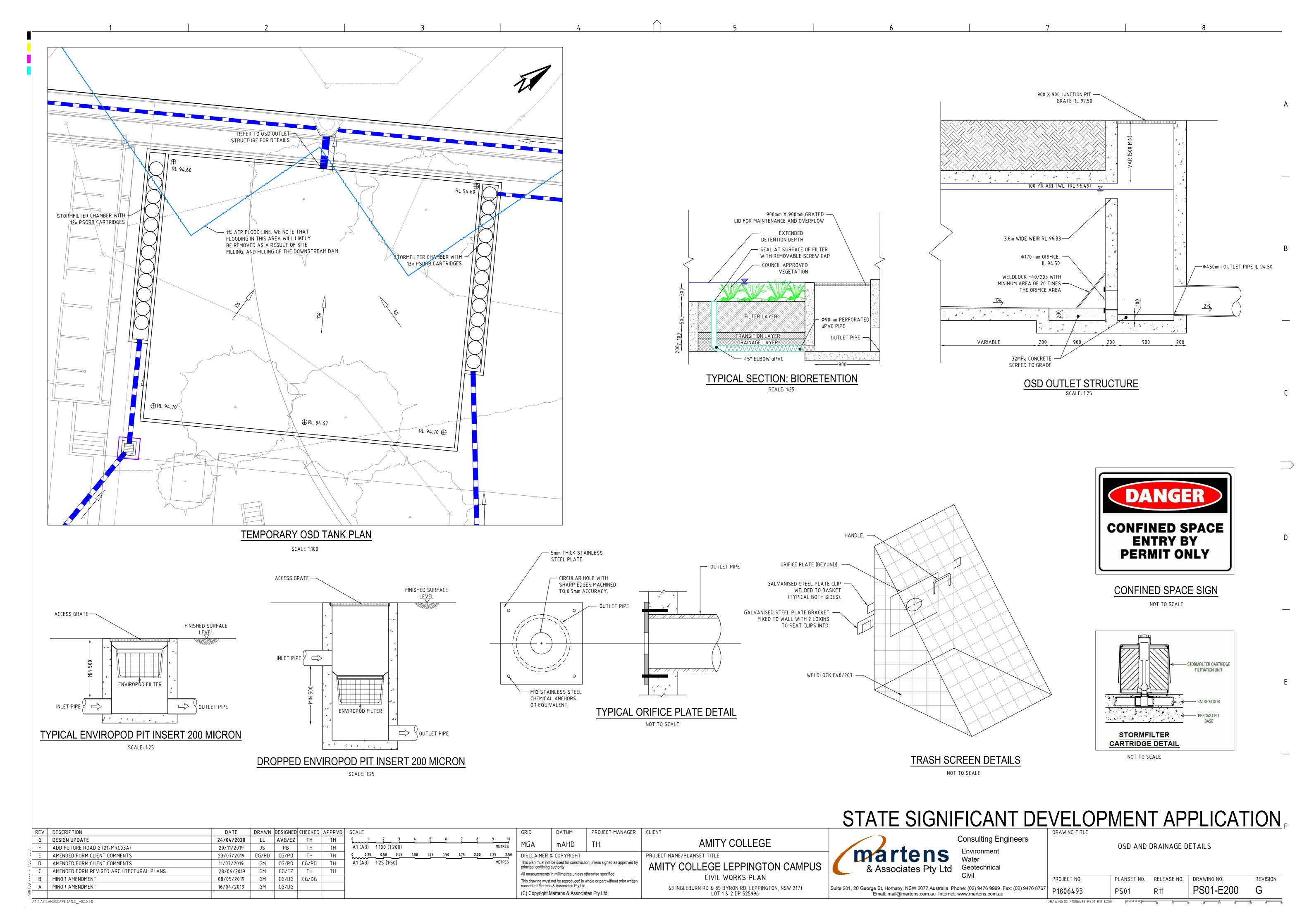
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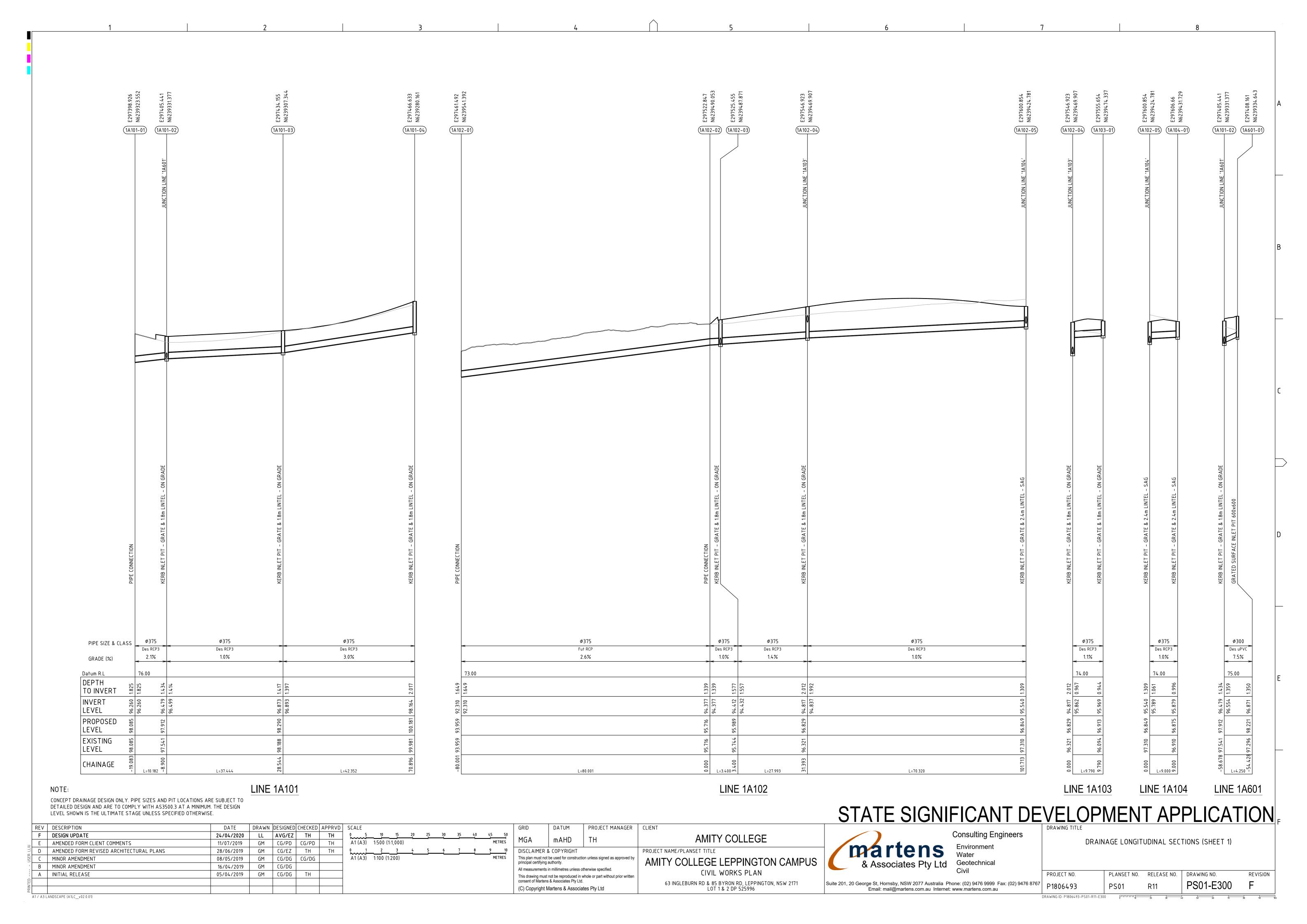
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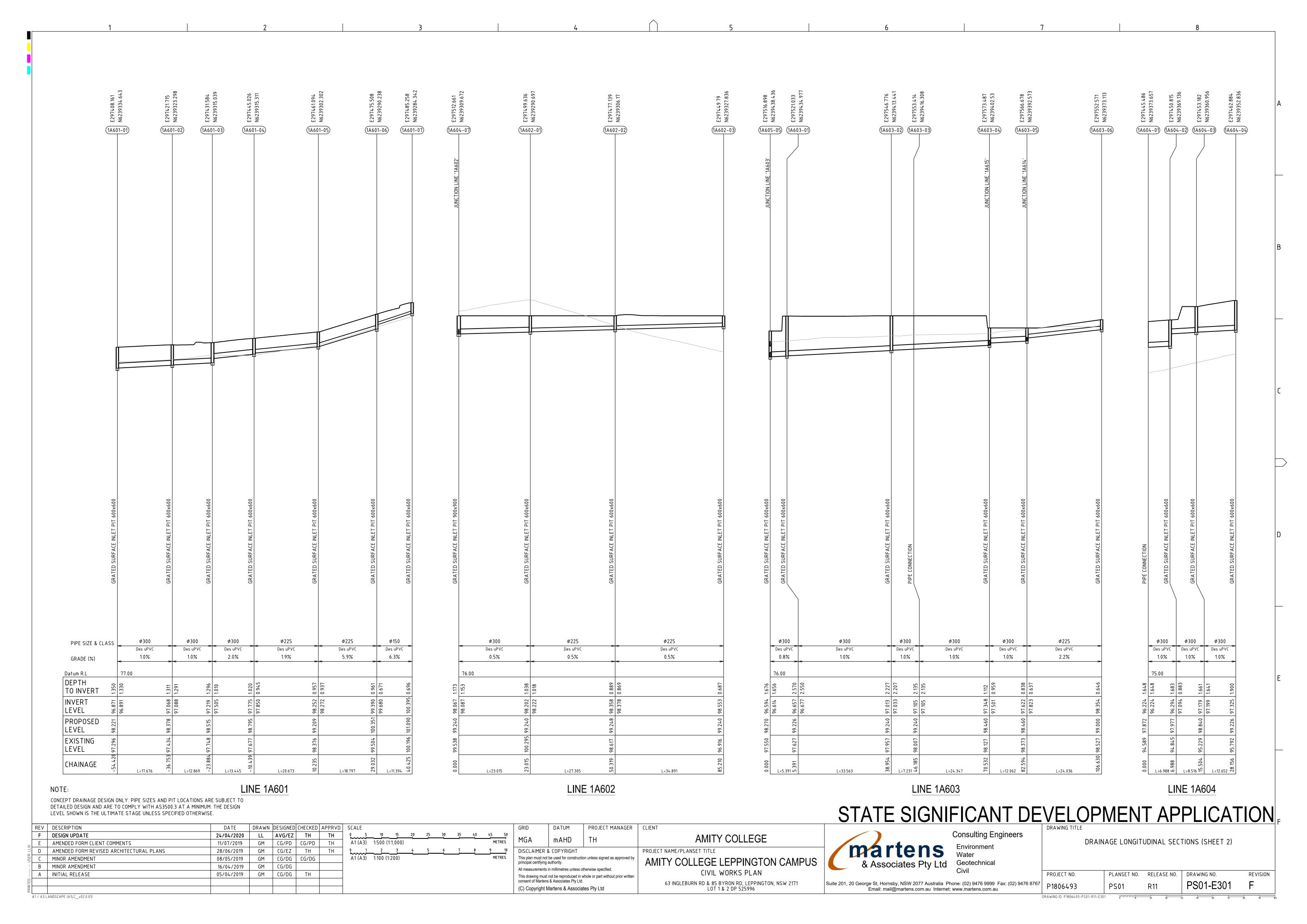
BASEMENT FLOOR PLAN
(ULTIMATE DEVELOPMENT)

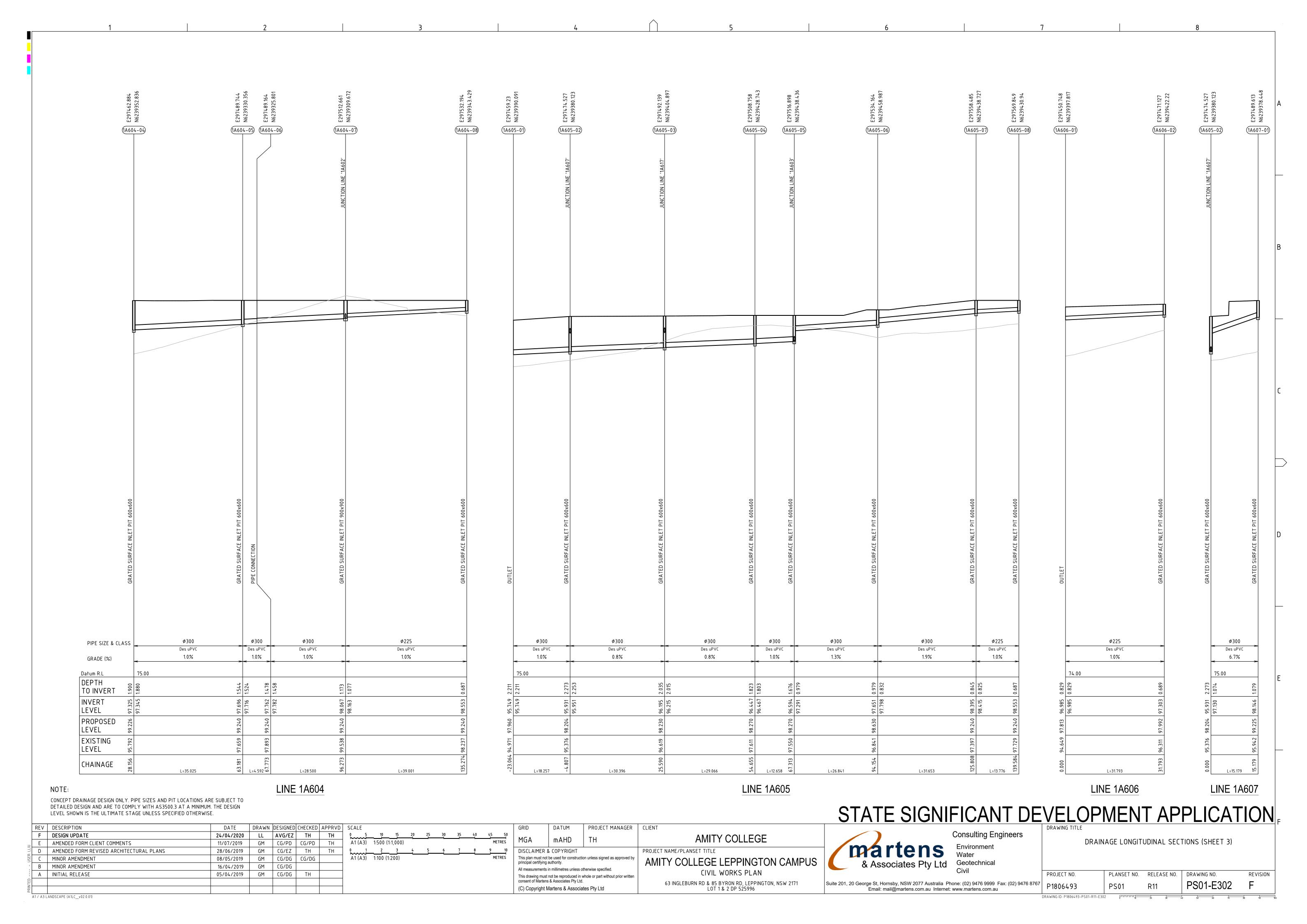
PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION
P1806493 PS01 R11 PS01-E110 B

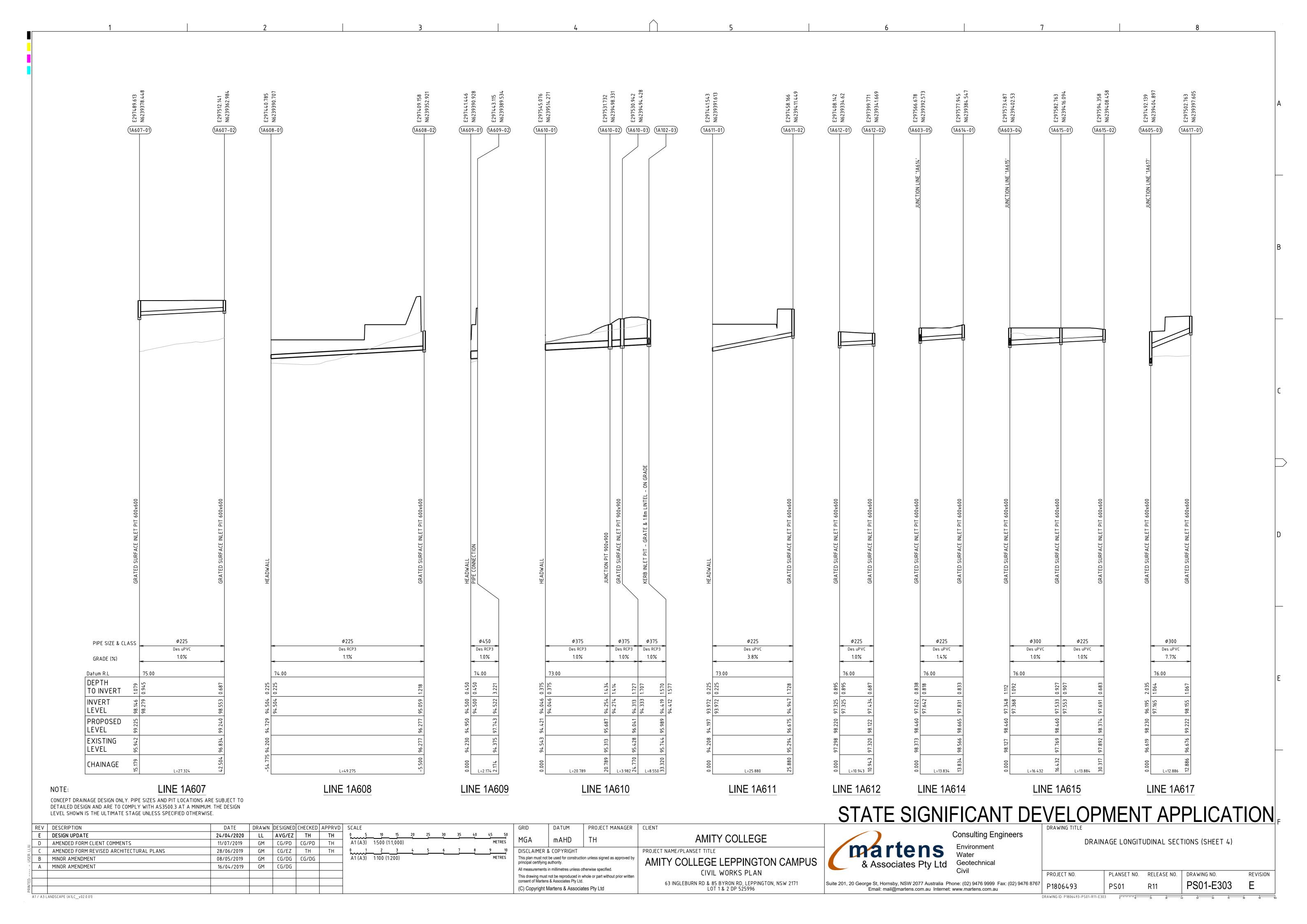
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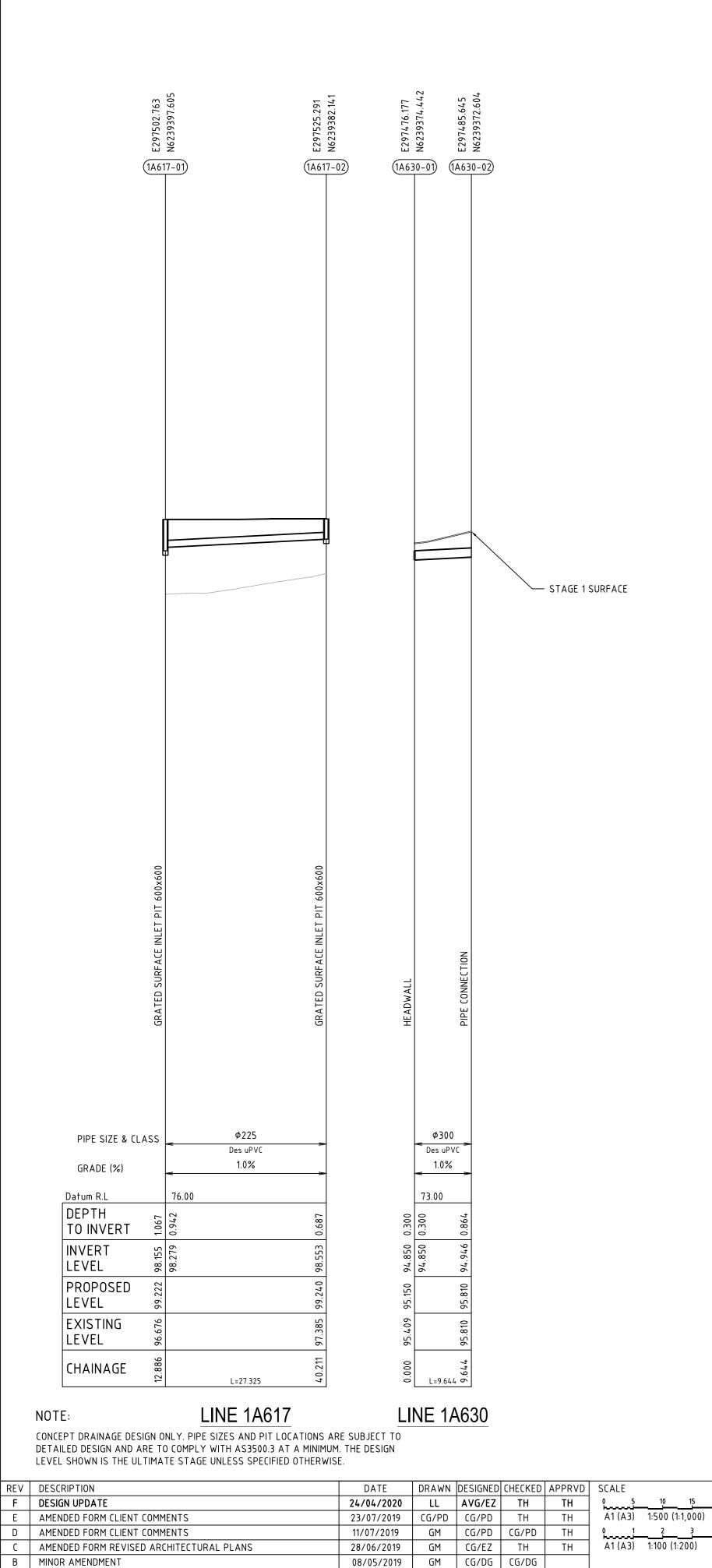












16/04/2019

GM CG/DG

STATE SIGNIFICANT DEVELOPMENT APPLICATION

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DRAINAGE LONGITUDINAL SECTIONS (SHEET 5) & PIT SCHEDULE PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION PS01-E304 P1806493

DRAWING ID: P1806493-PS01-R11-E304

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

A MINOR AMENDMENT

PIT SCHEDULE

Pit				INTERNA	۸L	INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A101-04	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297466.633	6239280.161	0.90	0.90	-	-	375	98.164	100.181	2.017	xy setout to setout string
1A101-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297434.155	6239307.344	0.90	0.90	375	96.893	375	96.873	98.290	1.417	xy setout to setout string
1A101-02	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297405.441	6239331.377	0.90	0.90	375	96.499	375	96.479	97.912	1.434	xy setout to setout string
1A101-01	PIPE CONNECTION	297398.926	6239323.552	0.00	0.00	375	96.260	-	-	98.085	1.825	
Pit	T. 105	5.670.6		INTERNAL		INLET		OUTLET		PIT	050711	25.4.2.42
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A102-05 1A102-04	KERB INLET PIT - GRATE & 2.4m LINTEL - SAG KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297600.854	6239424.781 6239469.907	0.90 0.90	0.90 0.90	- 375	- 94.837	375 375	95.540 94.817	96.849 96.829	1.309 2.012	xy setout to setout string xy setout to setout string
1A102-04 1A102-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE		6239487.871	0.90	0.90	375 375	94.637	375 375	94.412	95.989	1.577	xy setout to setout string
1A102-03	PIPE CONNECTION	297523.433	6239490.053	0.00	0.00	375	94.432	375	94.377	95.716	1.339	xy serour to serour string
1A102-01	PIPE CONNECTION	297461.492	6239541.392	0.00	0.00	375	92.310	-	-	93.959	1.649	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A103-01	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297555.654	6239474.337	0.90	0.90	-	-	375	95.969	96.913	0.944	xy setout to setout string
1A102-04	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297546.923	6239469.907	0.90	0.90	375	95.862	-	_	96.829	2.012	xy setout to setout string
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A104-01	KERB INLET PIT - GRATE & 2.4m LINTEL - SAG	297606.660	6239431.729	0.90	0.90	-	-	375	95.879	96.875	0.996	xy setout to setout string
1A102-05	KERB INLET PIT - GRATE & 2.4m LINTEL - SAG	297600.854	6239424.781	0.90	0.90	375	95.789	-	-	96.849	1.309	xy setout to setout string
Pit Name	TVDE	FACTING	NODTHING	INTERNAL	LEN	INLET	INIV/ 1 EV/	OUTLET	INIV 1 FV	PIT	DEDTII	DEMARKS
Name 1A601–07	TYPE GRATED SURFACE INLET PIT 600×600	EASTING 297485.258	NORTHING 6239284.342	WD 0.60	LEN 0.60	DIA	INV LEV	DIA 150	INV LEV 100.395	SETOUT RL 101.090	DEPTH 0.696	REMARKS
1A601-07 1A601-06	GRATED SURFACE INLET PIT 600x600	297475.508	6239290.238	0.60	0.60	- 150	99.680	225	99.390	101.090	0.961	
1A601-05	GRATED SURFACE INLET PIT 600x600	297461.094	6239302.302	0.60	0.60	225	98.272	225	98.252	99.209	0.957	
1A601-04	GRATED SURFACE INLET PIT 600x600	297445.026	6239315.311	0.60	0.60	225	97.850	300	97.775	98.795	1.020	
1A601-03	GRATED SURFACE INLET PIT 600x600	297431.584	6239315.039	0.60	0.60	300	97.505	300	97.219	98.515	1.296	
1A601-02	GRATED SURFACE INLET PIT 600x600	297421.715	6239323.298	0.60	0.60	300	97.088	300	97.068	98.378	1.311	
1A601-01	GRATED SURFACE INLET PIT 600×600	297408.161	6239334.643	0.60	0.60	300	96.891	300	96.871	98.221	1.350	
1A101-02	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE		6239331.377	0.90	0.90	300	96.554	-	_	97.912	1.434	xy setout to setout string
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A602-03	GRATED SURFACE INLET PIT 600x600	297449.790	6239327.836	0.60	0.60	-	-	225	98.553	99.240	0.687	
1A602-02	GRATED SURFACE INLET PIT 600x600	297477.139	6239306.170	0.60	0.60	225	98.378	225	98.358	99.248	0.889	
1A602-01	GRATED SURFACE INLET PIT 600x600	297499.636	6239290.697	0.60	0.60	225	98.222	300	98.202	99.240	1.038	
1A604-07	GRATED SURFACE INLET PIT 900x900	297512.661	6239309.672	0.90	0.90	300	98.087	-	-	99.240	1.173	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A603-06	GRATED SURFACE INLET PIT 600x600	297552.571	6239373.113	0.60	0.60	_	-	225	98.354	99.000	0.646	
1A603-05	GRATED SURFACE INLET PIT 600x600	297566.678	6239392.573	0.60	0.60	225	97.823	300	97.622	98.460	0.838	
1A603-04	GRATED SURFACE INLET PIT 600x600	297573.487	6239402.530	0.60	0.60	300	97.501	300	97.348	98.460	1.112	
1A603-03	PIPE CONNECTION	297553.414	6239416.308	0.00	0.00	300	97.105	300	97.105	99.240	2.135	
1A603-02	GRATED SURFACE INLET PIT 600x600	297546.776	6239413.441	0.60	0.60	300	97.033	300	97.013	99.240	2.227	
1A603-01	GRATED SURFACE INLET PIT 600x600	297521.033	6239434.977	0.60	0.60	300	96.677	300	96.657	99.226	2.570	
1A605-05	GRATED SURFACE INLET PIT 600x600	297516.898	6239438.436	0.60	0.60	300	96.614	-	=	98.270 DIT	1.676	
Pit Name	TYPE	EASTING	NORTHING	INTERNAL WD	LEN	INLET DIA	INV LEV	OUTLET DIA	INV LEV	PIT SETOUT RL	DEPTH	REMARKS
1A604-08	GRATED SURFACE INLET PIT 600x600	297532.194	6239343.429	0.60	0.60	- -	- INV LL V	225	98.553	99.240	0.687	KLITAKKS
1A604-07	GRATED SURFACE INLET PIT 900x900	297512.661	6239309.672	0.90	0.90	225	98.163	300	98.067	99.240	1.173	
1A604-06	PIPE CONNECTION	297489.164	6239325.801	0.00	0.00	300	97.782	300	97.762	99.240	1.478	
1A604-05	GRATED SURFACE INLET PIT 600×600	297489.744	6239330.356	0.60	0.60	300	97.716	300	97.696	99.240	1.544	
1A604-04	GRATED SURFACE INLET PIT 600x600	297462.884	6239352.836	0.60	0.60	300	97.345	300	97.325	99.226	1.900	
1A604-03	GRATED SURFACE INLET PIT 600×600	297453.182	6239360.956	0.60	0.60	300	97.199	300	97.179	98.840	1.661	
1A604-02	GRATED SURFACE INLET PIT 600x600	297450.815	6239369.136	0.60	0.60	300	97.094	300	96.294	97.977	1.683	
1A604-01	PIPE CONNECTION	297445.486	6239373.657	0.00	0.00	300	96.224	-	_	97.872	1.648	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A605-08	GRATED SURFACE INLET PIT 600×600	297569.849	6239430.940	0.60	0.60	-	-	225	98.553	99.240	0.687	
1A605-07	GRATED SURFACE INLET PIT 600x600	297558.485	6239438.727	0.60	0.60	225	98.415	300	98.395	99.240	0.845	
1A605-06	GRATED SURFACE INLET PIT 600x600	297534.164	6239458.987	0.60	0.60	300	97.798	300	97.651	98.630	0.979	
1A605-05	GRATED SURFACE INLET PIT 600x600	297516.898	6239438.436	0.60	0.60	300	97.291	300	96.594	98.270	1.676	
1A605-04	GRATED SURFACE INLET PIT 600x600	297508.758	6239428.743	0.60	0.60	300	96.467	300	96.447	98.270	1.823	
1A605-03 1A605-02	GRATED SURFACE INLET PIT 600x600 GRATED SURFACE INLET PIT 600x600	297492.139 297474.527	6239404.897 6239380.123	0.60 0.60	0.60 0.60	300 300	96.215 95.951	300 300	96.195 95.931	98.230 98.204	2.035 2.273	
1A605-02 1A605-01	OUTLET	297459.230	6239390.091	0.00		300	95.749			97.960	2.213	
Pit	OUTLET	L114J7.LJV	ULU7U7U.U7	0.00 INTERNAL	0.00	INLET	13.147	- OUTLET	-	97.960 PIT	۲.۷۱۱	
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A606-02	GRATED SURFACE INLET PIT 600×600	297471.127	6239422.220	0.60	0.60	-	-	225	97.303	97.992	0.689	KEITHING
1A606-01	OUTLET	297450.748	6239397.817	0.00	0.00	225	96.985	-	-	97.813	0.829	
Pit		-		INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A607-02	GRATED SURFACE INLET PIT 600x600	297512.141	6239362.984	0.60	0.60	-	-	225	98.553	99.240	0.687	
1A607-01	GRATED SURFACE INLET PIT 600x600	297489.613	6239378.448	0.60	0.60	225	98.279	300	98.146	99.225	1.079	
1A605-02	GRATED SURFACE INLET PIT 600x600	297474.527	6239380.123	0.60	0.60	300	97.130	-	-	98.204	2.273	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A608-02	GRATED SURFACE INLET PIT 600×600	297409.158	6239352.921	0.60	0.60	-	-	225	95.059	96.277	1.218	
1A608-01	HEADWALL	297440.785	6239390.707	0.00	0.00	225	94.504	-	_	94.729	0.225	setout level to maximum pipe obvert
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A609-02	PIPE CONNECTION	297443.115	6239389.534	0.00	0.00	-	-	450	94.522	97.743	3.221	and and the second of the seco
1A609-01	HEADWALL	297441.446	6239390.928	0.00	0.00	450	94.500	-	_	94.950	0.450	setout level to maximum pipe obvert

PIT SCHEDULE

Pit				INTERN <i>A</i>	٩L	INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A102-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	297441.446	6239390.928	0.90	0.90	-	_	375	94.419	95.989	1.570	xy setout to setout string
1A610-03	GRATED SURFACE INLET PIT 900x900	297530.942	6239494.428	0.90	0.90	375	94.333	375	94.313	96.041	1.727	
1A610-02	JUNCTION PIT 900x900	297531.732	6239498.331	0.90	0.90	375	94.274	375	94.254	95.687	1.434	
1A610-01	HEADWALL	297545.076	6239514.271	0.00	0.00	375	94.046	_	_	94.421	0.375	setout level to maximum pipe obvert
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A611-02	GRATED SURFACE INLET PIT 600x600	297458.166	6239411.449	0.60	0.60	-	-	225	94.947	96.675	1.728	
1A611-01	HEADWALL	297441.543	6239391.613	0.00	0.00	225	93.972	-	-	94.197	0.225	setout level to maximum pipe obvert
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A612-02	GRATED SURFACE INLET PIT 600x600	297399.771	6239341.669	0.60	0.60	-	-	225	97.434	98.122	0.687	
1A601-01	GRATED SURFACE INLET PIT 600x600	297408.161	6239334.643	0.60	0.60	225	97.325	-	-	98.221	1.350	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A614-01	GRATED SURFACE INLET PIT 600x600	297577.945	6239384.547	0.60	0.60	-	-	225	97.831	98.665	0.833	
1A603-05	GRATED SURFACE INLET PIT 600x600	297566.678	6239392.573	0.60	0.60	225	97.642	-	-	98.460	0.838	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A615-02	GRATED SURFACE INLET PIT 600x600	297594.358	6239408.458	0.60	0.60	-	-	225	97.691	98.374	0.683	
1A615-01	GRATED SURFACE INLET PIT 600x600	297582.763	6239416.094	0.60	0.60	225	97.553	300	97.533	98.460	0.927	
1A603-04	GRATED SURFACE INLET PIT 600x600	297573.487	6239402.530	0.60	0.60	300	97.368	-	-	98.460	1.112	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A617-02	GRATED SURFACE INLET PIT 600x600	297525.291	6239382.141	0.60	0.60	-	-	225	98.553	99.240	0.687	
1A617-01	GRATED SURFACE INLET PIT 600x600	297502.763	6239397.605	0.60	0.60	225	98.279	300	98.155	99.222	1.067	
1A605-03	GRATED SURFACE INLET PIT 600x600	297492.139	6239404.897	0.60	0.60	300	97.165	-	-	98.230	2.035	
Pit				INTERNAL		INLET		OUTLET		PIT		
Name	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH	REMARKS
1A630-02	PIPE CONNECTION	297485.645	6239372.604	0.00	0.00	-	-	300	94.946	95.810	0.864	
1A630-01	HEADWALL	297476.177	6239374.442	0.00	0.00	300	94.850	-	-	95.150	0.300	setout level to maximum pipe obvert
NOTE:												

1. xy setout to pit centre

2. setout level to pit cover level

3. some setout xy or z levels have special setout data. See individual manhole remarks

STATE SIGNIFICANT DEVELOPMENT APPLICATION



Consulting Engineers
Environment
Water
Geotechnical
Civil

DRAINAGE LONGITUDINAL SECTIONS (SHEET 6)
& PIT SCHEDULE

ASSOCIATES PTY LTG Geotechnical Civil

PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION

Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 P1806493

Brawling ID: P1806493-PS01-R11-E310 PS01-R11

DRAWING ID: P1806493-PS01-R11-E310 PS01-R11-E310 PS01-R11-E310

	REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID
	В	DESIGN UPDATE	24/04/2020	LL	AVG/EZ	TH	TH	0 5 10 15 20 25 30 35 40 45 50	MCA
_	Α	AMENDED FORM CLIENT COMMENTS	11/07/2019	GM	CG/PD	CG/PD	TH	A1 (A3) 1:500 (1:1,000) METRES	MGA
								0 1 2 3 4 5 6 7 8 9 10	DISCLAIN
USET								A1 (A3) 1:100 (1:200) METRES	This plan mu principal cer
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PROJECT NAME/PLANSET TITLE

AMITY COLLEGE LEPPINGTON CAMPUS

CIVIL WORKS PLAN

63 INGLEBLIRN RD & 85 BYRON RD LEPPINGTON, NSW 2171

AMITY COLLEGE

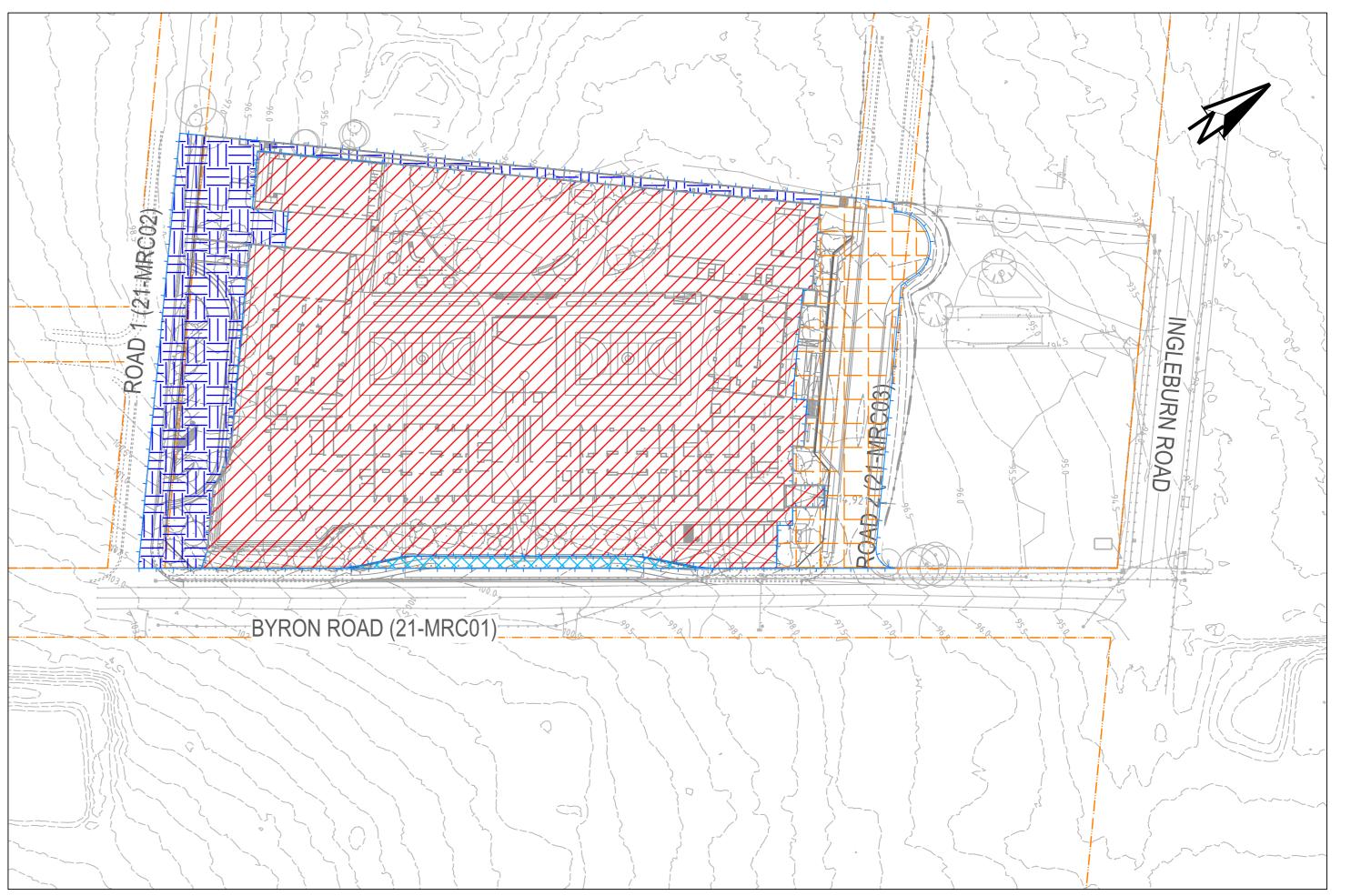
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63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171

LOT 1 & 2 DP 525996

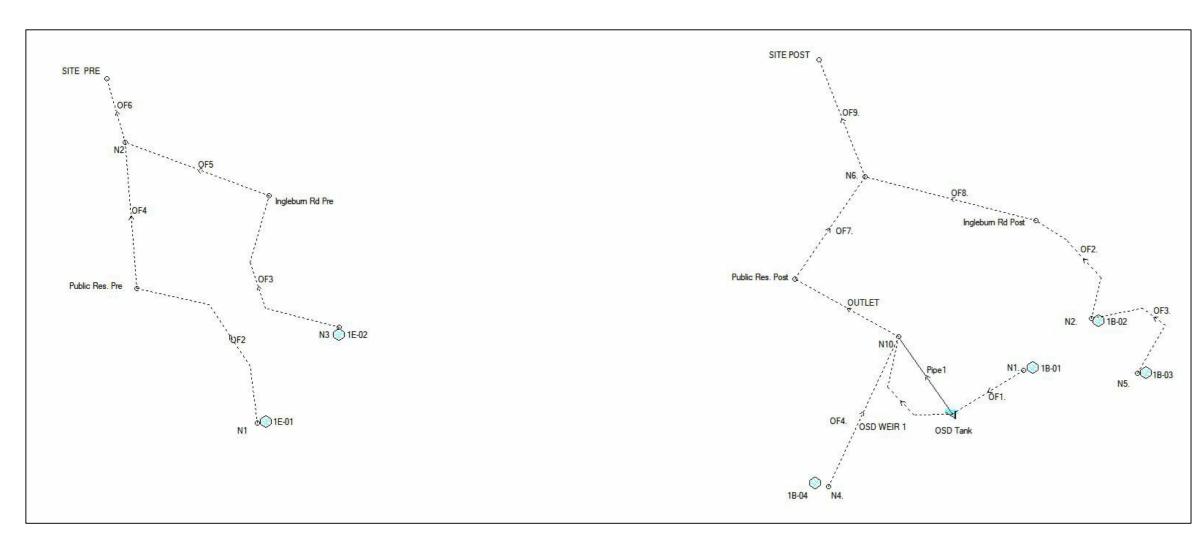
PROJECT MANAGER | CLIENT



PRE-DEVELOPMENT OSD CATCHMENT

SCALE 1: 1000

PRE I	PRE DEVELOPMENT CATCHMENT (P1806493DRN01V06)									
KEY	DRAINS NODE	AREA (ha)	% PAVED							
	1E-01	1.77	0%							
	1E-02	0.73	8%							
	TOTAL AREA	2.50	= 100% OF TOTAL AREA							
	TOTAL IMPERVIOUS AREA	0.06	= %2 OF TOTAL AREA							
	TOTAL PERVIOUS AREA	2.44	= %98 OF TOTAL AREA							



POST-DEVELOPMENT OSD CATCHMENT PLAN

SCALE 1: 1000

POST	DEVELOPMENT CA	TCHMENT (P180	06493DRN01V08)
KEY	DRAINS NODE	AREA (ha)	% PAVED
/////	1B-01	1.84	80%
	1B-02	0.29	80%
	1B-03	0.03	100%
	1B-04	0.34	80%
	TOTAL AREA	2.50	= 100% OF TOTAL AREA
	TOTAL IMPERVIOUS AREA	2.01	= %80 OF TOTAL AREA
	TOTAL PERVIOUS AREA	0.49	= %20 OF TOTAL AREA

	P1806493DRN01V08																	
	2 YR ARI			5 YR ARI			10 YR ARI			20 YR ARI			50 YR ARI			100 YR ARI		
	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Difference	Pre Peak	Post Peak	Differenc
Storm	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)
Peak	0.197	0.194	-0.003	0.346	0.252	-0.094	0.421	0.284	-0.137	0.532	0.328	-0.204	0.610	0.417	-0.193	0.710	0.658	-0.052

PRE-DEVELOPMENT DRAIN MODEL LAYOUT

A MINOR AMENDMENT A1 / A3 LANDSCAPE (A1LC_v02.0.01)

POST-DEVELOPMENT DRAIN MODEL LAYOUT

NTS

Ī	REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	S
	Н	DESIGN UPDATE	24/04/2020	LL	AVG/EZ	TH	TH	,
_	G	ADD FUTURE ROAD 2 (21-MRC03A)	20/11/2019	JS	PB	TH	TH	
S: LLIU	F	MINOR AMENDMENT	24/07/2019	GM	CG/PD	TH	TH	
USER:	Ε	AMENDED FORM CLIENT COMMENTS	23/07/2019	CG/PD	CG/PD	TH	TH	
<u> </u>	D	AMENDED FORM CLIENT COMMENTS	11/07/2019	GM	CG/PD	CG/PD	TH	
	<u>ر</u>	AMENDED FORM REVISED ARCHITECTURAL PLANS	28/06/2019	GM	CG/EZ	TH	TH	
Ë	В	MINOR AMENDMENT	08/05/2019	GM	CG/DG	CG/DG		

16/04/2019 GM CG/DG

ED	APPRVD	SCALE										
	TH	0 10	20	30	40	50	60	70	80	90	100	
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00)	40	50	60	70	80	90 M	100 ETRES	M
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	DISCLAIMER 8	k COPYRIGHT									
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	All measurements i	n millimetres unless of	therwise specified.								
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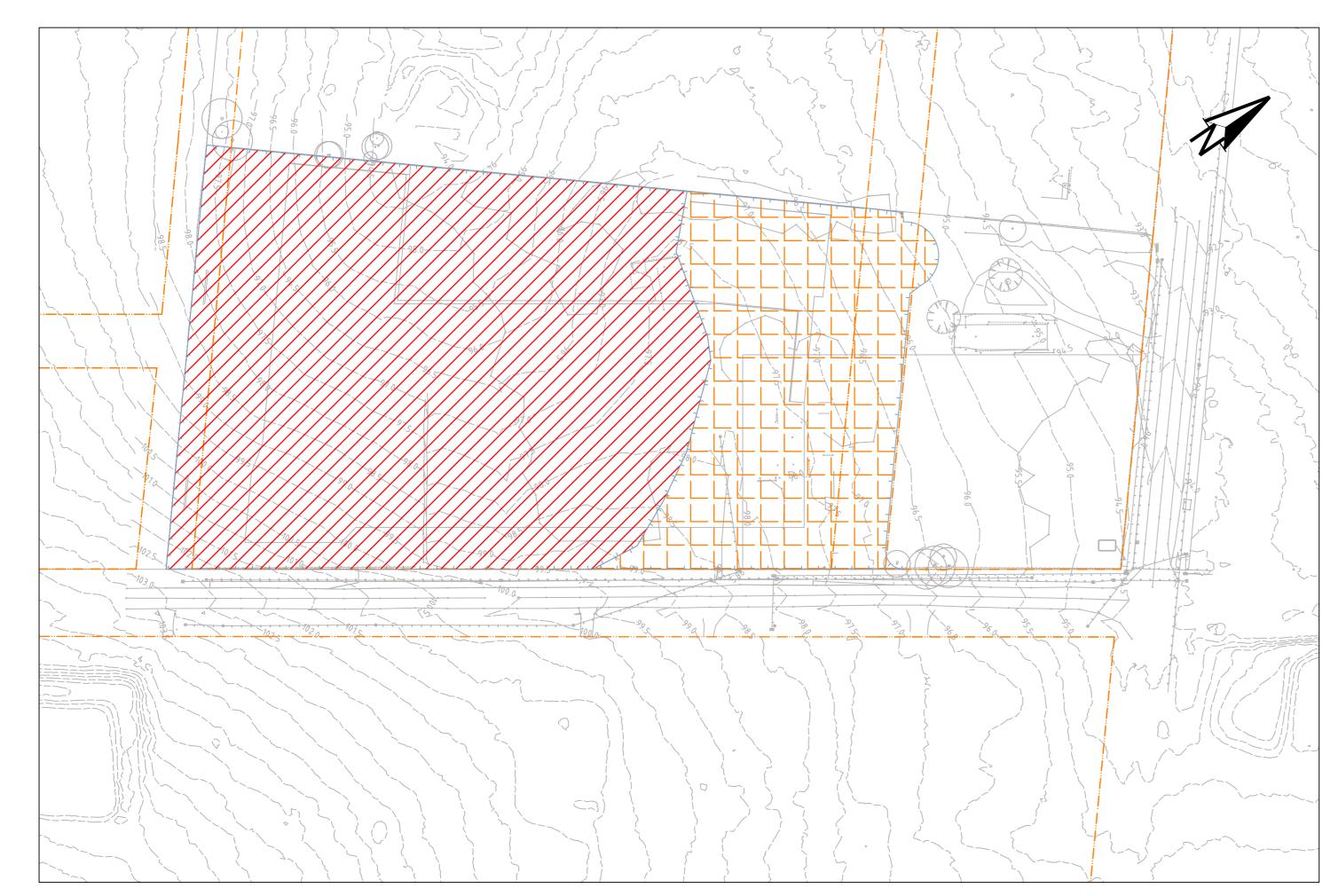
AMITY COLLEGE PROJECT NAME/PLANSET TITLE AMITY COLLEGE LEPPINGTON CAMPUS CIVIL WORKS PLAN 63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996

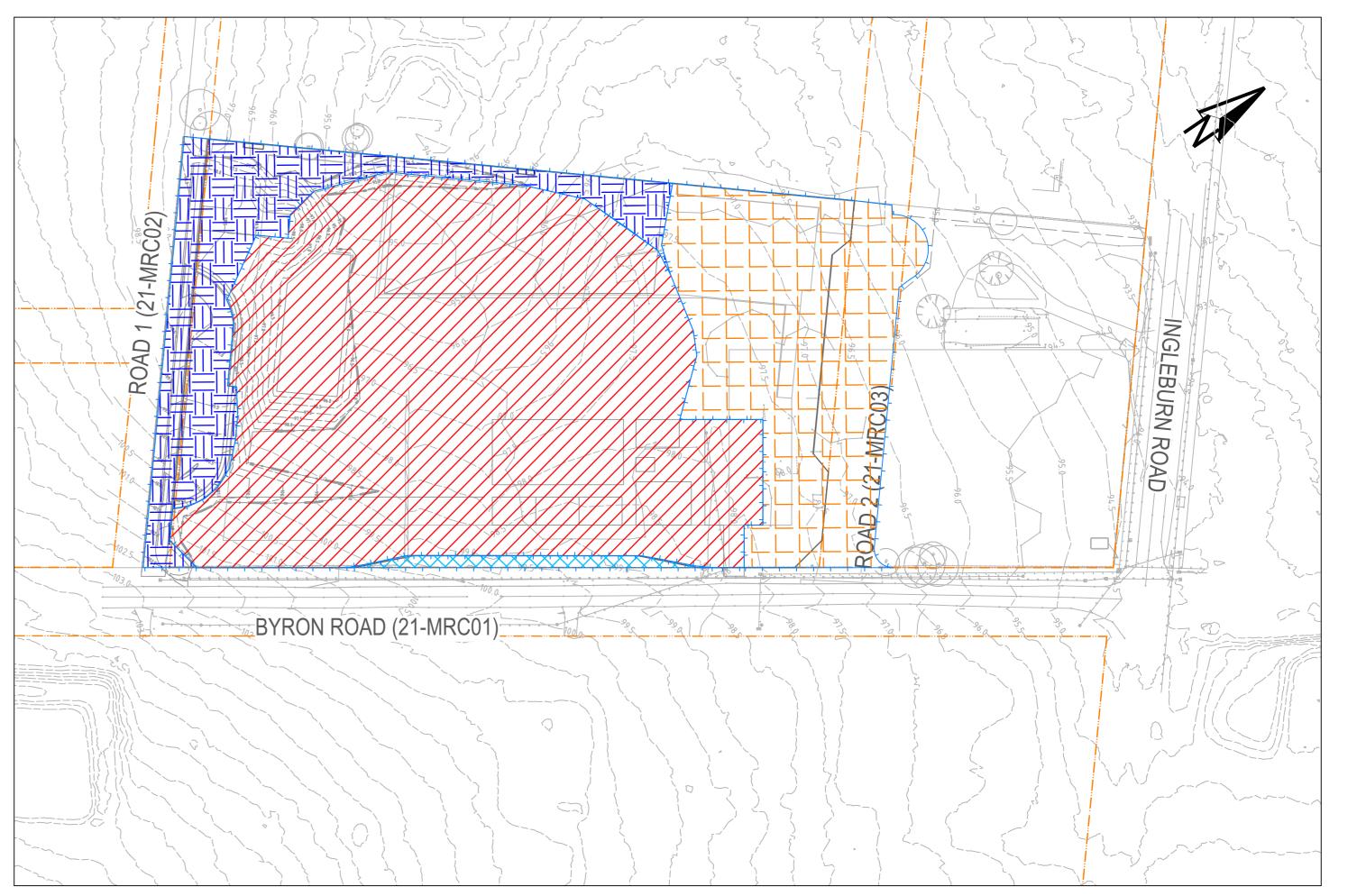
STATE SIGNIFICANT DEVELOPMENT APPLICATION

Consulting Engineers

POST-DEVELOPMENT OSD CATCHMENT PLAN, MODEL LAYOUT AND RESULT (ULTIMATE STAGE)

PROJECT NO. PLANSET NO. RELEASE NO. DRAWING NO. REVISION Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au PS01-E610 P1806493

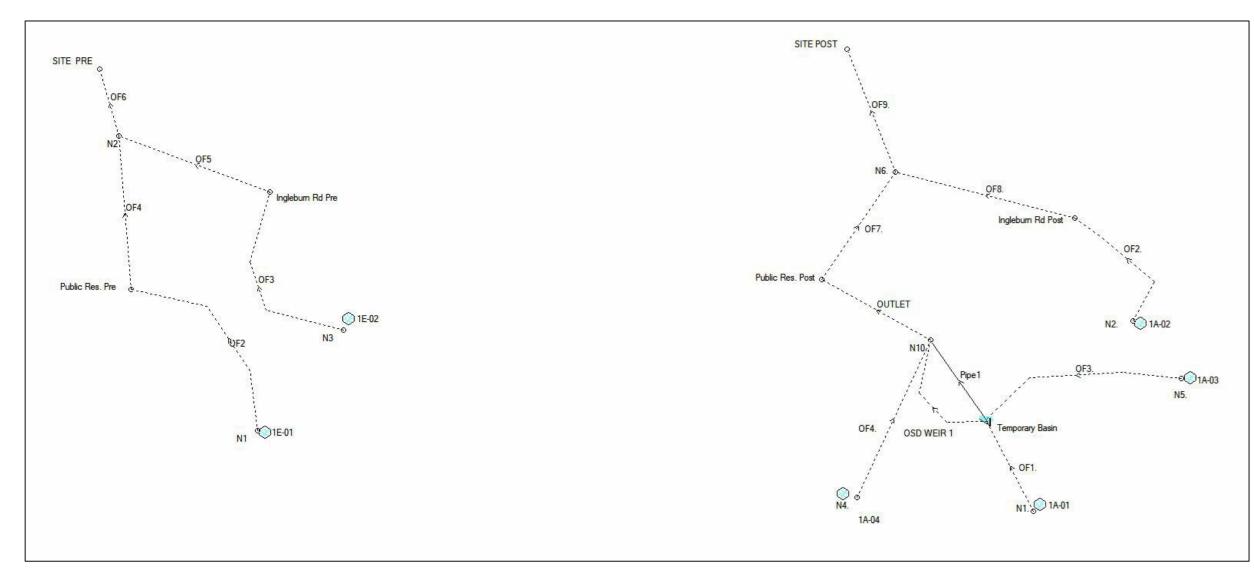




PRE-DEVELOPMENT OSD CATCHMENT

SCALE 1: 1000

PRE [DEVELOPMENT CA	ATCHMENT (P1806	493DRN01V06)
KEY	DRAINS NODE	AREA (ha)	% PAVED
	1E-01	1.77	0%
	1E-02	0.73	8%
	TOTAL AREA	2.50	= 100% OF TOTAL AREA
	TOTAL IMPERVIOUS AREA	0.06	= %2 OF TOTAL AREA
	TOTAL PERVIOUS AREA	2.44	= %98 OF TOTAL AREA



STAGE 1 POST-DEVELOPMENT OSD CATCHMENT PLAN

SCALE 1: 1000

POST	DEVELOPMENT CA	TCHMENT (P180	06493DRN01V09)
KEY	DRAINS NODE	AREA (ha)	% PAVED
	1A-01	1.51	13%
	1A-02	0.59	10%
	1A-03	0.03	0%
	1A-04	0.37	49%
	TOTAL AREA	2.50	= 100% OF TOTAL AREA
	TOTAL IMPERVIOUS AREA	0.44	= %17 OF TOTAL AREA
	TOTAL PERVIOUS AREA	2.06	= %83 OF TOTAL AREA

								P1806	3493DRN	01V09								
	2 YR ARI			5 YR ARI			10 YR ARI			20 YR ARI			50 YR ARI			100 YR ARI		
	Pre Peak	Post Peak	Difference															
Storm	Flow (cu.m/s)	Flow (cu.m/s)	(cu.m/s)															
Peak	0.197	0.165	-0.032	0.346	0.240	-0.106	0.421	0.276	-0.145	0.532	0.324	-0.208	0.610	0.356	-0.254	0.710	0.400	-0.310

PRE-DEVELOPMENT DRAIN MODEL LAYOUT

STAGE 1 POST-DEVELOPMENT DRAIN MODEL LAYOUT

141.2										1115					
ESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE									
ESIGN UPDATE	24/04/2020	LL	AVG/EZ	TH	TH	0 10	20	30	40	50	60	70	80	90	10
DD FUTURE ROAD 2 (21-MRC03A)	20/11/2019	JS	PB	TH	TH	A1 (A3)	1:1,000	(1:2,000))					Mi	ETRES
INOR AMENDMENT	24/07/2019	GM	CG/PD	TH	TH										
MENDED FORM CLIENT COMMENTS		CG/PD	CG/PD	<u>7</u> 3/07	/20 1 9H										
MENDED FORM CLIENT COMMENTS	11/07/2019	GM	CG/PD	CG/PD	TH										

GM CG/EZ TH

		GRID	DATUM	PROJECT MANAGER	CLIENT
80	90 100 METRES	MGA	mAHD	ТН	
		DISCLAIMER 8	COPYRIGHT		PROJECT
		This plan must not principal certifying a		on unless signed as approved by	AMI ⁻
		All measurements i	n millimetres unless of	therwise specified.	

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AMITY COLLEGE PROJECT NAME/PLANSET TITLE AMITY COLLEGE LEPPINGTON CAMPUS CIVIL WORKS PLAN 63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996

Consulting Engineers Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au

POST-DEVELOPMENT OSD CATCHMENT

STATE SIGNIFICANT DEVELOPMENT APPLICATION

		•	LAYOUT AN (STAGE 1)		
	PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISI
'67	P1806493	PS01	R11	PS01-E611	F
	DRAWING ID: P1806493-PS01-R11-E61	1 00000	20 30 4	0 50 60 70	80 90

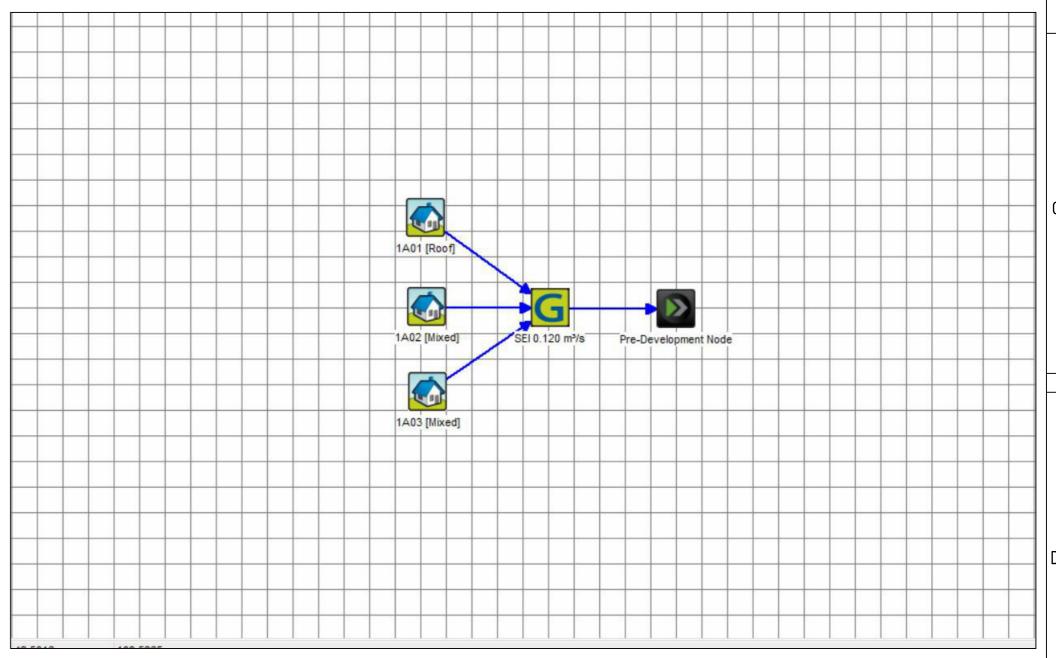
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

A AMENDED FORM REVISED ARCHITECTURAL PLANS

PRE-DEVELOPMENT MUSIC CATCHMENT PLAN

SCALE 1: 1000

PRE DEVELOPMENT MUSIC CATCHMENTS (P1806493MUS01V04) AREA (ha) IMPERVIOUS % DESCRIPTION MUSIC NODE ID MUSIC NODE REFERENCE CAMDEN CITY COUNCIL MUSIC-LINK CAMDEN CITY COUNCIL MUSIC-LINK CAMDEN CITY COUNCIL MUSIC-LINK LANDSCAPE 2.446 TOTAL SITE TOTAL - OVERALL = 100 % OF OVERALL AREA TOTAL - IMPERVIOUS 0.066 = 3 % OF OVERALL AREA TOTAL - PERVIOUS = 97 % OF OVERALL AREA



PRE-DEVELOPMENT MUSIC MODEL LAYOUT

DRAWN DESIGNED CHECKED APPRVD SCALE PROJECT MANAGER | CLIENT REV DESCRIPTION G DESIGN UPDATE LL AVG/EZ TH TH 24/04/2020 **AMITY COLLEGE** mAHD A1 (A3) 1:1,000 (1:2,000) F MINOR AMENDMENT GM CG/PD TH TH 24/07/2019 23/07/2019 CG/PD CG/PD TH PROJECT NAME/PLANSET TITLE E | AMENDED FORM CLIENT COMMENTS DISCLAIMER & COPYRIGHT D | AMENDED FORM CLIENT COMMENTS This plan must not be used for construction unless signed as approved by GM EZ CG/PD TH AMITY COLLEGE LEPPINGTON CAMPUS 11/07/2019 principal certifying authority. AMENDED FORM REVISED ARCHITECTURAL PLANS GM CG/EZ TH 28/06/2019 All measurements in millimetres unless otherwise specified. CIVIL WORKS PLAN B MINOR AMENDMENT 08/05/2019 GM CG/DG CG/DG This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. A | MINOR AMENDMENT 63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996 16/04/2019 GM EZ (C) Copyright Martens & Associates Pty Ltd A1 / A3 LANDSCAPE (A1LC_v02.0.01)

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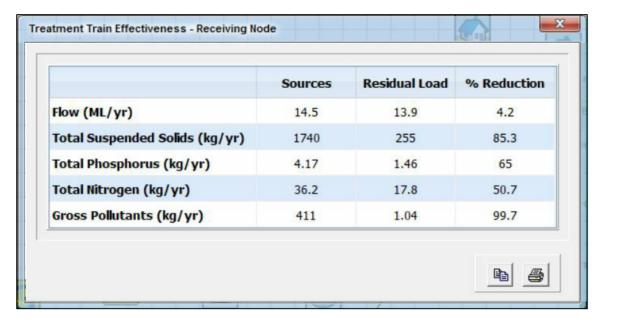
Email: mail@martens.com.au Internet: www.martens.com.au

PRE-DEVELOPMENT MUSIC CATCHMENT PLAN, MODEL LAYOUT AND RESULT PLANSET NO. RELEASE NO. DRAWING NO. PROJECT NO. REVISION PS01-E700 P1806493 INGLEBURN ROAD

BYRON ROAD (21-MRC01)

POST-DEVELOPMENT MUSIC CATCHMENT PLAN

SCALE 1: 1000

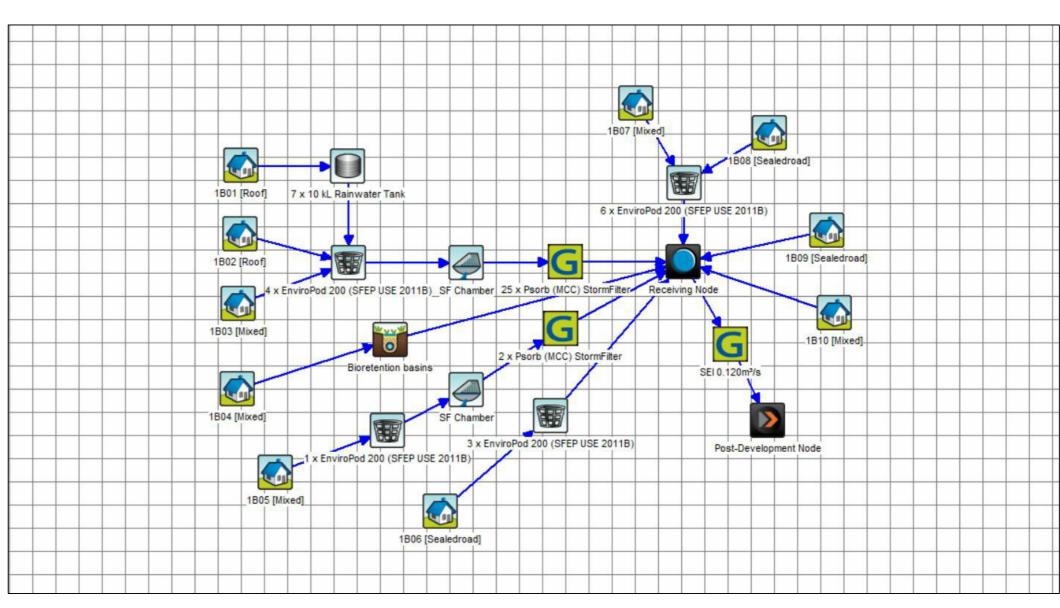


MUSIC MODELLING RESULTS

	Inf	low
	Pre	Post
Flow (ML/yr)	39.6	115
Total Suspended Solids (kg/yr)	8.03E3	6.26E3
Total Phosphorus (kg/yr)	16.3	26.3
Total Nitrogen (kg/yr)	108	242
Gross Pollutants (kg/yr)	8.97	5.89

MUSIC MODELLING SEI RESULTS

	POST DEVELOPME	NT MUSIC CA	ATCHMENT	S (P1806493N	IUS01V04)
KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE
	ROOF TO RWTS	1B01	0.179	100	CAMDEN CITY COUNCIL MUSIC-LINK
	ROOF BYPASS RWTS	1B02	0.878	100	CAMDEN CITY COUNCIL MUSIC-LINK
	GROUND TO 4 x ENNVIROPODS	1B03	0.840	65	CAMDEN CITY COUNCIL MUSIC-LINK
	GROUND TO BIO	1B04	0.040	100	CAMDEN CITY COUNCIL MUSIC-LINK
	GROUND TO SF	1B05	0.183	65	CAMDEN CITY COUNCIL MUSIC-LINK
	SEALED ROAD TO 3 x ENVIROPODS	1B06	0.090	50	CAMDEN CITY COUNCIL MUSIC-LINK
	GROUND TO 6 x ENVIROPODS	1B07	0.110	40	CAMDEN CITY COUNCIL MUSIC-LINK
	SEALED ROAD TO 6 x ENVIROPODS	1B08	0.158	50	CAMDEN CITY COUNCIL MUSIC-LINK
	SEALED ROAD BYPASS 6 x ENVIROPODS	1B09	0.008	50	CAMDEN CITY COUNCIL MUSIC-LINK
	GROUND BYPASS SF	1B10	0.024	0	CAMDEN CITY COUNCIL MUSIC-LINK
	TOTAL SITE				
		TOTAL - OVERALL		2.512	= 100 % OF OVERALL AREA
		TOTAL - IMPERVIOUS		1.816	= 72 % OF OVERALL AREA
		TOTAL - PERVIOUS		0.696	= 28 % OF OVERALL AREA
lotes:		•			



POST-DEVELOPMENT MUSIC MODEL LAYOUT

NOTE

1. WATER QUALITY TREATMENT TRAIN TO ACHIEVE TARGET REDUCTION LEVELS OF 85% TSS, 65% TP, 45% TN & 90% GP (CAMDEN COUNCIL, 2015).
2. PRE-DEVELOPMENT VS POST DEVELOPMENT SEI INDEX =115/39.6=2.9< 3.5.

STATE SIGNIFICANT DEVELOPMENT APPLICATION



Consulting Engineers
Environment
Water
Geotechnical
Civil

POST-DEVELOPMENT MUSIC CATCHMENT
PLAN, MODEL LAYOUT AND RESULT
(ULTIMATE STAGE)

PLANSET NO. RELEASE NO. DRAWING NO.

Civil

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DRAWING ID: P1806493-PS01-R11-E710

DRAWING ID: P1806493-PS01-R11-E710

DRAWING ID: P1806493-PS01-R11-E710

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	REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE		
	Н	DESIGN UPDATE	24/04/2020	LL	AVG/EZ	TH	TH	0 10 	20	30
∍	G	ADD FUTURE ROAD 2 (21–MRC03A)	20/11/2019	JS	PB	TH	TH	A1 (A3)	1:1,000 (1:2	2,(
: [[F	MINOR AMENDMENT	24/07/2019	GM	CG/PD	TH	TH			
USEF	Е	AMENDED FORM CLIENT COMMENTS	23/07/2019	CG/PD	CG/PD	TH	TH			
<u> </u>	D	AMENDED FORM CLIENT COMMENTS	11/07/2019	GM	EZ	CG/PD	TH			
	C	AMENDED FORM REVISED ARCHITECTURAL PLANS	28/06/2019	GM	CG/EZ	TH	TH			
TED	В	MINOR AMENDMENT	08/05/2019	GM	CG/DG	CG/DG				
PRIN	Α	MINOR AMENDMENT	16/04/2019	GM	EZ					
	A1 / A3 L	ANDSCAPE (A1LC_v02.0.01)			-					

MGA mAHD TH

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AMITY COLLEGE LEPPINGTON CAMPUS

CIVIL WORKS PLAN

63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171

LOT 1 & 2 DP 525996

PROJECT MANAGER | CLIENT

BYRON ROAD (21-MRC01)

STAGE 1 PRE-DEVELOPMENT MUSIC CATCHMENT PLAN

SCALE 1: 1000

	PRE DEVELOPI	MENT MUSIC	CATCHMEN	ITS (P180649	3MUS02V03)
KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE
	DRIVEWAY	1A01	0.025	100	CAMDEN CITY COUNCIL MUSIC-LINK
	LANDSCAPE	1A02	0.725	0	CAMDEN CITY COUNCIL MUSIC-LINK
	TOTAL SITE				
		TOTAL - OVERALL		0.750	= 100 % OF OVERALL AREA
		TOTAL - IMPERVIOUS		0.025	= 3 % OF OVERALL AREA
		TOTAL - PERVIOUS		0.725	= 97 % OF OVERALL AREA

	Inf	low
	Pre	Post
Flow (ML/yr)	3.25	2.83
Total Suspended Solids (kg/yr)	572	202
Total Phosphorus (kg/yr)	1.52	0.739
Total Nitrogen (kg/yr)	10.3	6.56
Gross Pollutants (kg/yr)	0.947	0.332

1. WATER QUALITY TREATMENT TRAIN TO ACHIEVE TARGET REDUCTION LEVELS OF 85% TSS, 65% TP, 45% TN & 90% GP (CAMDEN COUNCIL, 2015). 2. PRE-DEVELOPMENT VS POST DEVELOPMENT SEI INDEX =2.83/3.25=0.87< 3.5.

DRAWN DESIGNED CHECKED APPRVD SCALE REV DESCRIPTION E DESIGN UPDATE 24/04/2020 LL AVG/EZ TH A1 (A3) 1:1,000 (1:2,000) MINOR AMENDMENT 24/07/2019 GM CG/PD TH TH 23/07/2019 CG/PD CG/PD TH AMENDED FORM CLIENT COMMENTS DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. 11/07/2019 GM EZ CG/PD B | AMENDED FORM CLIENT COMMENTS A AMENDED FORM REVISED ARCHITECTURAL PLANS 28/06/2019 GM CG/EZ TH All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

POST DEVELOPMENT MUSIC CATCHMENTS (P1806493MUS02V03)											
KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE						
	ROOF TO SWALE	1B01	0.065	100	CAMDEN CITY COUNCIL MUSIC-LINK						
$\times\!\!\times\!\!\times\!\!\times$	CARPARK TO SWALE	1B02	0.062	100	CAMDEN CITY COUNCIL MUSIC-LINK						
	GROUND TO SWALE	1B03	0.370	0	CAMDEN CITY COUNCIL MUSIC-LINK						
	GROUND TO SF	1B04	0.111	90	CAMDEN CITY COUNCIL MUSIC-LINK						
	GROUNDTO SF	1B05	0.028	100	CAMDEN CITY COUNCIL MUSIC-LINK						
	SEALED ROAD TO 3 x Enviropods	1B06	0.087	50	CAMDEN CITY COUNCIL MUSIC-LINK						
	SEALED ROAD BYPASS 3 x Enviropods	1B07	0.009	50	CAMDEN CITY COUNCIL MUSIC-LINK						
	GROUND BYPASSING	1B08	0.019	100	CAMDEN CITY COUNCIL MUSIC-LINK						
	TOTAL SITE										
		TOTAL - OVERALL		0.750	= 100 % OF OVERALL AREA						
		TOTAL - IMPERVIOUS		0.321	= 43 % OF OVERALL AREA						
		TOTAL - PERVIOUS		0.429	= 57 % OF OVERALL AREA						

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.82	2.82	0
Total Suspended Solids (kg/yr)	532	70.8	86.7
Total Phosphorus (kg/yr)	1.09	0.362	66.9
Total Nitrogen (kg/yr)	7.08	3.9	45
Gross Pollutants (kg/yr)	56.7	1.17	97.9

STATE SIGNIFICANT DEVELOPMENT APPLICATION

STAGE 1 MUSIC MODEL LAYOUT

STAGE 1 POST-DEVELOPMENT MUSIC CATCHMENT PLAN

SCALE 1: 1000



Consulting Engineers Environment

Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au

	DRAWING TITLE									
	MUSIC CATCHMENT									
	PLAN, MODEL LAYOUT AND RESULT									
	(STAGE 1)									
	PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION					
67	P1806493	PS01	R11	PS01-E711	Е					
	DRAWING ID: P1806493-PS01-R11-E71	1 00000	20 30 4	0 50 60 70	80 90 100					

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

STAGE 1 MUSIC MODELLING RESULTS

AMITY COLLEGE

AMITY COLLEGE LEPPINGTON CAMPUS

CIVIL WORKS PLAN

63 INGLEBURN RD & 85 BYRON RD, LEPPINGTON, NSW 2171 LOT 1 & 2 DP 525996

PROJECT NAME/PLANSET TITLE

PROJECT MANAGER | CLIENT

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