





CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL

NOTE: STREET TREE LOCATIONS SHOWN ARE INDICATIVE ONLY. ULTIMATE LOCATION IS TO BE PROVIDED/CONFIRMED BY LANDSCAPE ARCHITECTS

- NOTES:
- ALL VEHICLE AND PRAM CROSSING LAYBACKS, TO BE MINIMUM OF 1.0m FROM PITS.
  - ALL PRAM CROSSINGS TO BE A MINIMUM 2.0m FROM VEHICLE CROSSINGS.
  - ALL PRAM CROSSINGS TO BE DDA COMPLIANT.
  - VEHICLE EXCLUSION MEASURES BETWEEN ROAD RESERVE AND RESERVE TO FORM PART OF LANDSCAPE WORKS.
  - THE USE OF DIRECTIONAL AND HAZARD TACTILE PAVERS MUST ACCORD WITH SECTION 2.2.3.1 OF AS/NZS 1428.4:2002.
  - SEWER MAINTENANCE HOLE CONVERTER SLAB OR CONE, TO BE ROTATED TO ENSURE COVER POSITION IS CENTRALLY LOCATED WITHIN FOOTPATH.
  - CHAINAGES FOR SETOUT OF PROPERTY INLET POINTS, SERVICING FUTURE LOTS, ARE MEASURED FROM THE DOWNSTREAM PIT.
  - CONTRACTOR TO LOCATE ALL EXISTING ASSETS PRIOR TO COMMENCEMENT OF WORKS. ANY DAMAGE TO EXISTING ASSETS TO BE RECTIFIED AT CONTRACTORS EXPENSE.
  - CONTRACTOR TO VERIFY DEPTH OF EXISTING SERVICES, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - LOTS WITH FRONTAGES OF 12.50m OR LESS ARE TO BE PROVIDED WITH CROSSOVERS OF MAXIMUM 3.50m WIDTH.

**WARNING**  
**BWARE OF UNDERGROUND & OVERHEAD SERVICES**  
 The locations of underground & overhead services are approximate only & their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works  
**DIAL 1100 BEFORE YOU DIG**  
 www.1100.com.au

**LEGEND - LAYOUT PLAN**

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RETAINING WALL
- BUILDING ENVELOPE
- PAVEMENT TREATMENT
- STRUCTURAL FILL > 200mm DEEP
- EX STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN
- DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY
- EXISTING TOPSOIL STOCKPILE
- EXISTING TPZ

**SERVICES OFFSET SCHEDULE**

ROAD NAME	SIDE	GAS		RECYCLED WATER		POTABLE WATER		OPTIC FIBRE		ELECTRICITY	
		OFFSET	DEPTH	OFFSET	DEPTH	OFFSET	DEPTH	OFFSET	DEPTH	OFFSET	DEPTH
BOTANY CIRCUIT (LOT 5331 HEADING E) (CH488.591 - 507.189)	S	2.10	2.50	2.50	2.50	3.20	3.20	3.90	3.90	4.70	4.70
BOTANY CIRCUIT (LOT 5331 TO LOT 5336) (CH376.099 - 488.591)	W	1.80	2.20	2.20	2.20	2.70	2.70	3.40	3.40	4.00	4.00
BOTANY CIRCUIT (LOT 5336 TO LOT 5343) (CH227.139 - 376.099)	N	1.80	2.20	2.20	2.20	2.70	2.70	3.00	3.00	3.10	3.10
BOTANY CIRCUIT (LOT 5343 TO LOT 5347) (CH184.575 - 227.139)	N	1.80	2.20	2.20	2.20	2.70	2.70	3.00	3.00	3.10	3.10
BOTANY CIRCUIT (LOT 5347 TO LIMIT OF WORKS) (CH158.968 - 184.575)	N	1.80	2.20	2.20	2.20	2.70	2.70	3.00	3.00	3.10	3.10
MILKY WAY TERRACE	W	1.80	2.20	2.20	2.20	2.70	2.70	3.70	3.70	4.20	4.20

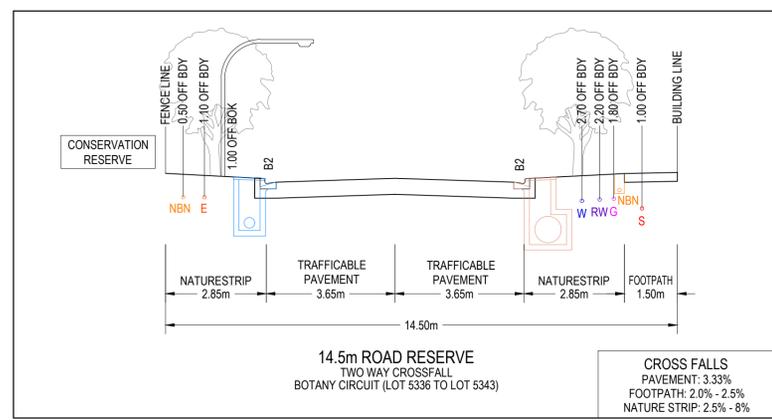
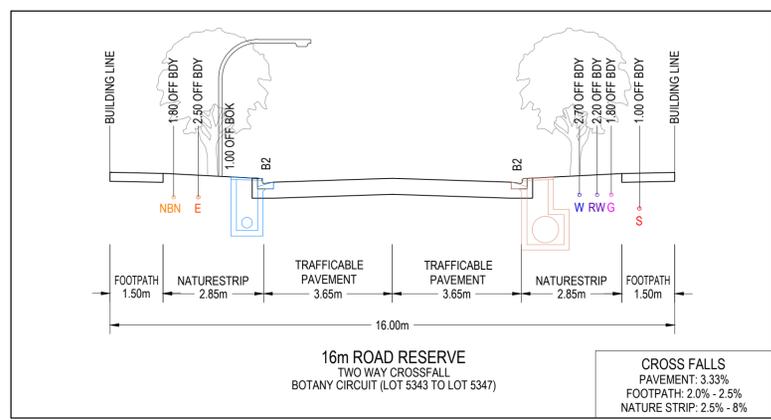
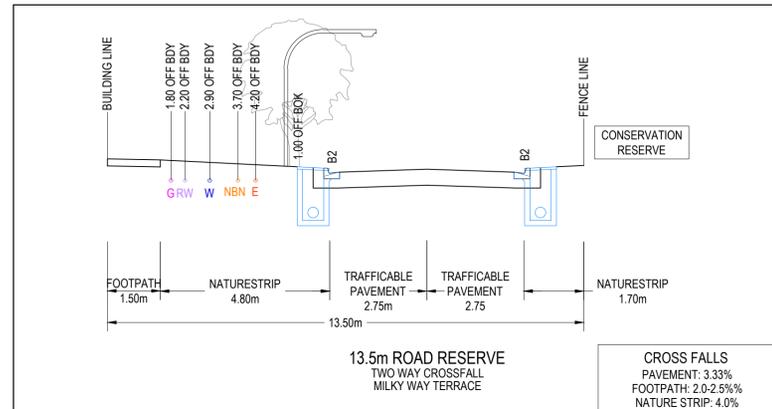
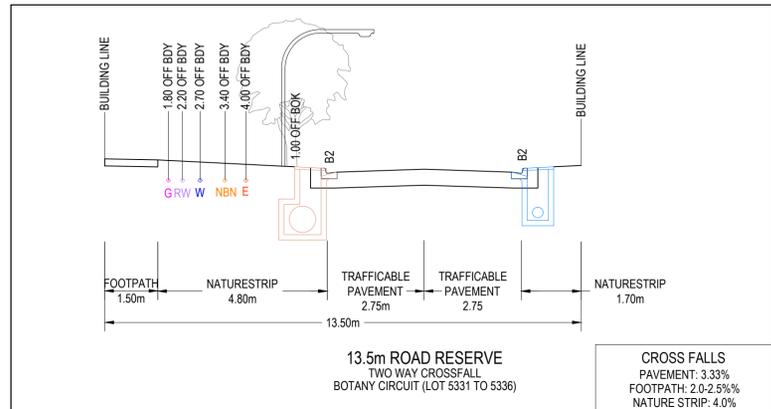
REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	27/02/24	PIT 70 RELOCATED & SOS TABLE AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
1	12/01/24	PIT 69 - 70 ALIGNMENT AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE



**ARMSTRONG - STAGE 53B LAYOUT PLAN**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:500 @ A1	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R200</b>	<b>2</b>



**NOTE:**  
IN HIGHLY EXPANSIVE CLAY HD POLYETHYLENE MOISTURE BARRIER SHEETING IS TO EXTEND UNDER THE KERB AND LINE THE SUBSOIL TRENCH AND GEOTEXTILE FABRIC IN OTHER SITUATIONS

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	27/02/24	ELECTRICAL & OPTIC OFFSETS AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
Communities Designed for Living

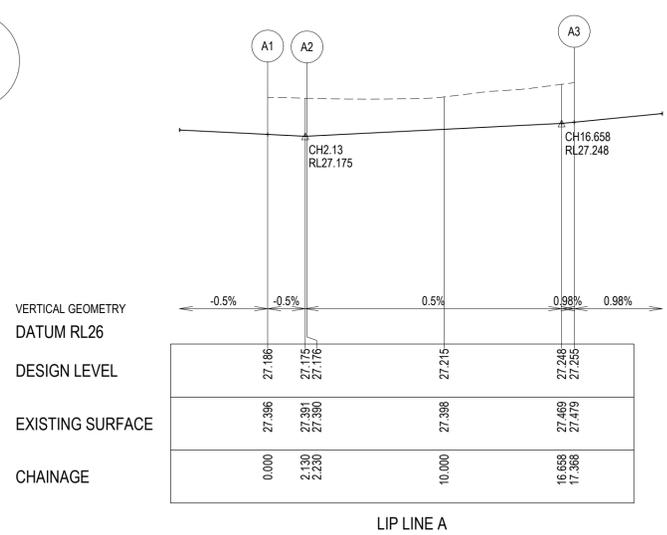
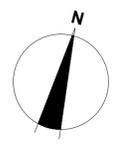
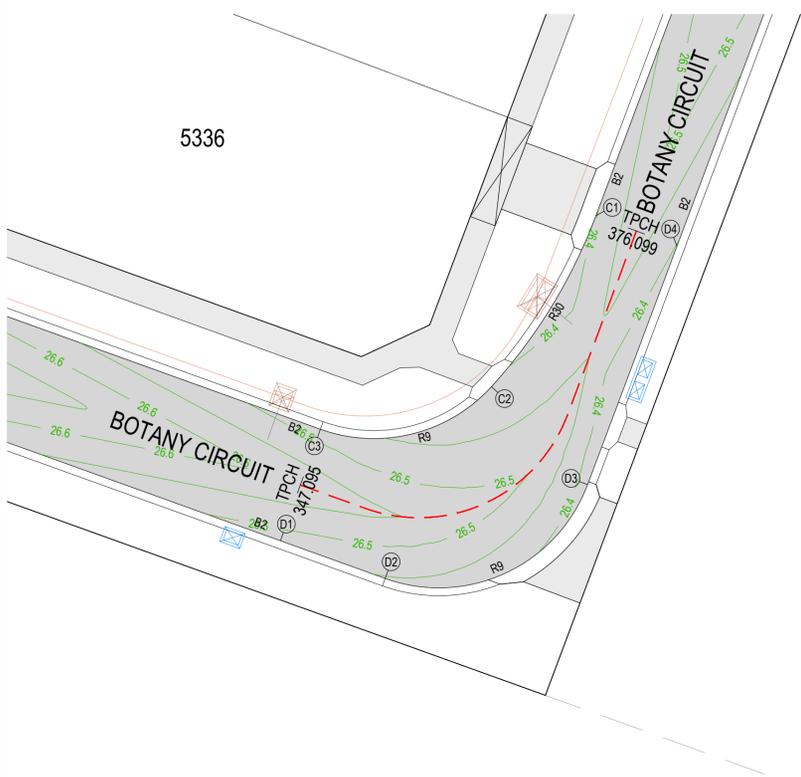
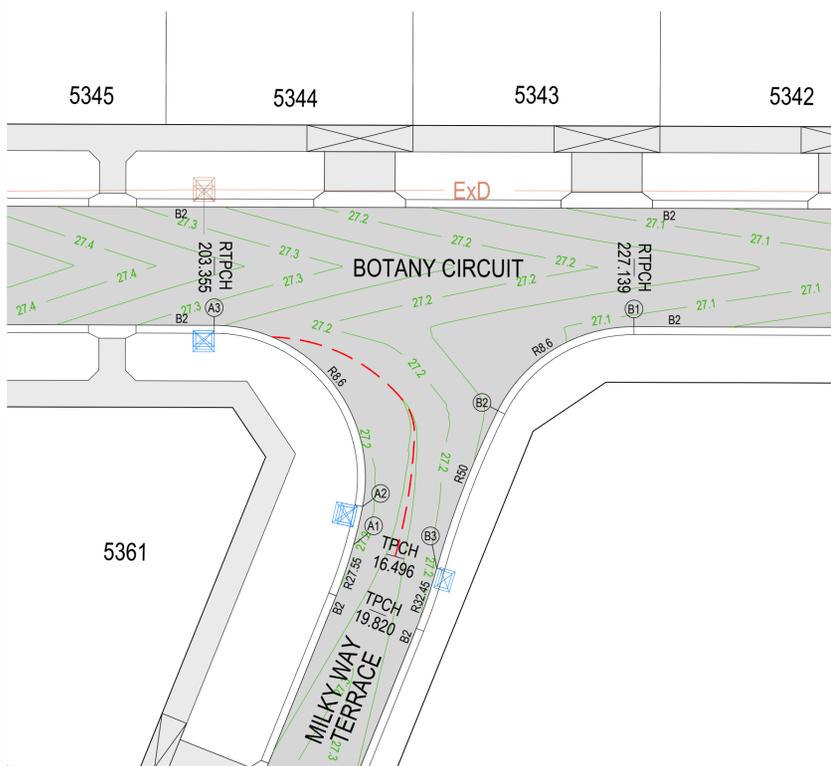
**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Newtown, VIC, Australia 3220

**ARMSTRONG**  
MT DUNDEE

**ARMSTRONG - STAGE 53B**  
TYPICAL CROSS SECTIONS

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R201</b>	<b>1</b>

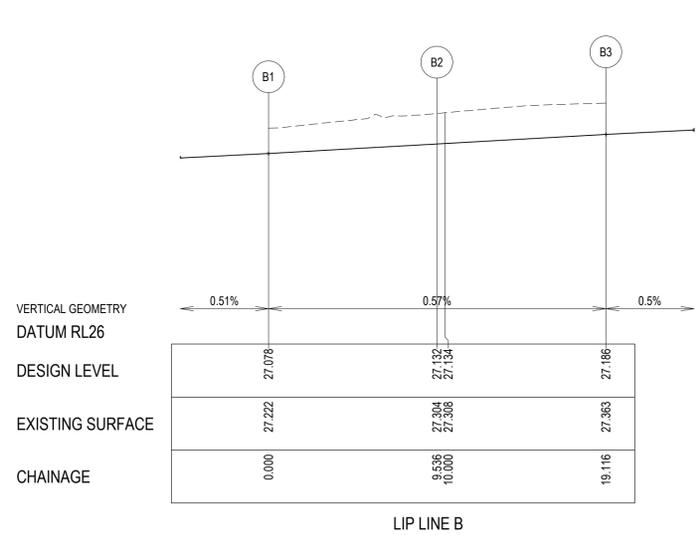


**ALIGNMENT A**

PT NO	EASTING	NORTHING	RL
A1	266188.442	5765196.654	27.186
A2	266188.383	5765198.883	27.176
A3	266177.62	5765206.624	27.255

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
A1 - A2	4.638	27.55	2.23	0.023	0.017	0.557	0.557	0.558	27.18
A2 - A3	100.852	8.6	15.138	3.121	2.302	3.663	2.965	3.784	27.214

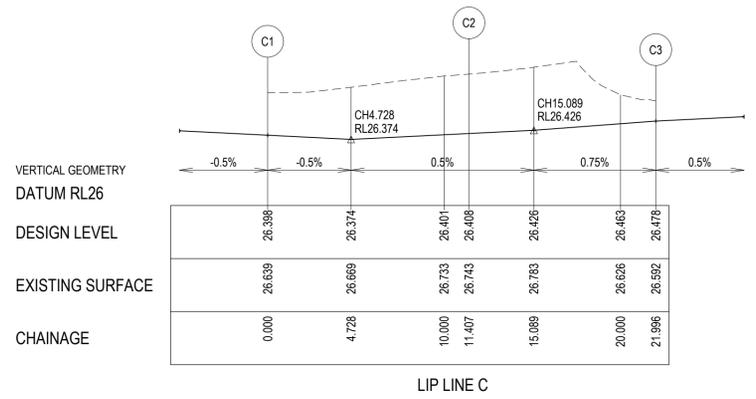


**ALIGNMENT B**

PT NO	EASTING	NORTHING	RL
B1	266200.625	5765212.66	27.078
B2	266194.388	5765206.095	27.132
B3	266193.342	5765196.587	27.186

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
B1 - B2	63.532	8.6	9.536	1.288	0.96	2.354	2.174	2.384	27.105
B2 - B3	10.978	50	9.58	0.229	0.172	2.384	2.389	2.395	27.159

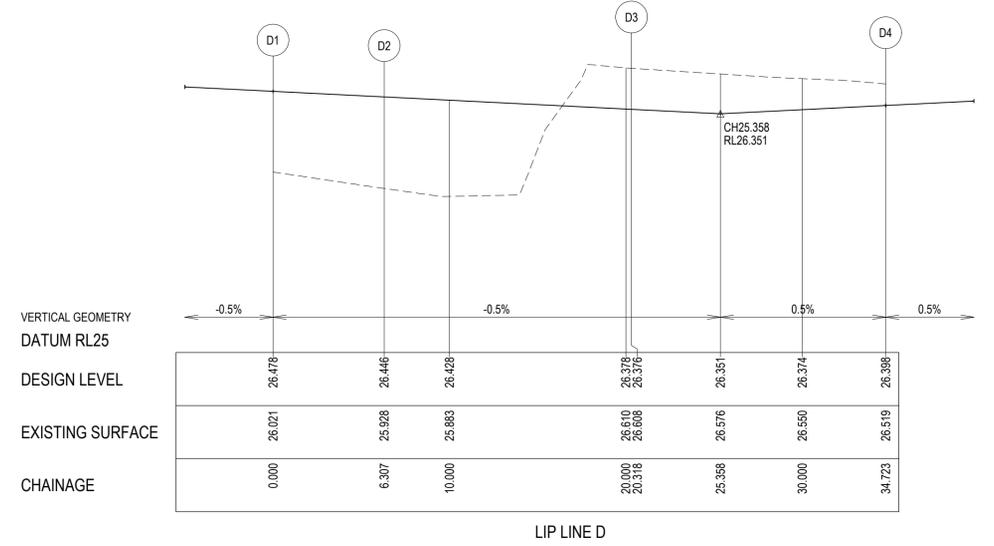


**ALIGNMENT C**

PT NO	EASTING	NORTHING	RL
C1	266330.792	5765234.893	26.398
C2	266327.558	5765224.026	26.408
C3	266318.807	5765219.209	26.478

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
C1 - C2	21.786	30	11.407	0.541	0.405	2.847	2.822	2.852	26.379
C2 - C3	67.412	9	10.589	1.513	1.126	2.609	2.385	2.647	26.438

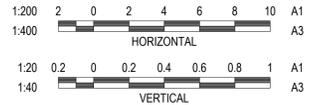


**ALIGNMENT D**

PT NO	EASTING	NORTHING	RL
D1	266318.237	5765212.534	26.478
D2	266324.521	5765211.997	26.446
D3	266334.242	5765220.074	26.376
D4	266335.668	5765234.408	26.398

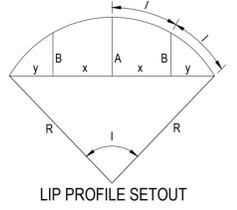
  

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
D2 - D3	89.197	9	14.011	2.592	1.919	3.415	2.904	3.503	26.411



**LEGEND - INTERSECTION PLAN**

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- TACTILE PAVERS
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- PROPOSED DRIVEWAY
- CROWN / DESIGN LINE



**LEGEND - LIP PROFILES**

- EXISTING SURFACE
- DESIGN LINE

**NOTE**  
FOR SIGNS & LINEMARKING PLAN REFER SHEETS R800

**WARNING**  
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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
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**villawood properties**  
Communities Designed for Living

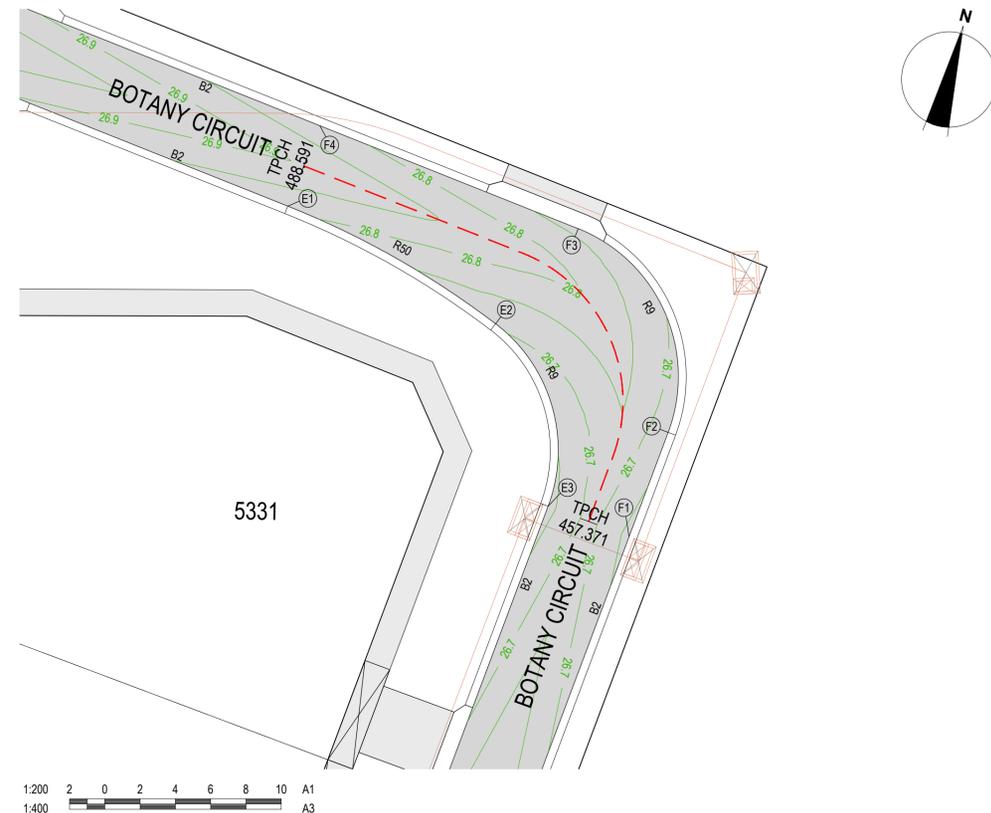
**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNDEE

**ARMSTRONG - STAGE 53B**  
**INTERSECTION DETAILS - 01**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R300</b>	<b>0</b>

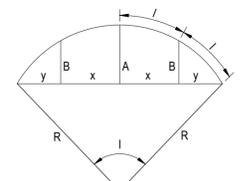


**LEGEND - INTERSECTION PLAN**

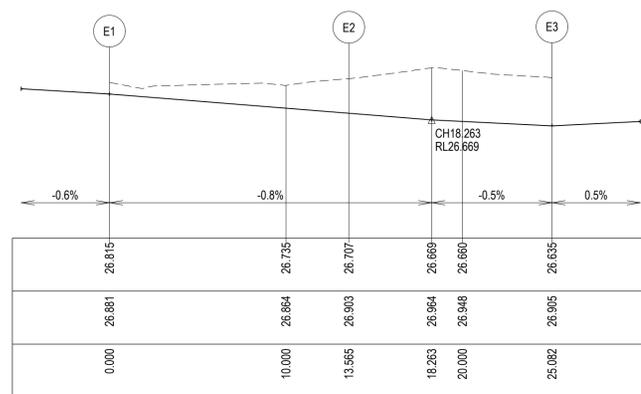
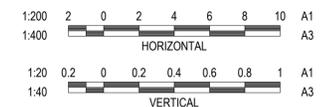
- STORMWATER DRAIN, PIT & PROPERTY INLET
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- TACTILE PAVERS
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, 'NO ROAD' SIGN & BARRIER
- LIMIT OF WORKS
- PROPOSED DRIVEWAY
- CROWN / DESIGN LINE

**LEGEND - LIP PROFILES**

- EXISTING SURFACE
- DESIGN LINE



LIP PROFILE SETOUT

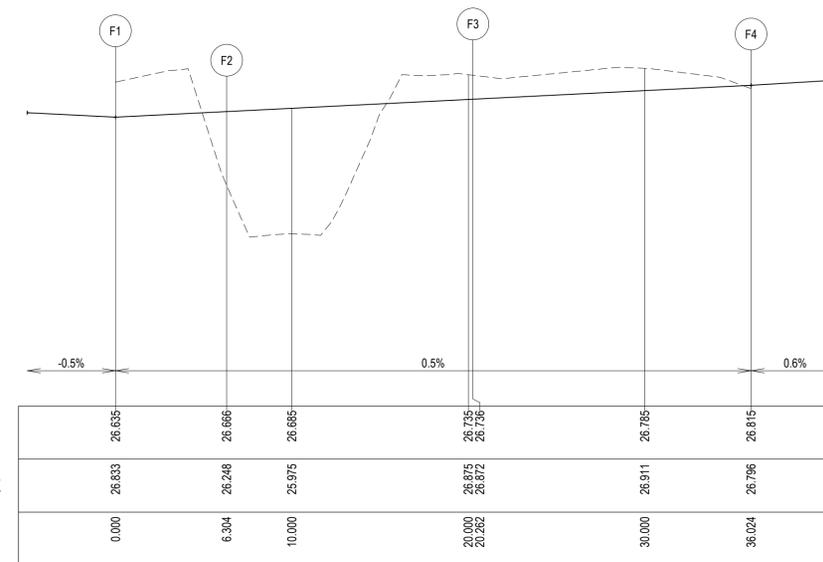


LIP LINE E

**ALIGNMENT E**

PT NO	EASTING	NORTHING	RL
E1	266320.22	5765328.387	26.815
E2	266333.307	5765324.98	26.707
E3	266338.839	5765315.766	26.635

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
E1 - E2	15.545	50	13.565	0.459	0.344	3.389	3.373	3.391	26.761
E2 - E3	73.317	9	11.517	1.78	1.324	2.83	2.543	2.879	26.664



LIP LINE F

**ALIGNMENT F**

PT NO	EASTING	NORTHING	RL
F1	266343.715	5765315.281	26.635
F2	266344.339	5765321.554	26.666
F3	266336.452	5765331.381	26.736
F4	266320.802	5765333.252	26.815

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
F2 - F3	88.862	9	13.958	2.573	1.905	3.403	2.898	3.49	26.701

**NOTE**  
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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION			
B	17/10/22	COUNCIL COMMENTS			
A	17/09/21	ISSUED FOR APPROVAL			

**CLIENT**

Communities Designed for Living

**creo CONSULTANTS**

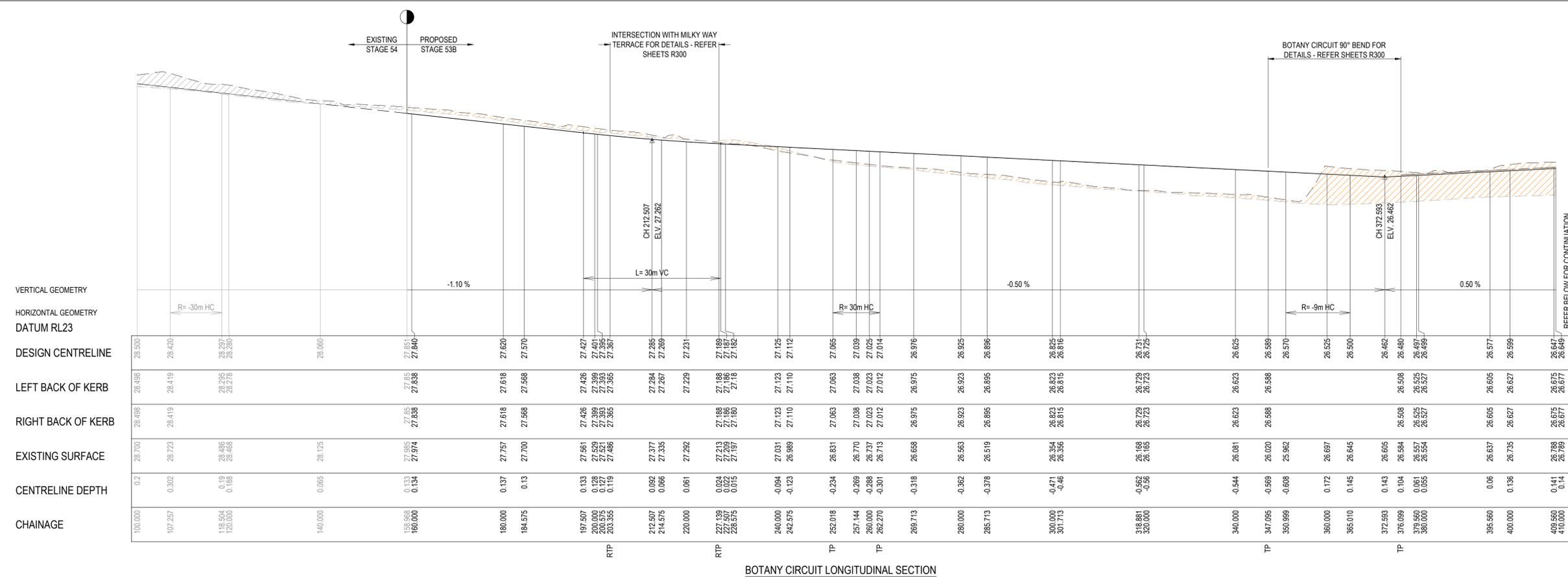
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
MT DUNEED

**DRAWING TITLE**  
ARMSTRONG - STAGE 53B  
INTERSECTION DETAILS - 02

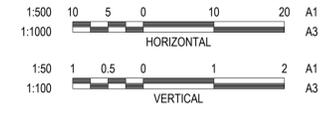
**STATUS**  
ISSUED FOR  
CONSTRUCTION

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
180016.53B	R301	0

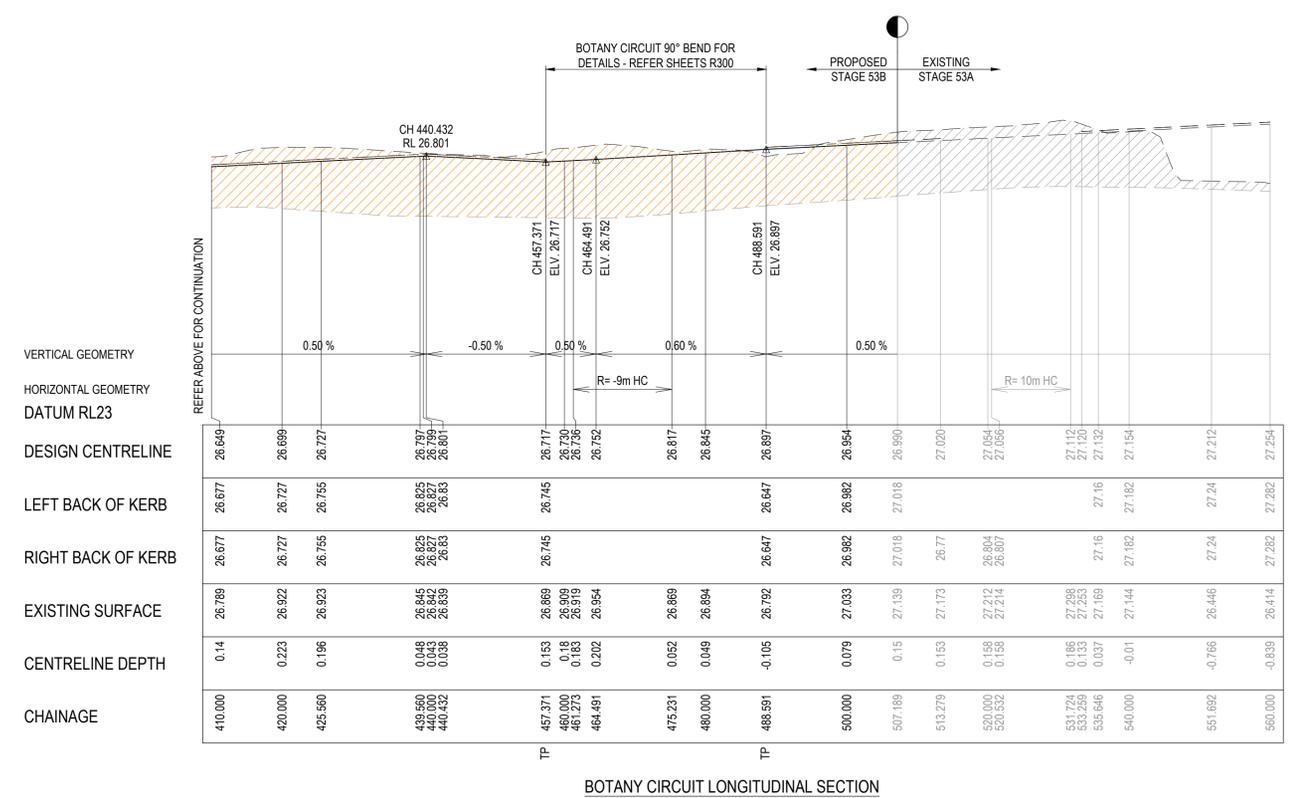


**LEGEND**

- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- LEFT BACK OF KERB
- RIGHT BACK OF KERB
- PREVIOUSLY PLACED CONTROLLED FILL



BOTANY CIRCUIT LONGITUDINAL SECTION



BOTANY CIRCUIT LONGITUDINAL SECTION

**BOTANY CIRCUIT DESIGN LINE**

CHAINAGE	EASTING	NORTHING	BEARING
158.968	266133.835	5765198.600	75°17'59" IP
198.057	266171.645	5765208.520	75°17'59" IP
200.000	266173.524	5765209.013	75°17'59" IP
212.507	266185.622	5765212.187	75°17'59" IP
252.018	266223.839	5765222.213	75°17'59" TC
252.174	266223.990	5765222.253	75°35'50" TC
254.348	266226.114	5765222.717	79°44'58" TC
256.522	266228.266	5765223.028	83°54'03" TC
258.696	266230.433	5765223.178	88°03'10" TC
260.870	266232.606	5765223.173	92°12'16" TC
262.270	266234.004	5765223.087	94°52'46" CT
300.000	266271.597	5765219.877	94°52'46" CT
350.999	266322.411	5765215.540	94°52'46" TC
351.190	266322.602	5765215.525	93°39'28" TC
352.381	266323.792	5765215.528	86°04'45" TC
353.571	266324.971	5765215.688	78°30'01" TC
354.762	266326.118	5765216.001	70°55'17" TC
355.952	266327.214	5765216.464	63°20'33" TC
357.143	266328.240	5765217.066	55°45'50" TC
358.333	266329.177	5765217.799	48°11'06" TC
359.524	266330.009	5765218.649	40°30'22" TC
360.714	266330.722	5765219.502	33°03'39" TC
361.905	266331.303	5765220.640	25°26'55" TC
363.095	266331.742	5765221.745	17°52'11" TC
364.286	266332.032	5765222.899	10°17'28" TC
365.010	266332.132	5765223.616	5°40'55" CT
372.593	266332.883	5765231.162	5°40'55" CT
400.000	266335.597	5765258.434	5°40'55" CT
443.112	266339.865	5765301.334	5°40'55" CT
457.631	266341.302	5765315.782	5°40'55" CT
461.273	266341.663	5765319.406	5°40'55" TC
461.905	266341.703	5765320.037	1°39'31" TC
463.095	266341.659	5765321.225	354°04'47" TC
464.286	266341.459	5765322.398	345°30'04" TC
465.476	266341.105	5765323.534	338°55'20" TC
466.667	266340.605	5765324.613	331°20'36" TC
467.857	266339.967	5765325.617	323°45'53" TC
469.048	266339.201	5765326.528	316°11'09" TC
470.238	266338.323	5765327.330	308°36'25" TC
471.429	266337.346	5765328.009	301°01'42" TC
472.619	266336.289	5765328.554	293°26'58" TC
473.810	266335.168	5765328.954	285°52'14" TC
475.000	266334.005	5765329.203	278°17'30" TC
475.231	266333.776	5765329.233	276°49'11" CT
500.000	266309.182	5765332.175	276°49'11" IP
507.189	266302.044	5765333.028	276°49'11" IP

**BOTANY CIRCUIT IP DETAILS**

IP 1	IP 2	IP 3	IP 4	IP 5
coordinate = 266133.8350 5765198.6005 chainage = 158.9678	coordinate = 266228.8464 5765223.5270 centre = 266231.4524 5765193.1954 radius = 30.0000 length = 10.2520 intersect angle = 19°34'47"	coordinate = 266223.8394 5765222.2134 length = 5.1765 chainage = 252.0181 bearing = 75°17'58"	start tangent coordinate = 266341.6629 5765319.4061 length = 8.8230 chainage = 461.2728 bearing = 5°40'55"	coordinate = 266332.7759 5765329.2334 length = 8.8230 chainage = 475.2312 bearing = 276°49'11"
coordinate = 266331.3350 5765214.7847 centre = 266323.1766 5765224.5070 radius = -9.0000 length = 14.0111 intersect angle = 89°11'51"	coordinate = 266332.4111 5765215.5396 length = 8.8748 chainage = 350.9986 bearing = 94°52'46"	coordinate = 266332.1324 5765223.6159 length = 8.8748 chainage = 365.0097 bearing = 5°40'55"		

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
Communities Designed for Living

**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

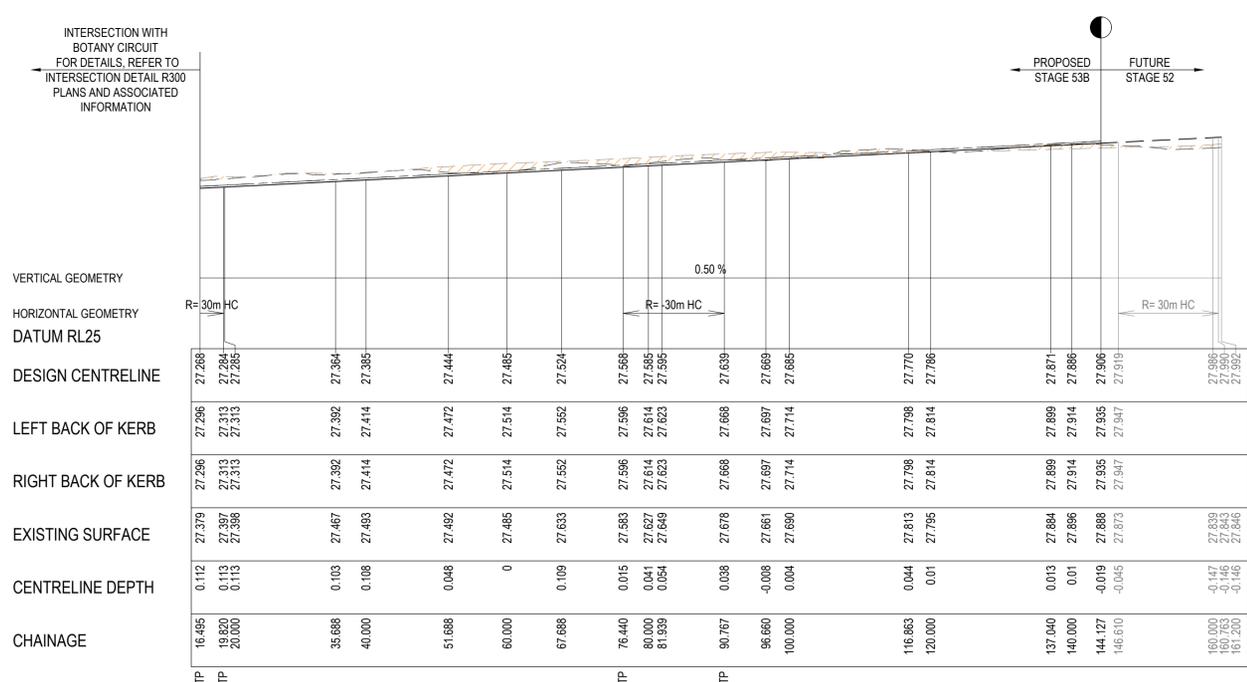
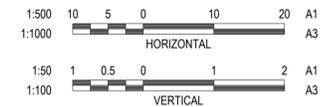
**ARMSTRONG**  
AT DUNDEE

**ARMSTRONG - STAGE 53B**  
ROAD LONGITUDINAL SECTIONS & CENTRELINE SETOUT - 01

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R400</b>	<b>0</b>

LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	FUTURE DESIGN LINE
	LEFT BACK OF KERB
	RIGHT BACK OF KERB
	PREVIOUSLY PLACED CONTROLLED FILL



MILKY WAY TERRACE LONGITUDINAL SECTION

MILKY WAY TERRACE DESIGN LINE

CHAINAGE	EASTING	NORTHING	BEARING
53.360	266185.243	5765123.026	339°46'34" TC
54.348	266184.917	5765123.958	341°39'44"
54.705	266184.807	5765124.297	342°20'37"
56.522	266184.309	5765126.044	345°48'50"
56.893	266184.220	5765126.404	346°31'22"
58.696	266183.853	5765128.169	349°57'57"
59.081	266183.788	5765128.549	350°42'06"
60.870	266183.552	5765130.322	354°07'04"
61.269	266183.514	5765130.719	354°52'51"
63.043	266183.408	5765132.490	358°16'11"
63.457	266183.398	5765132.904	359°03'36"
65.217	266183.421	5765134.664	2°25'17"
65.646	266183.442	5765135.091	3°14'21"
67.391	266183.591	5765136.831	6°34'24"
67.687	266183.626	5765137.124	7°08'17" IP
100.000	266187.642	5765169.187	7°08'17" IP
124.308	266190.662	5765193.306	7°08'17" IP
124.308	266190.662	5765193.306	7°08'17" TC
124.726	266190.711	5765193.722	6°20'17"
126.087	266190.831	5765195.077	3°44'23"
126.915	266190.873	5765195.904	2°09'32"
127.632	266190.892	5765196.620	0°47'22" IP

MILKY WAY TERRACE IP DETAILS

IP 1	coordinate = 266203.6895 5765072.9550 chainage = 0.0000
IP 2	coordinate = 266185.2434 5765123.0255 chainage = 53.3603 intersect angle = 0°00'00"
IP 3	coordinate = 266182.7190 5765129.8780 centre = 266213.3939 5765133.3962 radius = 30.0000 length = 14.3267 intersect angle = 27°21'43"
IP 4	coordinate = 266183.6264 5765137.1241 chainage = 67.6870 intersect angle = 0°00'00"

IP 5	coordinate = 266190.6621 5765193.3058 chainage = 124.3076 intersect angle = 0°00'00"
IP 6	coordinate = 266190.8689 5765194.9567 centre = 266160.8947 5765197.0337 radius = -30.0000 length = -3.3242 intersect angle = 6°20'56"
IP 7	coordinate = 266190.8918 5765196.6204 chainage = 127.6318

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

CLIENT

Communities Designed for Living

creo CONSULTANTS

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Geelong, VIC, Australia 3220

PROJECT

AT DUNDEE

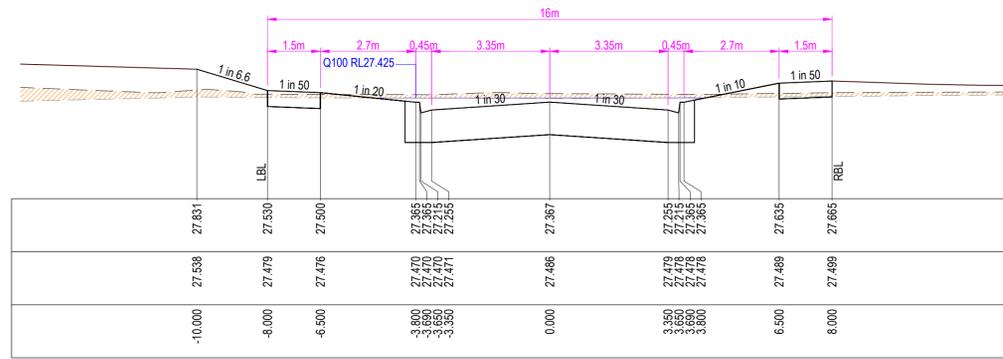
DRAWING TITLE

**ARMSTRONG - STAGE 53B  
ROAD LONGITUDINAL SECTIONS &  
CENTRELINE SETOUT - 02**

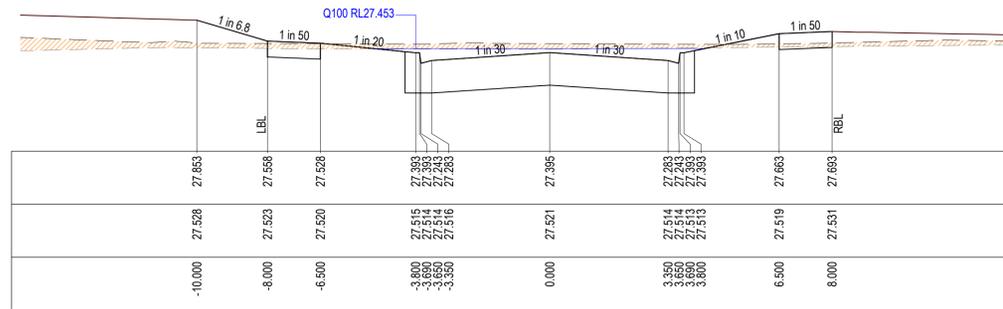
STATUS

**ISSUED FOR  
CONSTRUCTION**

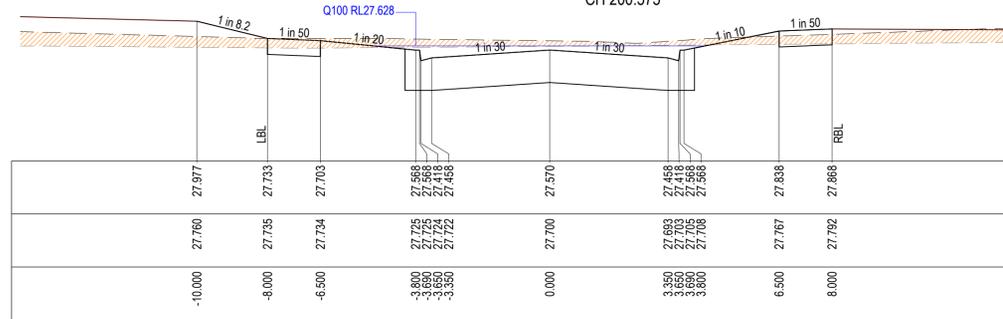
SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R401</b>	<b>0</b>



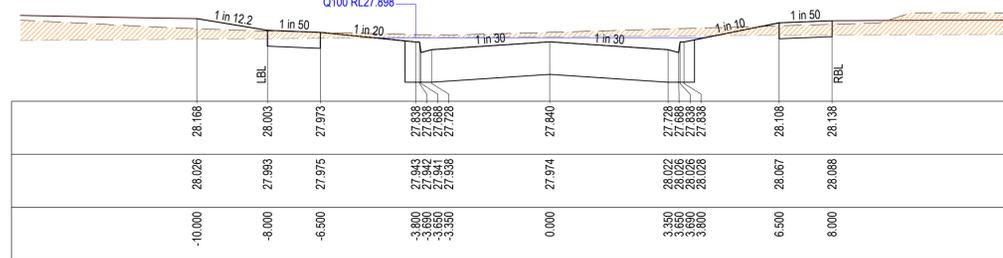
RTPCH 203.355



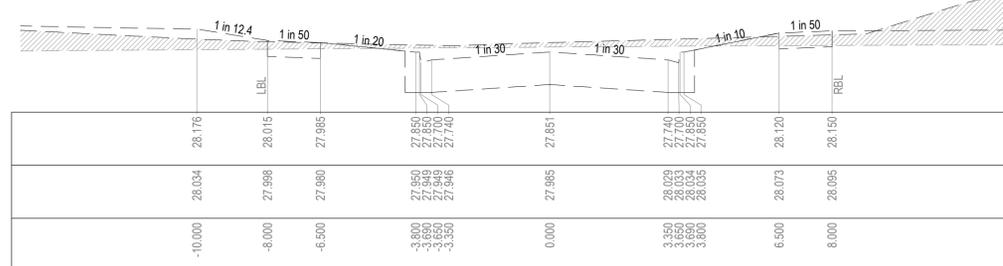
CH 200.575



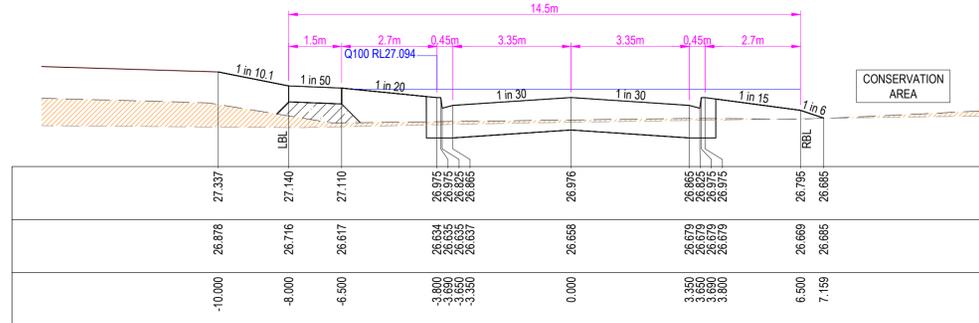
CH 184.575



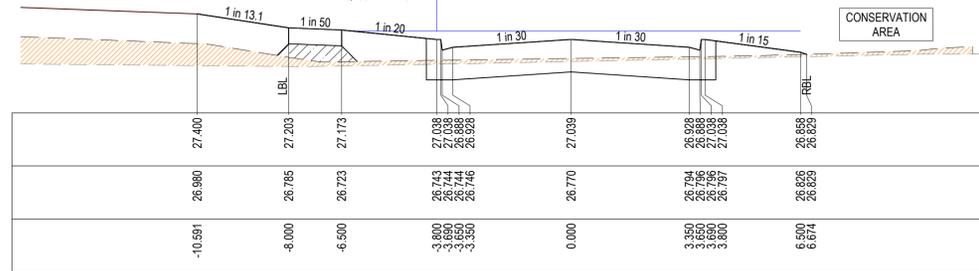
CH 160.000



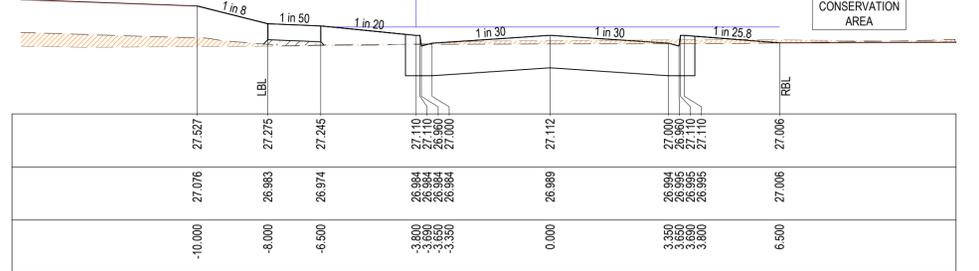
Ex.CH 158.968



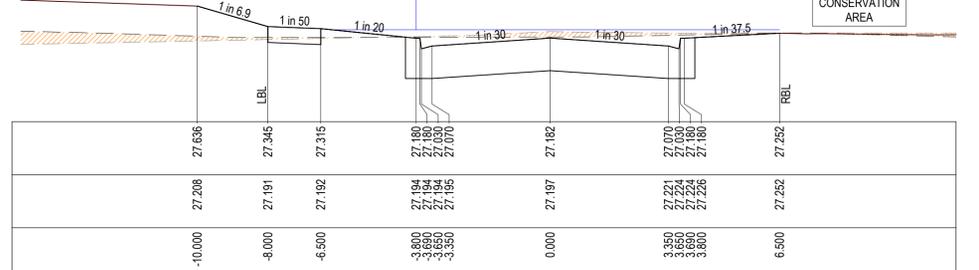
CH 269.713



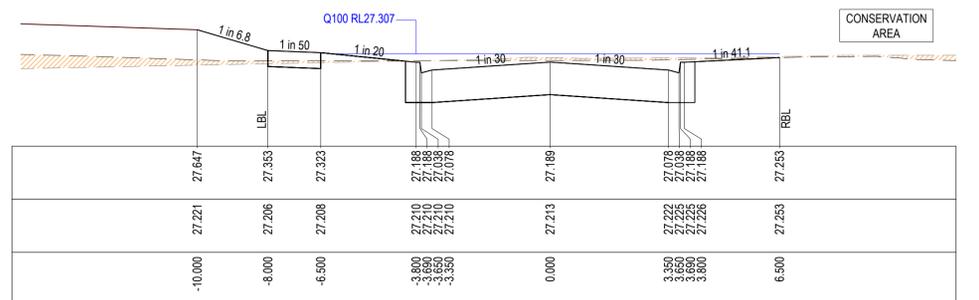
CH 257.144



CH 242.575



CH 228.575



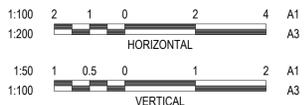
RTPCH 227.139

LEGEND

- - - EXISTING SURFACE
- DESIGN LINE
- Q100 LEVEL
- [Hatched Box] SELECT FILL
- [Diagonal Hatched Box] PREVIOUSLY PLACED CONTROLLED FILL

NOTE:  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

NOTE:  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES



P:\2018\18016 - VILLAWOOD - ARMSTRONG - STAGE 53B - ROAD - ROAD CROSS SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

Communities Designed for Living

Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

PROJECT TITLE  
**ARMSTRONG - STAGE 53B  
ROAD CROSS SECTIONS - 01  
BOTANY CIRCUIT**

STATUS  
**ISSUED FOR  
CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R500</b>	<b>0</b>



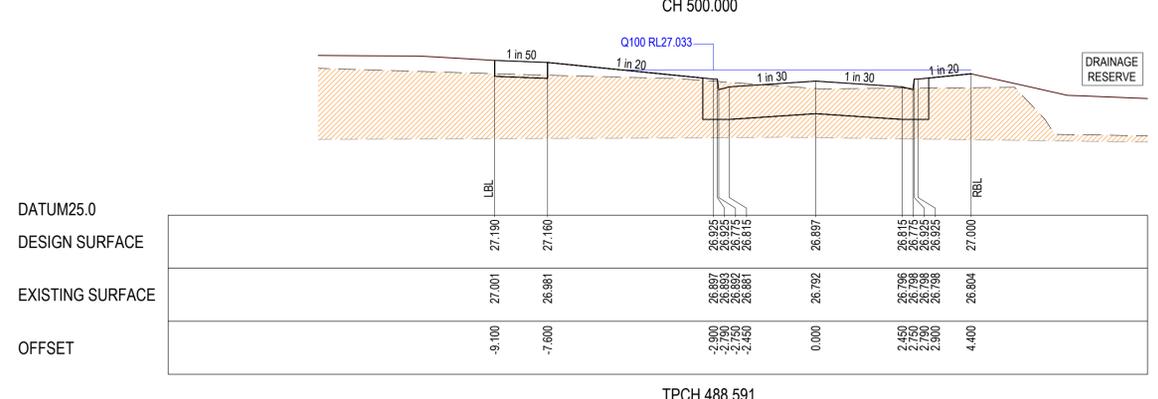
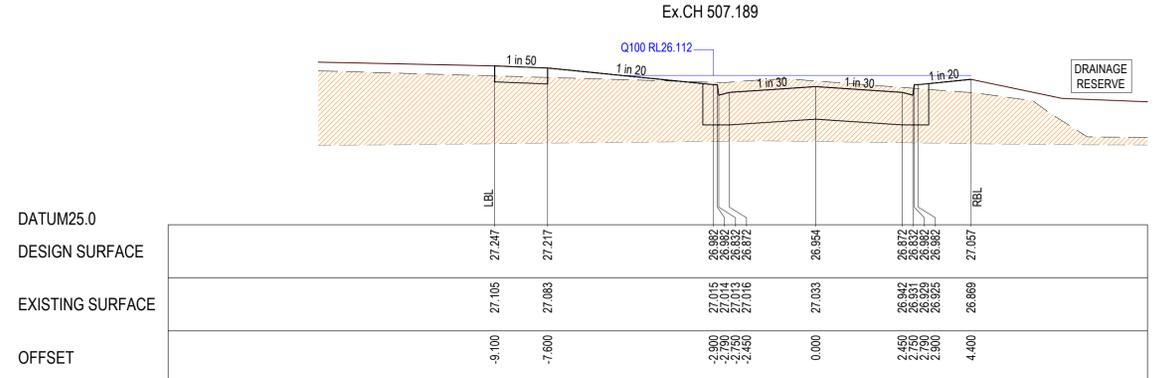
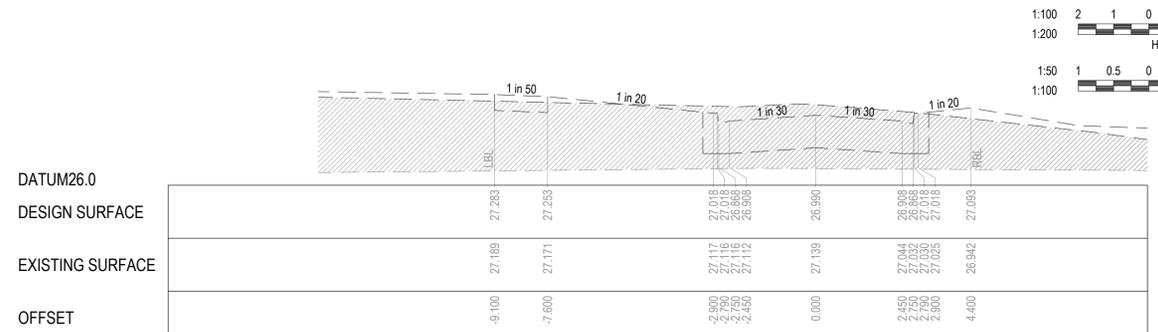
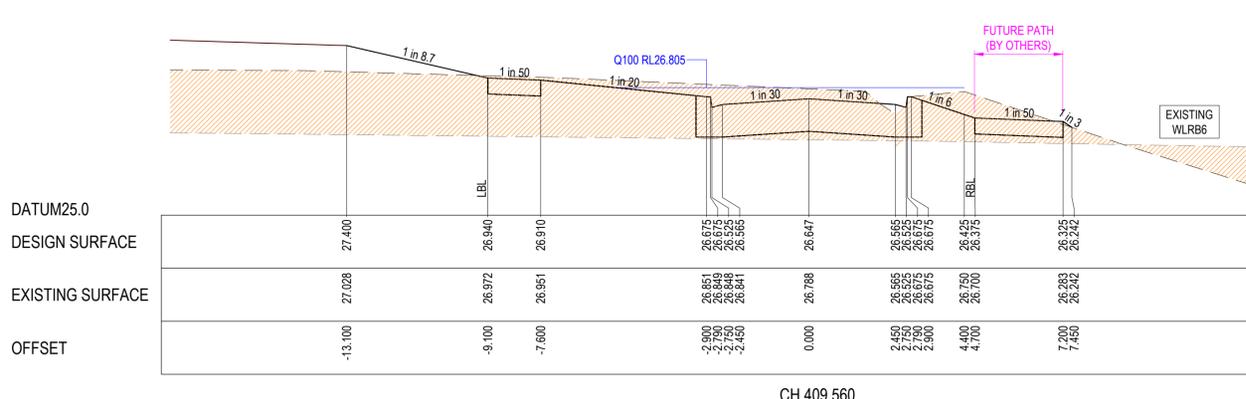
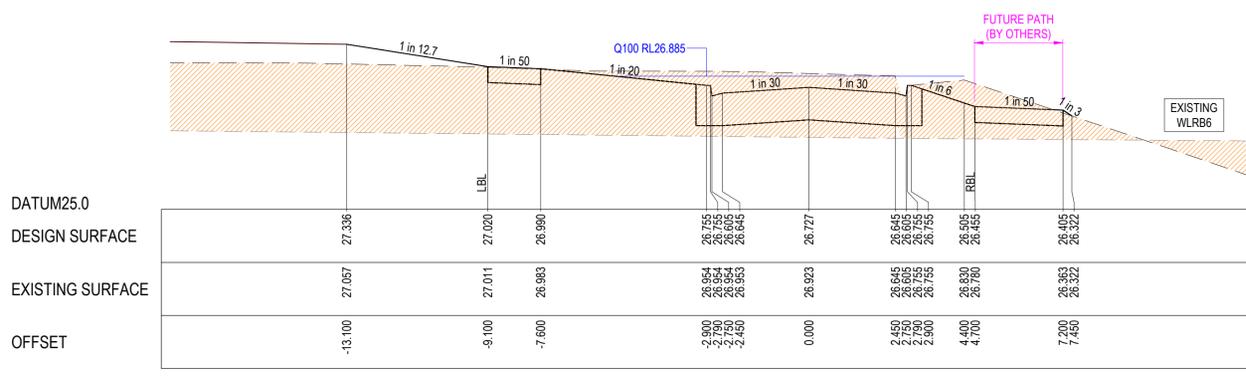
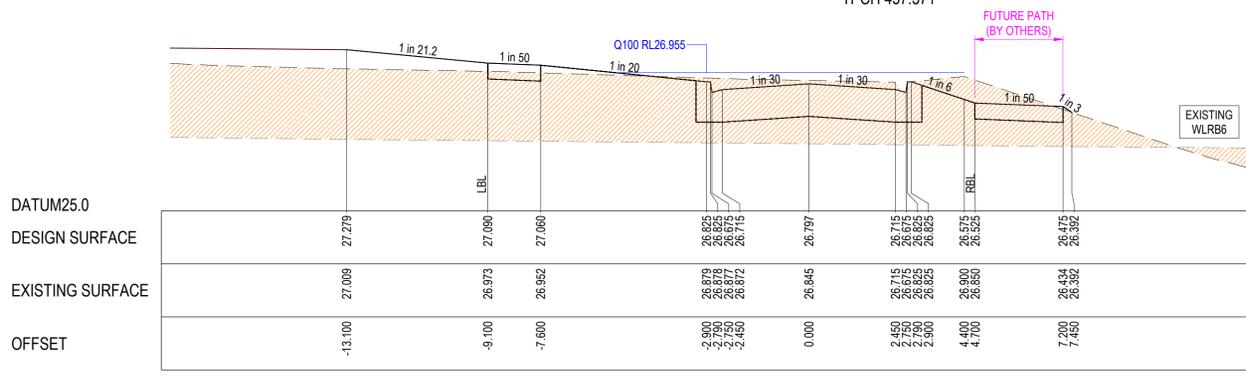
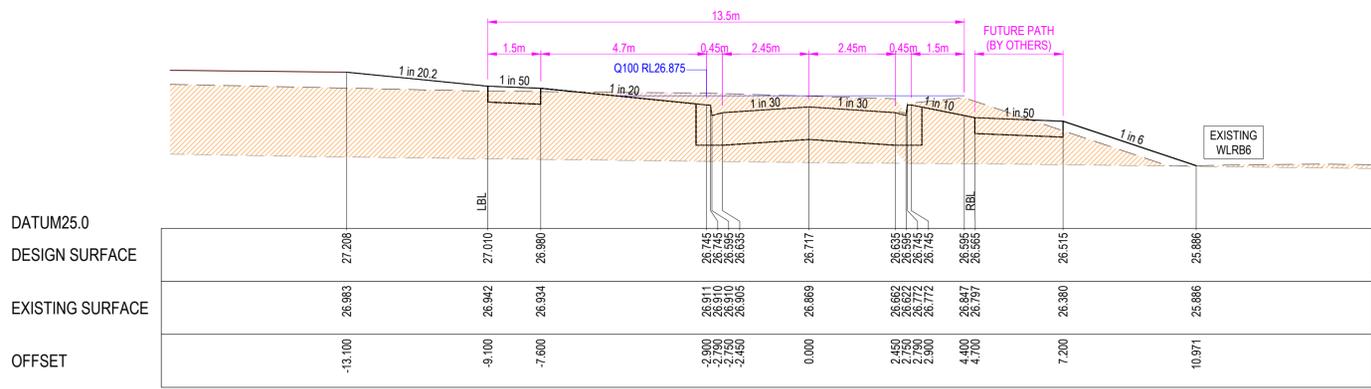
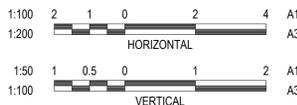
CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL

**LEGEND**

- - - EXISTING SURFACE
- DESIGN LINE
- Q100 LEVEL
- [Hatched Box] SELECT FILL
- [Diagonal Hatched Box] PREVIOUSLY PLACED CONTROLLED FILL

**NOTE:**  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

**NOTE:**  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood**  
properties  
Communities Designed for Living

**creo**  
CONSULTANTS  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNDEE

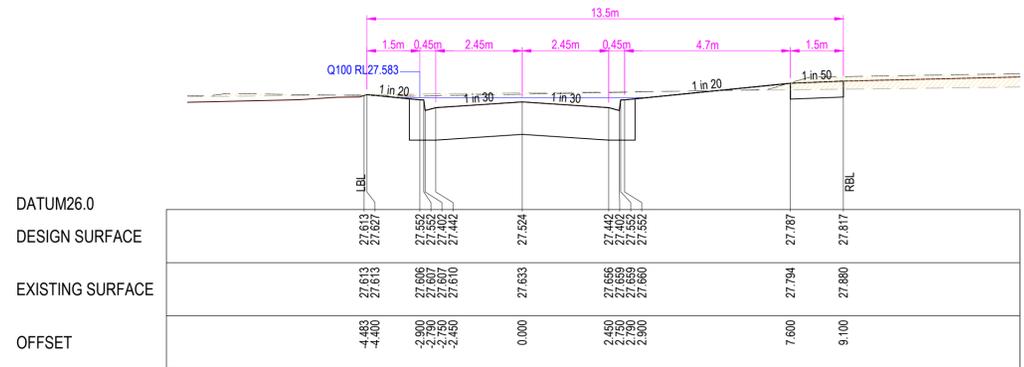
**ARMSTRONG - STAGE 53B**  
ROAD CROSS SECTIONS - 03  
BOTANY CIRCUIT

**ISSUED FOR CONSTRUCTION**

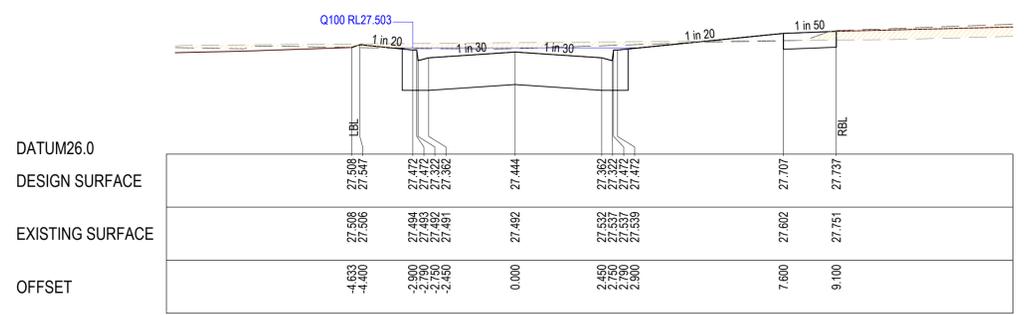
SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R502</b>	<b>0</b>

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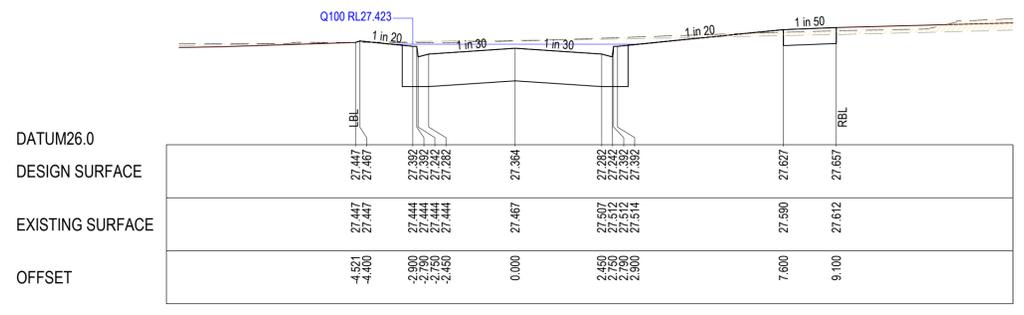
CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL



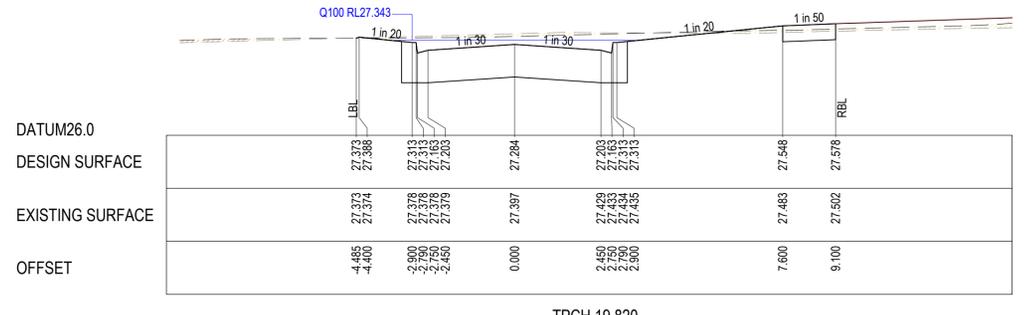
CH 67.688



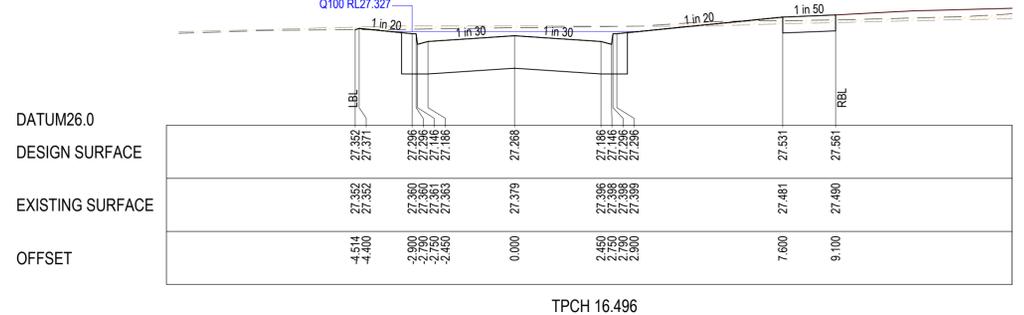
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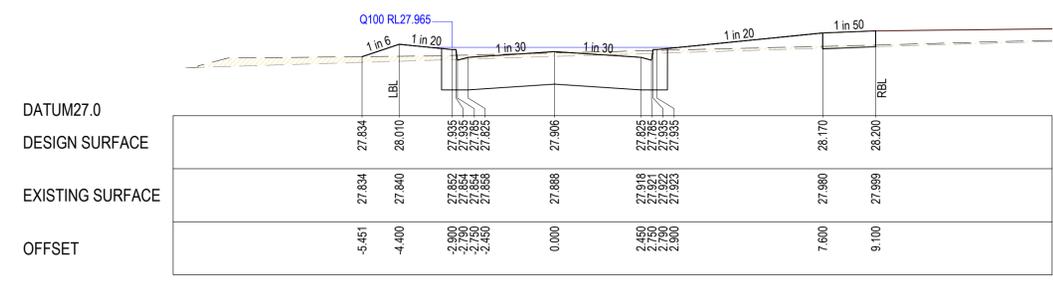
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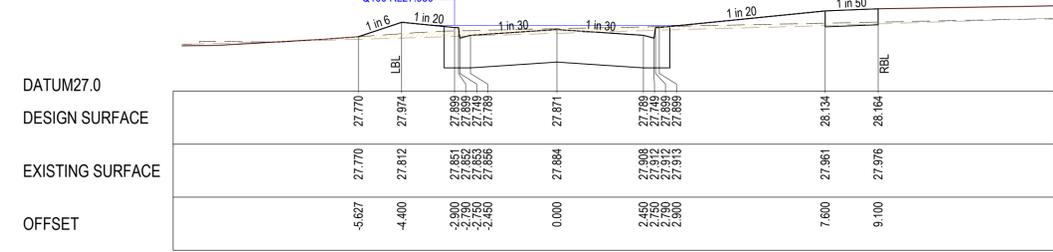
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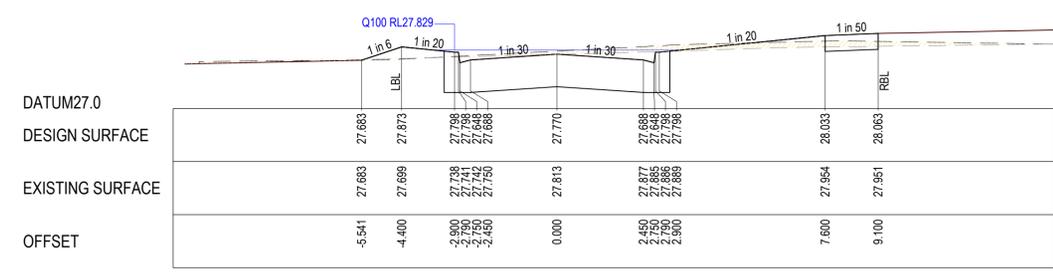
TPCH 16.496



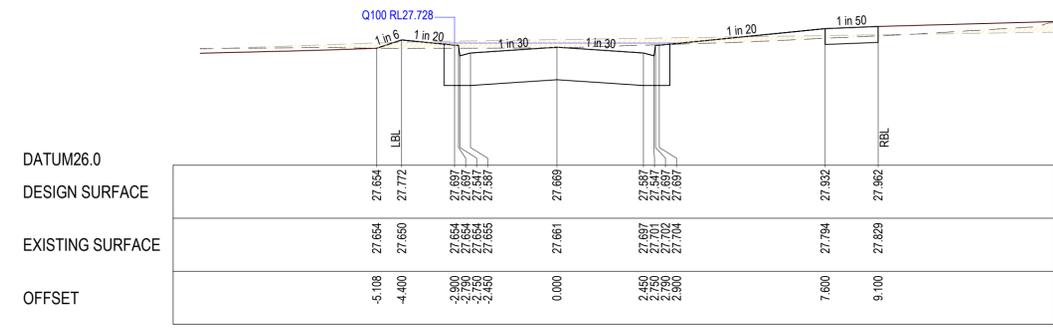
CH 144.127



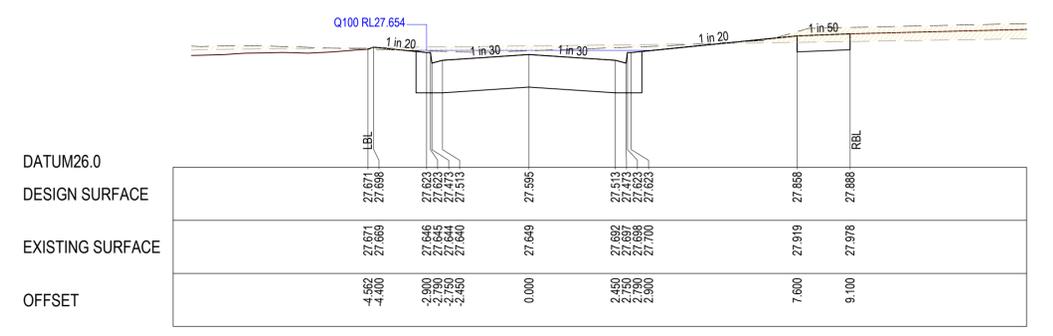
CH 137.040



CH 116.863



CH 96.660



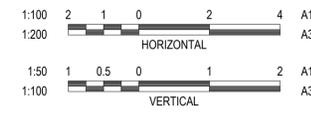
CH 81.939

**LEGEND**

- EXISTING SURFACE
- DESIGN LINE
- Q100 LEVEL
- SELECT FILL
- PREVIOUSLY PLACED CONTROLLED FILL
- STOCKPILE TOPSOIL

**NOTE:**  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

**NOTE:**  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY, READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
Communities Designed for Living

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Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNEDIN

**ARMSTRONG - STAGE 53B ROAD CROSS SECTIONS - 04 MILKY WAY TERRACE**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R503</b>	<b>0</b>

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CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL



NOT IN CONTRACT

	Ex.3	Ex.19	Ex.20	Ex.21	Ex.TP11	Ex.TP12	Ex.22	Ex.23	Ex.24	Ex.25	Ex.26	Ex.27	Ex.28
DESIGN FLOW (m <sup>3</sup> /s)	0.518	0.512		0.477	0.480	0.480		0.479	0.443	0.440	0.193	0.155	0.100
CAPACITY (m <sup>3</sup> /s)	0.643	0.643		0.643	0.643	0.643		0.643	0.643	0.643	0.285	0.175	0.165
AT GRADE VELOCITY (m/s)	1.46	1.46		1.46	1.46	1.46		1.46	1.46	1.46	1.79	1.59	1.49
PIPE SIZE (mm)	7500	7500		7500	7500	7500		7500	7500	7500	4500	3750	3750
GRADE	1 in 300	1 in 300		1 in 300	1 in 300	1 in 300		1 in 300	1 in 300	1 in 300	1 in 100	1 in 100	1 in 114
DATUM	18.0												
DEPTH TO INVERT	2.177	2.565		1.907	1.887	1.887		2.030	2.088	2.209	1.741	1.659	1.679
HYDRAULIC GRADE LINE	25.232	25.269		25.749	25.785	25.789		26.017	26.088	26.196	26.334	26.463	26.760
INVERT LEVEL	24.180	24.238		24.608	24.628	24.636		24.928	25.001	25.185	25.857	26.039	26.385
FINISHED SURFACE LEVELS	26.357	26.803		26.516	26.523	26.520		26.959	27.089	27.394	27.607	27.897	28.064
EXISTING SURFACE LEVEL	27.183	26.803		26.889	26.718	26.746		26.894	26.735	27.481	27.153	27.812	28.085
CHAINAGE (Reach Length)	0.000	17.408	(6.850)	108.860	(2.323)	(13.684)	(1.380)	193.338	215.376	270.562	290.943	301.627	335.312

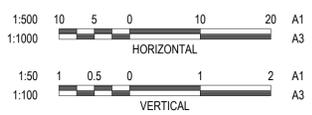
- NOTES**
- PIPE TRENCHES WITHIN THE ROAD RESERVE MUST BE BACKFILLED WITH 20mm NOM. SIZE CLASS 3 CRUSHED ROCK TO BE COMPACTED TO A DRY DENSITY NOT LESS THAN 98% MODIFIED RELATIVE COMPACTION IN 150mm THICK LAYER FOR THE FOLLOWING:
    - BENEATH DRIVEWAY CROSSOVERS TO THE UNDERSIDE OF THE PAVEMENT OR CROSSOVER.
    - ADJACENT TO KERBING OR CONCRETE WORKS TO A LEVEL THAT IS NOT AFFECTED BY A 45 DEGREE ANGLE OF REPOSE FROM NEAR THE LOWER EDGE.
  - ALL PIPES UNDER ROADS SHALL BE BACKFILLED WITH 2% STABILISED SAND TO SPRINGLINE. ABOVE THIS POINT, PROVIDE 20mm NOMINAL SIZE CLASS 3 FINE CRUSHED ROCK (WETMIX) COMPACTED TO 98% MODIFIED COMPACTION IN 150mm MAXIMUM LAYER.
  - ALL DRAINAGE PIPES TO BE SPIGOT-SOCKET RUBBER RING JOINTED (RRJ).
  - ALL DRAINAGE PIPES SHALL BE CLASS 2 RCP, UNLESS OTHERWISE NOTED.
  - WHERE PITS DROP LESS THAN 50mm, THE PIT FLOOR MUST BE SHAPED TO MATCH THE LOWER HALF OF THE PIPE.
  - ALL SPLAYED SECTIONS OF PIPE ARE TO BE BACKFILLED WITH 2% STABILIZED SAND, 300mm ABOVE TOP OF PIPE.

**NOTE:**  
 IN ACCORDANCE WITH C.O.G.G DESIGN NOTE 8 (DATED JANUARY 2020) EXISTING DRAINAGE LOCATED WITHIN PROPOSED STAGE WORKS ARE REQUIRED TO BE RE-CCTV'D TO CONFIRM NO CONSEQUENTIAL DAMAGE HAS OCCURRED

**LEGEND**

- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- CRUSHED ROCK BACKFILL
- PREVIOUSLY PLACED CONTROLLED FILL

NOTE: ALL DRAINAGE PIPES ARE CLASS 2 TYPE UNLESS OTHERWISE SHOWN



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
 Communities Designed for Living

**creo CONSULTANTS**  
 Suite 1, 2 Bloomsbury Street  
 Geelong, VIC, Australia 3220

**ARMSTRONG**  
 MT DUNEED

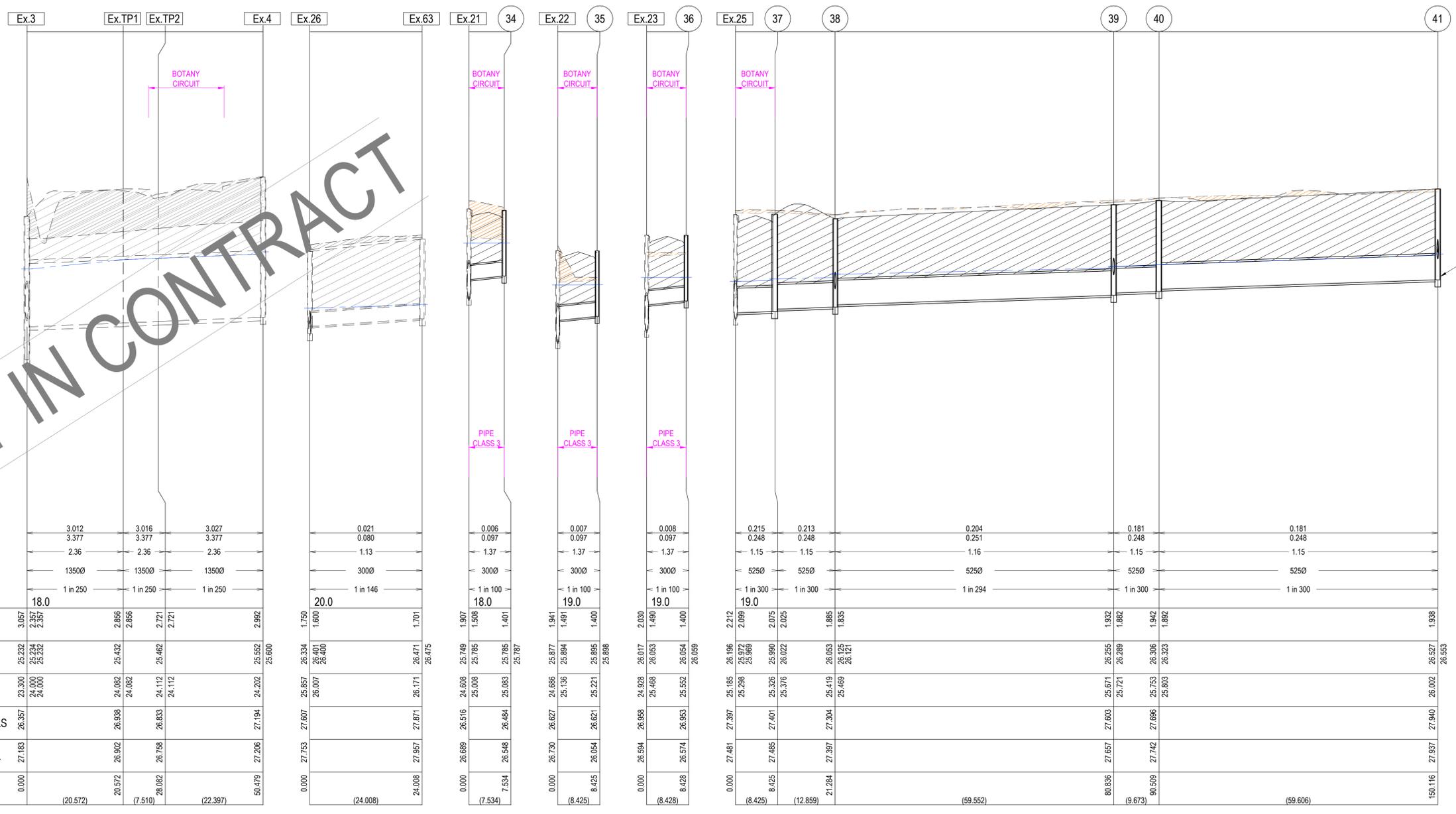
**ARMSTRONG - STAGE 53B**  
**DRAINAGE LONG SECTIONS - 01**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R600</b>	<b>0</b>

P:\2018\180016 - VILLAWOOD PROPERTIES\180016.53B\180016.53B - R600 - DRAINAGE LONG SECTIONS.DWG

NOT IN CONTRACT



PROVIDE BLOCKOUT IN SOUTH WALL FUTURE 4500 DRAIN IL26.077

**NOTE:**  
 IN ACCORDANCE WITH C.O.G.G DESIGN NOTE 8 (DATED JANUARY 2020) EXISTING DRAINAGE LOCATED WITHIN PROPOSED STAGE WORKS ARE REQUIRED TO BE RE-CCTVD TO CONFIRM NO CONSEQUENTIAL DAMAGE HAS OCCURRED

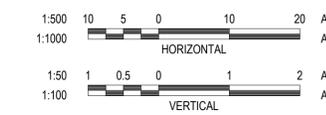
**REINFORCED CONCRETE PIPES**  
 ALL STORMWATER DRAINAGE PIPES SHALL NOT BE SUBJECTED TO CONSTRUCTION TRAFFIC LOADING DURING CONSTRUCTION UNLESS THE PIPE STRENGTH CHARACTERISTICS HAVE BEEN COMPUTED AND APPROVED BY THE CONTRACTORS ENGINEER. COMPUTATIONS ARE TO ACCORD WITH AS.3725-1989, LOADS ON BURIED PIPES. CONCRETE PIPES DAMAGED DUE TO CONSTRUCTION LOADS SHALL BE REPAIRED AT THE CONTRACTORS COST.

- NOTES**
- PIPE TRENCHES WITHIN THE ROAD RESERVE MUST BE BACKFILLED WITH 20mm NOM. SIZE CLASS 3 CRUSHED ROCK TO BE COMPACTED TO A DRY DENSITY NOT LESS THAN 98% MODIFIED RELATIVE COMPACTION IN 150mm THICK LAYER FOR THE FOLLOWING:
    - BENEATH DRIVEWAY CROSSOVERS TO THE UNDERSIDE OF THE PAVEMENT OR CROSSOVER.
    - ADJACENT TO KERBING OR CONCRETE WORKS TO A LEVEL THAT IS NOT AFFECTED BY A 45 DEGREE ANGLE OF REPOSE FROM NEAR THE LOWER EDGE.
  - ALL PIPES UNDER ROADS SHALL BE BACKFILLED WITH 2% STABILISED SAND TO SPRINGLINE. ABOVE THIS POINT, PROVIDE 20mm NOMINAL SIZE CLASS 3 FINE CRUSHED ROCK (WETMIX) COMPACTED TO 98% MODIFIED COMPACTION IN 150mm MAXIMUM LAYER.
  - ALL DRAINAGE PIPES TO BE SPIGOT-SOCKET RUBBER RING JOINTED (RRJ).
  - ALL DRAINAGE PIPES SHALL BE CLASS 2 RCP, UNLESS OTHERWISE NOTED.
  - WHERE PITS DROP LESS THAN 50mm, THE PIT FLOOR MUST BE SHAPED TO MATCH THE LOWER HALF OF THE PIPE.
  - ALL SPLAYED SECTIONS OF PIPE ARE TO BE BACKFILLED WITH 2% STABILIZED SAND, 300mm ABOVE TOP OF PIPE.

**LEGEND**

- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- CRUSHED ROCK BACKFILL
- PREVIOUSLY PLACED CONTROLLED FILL

NOTE: ALL DRAINAGE PIPES ARE CLASS 2 TYPE UNLESS OTHERWISE SHOWN



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
 Communities Designed for Living

**creo CONSULTANTS**  
 Suite 1, 2 Bloomsbury Street  
 Geelong, VIC, Australia 3220

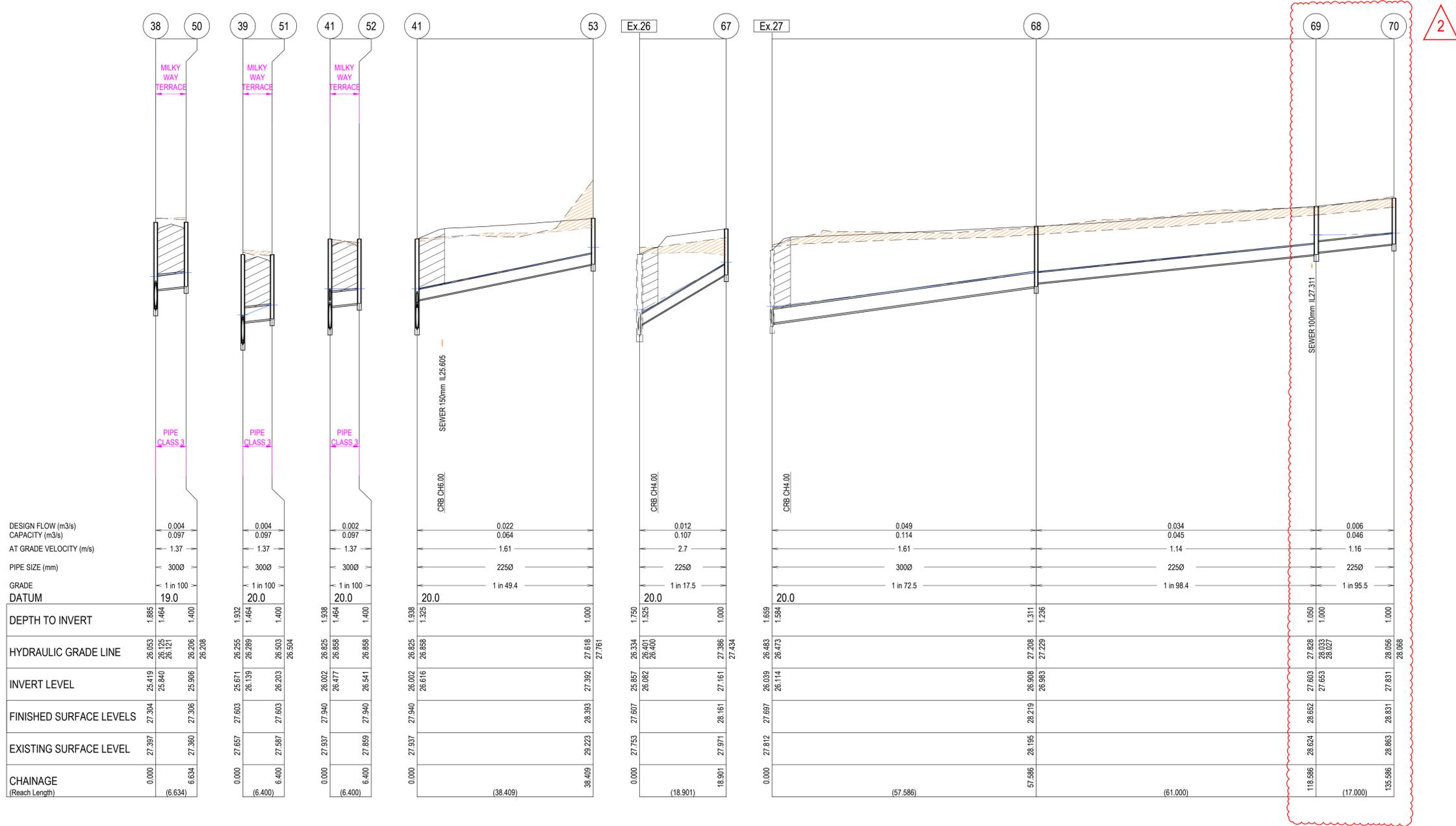
**ARMSTRONG**  
 AT DUNDEE

**ARMSTRONG - STAGE 53B**  
**DRAINAGE LONG SECTIONS - 02**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R601</b>	<b>0</b>

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DESIGN FLOW (m3/s)	CAPACITY (m3/s)	AT GRADE VELOCITY (m/s)	PIPE SIZE (mm)	GRADE	DATUM	DEPTH TO INVERT	HYDRAULIC GRADE LINE	INVERT LEVEL	FINISHED SURFACE LEVELS	EXISTING SURFACE LEVEL	CHAINAGE (Reach Length)
0.004	0.097	1.37	3000	1 in 100	19.0	1.885	26.053	25.419	27.304	27.397	0.000
0.004	0.097	1.37	3000	1 in 100	20.0	1.464	26.125	25.840	27.304	27.397	6.634
0.002	0.097	1.37	3000	1 in 100	20.0	1.464	26.255	26.139	27.603	27.587	6.400
0.002	0.097	1.37	3000	1 in 100	20.0	1.464	26.477	26.541	27.940	27.859	6.400
0.022	0.064	1.61	2250	1 in 49.4	20.0	1.938	26.002	26.616	27.940	27.937	38.409
0.012	0.107	2.7	2250	1 in 17.5	20.0	1.750	26.334	26.882	27.753	27.753	18.901
0.049	0.114	1.61	2250	1 in 72.5	20.0	1.659	26.039	26.114	27.697	27.612	57.586
0.034	0.045	1.14	3000	1 in 98.4	20.0	1.311	26.508	26.983	28.195	28.195	61.000
0.006	0.046	1.16	2250	1 in 95.5	20.0	1.000	27.628	27.653	28.831	28.831	135.586

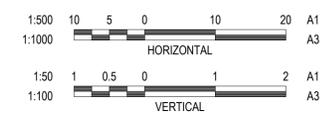
- NOTES**
- PIPE TRENCHES WITHIN THE ROAD RESERVE MUST BE BACKFILLED WITH 20mm NOM. SIZE CLASS 3 CRUSHED ROCK TO BE COMPACTED TO A DRY DENSITY NOT LESS THAN 98% MODIFIED RELATIVE COMPACTION IN 150mm THICK LAYER FOR THE FOLLOWING:
    - BENEATH DRIVEWAY CROSSOVERS TO THE UNDERSIDE OF THE PAVEMENT OR CROSSOVER.
    - ADJACENT TO KERBING OR CONCRETE WORKS TO A LEVEL THAT IS NOT AFFECTED BY A 45 DEGREE ANGLE OF REPOSE FROM NEAR THE LOWER EDGE.
  - ALL PIPES UNDER ROADS SHALL BE BACKFILLED WITH 2% STABILISED SAND TO SPRINGLINE. ABOVE THIS POINT, PROVIDE 20mm NOMINAL SIZE CLASS 3 FINE CRUSHED ROCK (WETMIX) COMPACTED TO 98% MODIFIED COMPACTION IN 150mm MAXIMUM LAYER.
  - ALL DRAINAGE PIPES TO BE SPIGOT-SOCKET RUBBER RING JOINTED (RRJ).
  - ALL DRAINAGE PIPES SHALL BE CLASS 2 RCP, UNLESS OTHERWISE NOTED.
  - WHERE PITS DROP LESS THAN 50mm, THE PIT FLOOR MUST BE SHAPED TO MATCH THE LOWER HALF OF THE PIPE.
  - ALL SPLAYED SECTIONS OF PIPE ARE TO BE BACKFILLED WITH 2% STABILIZED SAND, 300mm ABOVE TOP OF PIPE.

**REINFORCED CONCRETE PIPES**  
 ALL STORMWATER DRAINAGE PIPES SHALL NOT BE SUBJECTED TO CONSTRUCTION TRAFFIC LOADING DURING CONSTRUCTION UNLESS THE PIPE STRENGTH CHARACTERISTICS HAVE BEEN COMPUTED AND APPROVED BY THE CONTRACTORS ENGINEER. COMPUTATIONS ARE TO ACCORD WITH AS.3725-1989, LOADS ON BURIED PIPES. CONCRETE PIPES DAMAGED DUE TO CONSTRUCTION LOADS SHALL BE REPAIRED AT THE CONTRACTORS COST.

**LEGEND**

- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- CRUSHED ROCK BACKFILL
- PREVIOUSLY PLACED CONTROLLED FILL
- STOCKPILE TOPSOIL

NOTE: ALL DRAINAGE PIPES ARE CLASS 2 TYPE UNLESS OTHERWISE SHOWN



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	27/02/24	PIT 70 RELOCATED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
1	12/01/24	PIT 69 - 70 ALIGNMENT AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
 Communities Designed for Living

**creo CONSULTANTS**  
 Suite 1, 2 Bloomsbury Street  
 Geelong, VIC, Australia 3220

**ARMSTRONG**  
 AT DUNNEED

**ARMSTRONG - STAGE 53B**  
**DRAINAGE LONG SECTIONS - 03**

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R602</b>	<b>2</b>

PIT SCHEDULE

PIT NUMBER	TYPE	INTERNAL		INLET		OUTLET		COVER LEVEL (m)	DEPTH (m)	STANDARD DRAWING	REMARKS
		WIDTH (mm)	LENGTH (mm)	DIA. (mm)	INVERT RL (m)	DIA. (mm)	INVERT RL (m)				
Ex.3	Ex. JUNCTION PIT	Ex.1200	Ex.2100	Ex. 1350	24.000			26.357	2.357	IDM SD 410 & 420	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
				Ex. 750	24.180			26.357	3.057		
Ex.19	Ex. DOUBLE SIDE ENTRY PIT	Ex. 1050	Ex. 1900	Ex. 750	24.280	Ex. 750	24.238	26.803	2.565	IDM SD 410 & 445	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
Ex.20	Ex. DOUBLE SIDE ENTRY PIT	Ex. 1050	Ex. 1900	Ex. 750	24.323	Ex. 750	24.303	26.803	2.500	IDM SD 410 & 445	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
Ex.21	Ex. DOUBLE SIDE ENTRY PIT	Ex. 1050	Ex. 1900	Ex.750	24.628	Ex.750	24.608	26.516	1.907	IDM SD 410 & 445	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
				300	25.008						
Ex.22	Ex. SIDE ENTRY PIT	Ex. 1050	Ex. 900	Ex.750	24.708	Ex.750	24.686	26.627	1.941	IDM SD 410 & 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
				300	25.136						
Ex.23	Ex. SIDE ENTRY PIT	Ex. 1050	Ex. 900	Ex.750	24.928	Ex.750	24.928	26.958	2.030	IDM SD 410 & 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
				300	25.468						
Ex.24	Ex. JUNCTION PIT	Ex. 1050	Ex. 900	Ex.750	25.001	Ex.750	25.001	27.089	2.088	IDM SD 410 & 420	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
Ex.25	Ex. SIDE ENTRY PIT	Ex. 1050	Ex. 900	Ex.450	25.653	Ex.750	25.185	27.394	2.209	IDM SD 410 & 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
				525	25.298						
Ex.26	Ex. SIDE ENTRY PIT	Ex. 600	Ex. 900	Ex.375	25.932	Ex.450	25.857	27.607	1.750	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER. CONNECT TO EXISTING BLOCKOUT
				300	26.007						
				225	26.082						
Ex.27	Ex. SIDE ENTRY PIT	Ex. 600	Ex. 900	Ex.375	26.089	Ex.375	26.039	27.697	1.659	IDM SD 430	CONNECT TO EXISTING DRAINAGE
				300	26.114						
34	DOUBLE SIDE ENTRY PIT	1900	900			300	25.083	26.484	1.401	IDM SD 445	
35	SIDE ENTRY PIT	600	900			300	25.221	26.621	1.400	IDM SD 430	
36	SIDE ENTRY PIT	600	900			300	25.552	26.953	1.400	IDM SD 430	
37	SIDE ENTRY PIT	900	900	525	25.376	525	25.326	27.401	2.075	IDM SD 410 & 430	PIT TO BE HAUNCHED 600x900 COVER
38	SIDE ENTRY PIT	900	900	525	25.469	525	25.419	27.304	1.885	IDM SD 410 & 430	PIT TO BE HAUNCHED 600x900 COVER
				300	25.840						
39	SIDE ENTRY PIT	900	900	525	25.721	525	25.671	27.603	1.932	IDM SD 410 & 430	PIT TO BE HAUNCHED 600x900 COVER
				300	26.139						
40	JUNCTION PIT	900	900	525	25.803	525	25.753	27.696	1.942	IDM SD 410 & 420	PIT TO BE HAUNCHED 600x900 COVER
41	SIDE ENTRY PIT	900	900			525	26.002	27.940	1.938	IDM SD 410 & 430	PIT TO BE HAUNCHED 600x900 COVER. PROVIDE BLOCKOUT IN SOUTH WALL FUTURE 450dia. DRAIN IL26.077
				300	26.477						
				225	26.616						
50	SIDE ENTRY PIT	600	900			300	25.906	27.306	1.400	IDM SD 430	
51	SIDE ENTRY PIT	600	900			300	26.203	27.603	1.400	IDM SD 430	
52	SIDE ENTRY PIT	600	900			300	26.541	27.940	1.400	IDM SD 430	
53	JUNCTION PIT	600	900			225	27.392	28.393	1.000	IDM SD 425	
Ex.63	Ex. SIDE ENTRY PIT	Ex. 600	Ex. 900			Ex.300	26.171	27.871	1.701	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
67	JUNCTION PIT	600	900			225	27.161	28.161	1.000	IDM SD 425	
68	JUNCTION PIT	600	900	225	26.983	300	26.908	28.219	1.311	IDM SD 425	
69	JUNCTION PIT	600	900	225	27.653	225	27.603	28.653	1.050	IDM SD 425	
70	JUNCTION PIT	600	900			225	27.831	28.831	1.000	IDM SD 425	

**NOTE:**  
 PIT COVERS ARE TO BE PROVIDED IN ACCORDANCE WITH CITY OF GREATER GEELONG DESIGN NOTE 13. ALL PITS WITHIN ROAD RESERVE ARE TO BE CLASS C FIBREGLASS REINFORCED PLASTIC (FRP) UNLESS AGREED OTHERWISE.



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	27/02/24	PIT 70 AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
1	12/01/24	PIT 70 AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood**  
properties  
Communities Designed for Living

**creo**  
CONSULTANTS  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

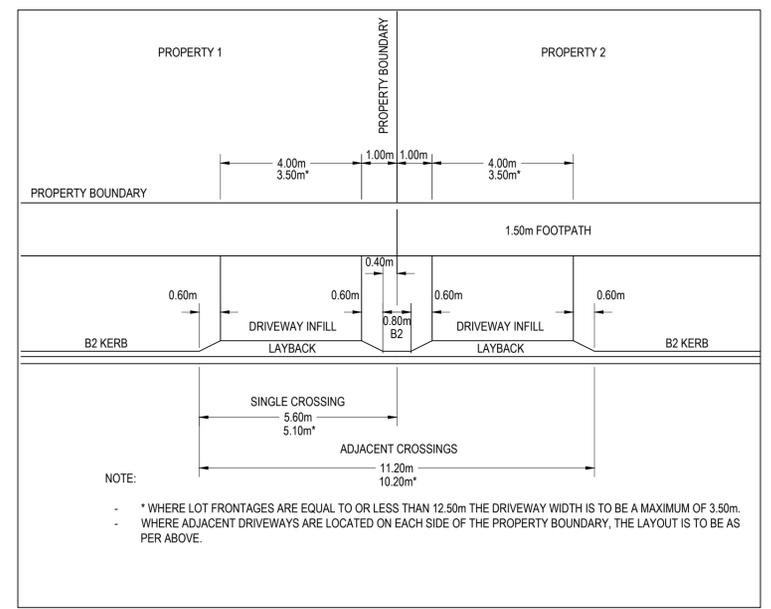
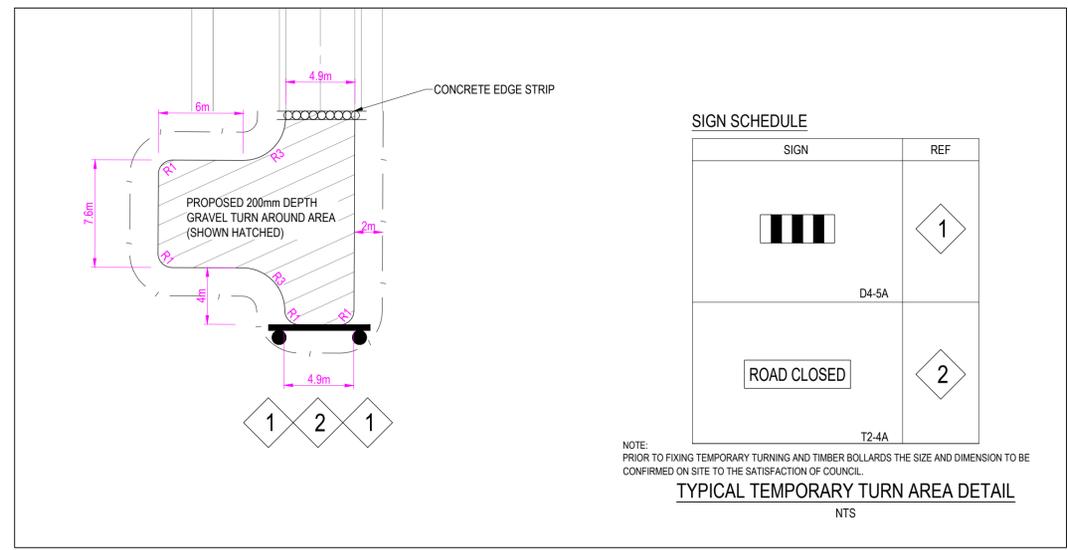
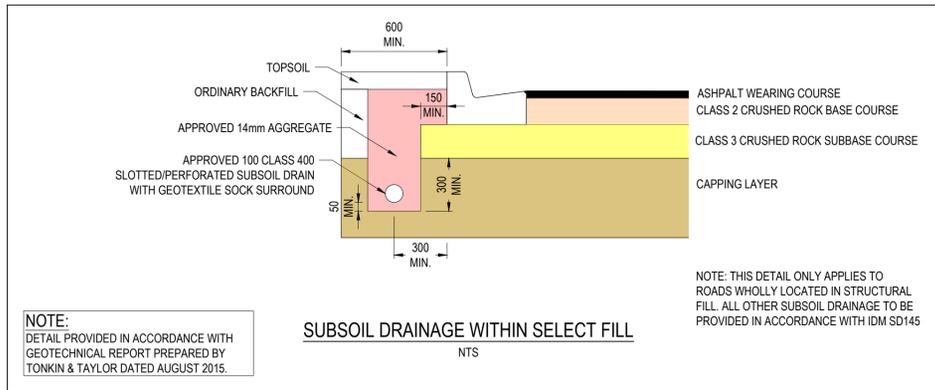
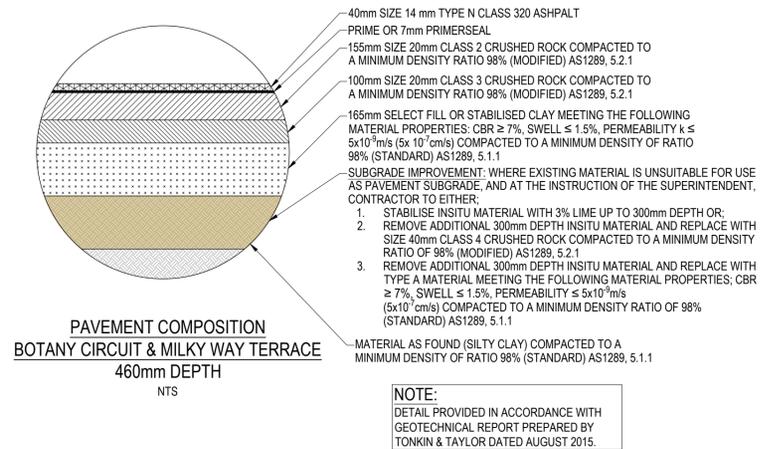
**ARMSTRONG**  
M.T. DUNNEED

DRAWING TITLE  
**ARMSTRONG - STAGE 53B  
 PIT SCHEDULE**

STATUS  
**ISSUED FOR  
 CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R603</b>	<b>2</b>

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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood properties**  
Communities Designed for Living

**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

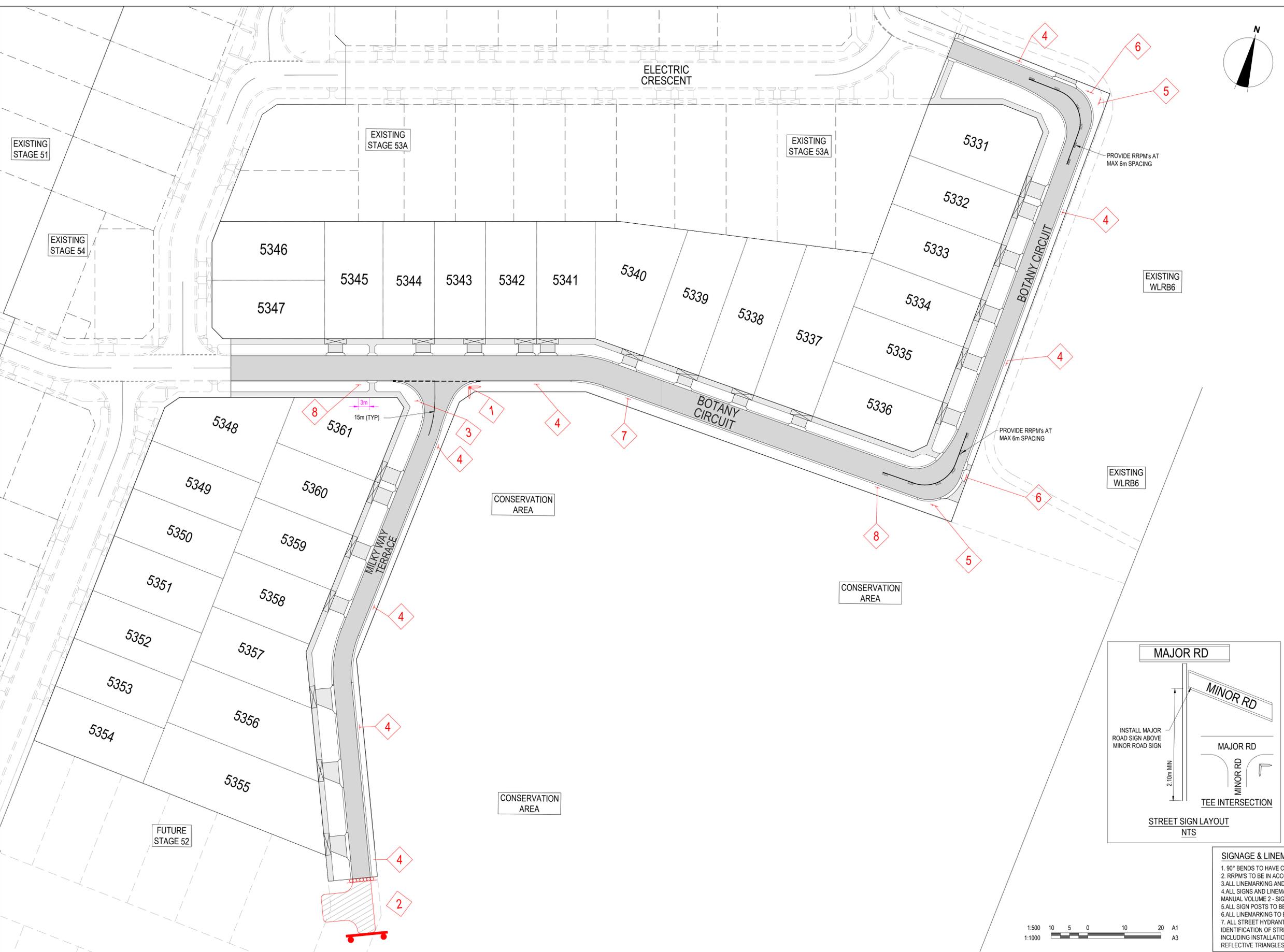
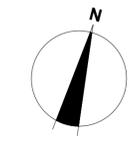
**ARMSTRONG**  
MT DUNEED

**ARMSTRONG - STAGE 53B**  
TYPICAL DETAILS

**ISSUED FOR CONSTRUCTION**

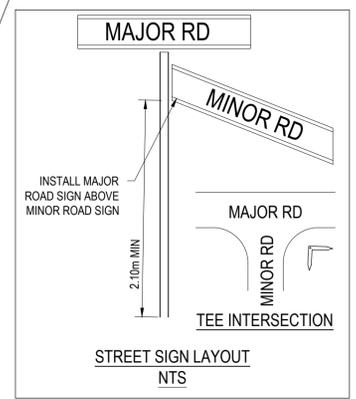
SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R700</b>	<b>0</b>

CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL



**SIGN SCHEDULE**

SIGN	REF	QUANTITY
	1	REFER BELOW
G5 SERIES STREET SIGN		
	2	1 No.
T2-4A D4-5		
	3	1 No.
R1-2		
	4	8 No.
R5-35		
	5	2 No.
D4-1-3(R)		
	6	2 No.
D4-1-3(L)		
	7	1 No.
R5-35R		
	8	2 No.
R5-35L		



**STREET SIGN SCHEDULE**

BOTANY CCT	1 No.
MILKY WAY TCE	1 No.

- SIGNAGE & LINEMARKING NOTES:**
- 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPM'S AT MAX 6m SPACING.
  - RRPM'S TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOL 2.
  - ALL LINEMARKING AND SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.
  - ALL SIGNS AND LINEMARKINGS TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOLUME 2 - SIGNS & MARKINGS.
  - ALL SIGN POSTS TO BE SLEEVED IN ACCORDANCE WITH COGG SD CCG710 - SIGN POSTS.
  - ALL LINEMARKING TO BE THERMOPLASTIC PERMANENT PAINT.
  - ALL STREET HYDRANTS TO BE IDENTIFIED IN ACCORDANCE WITH C.F.A. DOCUMENT - IDENTIFICATION OF STREET HYDRANTS FOR FIREFIGHTING PURPOSES, PUBLISHED JULY 2019 INCLUDING INSTALLATION OF BLUE RAISED REFLECTIVE PAVEMENT MARKERS & PAINTED WHITE REFLECTIVE TRIANGLES.



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION			
B	17/10/22	COUNCIL COMMENTS			
A	17/09/21	ISSUED FOR APPROVAL			

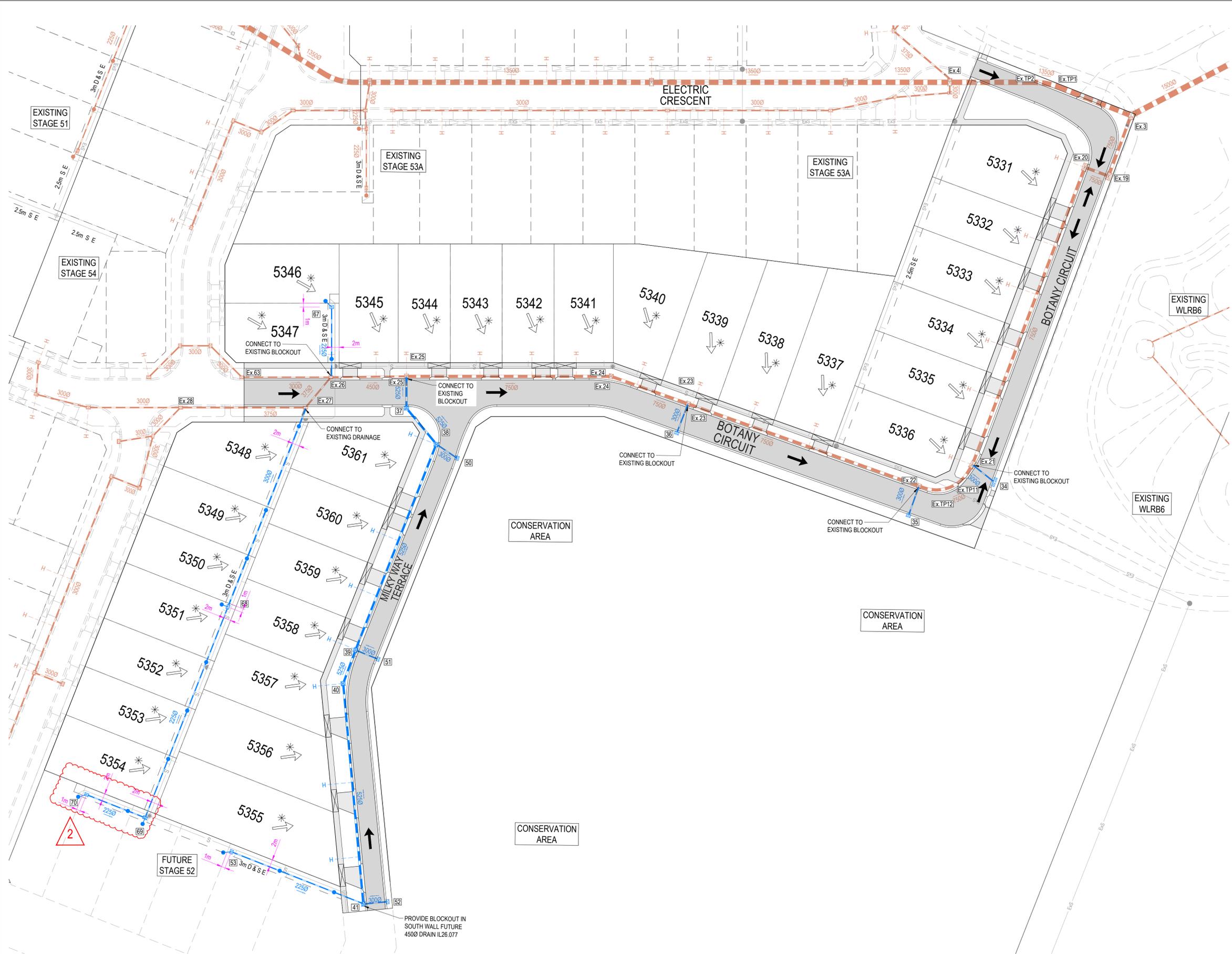


**ARMSTRONG - STAGE 53B  
SIGNAGE & LINEMARKING PLAN**

**ISSUED FOR  
CONSTRUCTION**

SCALE AT A1 1:500 @ A1	DRAWN K.MCKELVIE	DESIGNED K.MCKELVIE
PROJECT ENGINEER M.TROUNCE	PROJECT MANAGER M.TROUNCE	DATE FIRST ISSUE SEPTEMBER 2021
PROJECT No. <b>180016.53B</b>	DRAWING No. <b>R800</b>	REVISION <b>0</b>

CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	27/02/24	PIT 70 RELOCATED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
1	12/01/24	PIT 69 - 70 ALIGNMENT AMENDED	K.MCKELVIE	M.TROUNCE	M.TROUNCE
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
B	17/10/22	COUNCIL COMMENTS	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

**villawood**  
properties  
Communities Designed for Living

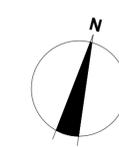
**creo**  
CONSULTANTS  
Suite 1, 2 Bloomsbury Street  
Newtown, VIC, Australia 3220

**ARMSTRONG**  
M.T. DUNNEE

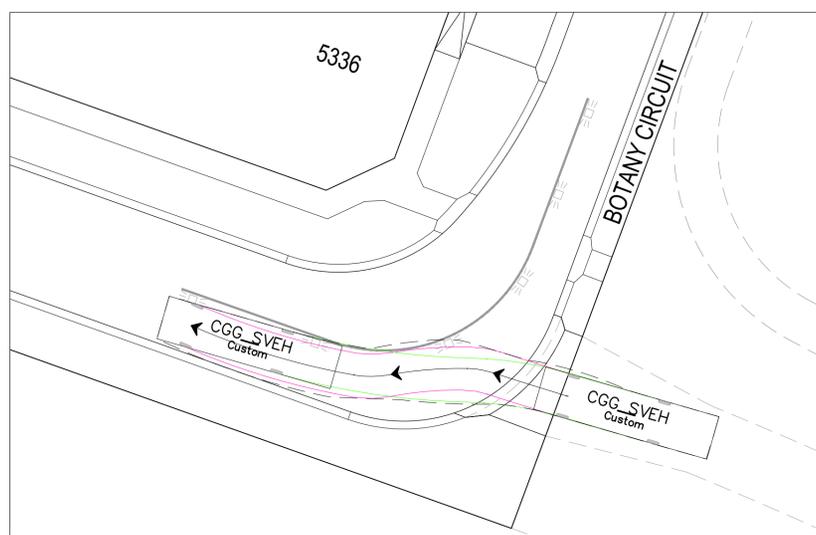
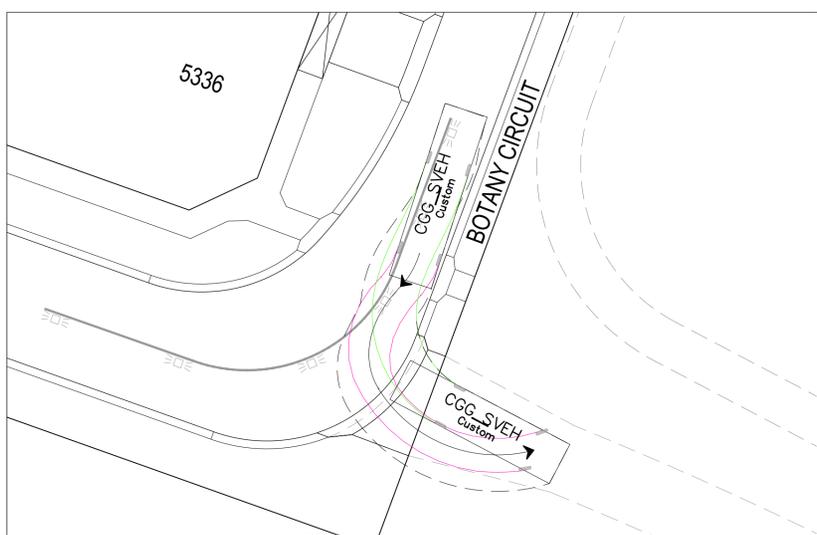
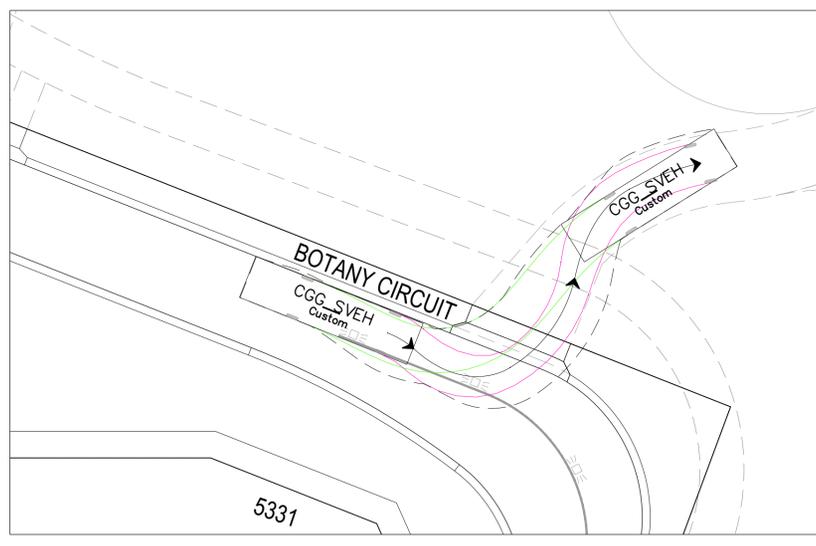
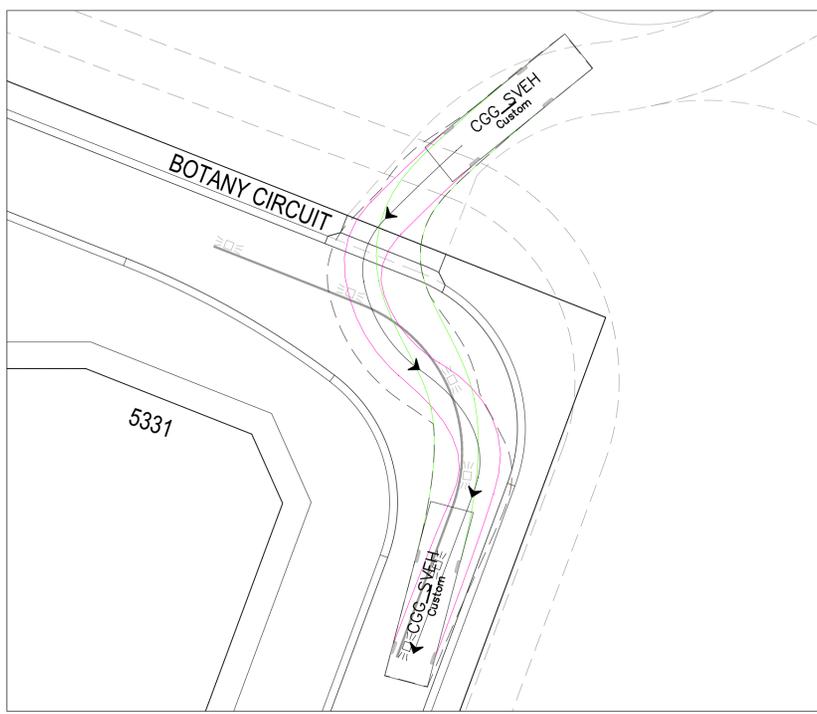
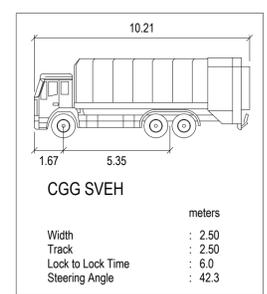
DRAWING TITLE  
**ARMSTRONG - STAGE 53B  
DRAINAGE PLAN**

STATUS  
**ISSUED FOR  
CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:500 @ A1	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	SEPTEMBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R900</b>	<b>2</b>



CITY OF GREATER GEELONG TO STAMP HERE UPON APPROVAL



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	02/02/23	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	M.TROUNCE
A	17/10/22	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	M.TROUNCE

CLIENT

Communities Designed for Living

PROJECT

Suite 1, 2 Bloomsbury Street  
Newtown, VIC, Australia 3220

DRAWING TITLE

ARMSTRONG - STAGE 53B  
TURNING TEMPLATES

STATUS

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:200 @ A1	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2022
PROJECT No.	DRAWING No.	REVISION
<b>180016.53B</b>	<b>R1000</b>	<b>0</b>