

# REDSTONE ESTATE STAGE 21A VILLAWOOD PROPERTIES

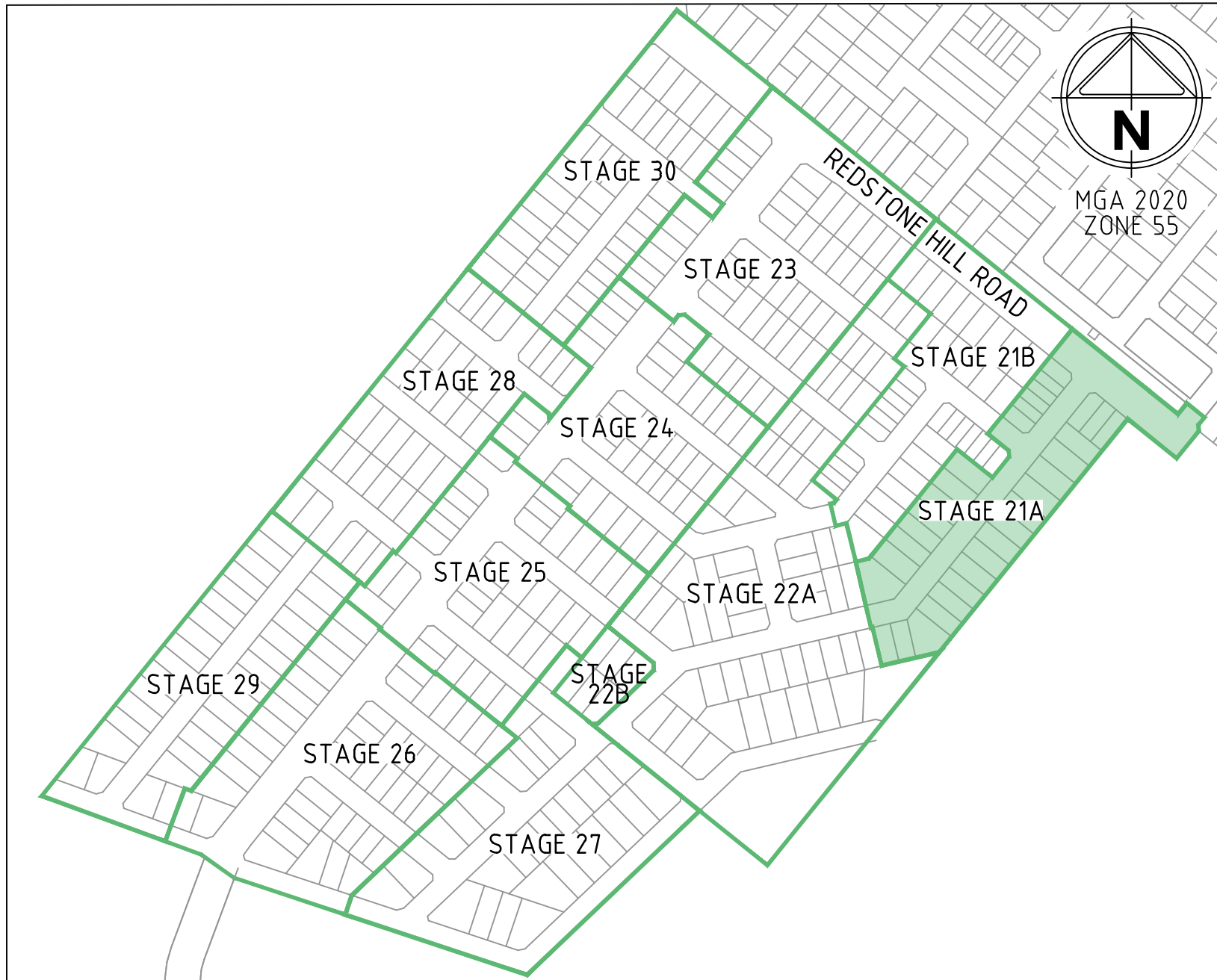
## HUME CITY COUNCIL GENERAL NOTES:

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH V.P.A. AND HUME CITY COUNCIL STANDARD DRAWINGS, SPECIFICATIONS, APPROVED PLANS AND TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- COUNCIL TO BE NOTIFIED SEVEN (7) CLEAR WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORKS WITH A PRE-COMMENCEMENT MEETING BEING HELD BETWEEN HUME CITY COUNCIL, THE CONSULTANT AND THE CONTRACTOR BEFORE WORKS COMMENCE. A SITE MANAGEMENT PLAN IS TO BE SUBMITTED PRIOR TO COMMENCEMENT OF WORKS AND PRIOR TO AN ONSITE PRE-COMMENCEMENT MEETING.
- PRIOR TO COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION:
  - SOURCE OF QUARRY MATERIAL.
  - N.A.T.A. APPROVED TESTS RESULTS FOR THE F.C.R. THAT IS TO BE USED.
  - IF THE SOURCE OF THE QUARRY MATERIAL IS CHANGED DURING THE COURSE OF THE WORKS, THEN NEW TEST RESULTS SHALL BE PROVIDED.
- PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE CONTRACTOR MUST ENSURE THAT ALL MATTERS RELATING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 AND O.H.S. REGULATIONS 2007 HAVE BEEN AND WILL BE COMPLIED WITH.
- ON COMMENCEMENT OF CONSTRUCTION WORKS, THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE ENVIRONMENT PROTECTION AUTHORITY PUBLICATION "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL." APPROPRIATE SILTATION CONTROL IS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD OF THE WORKS.
- THE DISPOSAL SITE FOR SPOIL REMOVAL FROM SITE AND TRUCK ROUTE IS TO BE SUBMITTED TO AND APPROVED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE IN WRITING PRIOR TO THE COMMENCEMENT OF ANY WORKS.
- WHERE WORKS ARE IN THE VICINITY OF EXISTING SERVICES, THESE SERVICES ARE TO BE LOCATED AND EXPOSED/PROVED PRIOR TO COMMENCEMENT OF WORKS, AND THE RELEVANT AUTHORITIES NOTIFIED SEVEN (7) CLEAR DAYS PRIOR TO THE COMMENCEMENT OF THE WORKS.
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.).
- ALL CO-ORDINATES ARE TO MAP GRID OF AUSTRALIA - MGA 2020 ZONE 55.
- THE CONTRACTOR MUST ARRANGE THE REQUISITE INSPECTIONS OF THE WORKS WITH THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE AS PER THE HOLD POINTS IN THE V.P.A. MANUAL AND HUME CITY COUNCIL SPECIFICATIONS.
- FILL AREAS TO BE STRIPPED OF TOPSOIL, FILLED AND TOPSOIL REPLACED TO OBTAIN FINAL FILL LEVELS AS SHOWN ON PLAN. FILLING IS TO BE CLEAN CLAY COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.1.1-2003.
- FILLING TO COMPLY WITH A.S.3798-2007, LEVEL 1 UNLESS SPECIFIED OTHERWISE.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL IMPORTED FILL MATERIAL, INCLUDING TOPSOIL, SATISFIES THE DESCRIPTION FOR CLEAN FILL MATERIAL IN EPA BULLETIN PUBLICATION NO 448 (SEPT '95) AND SUBSEQUENT REVISIONS. THE CONTRACTOR SHALL IF REQUIRED PROVIDE VERIFICATION INCLUDING TEST CERTIFICATES TO THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- WHERE, AS A CONDITION OF THE PLANNING PERMIT OR AS A RESULT OF THE PRE-CONSTRUCTION MEETING, FENCING OF AREAS CONTAINING TREES, NATIVE GRASSES AND SHRUBS IS REQUIRED, A THREE STRAND STAR PICKET AND WIRE FENCE SHALL BE CONSTRUCTED.
- NO TREE OR NATIVE VEGETATION IS TO BE DISTURBED OR REMOVED WITHOUT PRIOR APPROVAL FROM COUNCIL'S SUSTAINABLE ENVIRONMENT DEPARTMENT. ANY TREES REMOVED, VEGETATION OR OTHER MATERIALS ARE NOT TO BE BURNT ON SITE.
- BEFORE COMMENCING WORK ON TRENCHES IN EXCESS OF 1.5m DEEP, NOTICE OF SUCH PROPOSAL IS TO BE FORWARDED BY THE CONTRACTOR TO WORKSAFE VICTORIA.
- THE CONTRACTOR IS TO OBTAIN A BUILDING PERMIT FOR ANY STRUCTURES / FENCES AND FOR ANY RETAINING WALLS OVER 1.0m IN HEIGHT.
- ANY INFRASTRUCTURE DAMAGE DURING THE DEFECTS LIABILITY PERIOD IS THE RESPONSIBILITY OF THE DEVELOPER OR HIS REPRESENTATIVE AND IS TO BE REINSTATED TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER OR HIS REPRESENTATIVE.
- PRIOR TO STATEMENT OF COMPLIANCE ALL DISTURBED AREAS (INCLUDING NATURE STRIPS, BATTERS, ALLOTMENTS WITH GRADES OF 1:5 AND GREATER, AND RESERVES) ARE TO BE REINSTATED TO A CLEAN, TIDY CONDITION, TOP DRESSED (100MM LOAMY TOP SOIL FREE OF RUBBISH, DEBRIS, CLUMPS, SODS AND CLAY LUMPS), LIGHTLY COMPACTED AND HYDRO MULCHED.
- HYDROMULCH AND SEED MIX TO BE:
  - 40KG/HA KIKUYU
  - 200KG/HA TURF TYPE PERENNIAL RYE
  - 100KG/HA CREEPING RED FESCUE
  - 1500KG/HA OF CELLULOSE FIBRE
  - SOIL BINDER, SPECIFICALLY MANUFACTURED FOR HYDROMULCHING, USED AT MANUFACTURERS RECOMMENDED RATES. (E.G. ORGANIC GAUR TACKIFIERS @ 20 - 30 KG/HA, BASED ON SITE CONDITIONS).
- GRASS IS TO BE ESTABLISHED PRIOR TO THE END OF THE MAINTENANCE PERIOD, UNLESS OTHERWISE AGREED IN WRITING.
- FOOTPATHS ARE TO BE 50mm OFFSET FROM TITLE BOUNDARIES UNLESS NOTED OTHERWISE. VEHICLE CROSSING ALIGNMENTS ARE GENERALLY TO BE PARALLEL TO THE SIDE BOUNDARY.
- ALL NEW CONCRETE WORKS SHALL BE JOINED INTO ABUTTING EXISTING CONCRETE WITH 450mm LONG Y20 DOWEL BARS @ 600 CENTRES, UNLESS OTHERWISE SPECIFIED.
- ANY EXPOSED AGGREGATE CONCRETE WORKS TO BE ACHIEVED BY SAND-BLASTING ONLY. WASHING AGGREGATE OFF WITH WATER IS NOT PERMITTED.
- ALL SERVICE CONDUITS TRENCHES UNDER ROAD PAVEMENTS ARE TO BE BACKFILLED WITH 20mm 3% CEMENT TREATED CLASS 3 CRUSHED ROCK COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.2.1-2003. ALL SERVICE CONDUITS TRENCHES UNDER FOOTPATH, VEHICULAR CROSSINGS, PARKING BAYS AND WITHIN 750MM OF PARKING BAYS TO BE BACKFILLED WITH CLASS 3 CRUSHED ROCK.
- ALL STORMWATER DRAINS ARE TO BE CLASS 2 R.C. OR RIGID F.R.C PIPES WITH ADCOL FLEXIBLE COLLARS UNLESS NOTED OTHERWISE. ALL PIPES UP TO AND INCLUDING 750mm DIAMETER ARE TO BE RUBBER RING JOINTED. INTERLOCKING / FLUSH JOINTS WITH EXTERNAL BANDS CAN ONLY BE USED ON PIPE SIZES OVER 750mm DIAMETER.
- WHERE NEW ASPHALT, CONCRETE KERB & CHANNEL, PATHS AND DRIVEWAYS MATCH INTO EXISTING, THE EXISTING SURFACE IS TO BE SAW CUT AND MATCHED NEATLY.
- ALL REDUNDANT ASSETS ARE TO BE REMOVED AND DISPOSED OFF SITE.
- ALL TREES AND SHRUBS ARE TO BE RETAINED UNLESS OTHERWISE SHOWN OR DIRECTED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- AT THE COMPLETION OF ALL WORKS, ALL RUBBISH, DEBRIS AND SURPLUS SPOIL SHALL BE REMOVED AND THE SITE SHALL BE CLEARED TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- ALL DRAINS BEHIND KERB AND CHANNEL SHALL BE BACKFILLED TO MATCH PAVEMENT SUBGRADE LEVEL WITH 20mm CLASS 3 F.C.R. COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S. 1289.5.2.1-2003. ALL DRAINS, SEWERS, GAS & WATER MAINS LAID THROUGH THE ROAD PAVEMENT (EXCEPT CONDUITS) ARE TO BE BACKFILLED WITH 20mm CLASS 2 FCR COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.2.1-2003.
- PAVEMENT DEPTH SPECIFIED IS A MINIMUM DEPTH AND MAY BE VARIED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE. SOFT SPOTS SHALL BE EXCAVATED TO A PROOF ROLLED BASE AND BACKFILLED WITH APPROVED MATERIAL COMPACTED IN 150mm LAYERS TO ACHIEVE TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.1.1-2003.

- ALL EXISTING ASSETS AFFECTED BY THE WORKS, E.G. SIGNS, VEHICLE CROSSINGS, FOOTPATHS, KERB AND LINEMARKING SHALL BE REINSTATED BY THE CONTRACTOR PRIOR TO THE COMPLETION OF THE WORKS TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- PRIOR TO THE COMPLETION OF THE WORKS ALL FIRE HYDRANTS ARE TO BE MARKED IN ACCORDANCE WITH "IDENTIFICATION OF STREET HYDRANTS FOR FIREFIGHTING PURPOSES" PUBLICATION (DEVELOPED BY C.F.A, M.F.B. & E.S.B). MARKINGS TO BE VIA BLUE PAVEMENT MARKER AND A (RED TOPPED) WHITE POST.
- AGRICULTURAL DRAINS ARE TO BE PLACED BEHIND ALL KERB AND CHANNEL, KERB ONLY AND EDGE STRIPS IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD202.
- ALL TABLE DRAINS AND VERGES ARE TO BE REINSTATED UPON COMPLETION OF WORKS TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
- ALL TRAFFIC CONTROL MEASURES, SIGNS AND LINEMARKING SHALL BE IN ACCORDANCE WITH A.S.1742 - 1, 2 & 3. STREET NAME SIGNS ARE TO BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD408.
- ALL LINEMARKING PAINT SHALL BE LONG LIFE TYPE IN ACCORDANCE WITH SECTION 95C OF THE HUME CITY COUNCIL SPECIFICATIONS. LATERAL WORKS AND ARROWS BEING COLD APPLIED PLASTIC TROWELLED INTO PLACE (MATERIAL DEGADUR PLASTELINE) AND LONGITUDINAL LINES BEING EXTRUDED THERMOPLASTIC MATERIAL.
- ALL SIGNS TO BE CLASS 1 HIGH INTENSITY TYPE AND TO COMPLY WITH THE REQUIREMENTS OF A.S.1743 -2001.
- HOUSE DRAIN CONNECTIONS TO 150mm DIAMETER PIPES TO BE VIA A MANUFACTURED JUNCTION PIECE. 150mm DIAMETER STORMWATER PIPES ARE TO BE HEAVY DUTY SEWER GRADE. PVC PIPES SHALL BE BACKFILLED WITH 10mm MINUS F.C.R. TO 150mm ABOVE TOP OF PIPE IN ALL LOCATIONS.
- 100mm HOUSE DRAIN CONNECTIONS TO BE LAID AT AN OFFSET OF 5.5m FROM THE LOW SIDE TITLE BOUNDARY AND PROPERTY INLETS 1.0m FROM THE LOW SIDE OF TITLE BOUNDARY REAR EASEMENTS UNLESS OTHERWISE SHOWN.
- BLASTING GENERALLY IS NOT ENCOURAGED, HOWEVER BLASTING MAY BE REQUIRED AS A LAST RESORT DEPENDING ON GROUND CONDITIONS. COUNCIL IS TO BE NOTIFIED IN WRITING IF ANY BLASTING IS NECESSARY. RESIDENTS LIKELY TO BE AFFECTED BY THE BLASTING AND ALL SERVICE AUTHORITIES SHALL BE NOTIFIED IN WRITING PRIOR TO WORKS COMMENCING. COPIES OF THESE NOTIFICATIONS ARE TO BE SUBMITTED TO COUNCIL.
- RESIDENT NOTIFICATION LETTER IS TO INCLUDE BLASTING GUIDELINES, FIRING AND MISFIRE PROCEDURES AND CONTRACTOR AND CONSULTANT CONTACT NAMES AND PHONE NUMBERS.
- ALL BLASTING IS TO BE WITHIN THE LIMITS FOR AIR AND GROUND VIBRATION LEVELS AS SET DOWN IN A.S.2187.2-1993. ALL BLASTS SHALL BE MONITORED FOR AIR AND NOISE VIBRATION AT POTENTIALLY AFFECTED RESIDENCES. "FORM A" FROM A.S. 2187.2-1993, AND WAVE TRACE COPIES ARE TO BE SUBMITTED TO COUNCIL FOR EACH BLAST.
- BLASTING IS TO BE RESTRICTED TO BETWEEN 9.00am AND 3.30pm.
- BLASTING IS NOT TO OCCUR ON WEEKENDS OR PUBLIC HOLIDAYS.
- BLASTING AREA SIGNS ARE TO BE PLACED AT ALL ENTRANCES TO THE SITE.
- FENCING TO BE PROVIDED ALONG LOT BOUNDARIES ABUTTING RESERVES TO THE SATISFACTION OF THE RESPONSIBLE AUTHORITY.
- WHERE SODIC SOILS ARE ENCOUNTERED, SODIC SOIL INVESTIGATIONS SHOULD BE CARRIED OUT BY A QUALIFIED SOIL SCIENTIST AND THE RECOMMENDATIONS OF THE REPORT SHOULD BE APPLIED DURING ROAD & MINES DESIGN AND CONSTRUCTION.

## SPIIRE GENERAL NOTES:

- ALL EXISTING SURFACE LEVELS SHOWN ON THE ENGINEERING DRAWINGS HAVE BEEN INTERPOLATED FROM A DIGITAL TERRAIN MODEL. THESE LEVELS HAVE BEEN USED AS THE BASIS FOR ALL ENGINEERING DESIGN AND DETERMINATION OF QUANTITIES AND ARE ACCURATE TO WITHIN ±0.05m.
- ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- WHERE REQUIRED ANY BUILDINGS, TROUGHS, FENCES AND OTHER STRUCTURES ON SITE ARE TO BE REMOVED AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL IS TO BE INCLUDED IN THE OVERALL EARTHWORKS FIGURE UNLESS A SPECIFIC ITEM FOR REMOVAL IS DENOTED IN THE SCHEDULE.
- ALL FILLING ON LOTS AND WITHIN ROAD RESERVES GREATER THAN 200mm IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH A.S.3798-2007. FILLING MATERIAL IS TO BE IN ACCORDANCE WITH THE SPECIFICATION, A.S.3798-2007 & TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT.
- ALL BATTERS SHALL BE 1 IN 6, UNLESS OTHERWISE SHOWN.
- NO FILL OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE FOR PUBLIC OPEN SPACE UNLESS OTHERWISE DIRECTED OR APPROVED BY THE SUPERINTENDENT.
- T.B.M.'S TO BE RE-ESTABLISHED BY THE LICENSED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF T.B.M.'S THEREAFTER.
- AT LEAST THREE (3) DAYS PRIOR TO COMMENCING WORK ON EXCAVATIONS IN EXCESS OF 1.50m DEEP, A NOTIFICATION FORM MUST BE SENT TO WORKSAFE. THE CONTRACTOR IS TO COMPLY WITH WORKSAFE, THE MINES (TRENCHES) REGULATION 1982, THE MINES ACT 1958 AND OCCUPATIONAL HEALTH AND SAFETY ACT 1985, 2004.
- WHERE REQUIRED, ALL EXISTING DAMS, DEPRESSIONS AND DRAINS ARE TO BE BREACHED, DRAINED, DE-SLUDGED AND SHALL BE EXCAVATED TO A CLEAN FIRM BASE. THE SURFACE SHALL BE INSPECTED, APPROVED AND LEVELLED BY THE ENGINEER PRIOR TO COMMENCEMENT OF FILLING. THE FILL SHALL BE APPROVED SELECTED ON SITE MATERIAL OR APPROVED IMPORTED MATERIAL. THE FILL SHALL BE PLACED UNDER CONTROLLED MOISTURE CONDITIONS IN ACCORDANCE WITH THE SPECIFICATION.
- GAS AND WATER CONDUITS SIZES ARE AS FOLLOWS:
  - Ø50mm CLASS 12 P.V.C. - SINGLE SERVICE
  - Ø100mm CLASS 12 P.V.C. - DUAL SERVICE (DRINKING AND NON DRINKING WATER)
- WITH THE FOLLOWING MINIMUM COVER TO FINISHED SURFACE LEVELS:
  - ROAD PAVEMENT - 0.80m
  - VERGE & FOOTPATHS - 0.45m
- A.G. / SUBSOIL DRAIN TO BE LAID BEHIND KERB & CHANNEL. KERB ONLY AND EDGE STRIPS WHERE REQUIRED IN ACCORDANCE WITH THE HUME CITY COUNCIL STANDARD DRAWING SD282 AND CONNECTED TO UNDERGROUND DRAINAGE.
- CENTRE LINES OF ALL EASEMENT DRAINS ARE OFFSET 1.0m OR 2.2m (WHERE OUTSIDE OF SEWER) FROM THE PROPERTY LINE UNLESS SHOWN OTHERWISE.
- WHERE CURVED PIPE ALIGNMENTS ARE SHOWN ON THE FACE PLANS THEY ARE TO BE LAID PARALLEL TO THE BACK OF KERB, EXCEPT WHERE A RADIUS HAS BEEN SPECIFICALLY NOMINATED. CURVED PIPES ARE TO BE APPROVED BY COUNCIL AND IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS2124-1992 GENERAL CONDITIONS OF CONTRACT.
- TELSTRA IS TO BE NOTIFIED 7 DAYS PRIOR TO PLACEMENT OF CONCRETE WORKS.
- PAVEMENT DEPTHS MAY BE MODIFIED AS DIRECTED BY THE SUPERINTENDENT. PAVEMENT TO BE BOXED OUT TO MINIMUM DEPTH DENOTED, INSPECTED AND IF SUBGRADE IS IN QUESTION, FURTHER TESTING CARRIED OUT TO DETERMINE FINAL PAVEMENT DEPTH.
- WHERE PAVEMENT IS CONSTRUCTED ON FILLING, FILL MATERIAL IS TO BE APPROVED BY THE SUPERINTENDENT AND COUNCIL. FILLING TO BE CONSTRUCTED IN LAYERS 150mm THICK WITH COMPACTION ACHIEVING 95% AUSTRALIAN STANDARD DENSITY.
- WHEN PAVEMENT EXCAVATION IS IN ROCK, ALL LOOSE MATERIAL, (INCLUDING ROCKS AND CLAY) MUST BE REMOVED. THE SUB-GRADE MUST THEN BE REGULATED WITH COUNCIL APPROVED MATERIAL.
- ALL TEMPORARY WARNING SIGNS USED DURING CONSTRUCTION SHALL BE SUPPLIED AND MAINTAINED IN ACCORDANCE WITH A.S.1742-3.
- THE CONTRACTOR IS REQUIRED TO OBTAIN A 'PERMIT TO WORK' FROM MELBOURNE WATER'S SURVEILLANCE OFFICER AT THE PRE-COMMENCEMENT MEETING. THE CONTRACTOR IS REQUIRED TO ENSURE THAT THE 'PERMIT TO WORK' IS KEPT UP TO DATE FOR THE DURATION OF THE CONTRACT.
- CONTRACTOR TO ENSURE SEWER MANHOLES ARE WHOLLY LOCATED IN PROPOSED FOOTPATHS.



## DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
CR100	FACE SHEET	1	C
CR200	FACE PLAN - SHEET 1	2	C
CR201	FACE PLAN - SHEET 2	3	B
CR202	SERVICES PLAN - SHEET 3	4	C
CR203	TREE REMOVAL PLAN - SHEET 4	5	C
CR300	ROAD LONG SECTIONS - SHEET 1	6	B
CR301	ROAD LONG SECTIONS - SHEET 2	7	C
CR302	ROAD LONG SECTIONS - SHEET 3	8	B
CR400	ROAD CROSS SECTIONS - SHEET 1	9	B
CR401	ROAD CROSS SECTIONS - SHEET 2	10	B
CR402	ROAD CROSS SECTIONS - SHEET 3	11	C
CR403	ROAD CROSS SECTIONS - SHEET 4	12	B
CR404	ROAD CROSS SECTIONS - SHEET 5	13	B
CR500	INTERSECTION DETAILS - SHEET 1	14	B
CR501	INTERSECTION DETAILS - SHEET 2	15	B
CR600	DRAINAGE LONG SECTIONS - SHEET 1	16	B
CR601	DRAINAGE LONG SECTIONS - SHEET 2	17	B
CR602	DRAINAGE LONG SECTIONS - SHEET 3	18	B
CR603	DRAINAGE LONG SECTIONS - SHEET 4	19	B
CR604	DRAINAGE LONG SECTIONS & PIT SCHEDULE - SHEET 5	20	B
CR700	PAVEMENT AND TYPICAL DETAILS	21	B
CR800	SIGNAGE AND LINEMARKING	22	B
CR900	RETAINING WALLS - SHEET 1	23	C
CR901	RETAINING WALLS - SHEET 2	24	C
CR902	RETAINING WALLS - SHEET 3	25	C

## LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN, VALVE AND HYDRANT		
WATER RECYCLED		
UNDERGROUND ELECTRICITY		
OVERHEAD ELECTRICITY & POLE		
TELECOMMUNICATIONS & SERVICE PIT		
OPTIC FIBRE		
SEWER & MAINTENANCE STRUCTURE		
CENTRAL INVERT		
COUNCIL STORMWATER DRAIN AND PIT		
STORM WATER DRAINAGE PROPERTY INLETS		
COUNCIL STORM WATER PITS		
HOUSE DRAIN		
AG DRAIN AND FLUSHER		
STORM WATER DRAINAGE PIT NUMBER		
GAS & WATER CONDUITS		
CONCRETE VEHICLE CROSSING		
RIDGE / CHANGE OF GRADE LINE		
SURFACE CONTOUR MINOR		
SURFACE CONTOUR MAJOR		
SURFACE LEVEL		
BATTER LEVEL (TOP / TOE)		
RETAINING WALL LEVEL (TOP/BOTTOM)		
EARTHWORKS GRADE		
SIGN AND POST		
LIGHT & POLE (BY OTHERS)		
STREET SIGN		
PERMANENT SURVEY MARK		
TEMPORARY BENCH MARK		
ROAD CHAINAGES		
LOT CHAINAGES		
SETOUT POINT		
LIMIT OF WORKS		
BATTER		
EXCAVATION GREATER THAN 0.20m		
FILLING GREATER THAN 0.20m		
SLEEPER RETAINING WALL		
ROCK RETAINING WALL		
FENCES		
TREE (& SURVEYED CANOPY) TO BE RETAINED		
TREE TO BE REMOVED		
VEGETATION LINE		
FOOTPATH		
KERB TRANSITION		



**WARNING**  
BEWARE OF UNDERGROUND/OVERHEAD SERVICES  
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY. AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

C	LOTS 2107-2118 AMENDED	M.R	11/09/23	
B	ISSUED TO COUNCIL	M.R	26/07/23	
A	ISSUED FOR TENDER	M.R	29/06/23	
Rev	Amendments	Approved	Date	

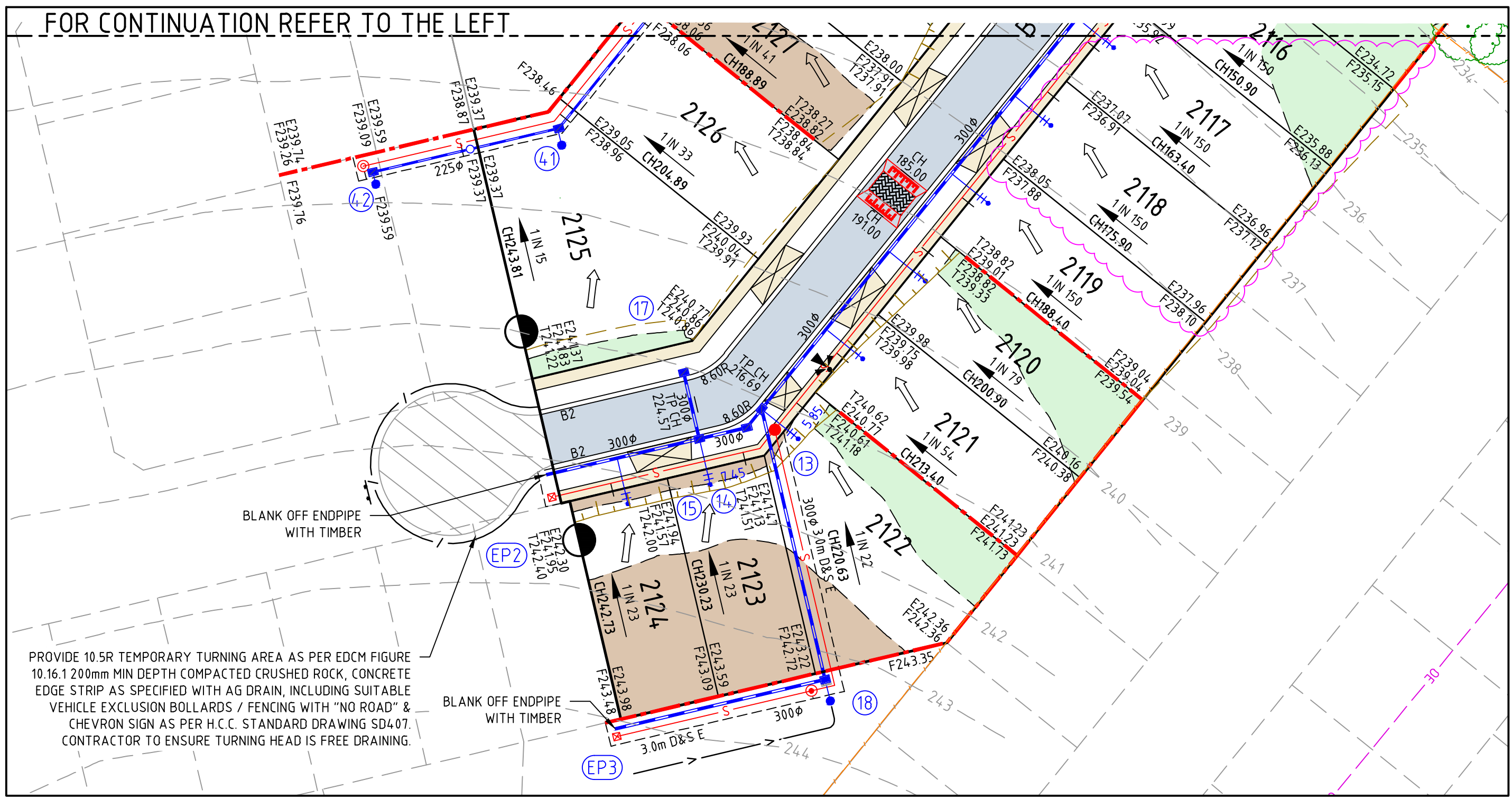
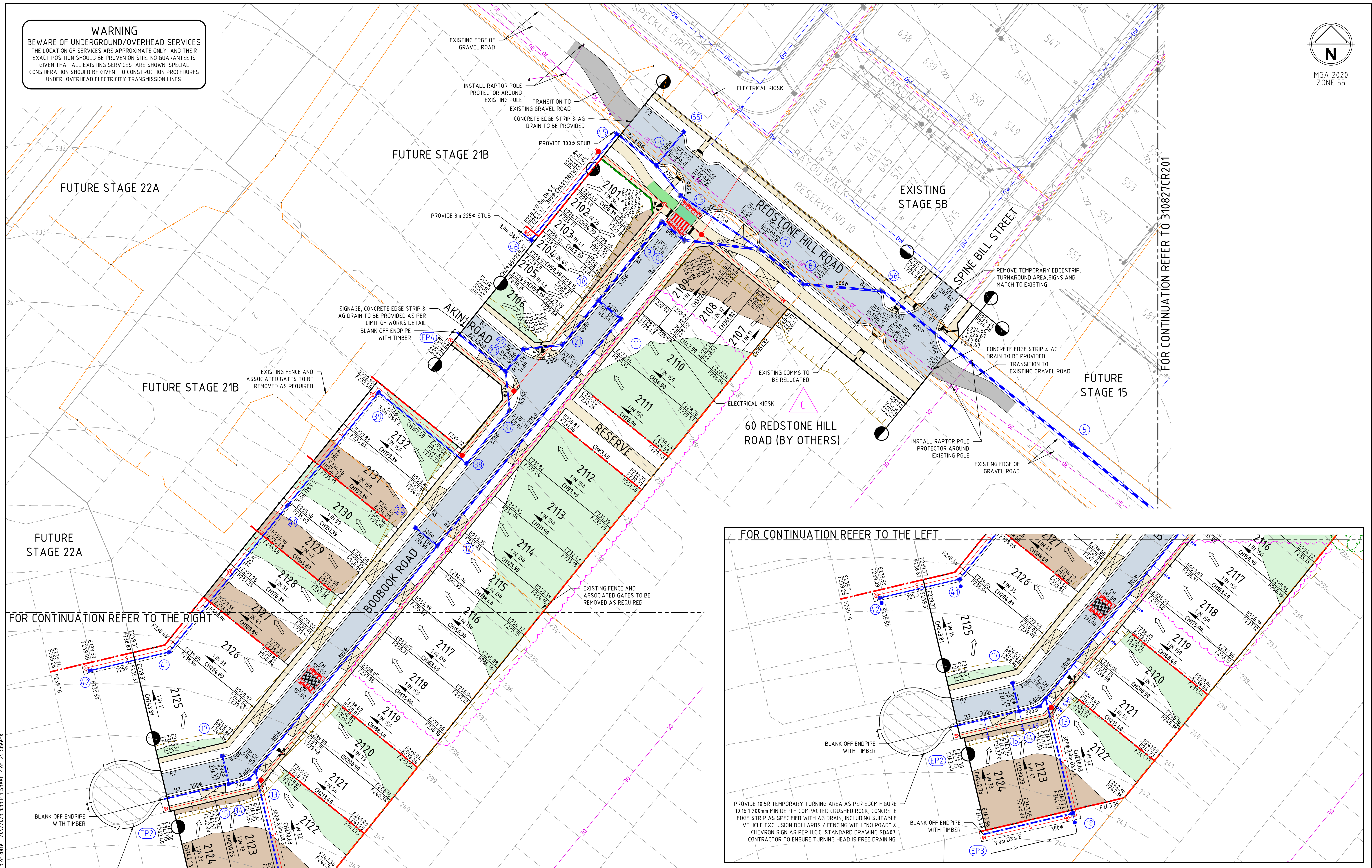
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<b>REDSTONE ESTATE STAGE 21A ROAD AND DRAINAGE FACE SHEET</b> HUME CITY COUNCIL VILLAWOOD PROPERTIES	Drg No <b>310827CR100</b>	Rev <b>C</b>
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Rev	Amendments	Approved	Date
C	LOTS 2107-2118 AMENDED	M.R	11/09/23
B	ISSUED TO COUNCIL	M.R	26/07/23
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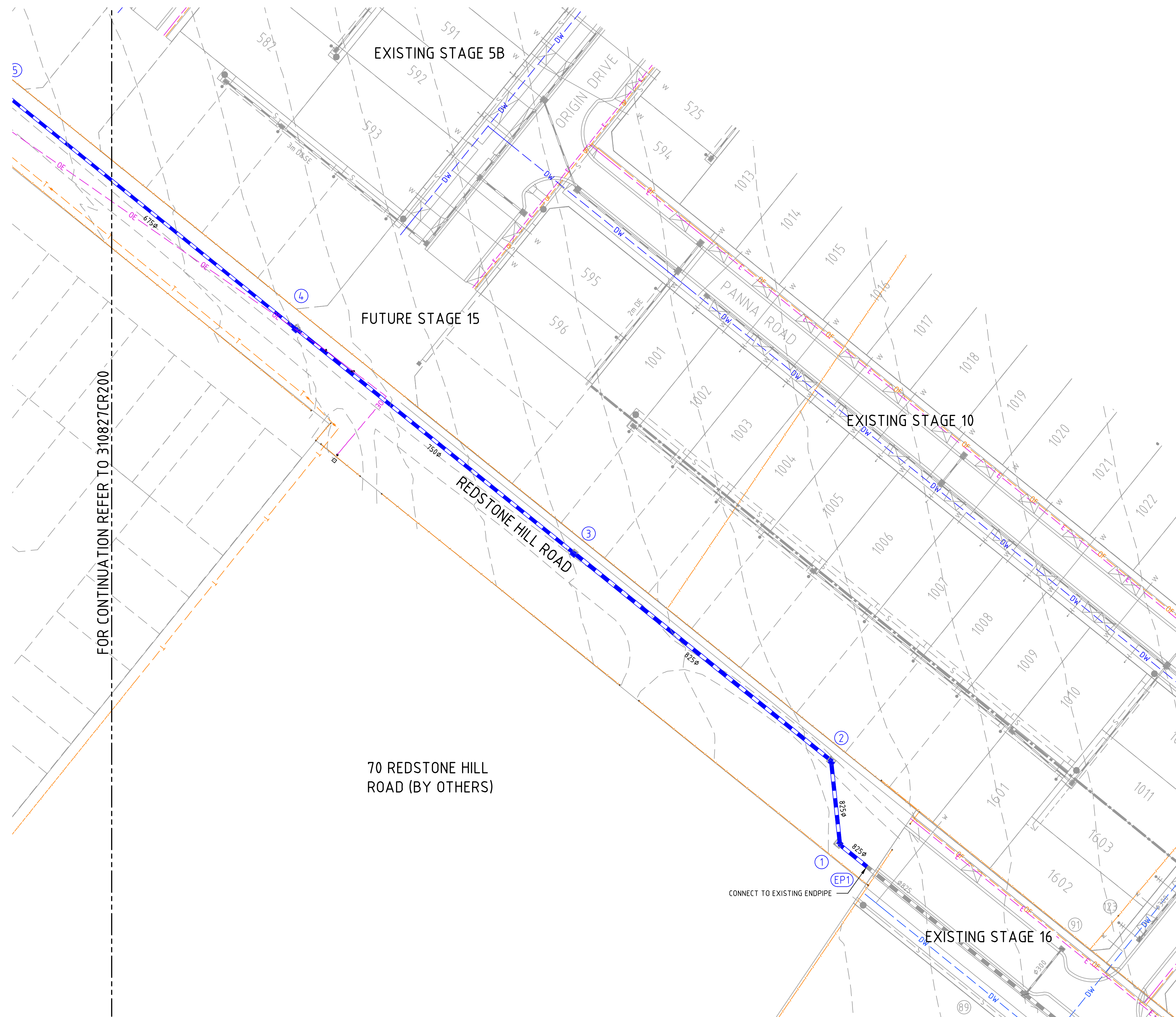
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Designed  
L. TRAN  
Authorised  
M. RANJANAN

Your world awaits  
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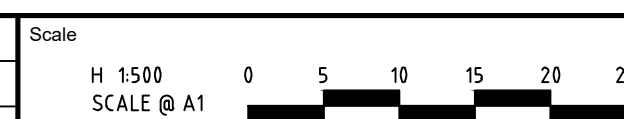
**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
FACE PLAN - SHEET 1  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES**  
**PRELIMINARY** Drg No **310827CR200** Rev **C**





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B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23
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Designed	L. TRAN
Authorised	M. RANJANAN

**Redstone.**  
*Your world awaits*

Checked  
W. ONG  
Date  
26/07/23

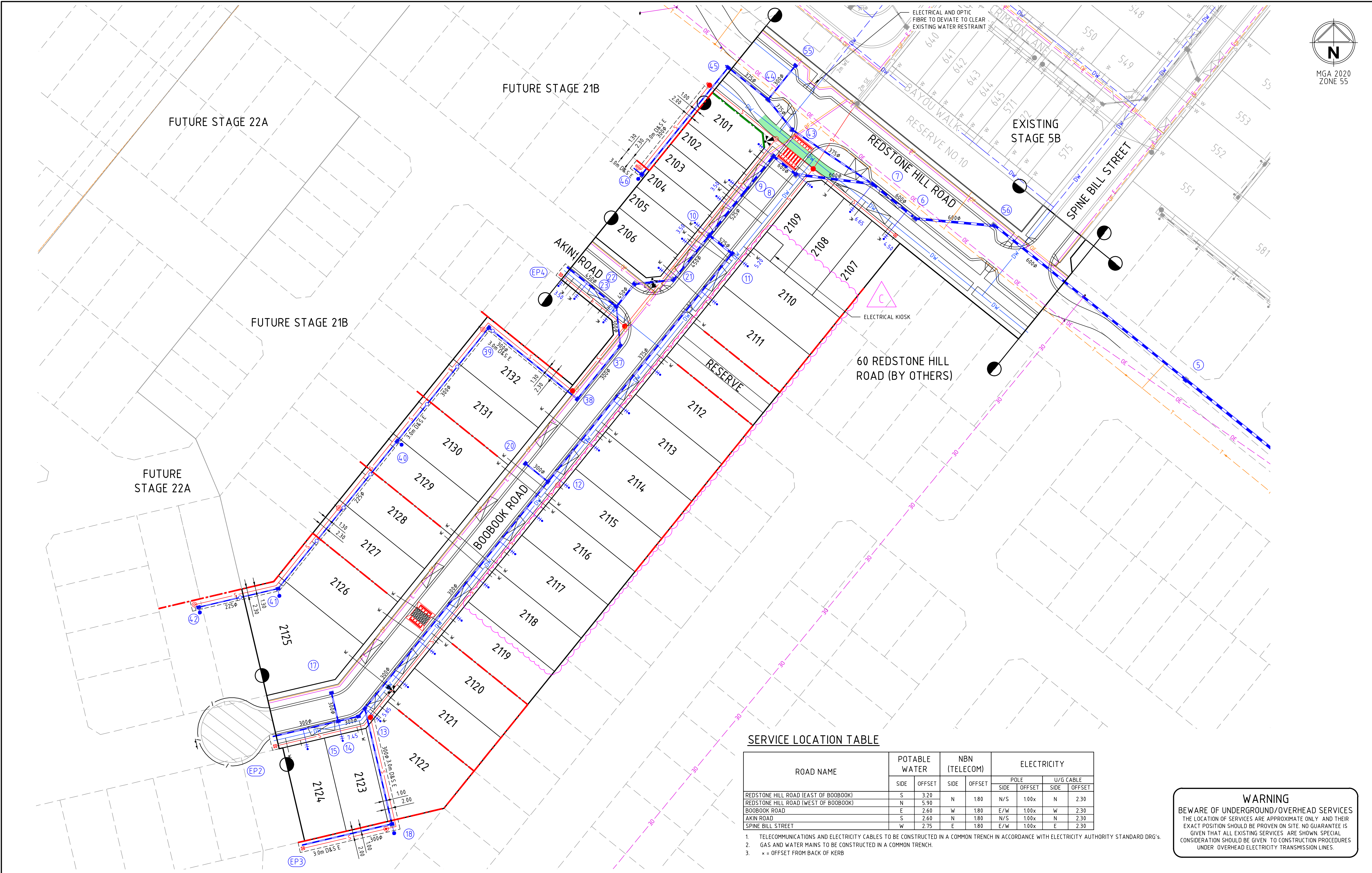
**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
FACE PLAN - SHEET 2  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES**

**PRELIMINARY** Drg No 310827CR201 Rev B





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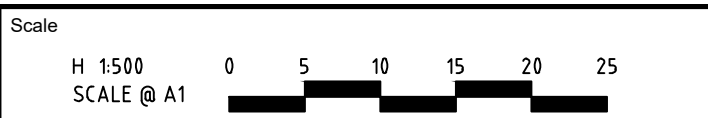
SERVICE LOCATION TABLE

ROAD NAME	POTABLE WATER		NBN (TELECOM)		ELECTRICITY			
	SIDE	OFFSET	SIDE	OFFSET	POLE		U/G CABLE	
					SIDE	OFFSET	SIDE	OFFSET
REDSTONE HILL ROAD (EAST OF BOOBOOK)	S	3.20						
REDSTONE HILL ROAD (WEST OF BOOBOOK)	N	5.90	N	1.80	N/S	1.00x	N	2.30
BOOBOOK ROAD	E	2.60	W	1.80	E/W	1.00x	W	2.30
AKIN ROAD	S	2.60	N	1.80	N/S	1.00x	N	2.30
SPINE BILL STREET	W	2.75	E	1.80	E/W	1.00x	E	2.30

1. TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG's.
2. GAS AND WATER MAINS TO BE CONSTRUCTED IN A COMMON TRENCH.
3. \* = OFFSET FROM BACK OF KERB

**WARNING**  
BEWARE OF UNDERGROUND/OVERHEAD SERVICES  
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY, AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

C	LOTS 2107-2118 AMENDED	M.R	11/09/23		
B	ISSUED TO COUNCIL	M.R	26/07/23		
A	ISSUED FOR TENDER	M.R	29/06/23		
Rev	Amendments	Approved	Date		



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spiire.com.au ABN 55 050 029 635



Designed  
L. TRAN  
Authorised  
M. RANJANAN



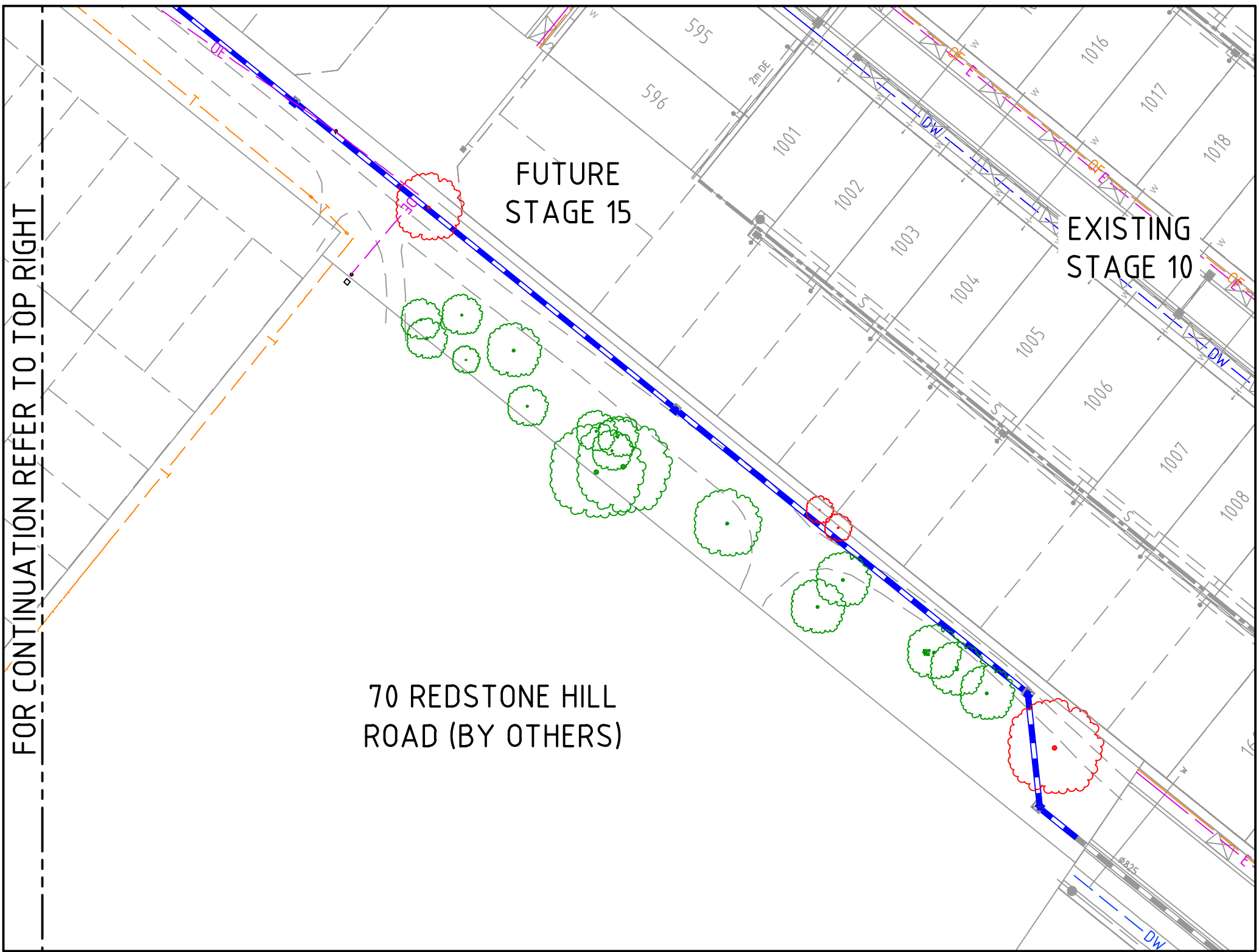
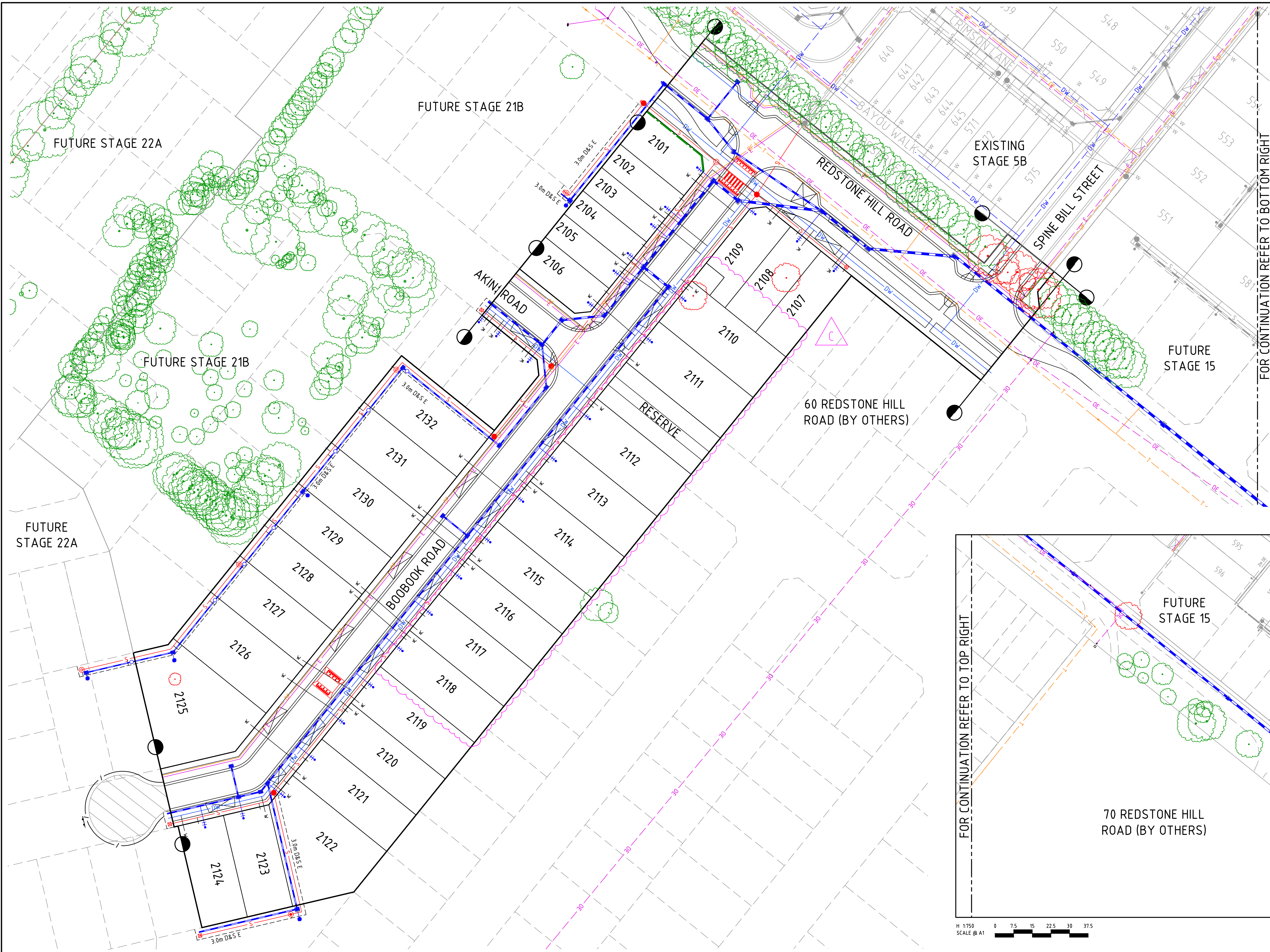
Checked  
W. ONG  
Date  
26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
SERVICES PLAN**  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

**PRELIMINARY** Drg No 310827CR202 Rev C

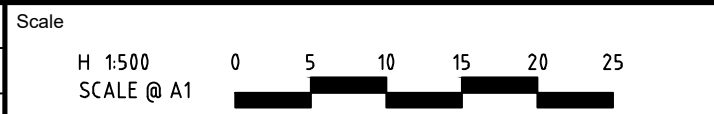


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H 1:750  
SCALE @ A1

Rev	Amendments	Approved	Date
C	LOTS 2107-2118 AMENDED	M.R	11/09/23
B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23



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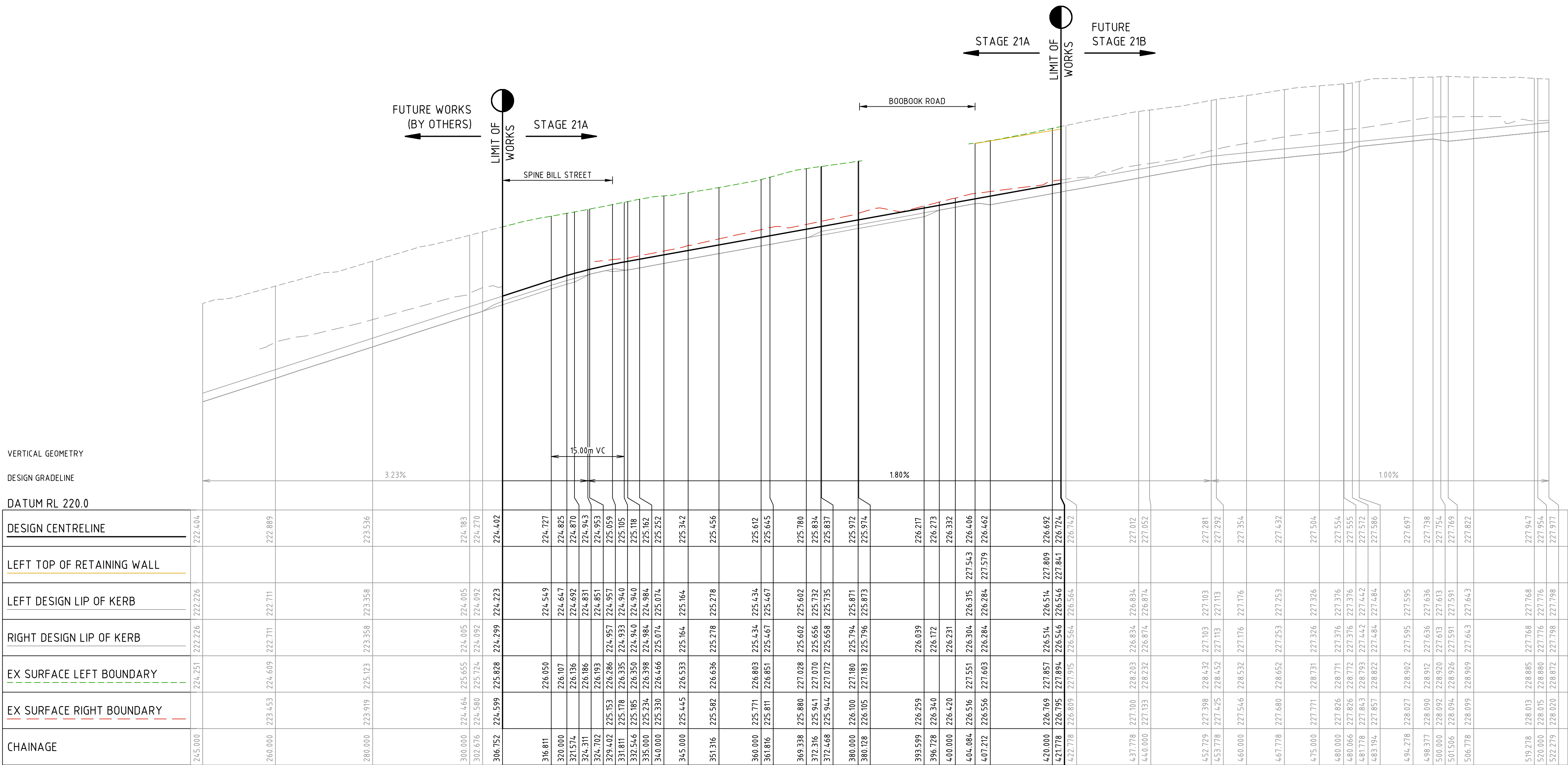
Checked  
W. ONG  
Date  
26/07/23

REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
TREE REMOVAL PLAN - SHEET 4  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

**PRELIMINARY** Drg No 310827CR203 Rev C

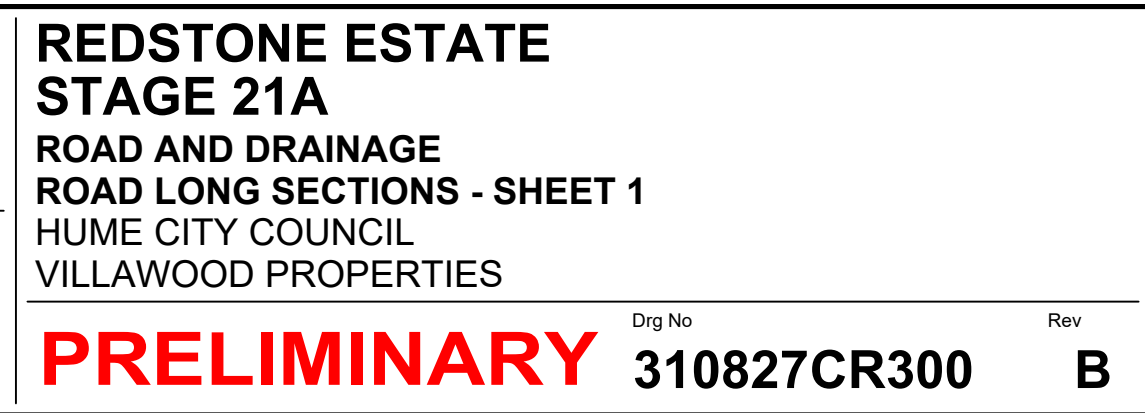
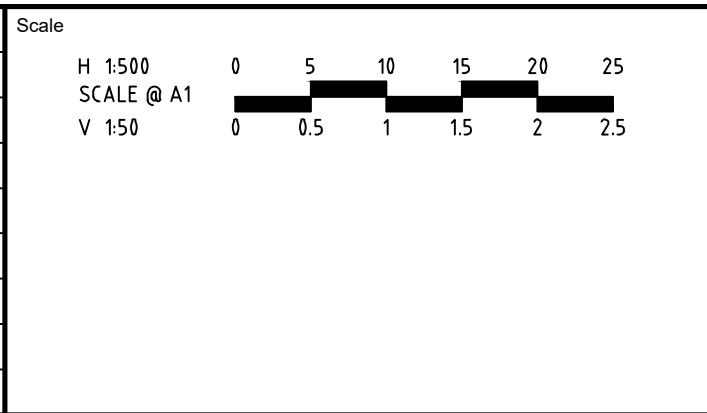


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REDSTONE HILL ROAD

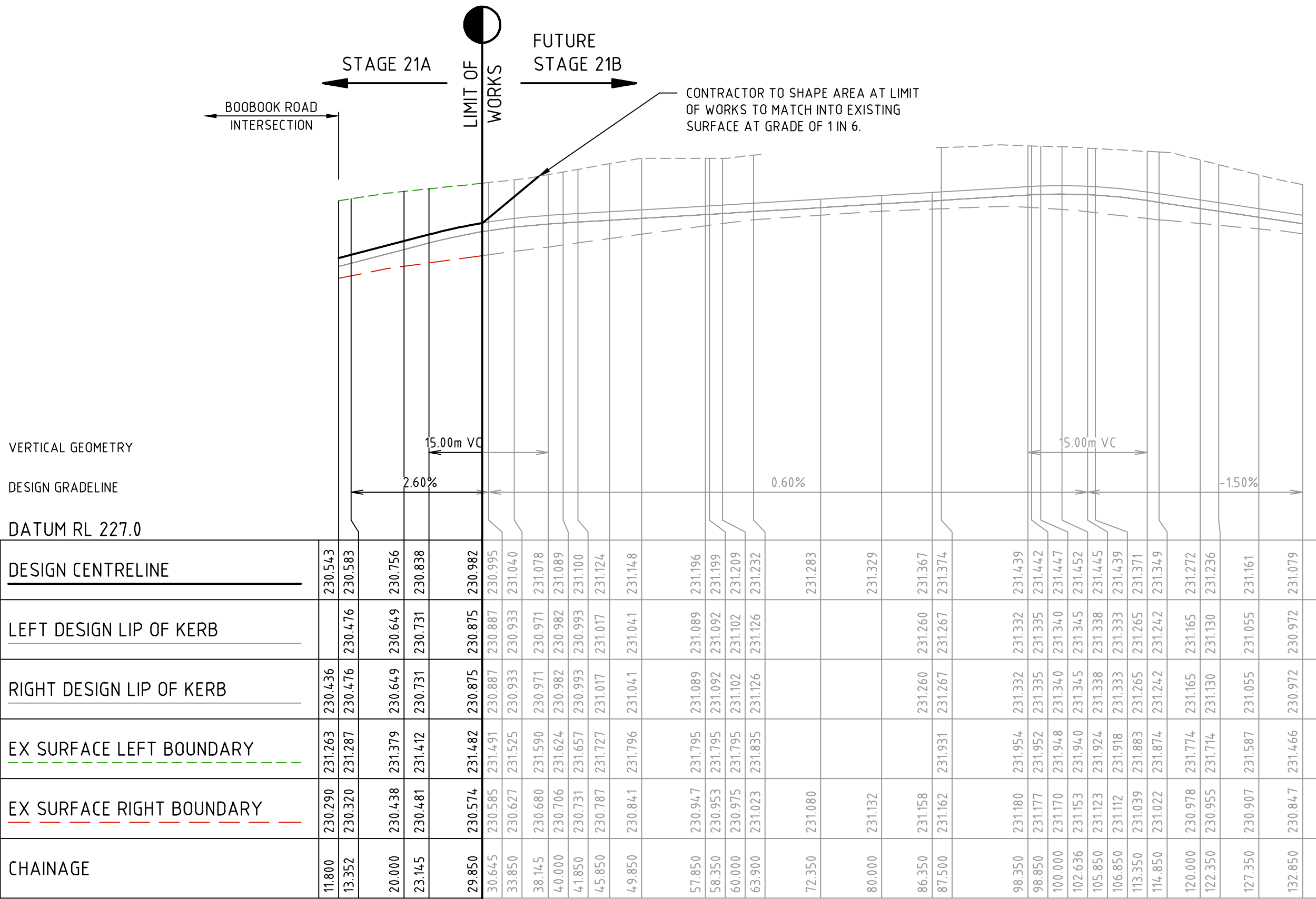
Rev	Amendments	Approved	Date
B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23



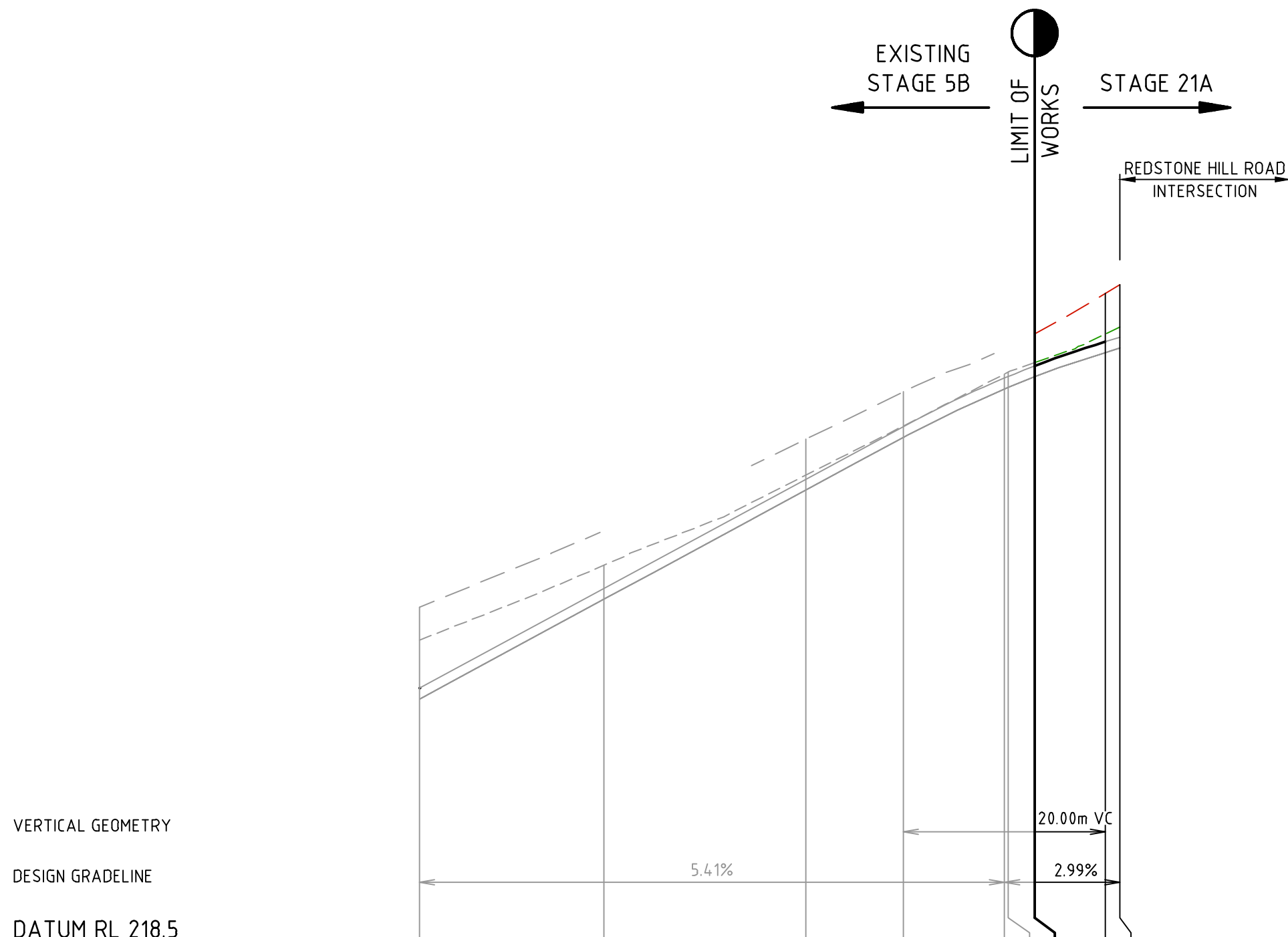




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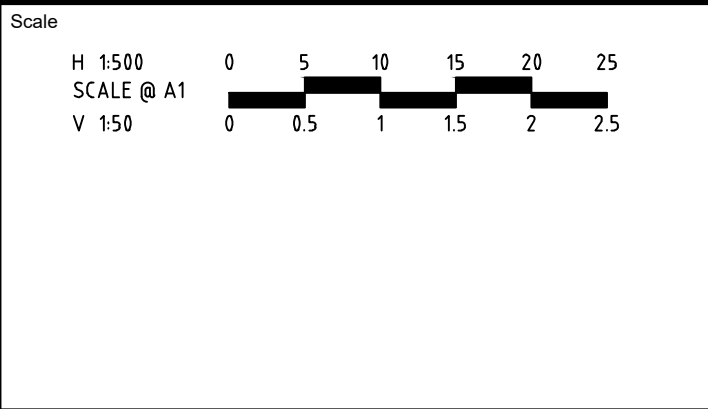


AKIN ROAD



SPINE BILL STREET

Rev	B	ISSUED TO COUNCIL	M.R	26/07/23
Rev	A	ISSUED FOR TENDER	M.R	29/06/23
Rev		Amendments	Approved	Date



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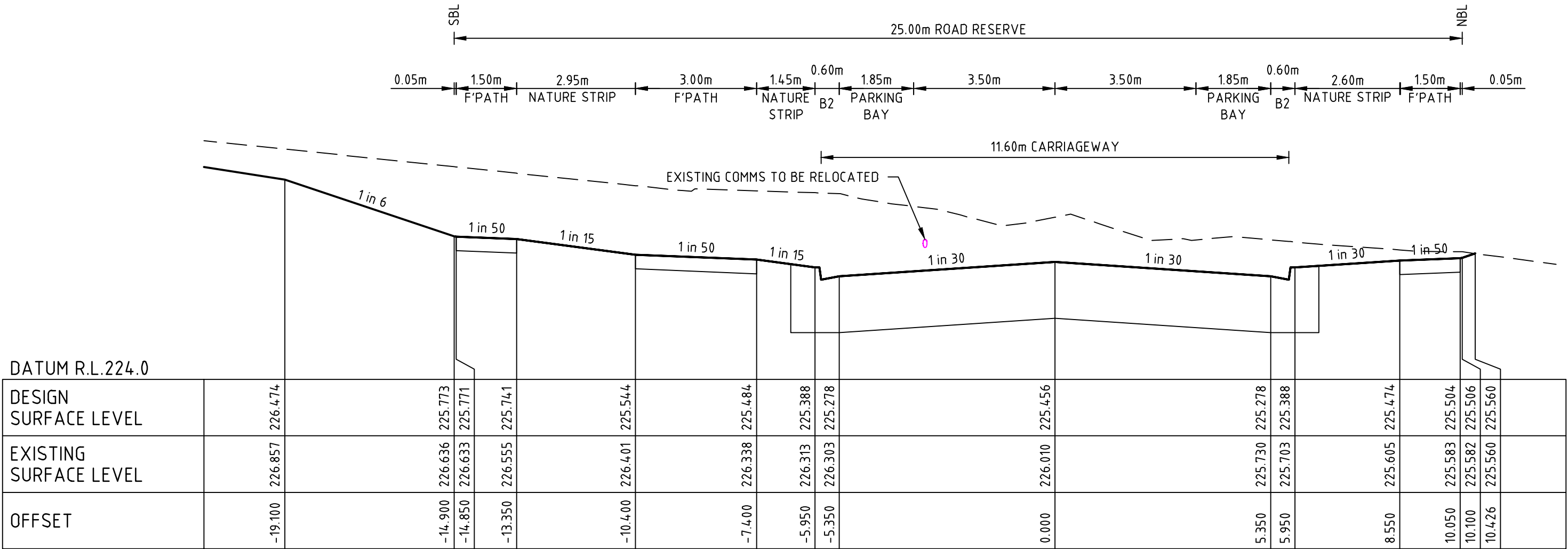
Checked  
W. ONG  
Date  
26/07/23

REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
ROAD LONG SECTIONS - SHEET 3  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

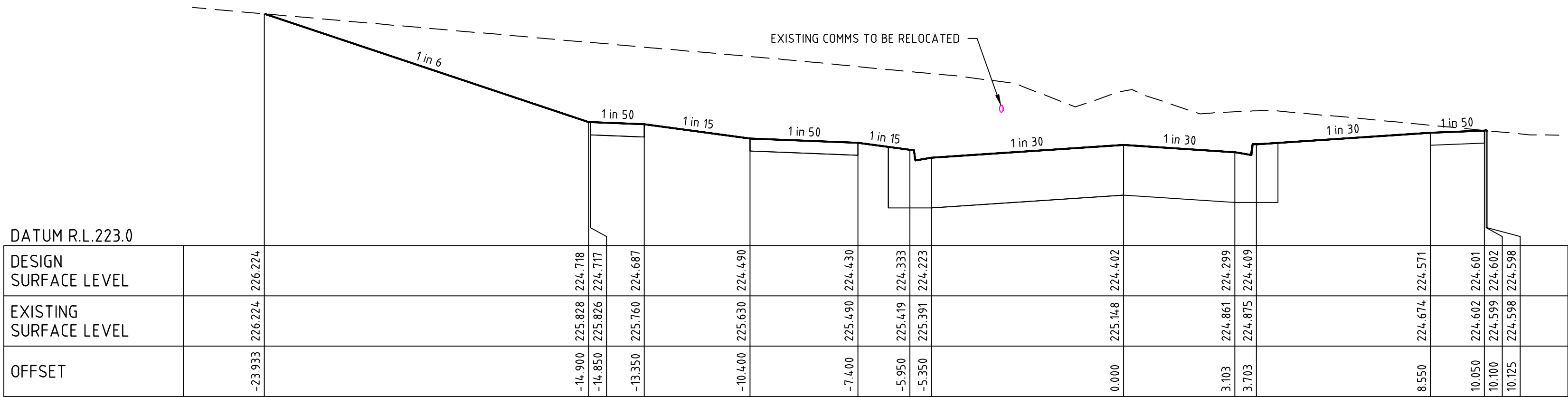
**PRELIMINARY** Drg No 310827CR302 Rev B



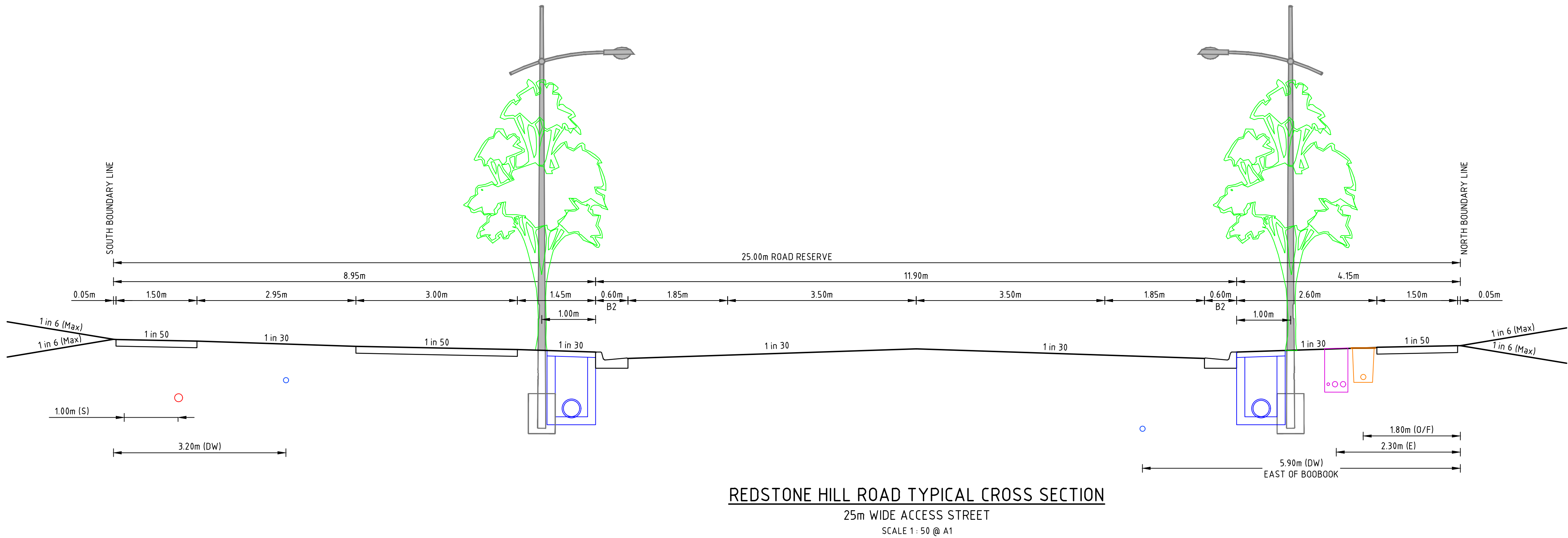
FILLING NOTE  
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS.



REDSTONE HILL ROAD CH 351.32

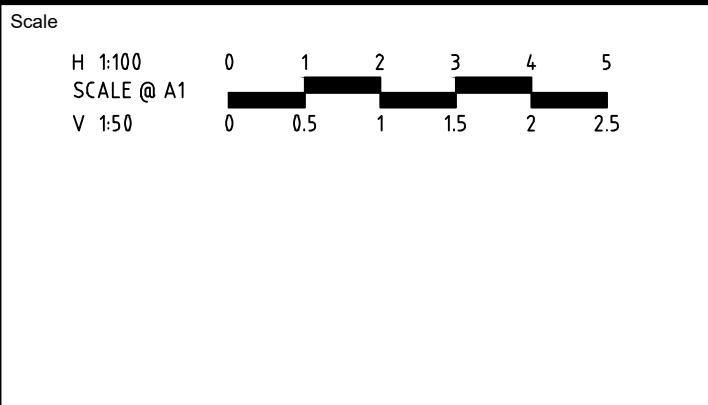


REDSTONE HILL ROAD CH 306.75



file name: 310827CR400.dwg layout name: CR400 plotted by: Lilia Tran  
file location: G:\310827\310827\310827.dwg plot date: 10/07/2023 3:35 PM Sheet 9 of 25 Sheets

B	ISSUED TO COUNCIL	M.R	26/07/23	
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REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
ROAD CROSS SECTIONS - SHEET 1  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

**PRELIMINARY**

Drg No  
310827CR400

Rev  
B



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B	ISSUED TO COUNCIL	M.R	26/07/23
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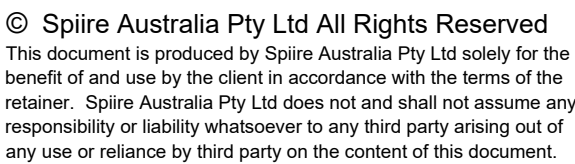
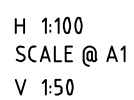
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26/07/23

**PRELIMINARY** Drg No **310827CR401**

**B**



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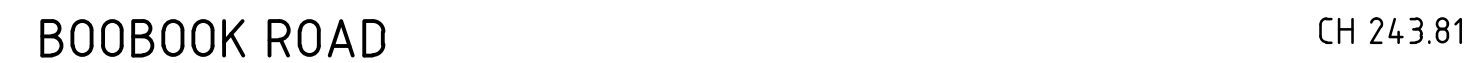
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Date  
26/07/23

**PRELIMINARY** **310827CR402**



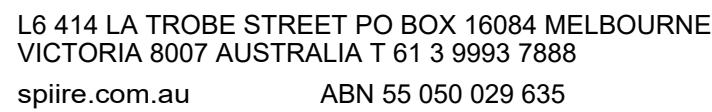
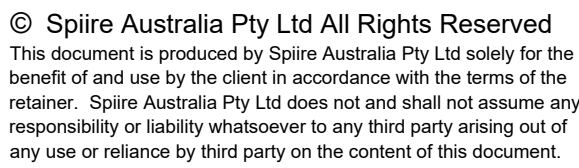
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS.



Scale

H 1:100  
SCALE @ A1  
V 150

0 1 2 3 4 5  
0 0.5 1 1.5 2 2.5



Designed	Checked
L. TRAN	W. ONG
Authorised	Date
M. RANJANAN	26/07/23

**PRELIMINARY** Drg No **310827CR403**

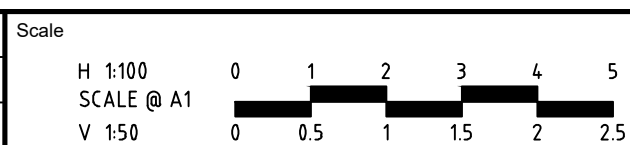
Rev  
B



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B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23
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Checked  
W. ONG  
Date  
26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
ROAD CROSS SECTIONS - SHEET 5  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES**

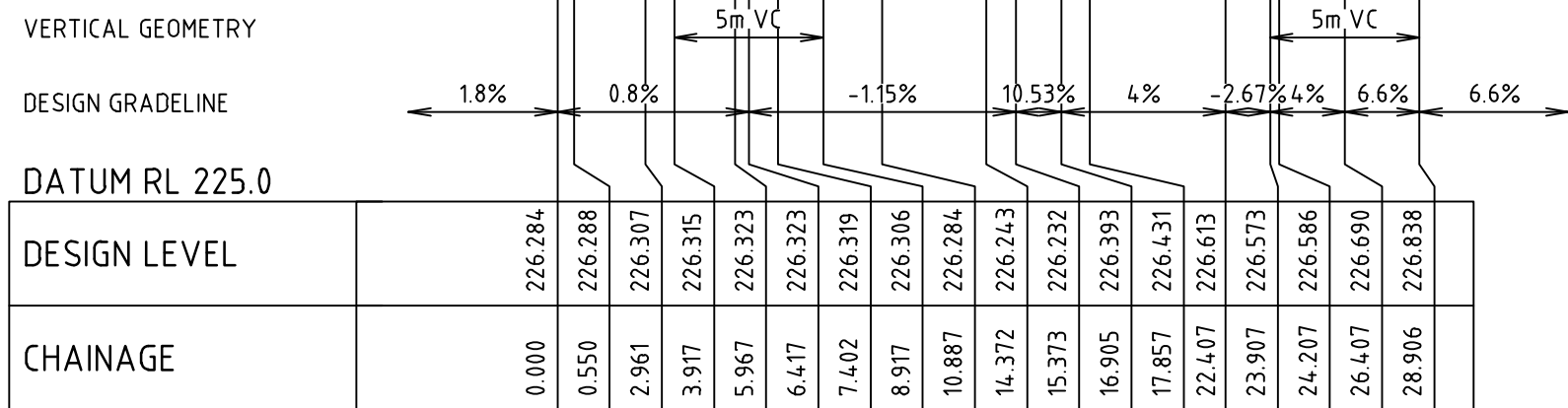
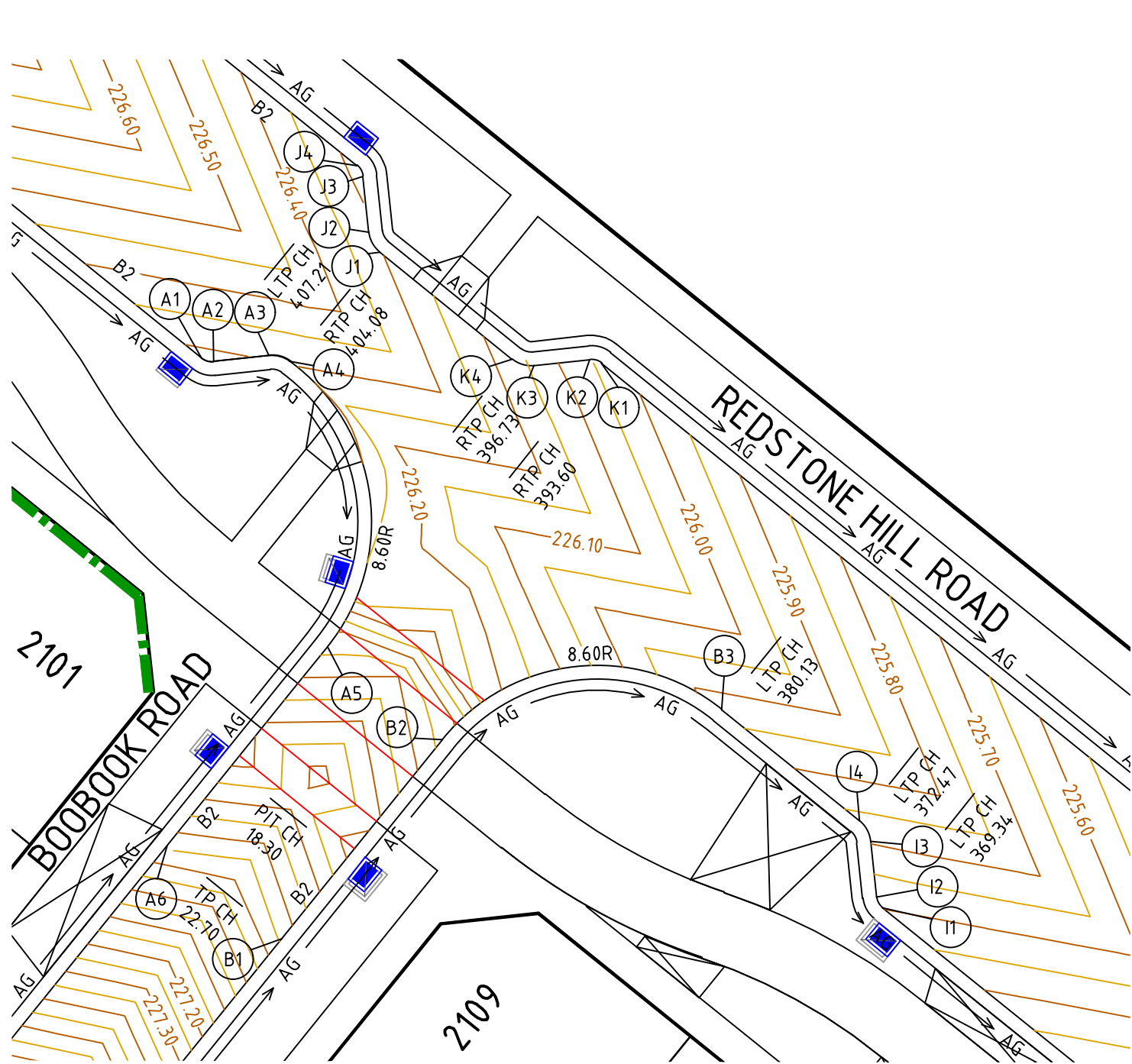
**PRELIMINARY** Drg No **310827CR404**

Rev  
B

file name 310827CR4.00.dwg layout name CR4.04 plotted by Lilien Tran  
file location G:\31\310827\Civil\ACAD plot date 11/09/2023 3:35 PM Sheet 13 of 25 Sheets



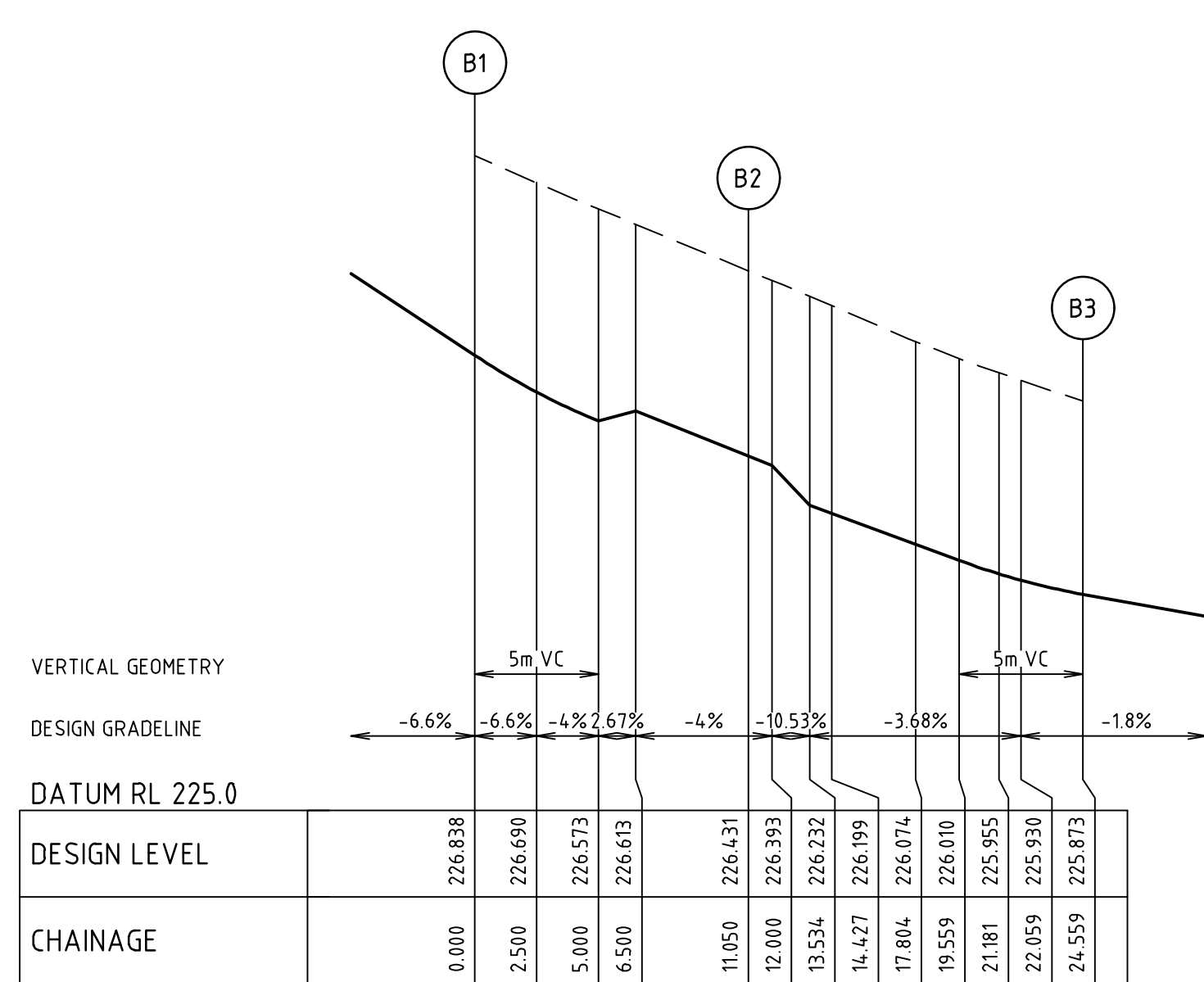
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ALIGNMENT A

POINT NO	EASTING	NORTHING	RL
A1	301897.579	5835873.226	226.284
A2	301898.093	5835873.074	226.288
A3	301900.490	5835873.330	226.307
A4	301901.393	5835873.089	226.315
1/4	301903.725	5835870.531	226.319
1/2	301904.860	5835867.261	226.284
3/4	301904.614	5835863.809	226.243
A5	301903.027	5835860.733	226.431
A6	301896.087	5835852.134	226.838

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
A1-A2	0.700	0.550	0.536	0.053	-0.013
A3-A4	1.300	0.956	0.935	0.087	0.022
A4-A5	8.600	13.940	12.463	2.673	0.696



ALIGNMENT B

POINT NO	EASTING	NORTHING	RL
B1	301901.067	5835848.115	226.838
B2	301908.007	5835856.714	226.431
1/4	301910.583	5835858.864	226.199
1/2	301913.786	5835859.864	226.074
3/4	301917.128	5835859.563	225.955
B3	301920.100	5835858.005	225.873

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
B2-B3	8.600	13.509	12.162	2.519	0.655

POINT NO	EASTING	NORTHING	RL
J1	301905.289	5835877.798	226.304
J2	301904.813	5835878.671	226.313
J3	301904.555	5835881.082	226.287
J4	301904.299	5835881.552	226.284

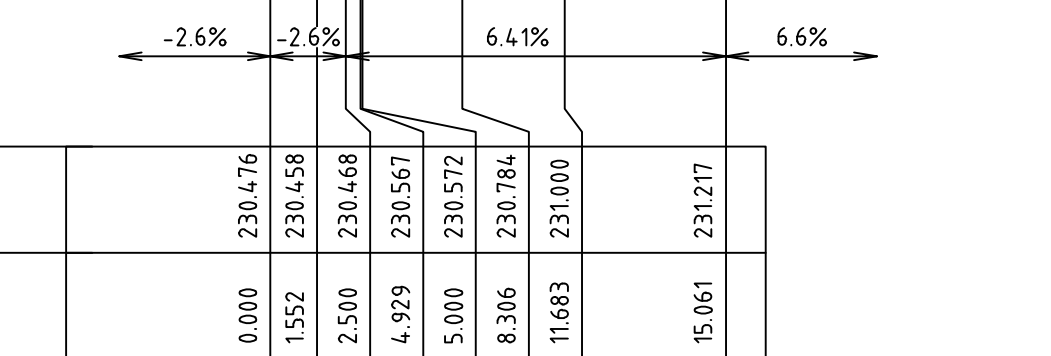
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J1-J2	1.300	1.021	0.995	0.099	0.025
J3-J4	0.700	0.550	0.536	0.053	-0.013

POINT NO	EASTING	NORTHING	RL
C1	301869.246	5835818.877	229.659
1/4	301866.670	5835816.727	229.880
1/2	301863.467	5835815.727	230.098
3/4	301860.125	5835816.028	230.291
C2	301857.152	5835817.586	230.436

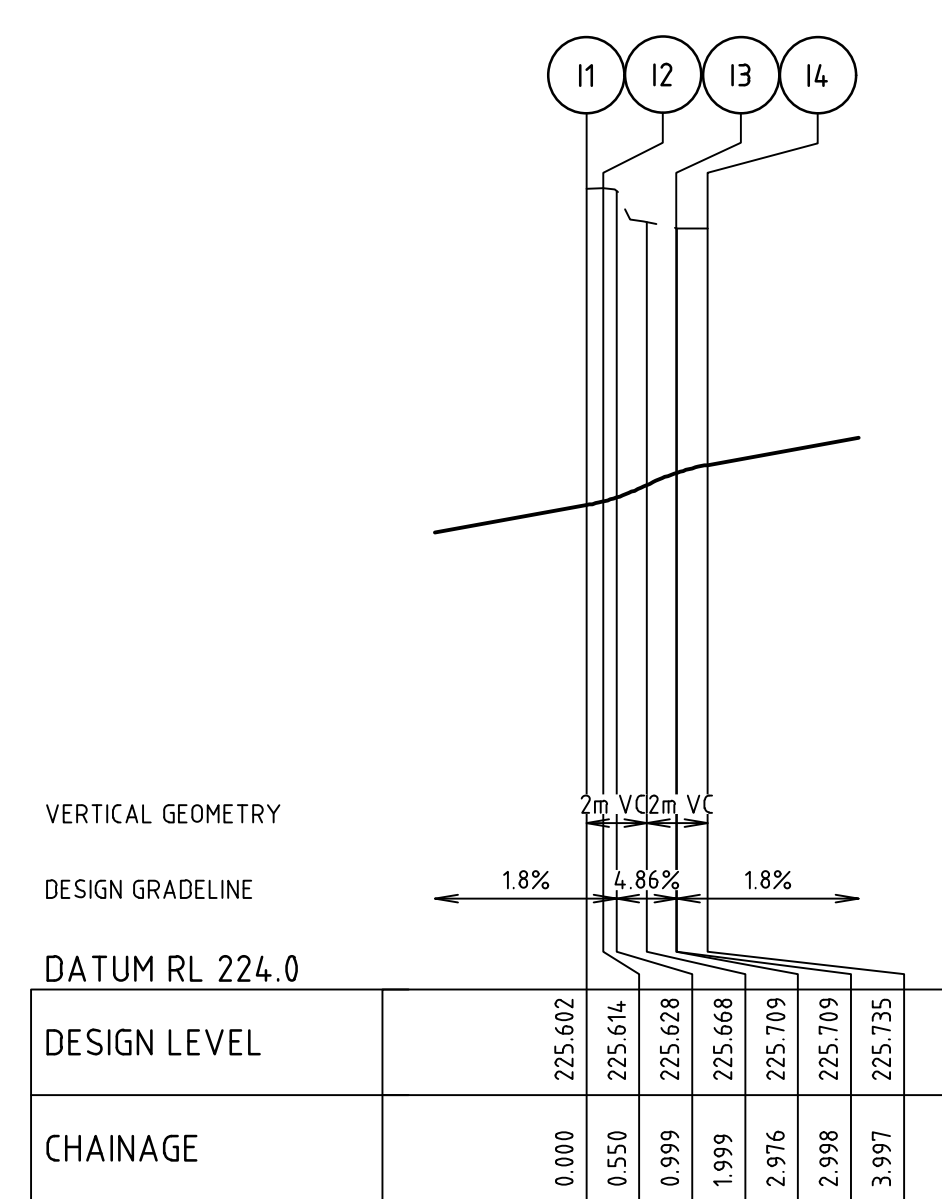
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
C1-C2	8.600	13.509	12.162	2.519	0.655

POINT NO	EASTING	NORTHING	RL
D1	301851.925	5835813.580	230.476
D2	301853.133	5835812.605	230.458
1/4	301855.283	5835810.029	230.567
1/2	301856.283	5835806.826	230.784
3/4	301855.982	5835803.484	231.000
D3	301854.424	5835800.512	231.217

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
D2-D3	8.600	13.509	12.162	2.519	0.655



ALIGNMENT D



ALIGNMENT I

POINT NO	EASTING	NORTHING	RL
I1	301927.051	5835849.438	225.602
I2	301926.795	5835849.908	225.614
I3	301926.537	5835852.321	225.709
I4	301926.061	5835853.195	225.735

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
I1-I2	0.700	0.550	0.536	0.053	0.013
I3-I4	1.300	1.021	0.995	0.099	-0.025

POINT NO	EASTING	NORTHING	RL
K1	301914.892	5835873.003	226.039
K2	301914.378	5835873.154	226.051
K3	301911.968	5835872.896	226.145
K4	301911.014	5835873.177	226.172

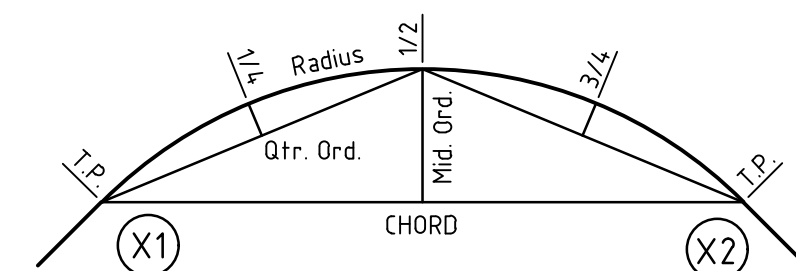
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
K1-K2	0.700	0.550	0.536	0.053	-0.013
K3-K4	1.300	1.021	0.995	0.099	0.025

POINT NO	EASTING	NORTHING	RL
C1	301869.246	5835818.877	229.659
1/4	301866.670	5835816.727	229.880
1/2	301863.467	5835815.727	230.098
3/4	301860.125	5835816.028	230.291
C2	301857.152	5835817.586	230.436

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
C1-C2	8.600	13.509	12.162	2.519	0.655

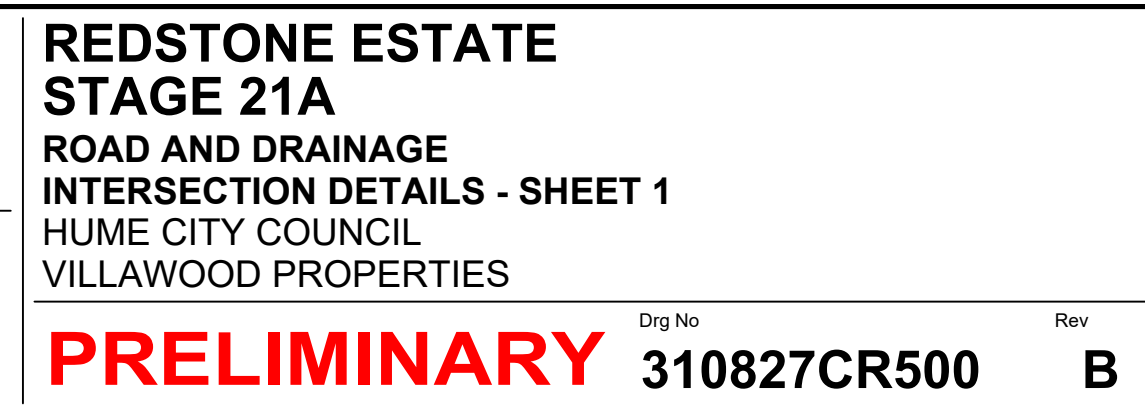
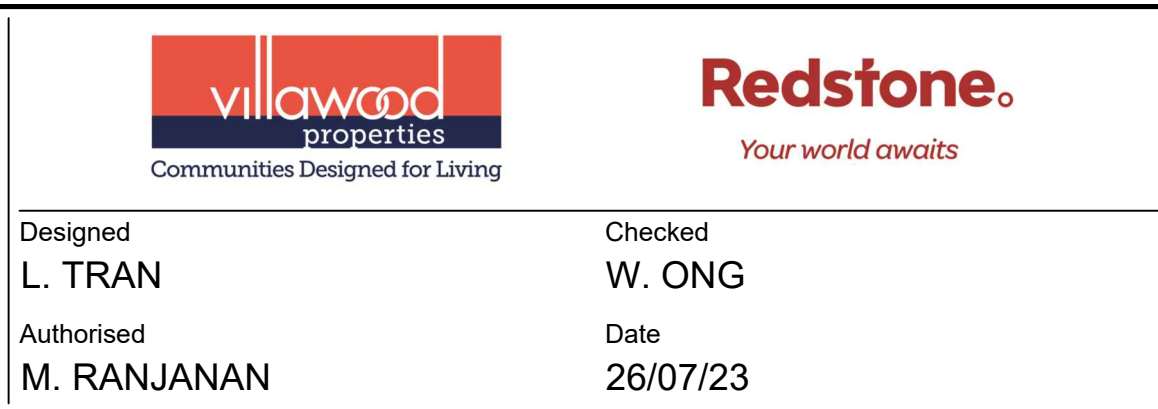
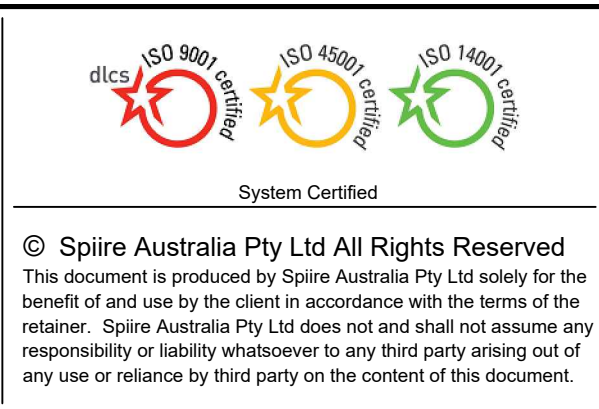
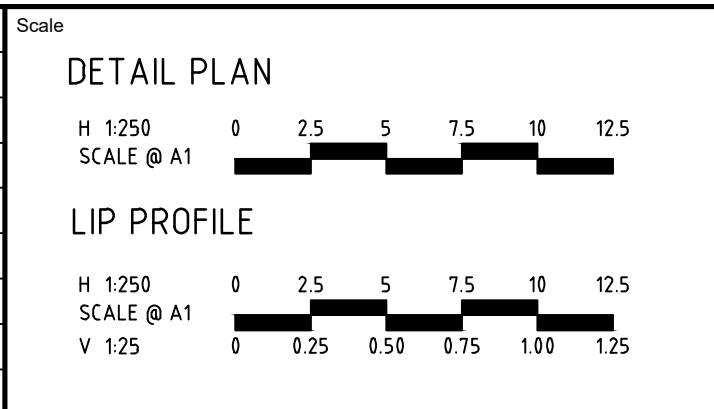
POINT NO	EASTING	NORTHING	RL
D1	301851.925	5835813.580	230.476
D2	301853.133	5835812.605	230.458
1/4	301855.283	5835810.029	230.567
1/2	301856.283	5835806.826	230.784
3/4	301855.982	5835803.484	231.000
D3	301854.424	5835800.512	231.217

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
D2-D3	8.600	13.509	12.162	2.519	0.655



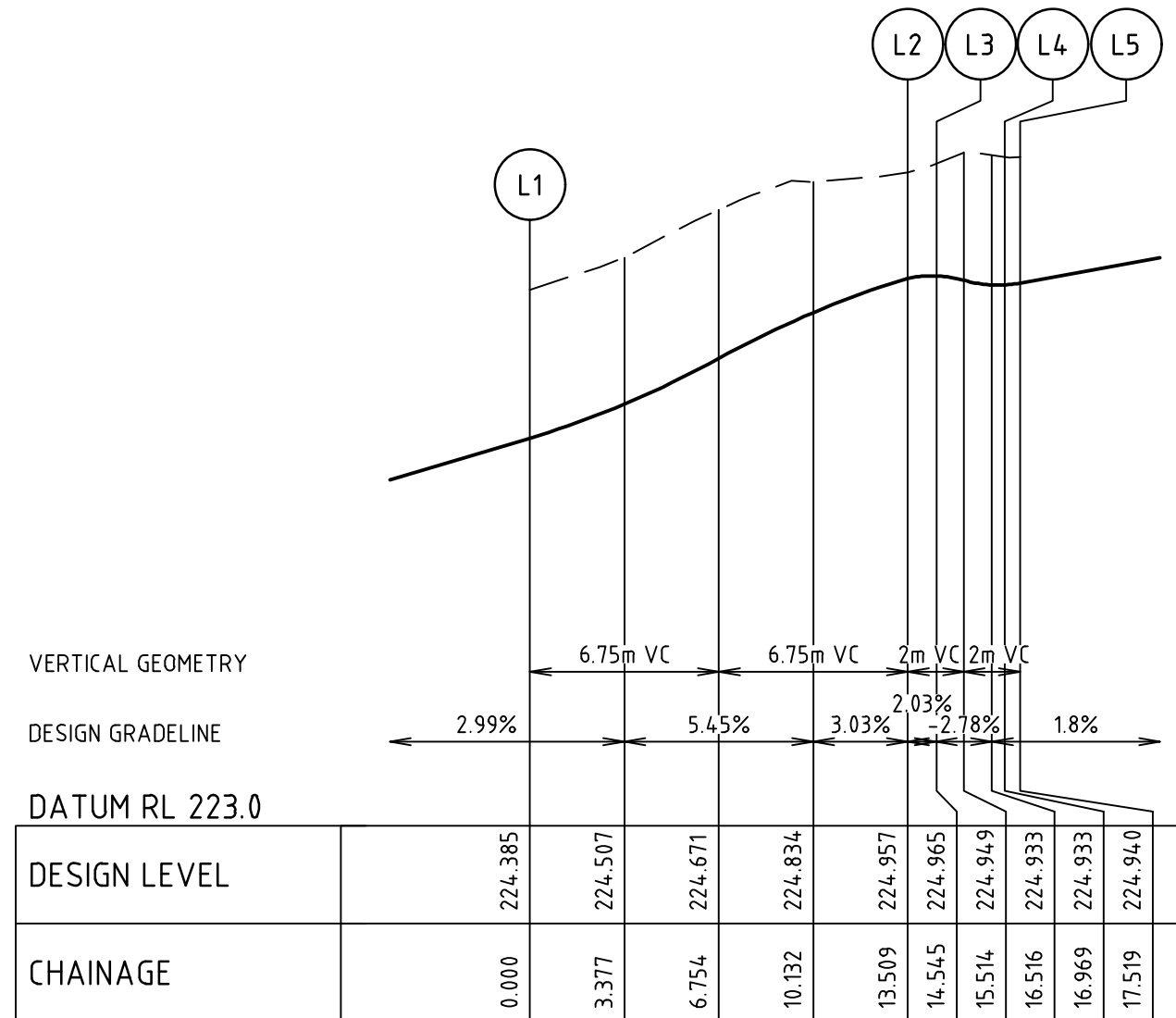
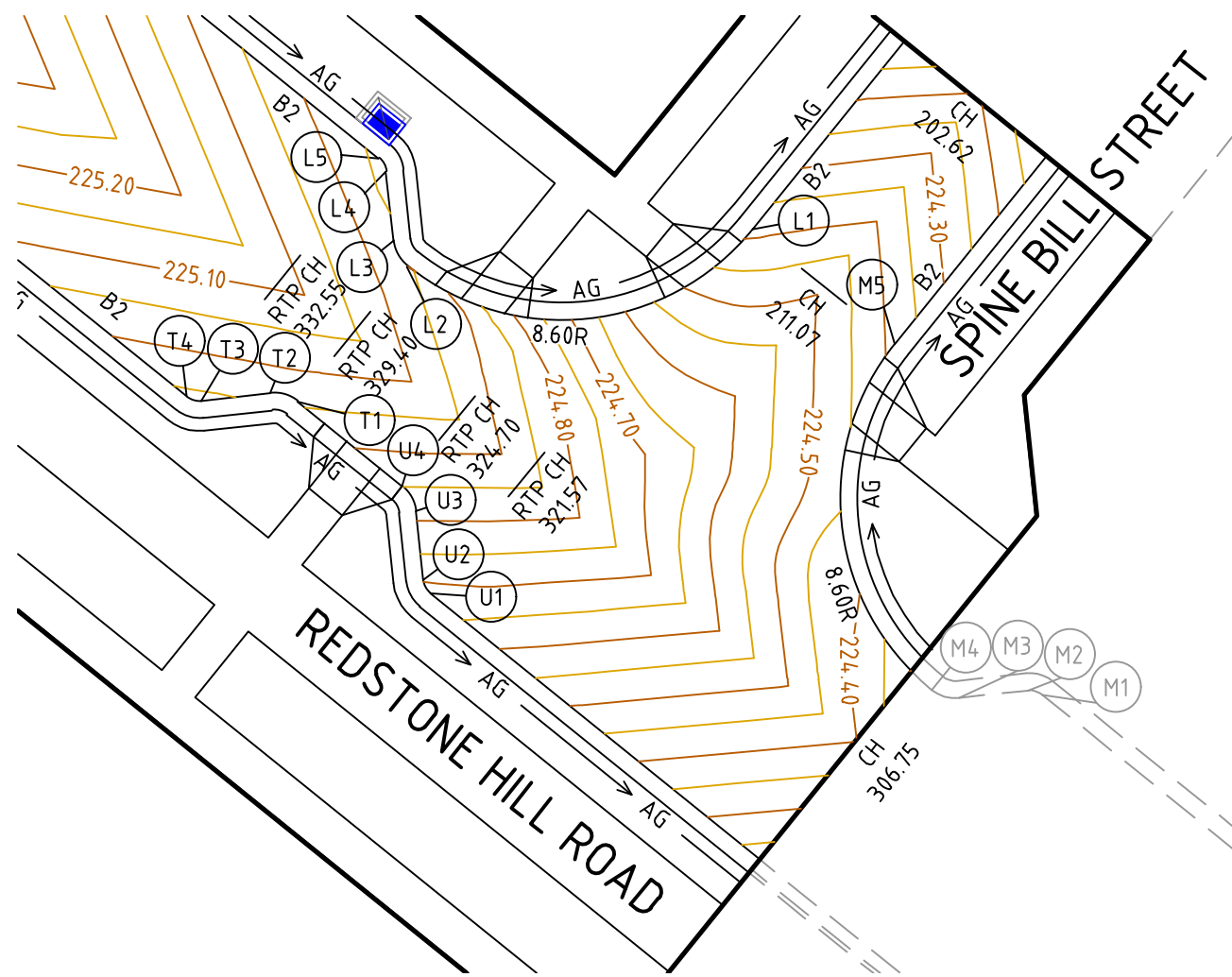
KERB RETURN SETOUT DETAIL

Rev	Amendments	Approved	Date
B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23

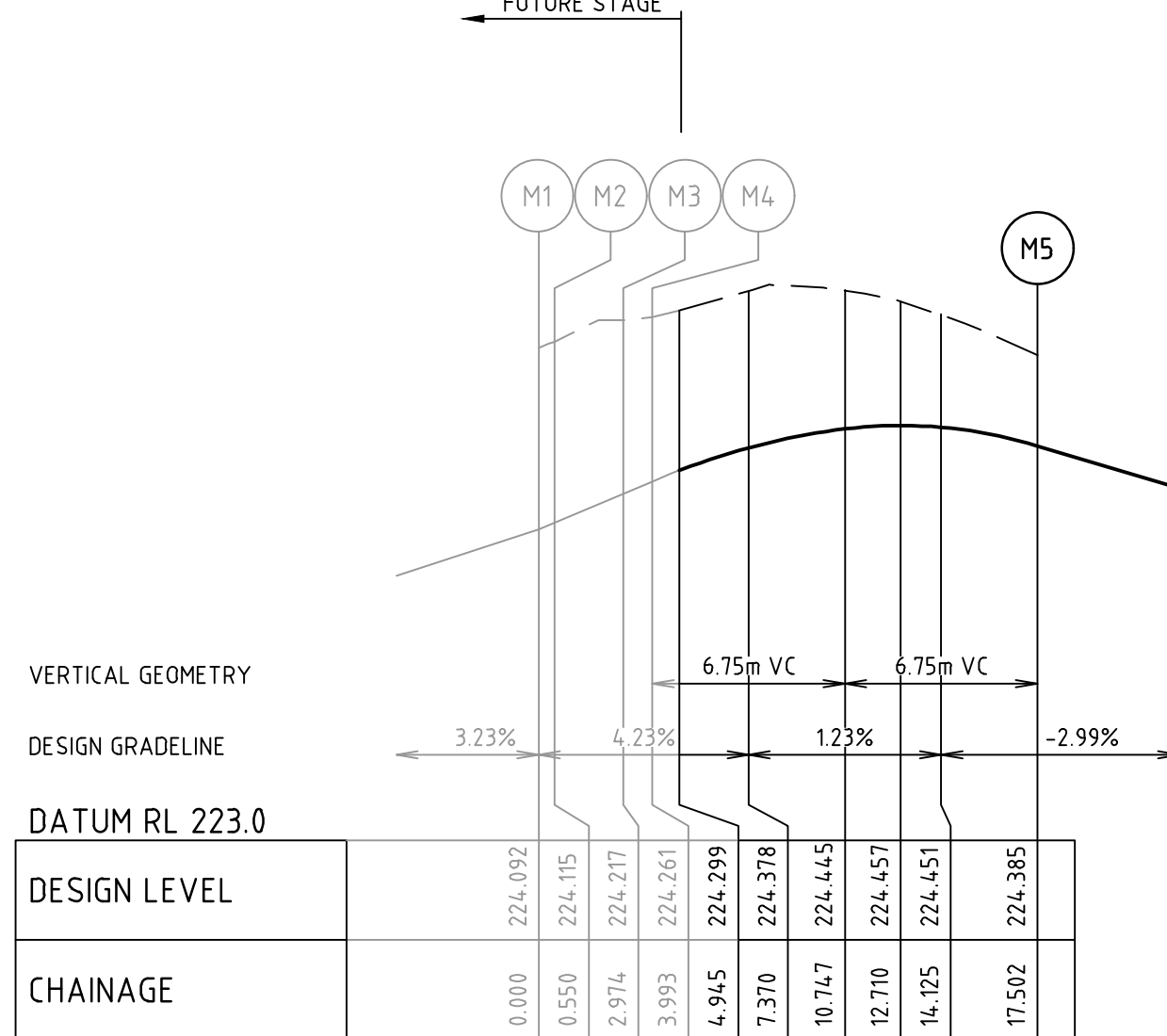




file name: 310827CR501.dwg, layout name: CR501, plotted by: Ilija Tran, file location: G:\310827\310827.dwg, V:\LA\401\plot date: 11/07/2023 3:35 PM, Sheet: 15 of 25 Sheets



ALIGNMENT L



ALIGNMENT M

ALIGNMENT L

POINT NO	EASTING	NORTHING	RL
L1	301975.498	5835832.186	224.385
1/4	301972.922	5835830.036	224.507
1/2	301969.719	5835829.036	224.671
3/4	301966.377	5835829.337	224.834
L2	301963.405	5835830.895	224.957
L3	301962.917	5835831.778	224.965
L4	301962.660	5835834.188	224.933
L5	301962.403	5835834.659	224.940

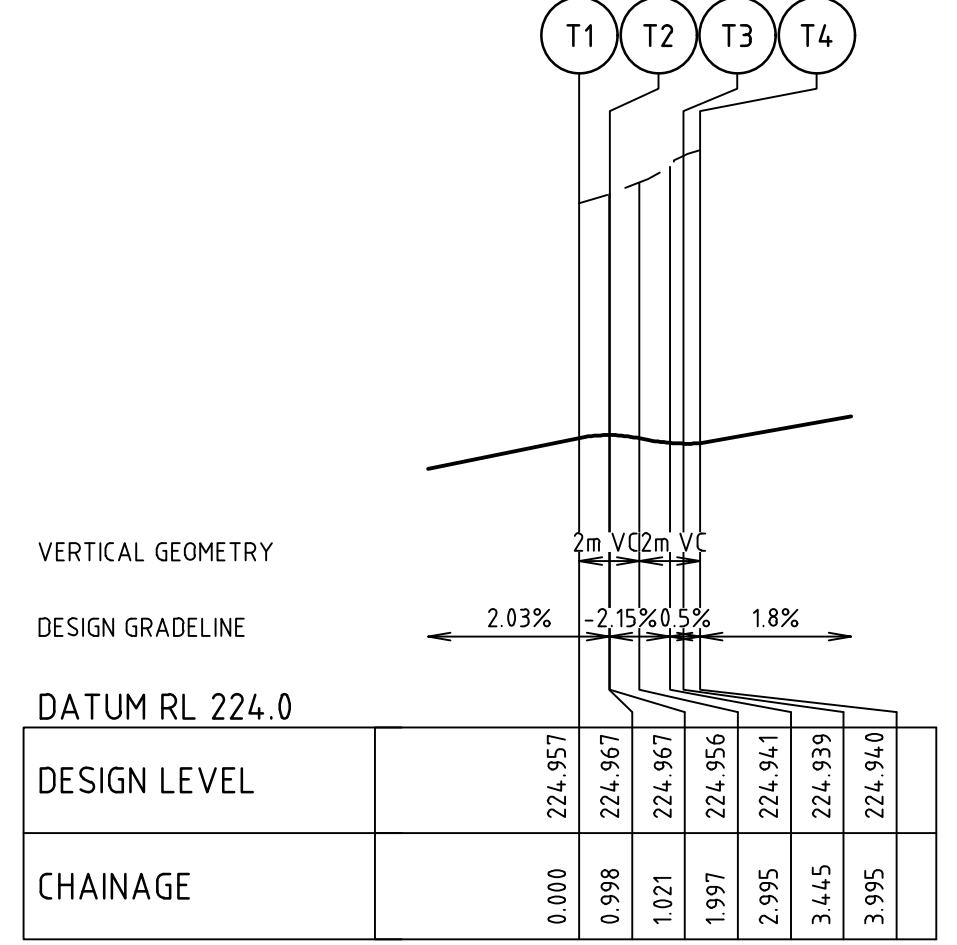
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
L1-L2	8.600	13.509	12.162	2.519	0.655
L2-L3	1.300	1.036	1.009	0.102	0.026
L4-L5	0.700	0.550	0.536	0.053	-0.013

ALIGNMENT M

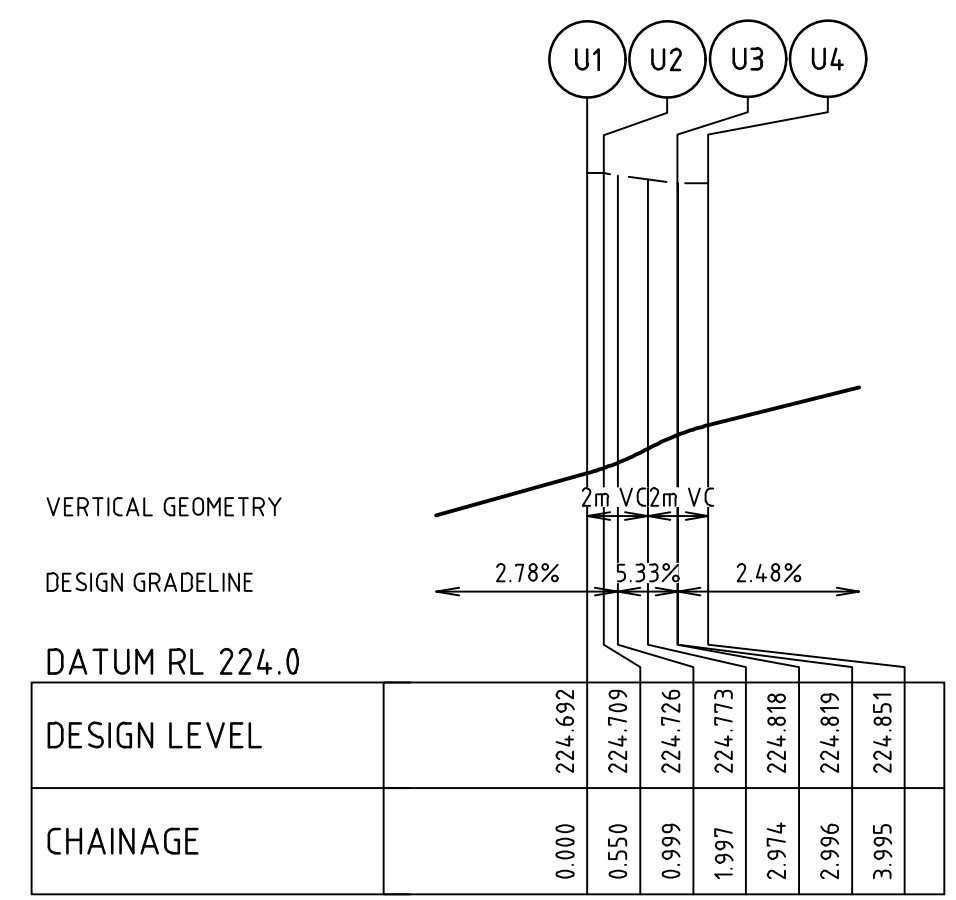
POINT NO	EASTING	NORTHING	RL
M1	301985.647	5835815.899	224.092
M2	301985.133	5835816.051	224.115
M3	301982.723	5835815.793	224.217
M4	301981.770	5835816.073	224.261
1/4	301979.620	5835818.649	224.299
1/2	301978.620	5835821.852	224.445
3/4	301978.921	5835825.194	224.451
M5	301980.479	5835828.166	224.385

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
M1-M2	0.700	0.550	0.536	0.053	-0.013
M3-M4	1.300	1.019	0.993	0.099	0.025
M4-M5	8.600	13.509	12.162	2.519	0.655



ALIGNMENT T



ALIGNMENT U

ALIGNMENT T

POINT NO	EASTING	NORTHING	RL
T1	301959.562	5835826.157	224.957
T2	301958.608	5835826.438	224.967
T3	301956.197	5835826.181	224.939
T4	301955.683	5835826.332	224.940

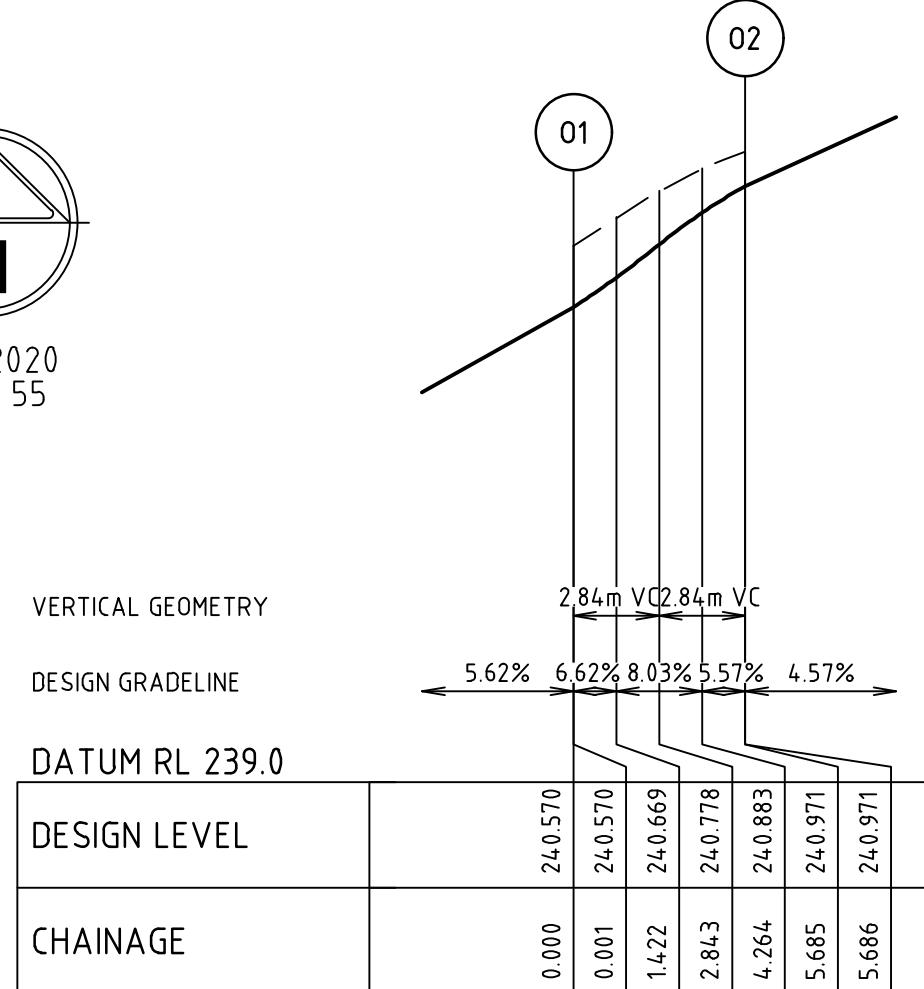
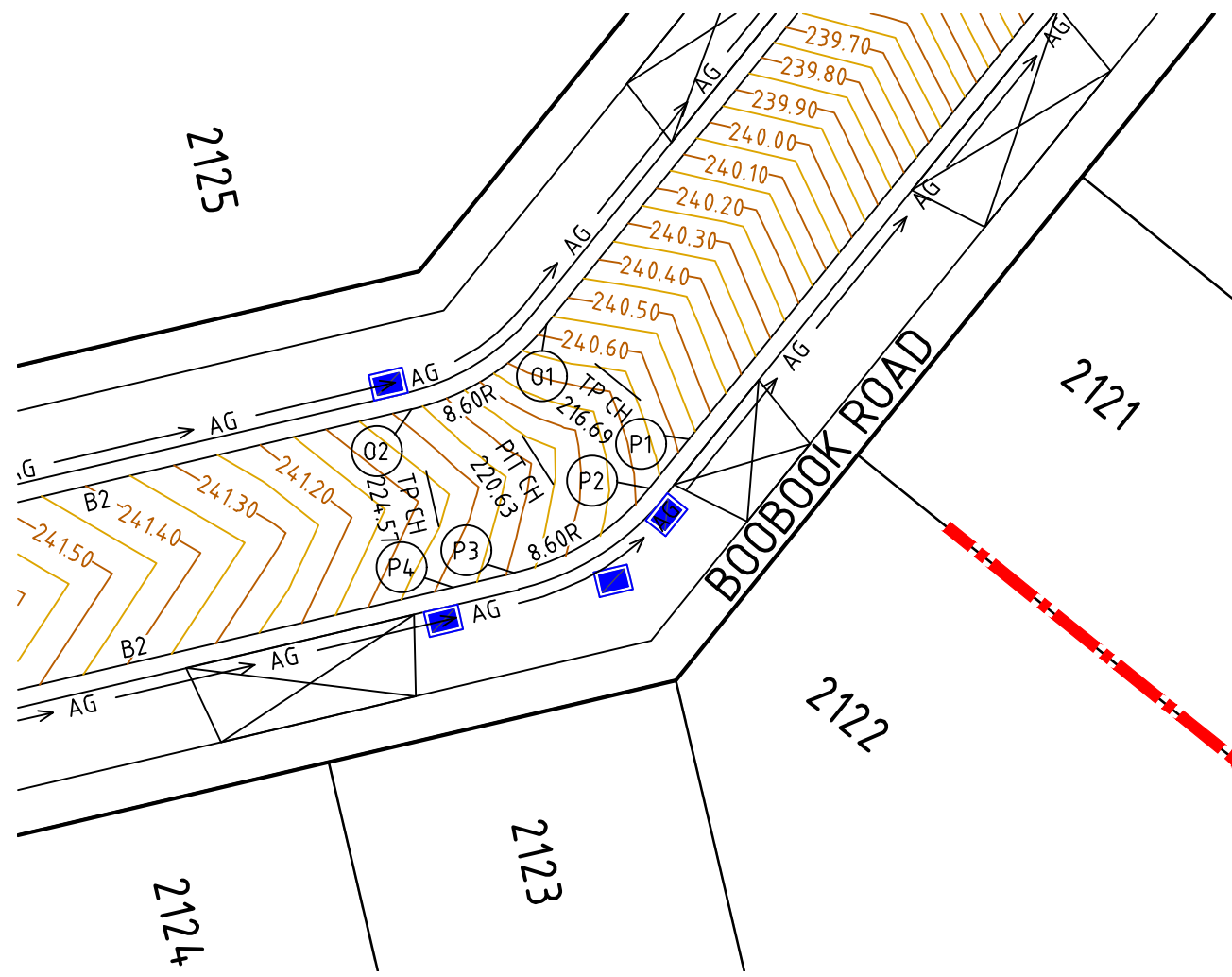
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
T1-T2	1.300	1.021	0.995	0.099	-0.025
T3-T4	0.700	0.550	0.536	0.053	0.013

ALIGNMENT U

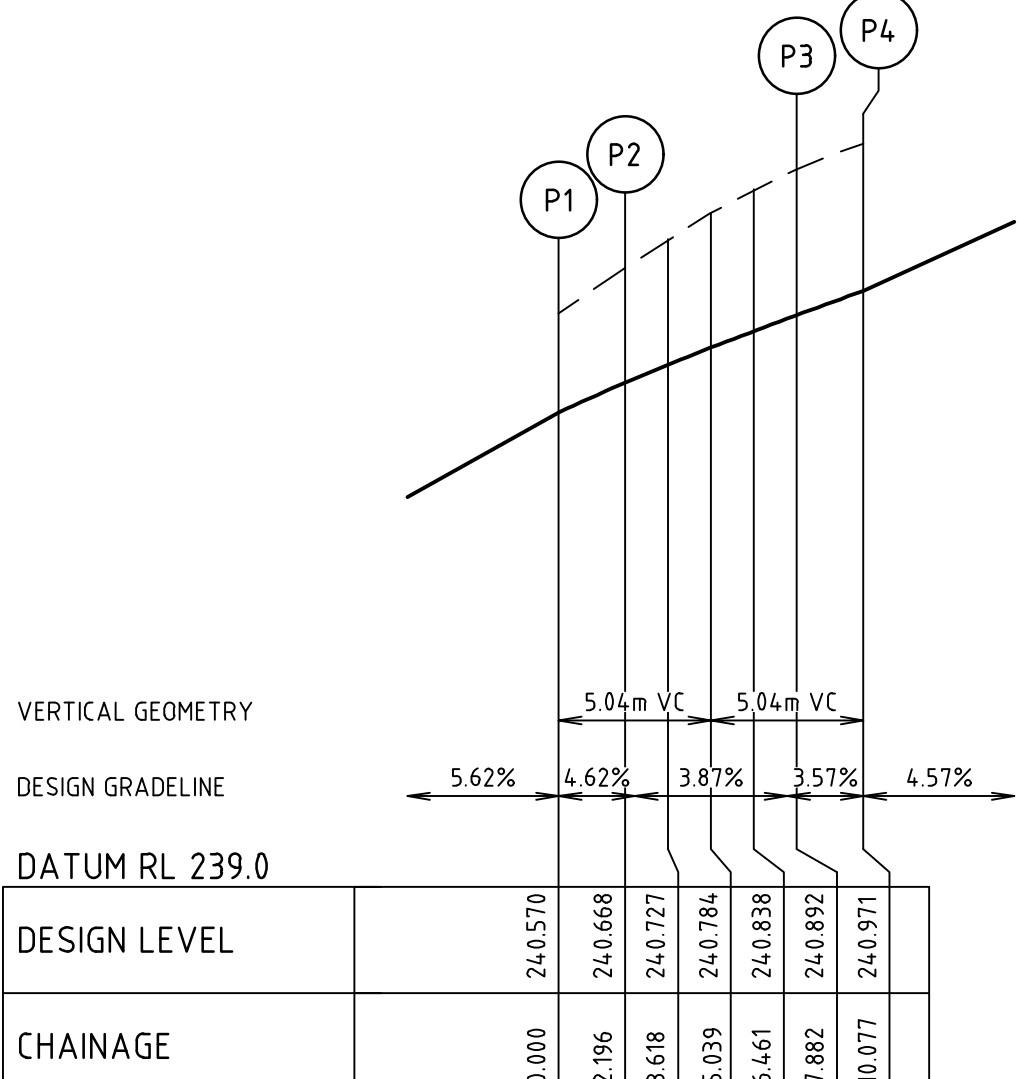
POINT NO	EASTING	NORTHING	RL
U1	301964.221	5835819.441	224.692
U2	301963.965	5835819.912	224.709
U3	301963.707	5835822.322	224.818
U4	301963.231	5835823.196	224.851

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
U1-U2	0.700	0.550	0.536	0.053	0.013
U3-U4	1.300	1.021	0.995	0.099	-0.025



ALIGNMENT O



ALIGNMENT P

ALIGNMENT O

POINT NO	EASTING	NORTHING	RL
O1	301774.254	5835701.175	240.570
1/4	301773.274	5835700.148	240.669
1/2	301772.138	5835699.295	240.778
3/4	301770.878	5835698.642	240.883
O2	301769.527	5835698.204	240.971

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
O1-O2	8.600	5.686	5.583	0.466	0.117

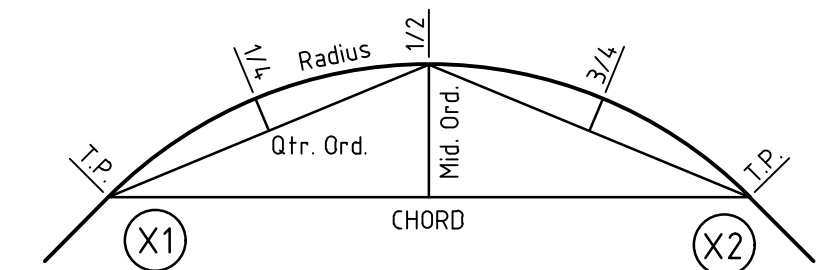
  

ALIGNMENT P

POINT NO	EASTING	NORTHING	RL
P1	301779.234	5835697.156	240.570
P2	301777.855	5835695.447	240.668
1/4	301776.875	5835694.419	240.727
1/2	301775.739	5835693.567	240.784
3/4	301774.479	5835692.913	240.838
P3	301773.128	5835692.475	240.892
P4	301770.990	5835691.973	240.971

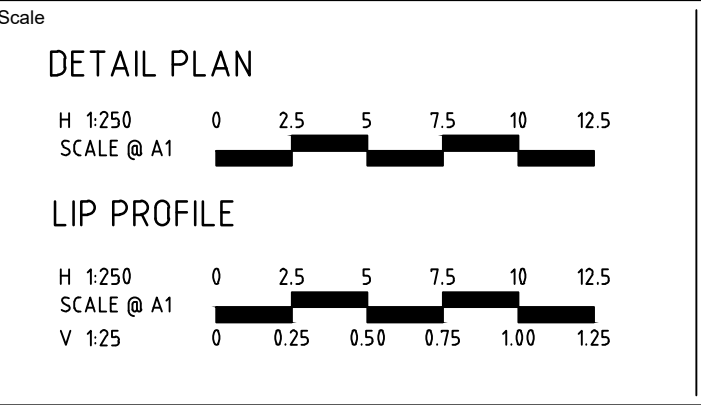
  

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
P2-P3	8.600	5.686	5.583	0.466	0.117



KERB RETURN SETOUT DETAIL

Rev	Amendments	Approved	Date
B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23



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**villawood properties**  
Communities Designed for Living

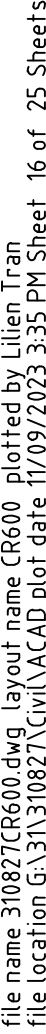
**Redstone.**  
Your world awaits

Designed L. TRAN	Checked W. ONG
Authorised M. RANJANAN	Date 26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
INTERSECTION DETAILS - SHEET 2**  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

**PRELIMINARY** Drg No **310827CR501** Rev **B**



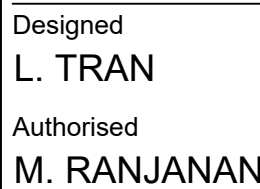
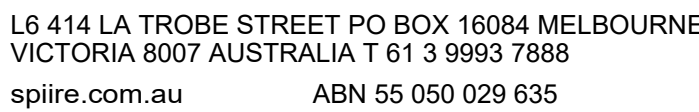
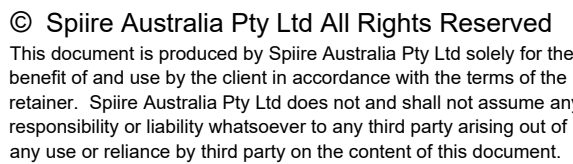


Scale

H 1:500  
SCALE @ A1  
V 1:50

0 0.5 1 1.5 2 2.5

0 5 10 15 20 25

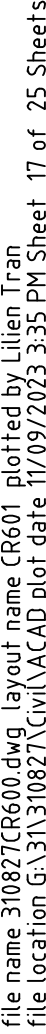


Checked  
W. ONG  
Date  
26/07/23

**PRELIMINARY** Drg No **310827CR600**

Rev  
E

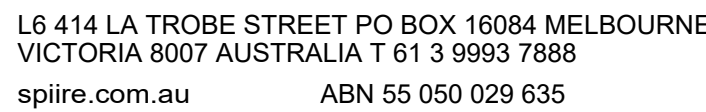
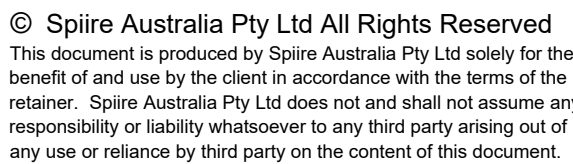




Scale

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SCALE @ A1  
V 150

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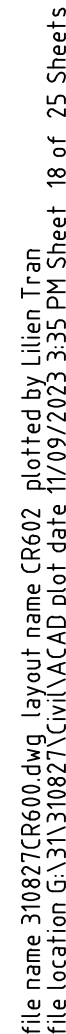


Checked  
W. ONG  
Date  
26/07/23

**PRELIMINARY** Drg No **310827CR601**

Rev

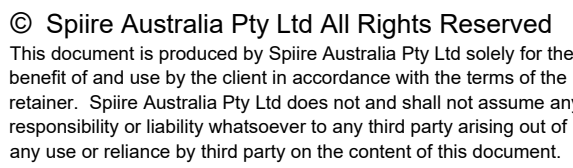




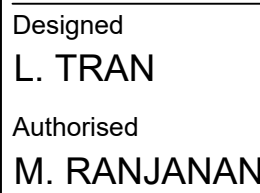
Scale

H 1500  
SCALE @ A1  
V 150

0 0.5 1 1.5 2 2.5



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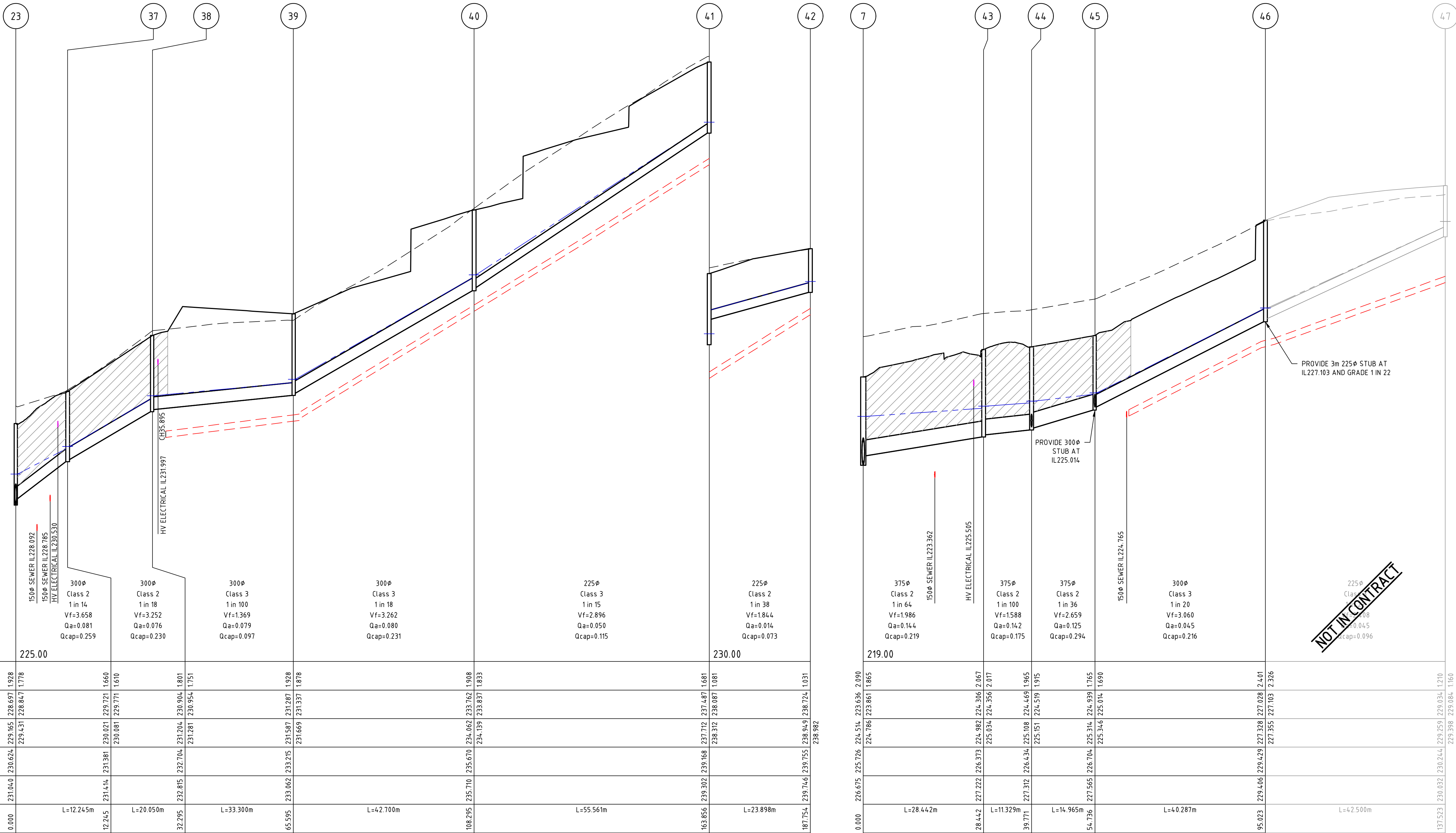
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W. ONG  
Date  
26/07/23

**PRELIMINARY** **310827CR602**

Rev  
B

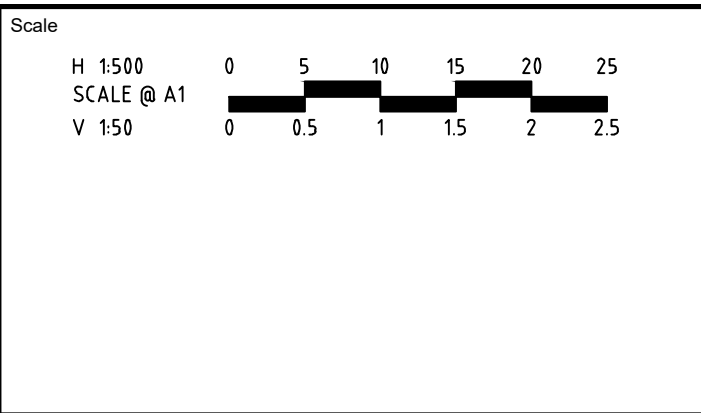


CRUSHED ROCK BACKFILL



file name: 310827CR603.dwg, layout name: CR603, plotted by: Lillian Tran, plot date: 10/07/2023 3:35 PM, sheet 18 of 25 sheets

Rev	B	ISSUED TO COUNCIL	M.R	26/07/23
Rev	A	ISSUED FOR TENDER	M.R	29/06/23
Rev		Amendments	Approved	Date



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**villawood properties**  
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Authorised  
M. RANJANAN

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Date  
26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
DRAINAGE LONG SECTIONS - SHEET 4**  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

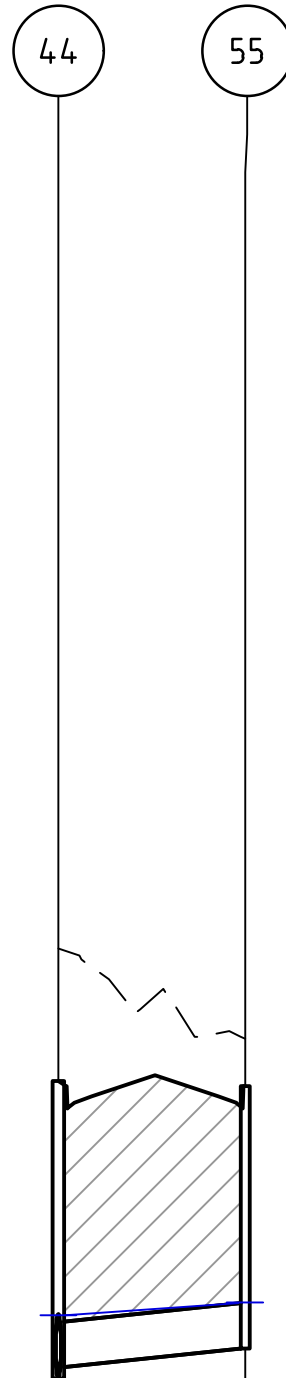
**PRELIMINARY**

Drg No  
310827CR603

Rev  
B



 CRUSHED ROCK BACKFILL



Pipe Diameter 300Ø  
Pipe Class Class 2  
Pipe Grade 1 in 100  
Velocity (m/s) Vf=1.369  
Pipe Flow (m3/s) Qa=0.008  
Pipe Capacity (m3/s) Qcap=0.097

DATUM	218.00
DEPTH TO INVERT	1.965 1.890
DESIGN INVERT LEVEL	224.469 224.544
HYDRAULIC GRADE LEVEL	224.844 224.887
FINISHED SURFACE LEVEL	224.434 224.404
EXISTING SURFACE LEVEL	227.312 226.715
CHAINAGE	0.000 L=12.350m 12.350

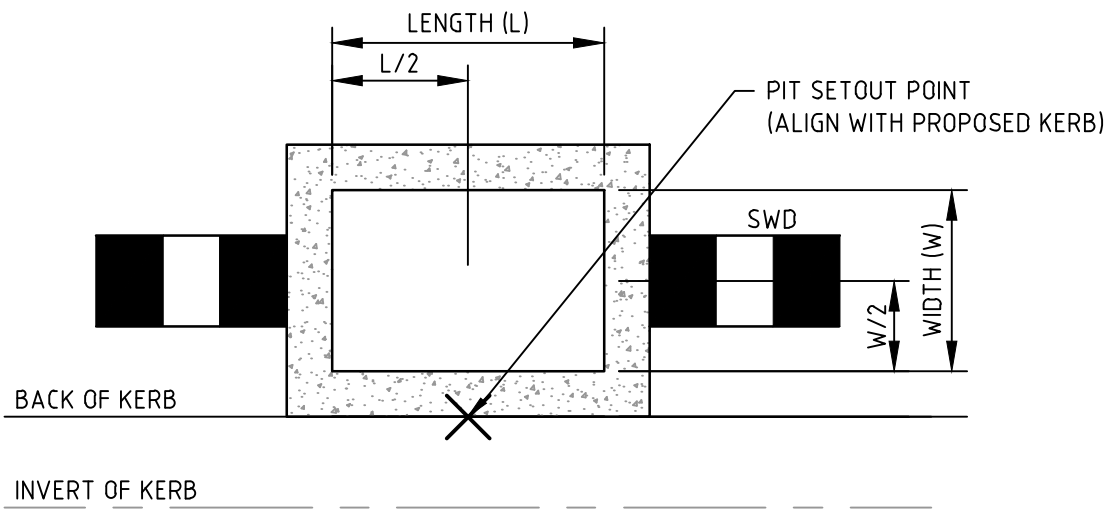
### DRAINAGE PIT SCHEDULE

PIT		INTERNAL		INLET		OUTLET		PIT		REMARKS
NAME	TYPE	WIDTH	LENGTH	DIA	INV LEVEL	DIA	INV LEVEL	FS LEVEL	DEPTH	
EP1	ENDPIPE					825	212.563	214.964	2.402	CONNECT TO EXISTING ENDPIPE
1	JUNCTION PIT	1200	1350	825	212.861	825	212.811	215.214	2.404	REFER TO EDCM STD FIG 607. TO BE CONVERTED TO GRATED SIDE ENTRY PIT IN FUTURE STAGE
2	JUNCTION PIT	1200	1350	825	213.371	825	213.321	215.614	2.293	REFER TO EDCM STD FIG 607.
3	JUNCTION PIT	900	1200	750	215.864	825	215.789	217.932	2.143	REFER TO EDCM STD FIG 607. TO BE CONVERTED TO GRATED SIDE ENTRY PIT IN FUTURE STAGE
4	JUNCTION PIT	900	1200	750	218.231	750	218.156	220.292	2.136	REFER TO EDCM STD FIG 607. TO BE CONVERTED TO GRATED SIDE ENTRY PIT IN FUTURE STAGE
5	JUNCTION PIT	900	1050	675	220.812	750	220.737	222.873	2.136	REFER TO EDCM STD FIG 607. TO BE CONVERTED TO GRATED SIDE ENTRY PIT IN FUTURE STAGE
6	GRATED SIDE ENTRY PIT	900	1200	600	222.293	675	223.243	225.436	2.192	REFER TO EDCM STD FIG 601 & 607
7	GRATED SIDE ENTRY PIT	900	1200	600	223.686	600	223.636	225.726	2.090	REFER TO EDCM STD FIG 601 & 607
				375	223.861					
8	GRATED SIDE ENTRY PIT	900	1200	600	224.558	600	224.508	226.731	2.223	REFER TO EDCM STD FIG 601 & 607
9	GRATED SIDE ENTRY PIT	900	900	525	224.739	600	224.664	226.730	2.066	REFER TO EDCM STD FIG 601 & 607
10	JUNCTION PIT	900	900	525	226.607	525	226.557	228.642	2.085	REFER TO EDCM STD FIG 607
				450	226.632					
11	GRATED SIDE ENTRY PIT	900	900	375	226.800	525	226.650	228.642	1.992	REFER TO EDCM STD FIG 601 & 607
12	GRATED SIDE ENTRY PIT	600	900	300	232.659	375	232.584	234.465	1.881	REFER TO EDCM STD FIG 601 & 605
				300	232.659					
13	JUNCTION PIT	600	900	300	238.953	300	238.903	240.819	1.915	REFER TO EDCM STD FIG 605. PROVIDE HEAVY DUTY COVER.
				300	238.953					
14	JUNCTION PIT	600	900	300	239.194	300	239.144	240.951	1.806	REFER TO EDCM STD FIG 605
15	GRATED SIDE ENTRY PIT	600	900	300	239.275	300	239.225	241.143	1.918	REFER TO EDCM STD FIG 601 & 605. PROVIDE HEAVY DUTY COVER.
				300	239.275					
EP2	ENDPIPE					300	239.665	241.767	2.102	BLANK OFF ENDPIPE WITH TIMBER
17	GRATED SIDE ENTRY PIT	600	900			300	239.360	241.122	1.762	REFER TO EDCM STD FIG 601 & 605
18	JUNCTION PIT	900	900	300	241.321	300	241.271	243.764	2.493	REFER TO EDCM STD FIG 607
EP3	ENDPIPE					300	241.779	244.563	2.784	BLANK OFF ENDPIPE WITH TIMBER
20	GRATED SIDE ENTRY PIT	600	900			300	232.702	234.465	1.763	REFER TO EDCM STD FIG 601 & 605
21	GRATED SIDE ENTRY PIT	1050	900	450	227.879	450	227.829	229.747	1.919	REFER TO EDCM STD FIG 601 & 607
22	GRATED SIDE ENTRY PIT	1050	900	450	228.612	450	228.562	230.580	2.018	REFER TO EDCM STD FIG 601 & 607
23	GRATED SIDE ENTRY PIT	750	900	450	228.747	450	228.697	230.624	1.928	REFER TO EDCM STD FIG 601 & 607
				300	228.847					
EP4	ENDPIPE					450	228.855	231.030	2.175	BLANK OFF ENDPIPE WITH TIMBER
37	GRATED SIDE ENTRY PIT	750	900	300	229.771	300	229.721	231.381	1.660	REFER TO EDCM STD FIG 601 & 607
38	JUNCTION PIT	600	900	300	230.954	300	230.904	232.704	1.801	REFER TO EDCM STD FIG 605
39	JUNCTION PIT	600	900	300	231.337	300	231.287	233.215	1.928	REFER TO EDCM STD FIG 605
40	JUNCTION PIT	600	900	225	233.837	300	233.762	235.670	1.908	REFER TO EDCM STD FIG 605
41	JUNCTION PIT	600	900	225	238.087	225	237.487	239.168	1.681	REFER TO EDCM STD FIG 605
42	JUNCTION PIT	600	900			225	238.724	239.755	1.031	REFER TO EDCM STD FIG 605
43	GRATED SIDE ENTRY PIT	900	900	375	224.356	375	224.306	226.373	2.067	REFER TO EDCM STD FIG 601 & 607
44	GRATED SIDE ENTRY PIT	750	900	375	224.519	375	224.469	226.434	1.965	REFER TO EDCM STD FIG 601 & 607
				300	224.544					
45	JUNCTION PIT	600	900	300	225.014	375	224.939	226.704	1.765	REFER TO EDCM STD FIG 605
				300	225.014					
46	JUNCTION PIT	900	900	225	227.103	300	227.028	229.429	2.401	REFER TO EDCM STD FIG 607
55	GRATED SIDE ENTRY PIT	600	900			300	224.668	226.404	1.737	REFER TO EDCM STD FIG 601 & 605
56	GRATED SIDE ENTRY PIT	900	1200	600	222.756	600	222.706	225.075	2.370	REFER TO EDCM STD FIG 601 & 607

NOTE: PROVIDE DEFLECTION IN DRAINAGE PIT FLOOR WHEN DRAINAGE PIPE DEFLECTION THROUGH PIT IS BETWEEN 50° TO 90° FOR PIPE DIAMETERS LESS THAN 675mm.

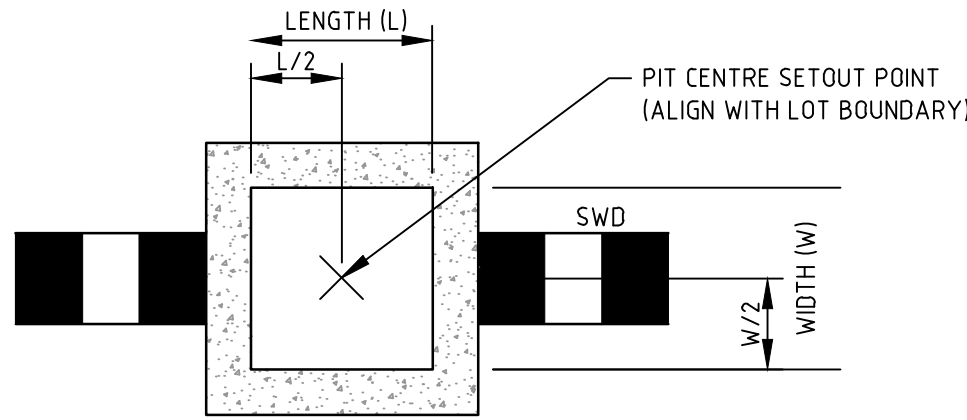
### DRAINAGE PIPES AND PITS IN FUTURE STAGES NOTES

- PITS LIDS AND CRUSHED ROCK BACKFILL ARE TO BE CONSTRUCTED TO EXISTING OR 300mm BELOW FINISHED SURFACE LEVEL, WHICHEVER LEVEL IS LOWER.
- ADDITIONAL FILL REQUIRED ON DRAINAGE PIPES ABOVE CRUSHED ROCK LEVEL TO MATCH BACK INTO EXISTING SURFACE LEVEL OR PROPOSED FINISHED SURFACE LEVEL TO BE ORDINARY FILL COMPACTED TO HUME CITY COUNCIL STANDARDS & SPECIFICATIONS.
- PITS LIDS CONSTRUCTED BELOW EXISTING SURFACE LEVEL ARE TO HAVE BATTERS GRADED AT 1 IN 6 BACK TO EXISTING SURFACE LEVEL WITH SILT PREVENTION MEASURES IN PLACE TO MINIMIZE SILT INFILTRATION INTO DRAINAGE NETWORK.
- DRAINAGE PIT LEVELS SHOWN INDICATE ULTIMATE DRAINAGE DESIGN.



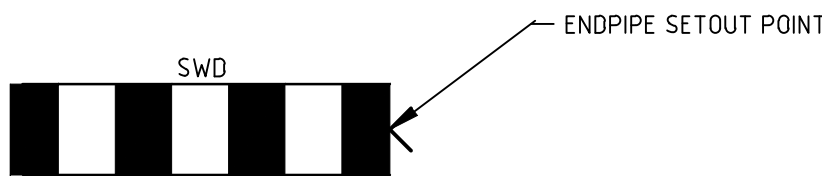
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SIDE ENTRY PIT  
NOT TO SCALE



### TYPICAL DRAINAGE PIT SETOUT POINT 'B'

JUNCTION PIT/ EASEMENT PIT  
NOT TO SCALE



### TYPICAL DRAINAGE SETOUT POINT 'C'

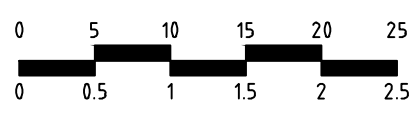
ENDPIPE  
NOT TO SCALE

### PIT SETOUT CO-ORDINATES

NAME	POINT	EASTING	NORTHING
1	A	302206.445	5835622.603
2	A	302204.525	5835640.597
3	A	302146.940	5835687.076
4	A	302084.887	5835737.156
5	A	302018.625	5835790.634
14	B	301776.592	5835692.210
43	A	301903.541	5835863.962
45	A	301884.029	5835882.812
46	B	301858.727	5835851.461
EP1	C	302212.670	5835617.579
EP2	C	301751.531	5835686.326
EP3	C	301760.104	5835654.544
EP4	C	301837.649	5835823.752

file name: 310827CR604.dwg, layout name: CR604, plotted by: Lillian Tran, file location: G:\310827\310827\_VILLAWOOD\A4\A4.dwg, plot date: 11/09/2023 3:35 PM, Sheet 20 of 25 Sheets

B	ISSUED TO COUNCIL		M.R	26/07/23	
A	ISSUED FOR TENDER		M.R	29/06/23	
Rev	Amendments		Approved	Date	

Scale	
H 1500 SCALE @ A1 V 150	



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Designed  
L. TRAN

Authorised  
M. RANJANAN

Checked  
W. ONG

Date  
26/07/23

REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
DRAINAGE LONG SECTIONS - SHEET 5  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

PRELIMINARY

Drg No  
310827CR604

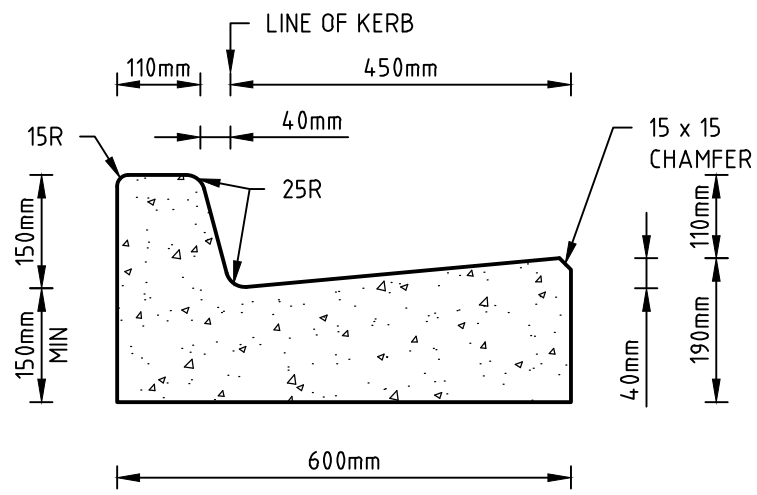
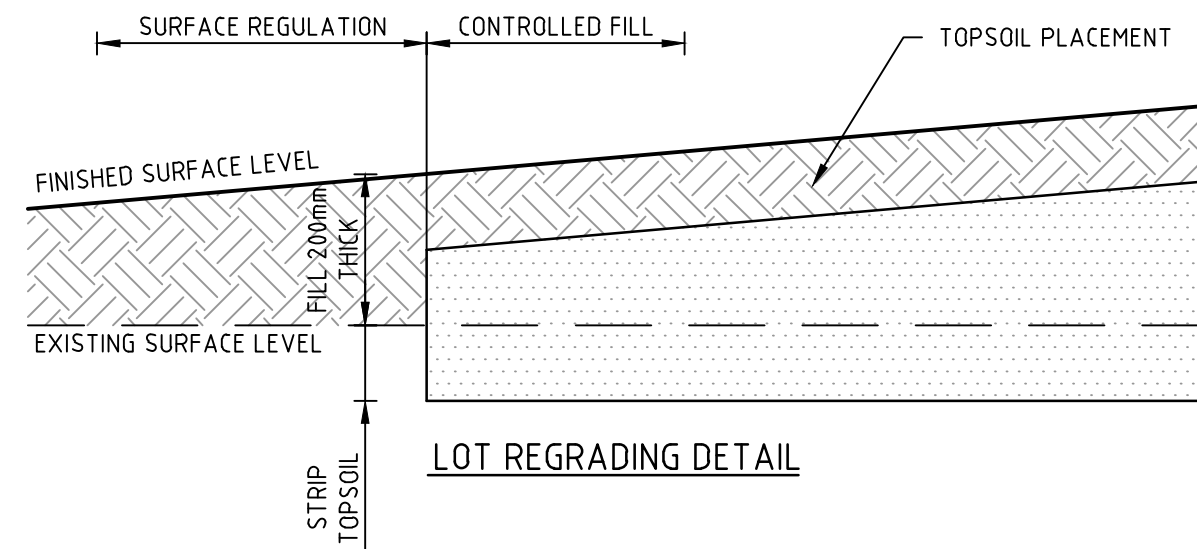
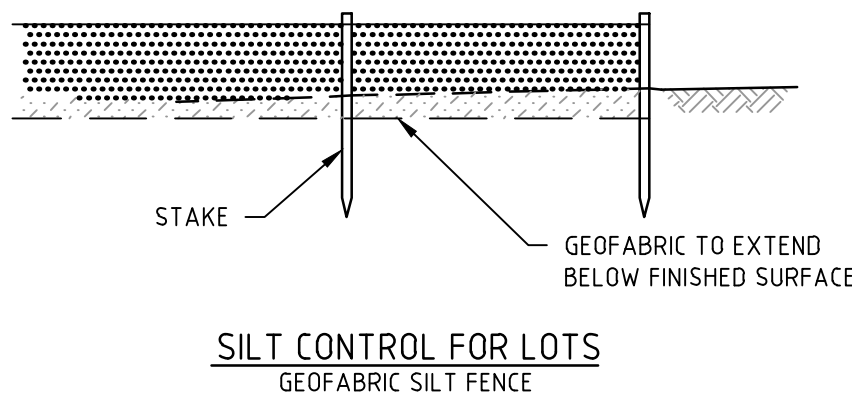
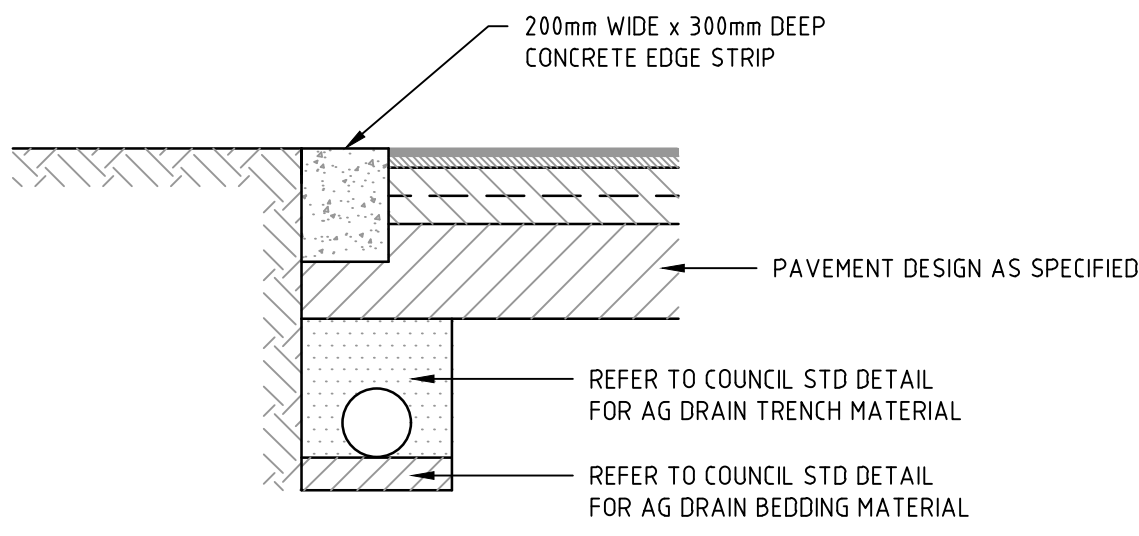
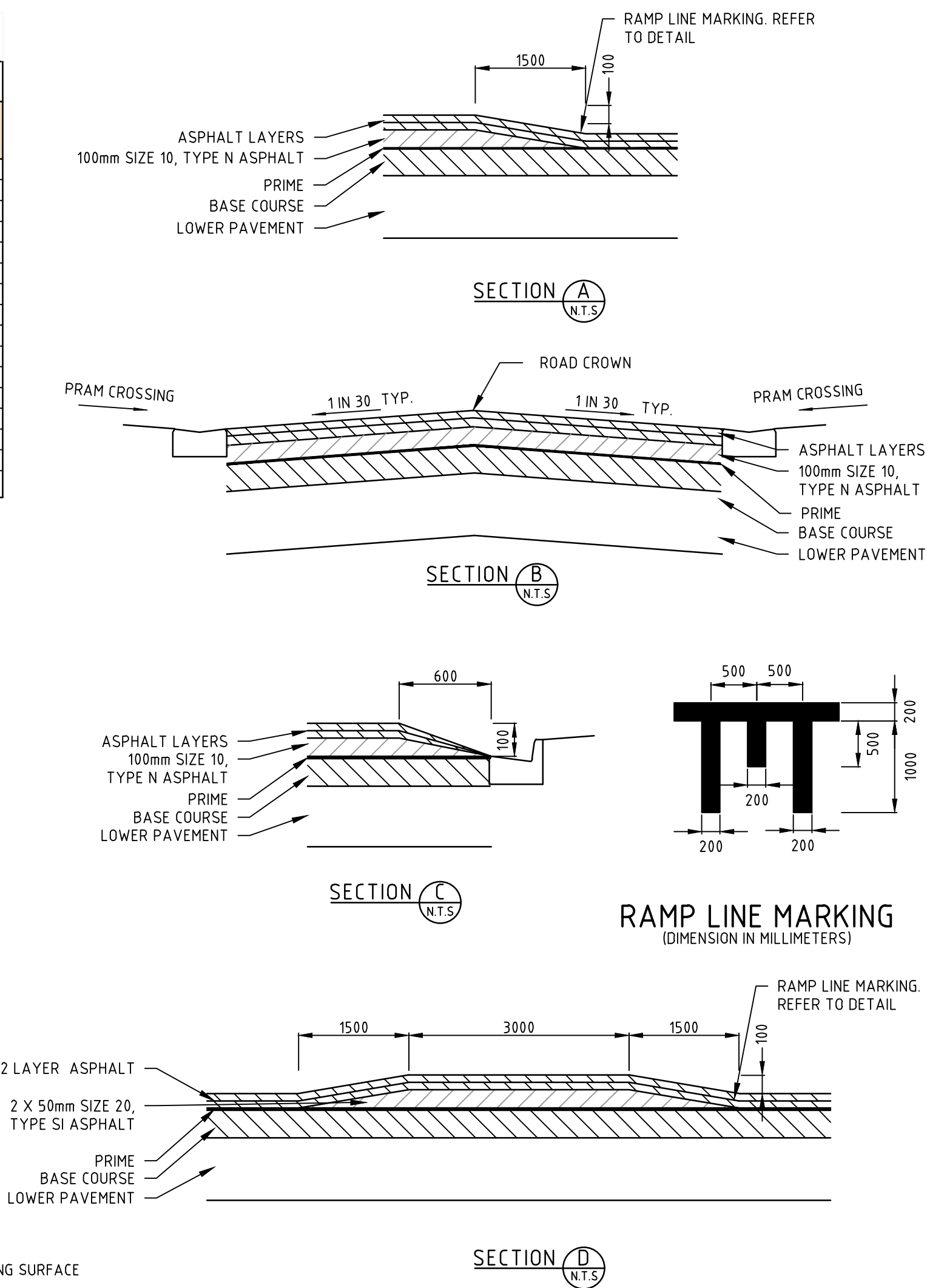
Rev  
B



PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)		
		TYPE A	TYPE B	TYPE C
ASPHALT WEARING COURSE	SIZE 10 TYPE N CLASS 320 BINDER	30		
	SIZE 14 TYPE N CLASS 320 BINDER		40	
	SIZE 14 TYPE H CLASS 320 BINDER			40
ASPHALT INTERMEDIATE COURSE	SIZE 20 TYPE SI CLASS 320 BINDER			75
ASPHALT BASE COURSE	SIZE 10 TYPE N CLASS 320 BINDER	30		
	SIZE 14 TYPE HP CLASS A10E BINDER		40	
	SIZE 20 TYPE SF CLASS 320 BINDER			75
	SIZE 10 SAMI SEAL CLASS S18RF	10	10	
	BITUMINOUS PRIMECOAT	Y	Y	N
BASE COURSE	VICROADS 20mm CLASS 2 FCR	130	110	
	VICROADS 20mm 3% CEMENT TREATED CLASS 3 FCR			110
UPPER SUBBASE COURSE	VICROADS 20mm CLASS 3 FCR	140	150	
LOWER SUBBASE COURSE	VICROADS 20mm CLASS 4 FCR	100	130	100
CAPPING LAYER	VICROADS TYPE A CAPPING LAYER (CBR OF ≥8%, SWELL <15%, K-5 x 10 <sup>9</sup> m/s)	150	150	150
CONSTRUCTION LAYER	VICROADS TYPE A CAPPING LAYER (CBR OF ≥8%, SWELL <15%, K-5 x 10 <sup>9</sup> m/s)	150	150	150
TOTAL PAVEMENT DEPTH		740	780	700

CONCRETE PAVEMENT NOTES:

- | ROAD NAME          | TYPE |
|--------------------|------|
| AKIN ROAD          | A    |
| SPINE BILL STREET  | A    |
| BOOBOOK ROAD       | B    |
| REDSTONE HILL ROAD | C    |



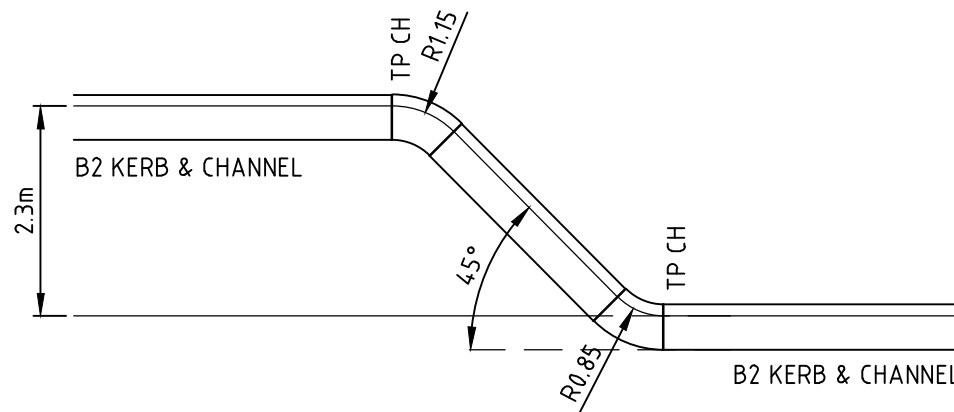
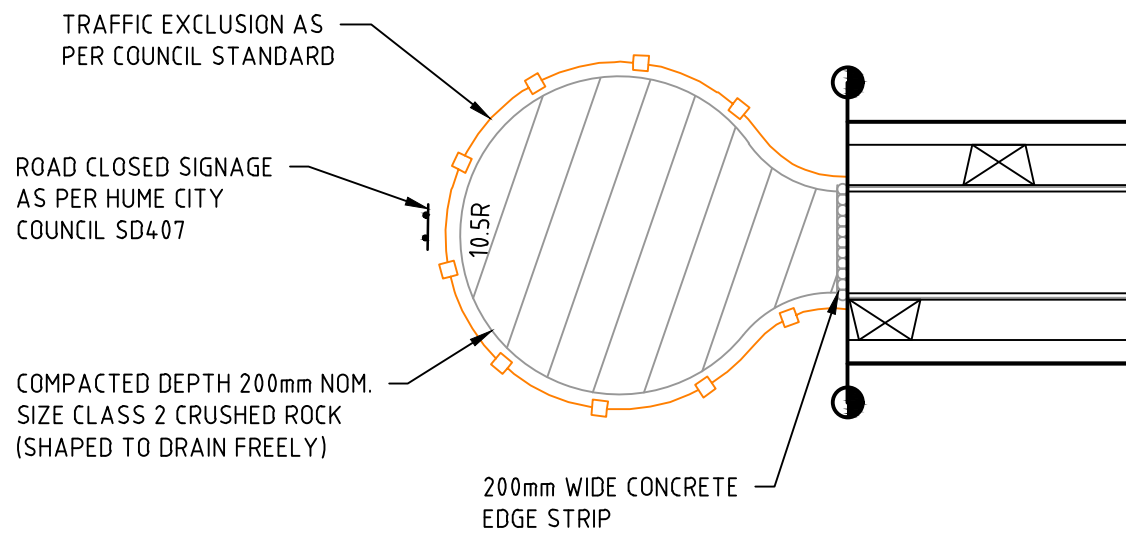
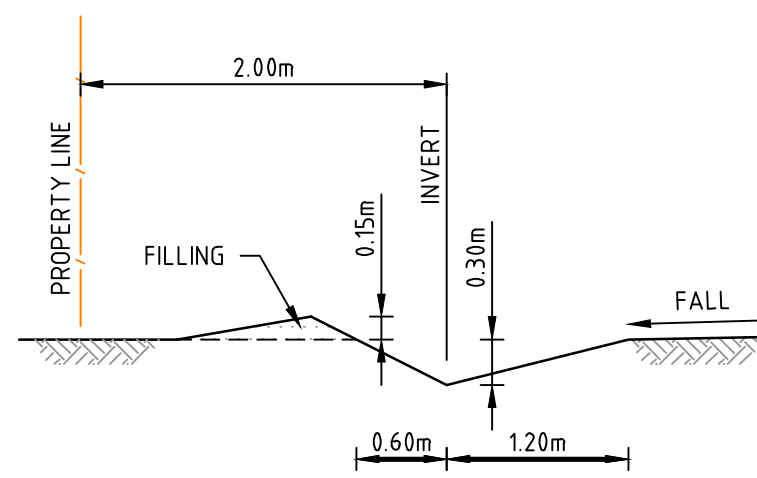
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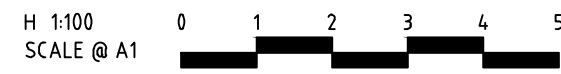
A COPY OF THE DOCUMENT WILL BE PROVIDED ON REQUEST.

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NOTE: ALL KERB & CHANNEL AS PER EDCM STD DRAWING EDCM 301



B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23
Rev	Amendments	Approved	Date



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Designed  
L. TRAN  
Authorised  
M. RANJANAN



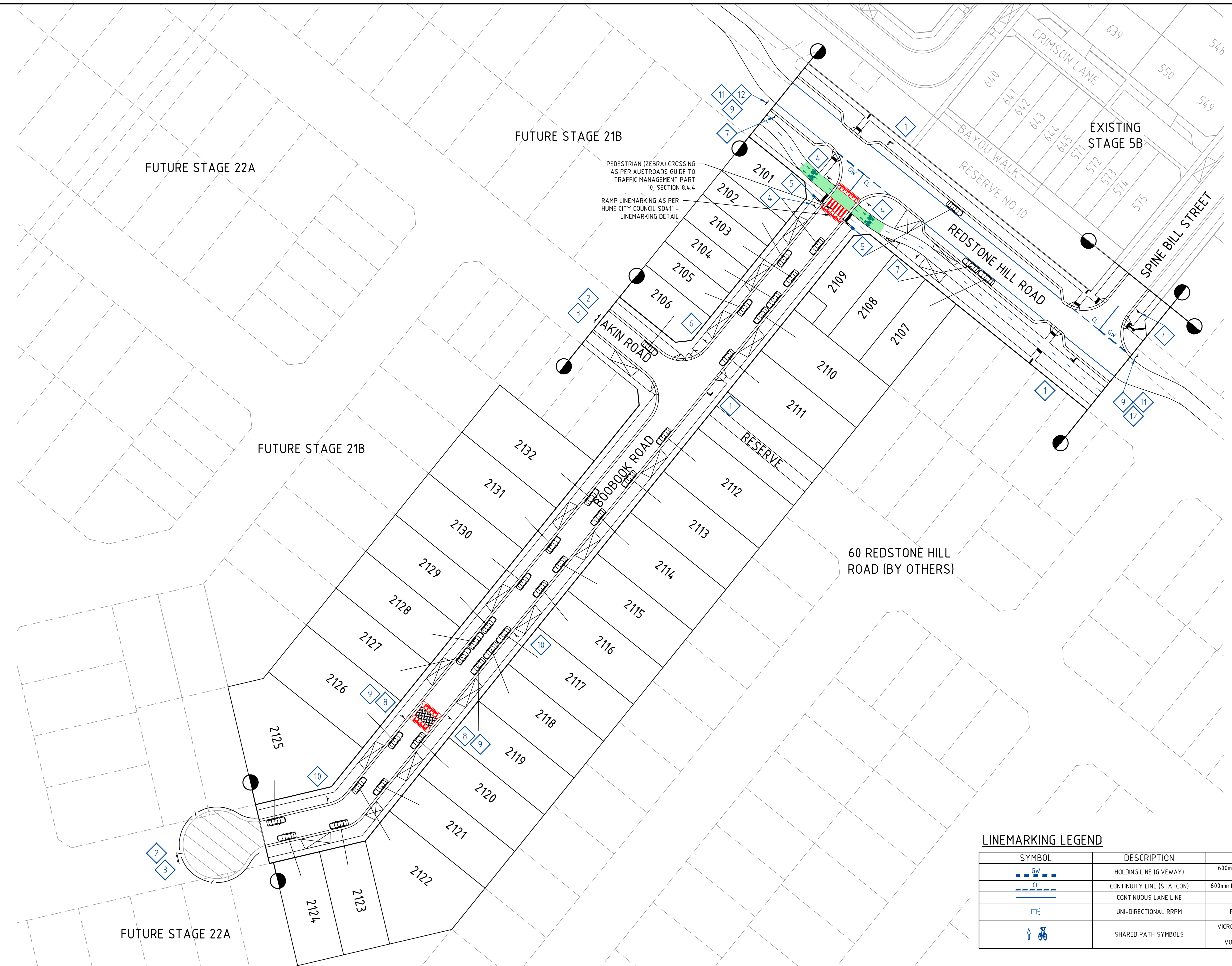
Checked  
W. ONG  
Date  
26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
PAVEMENT AND TYPICAL DETAILS  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES**

**PRELIMINARY** Drg No **310827CR700**

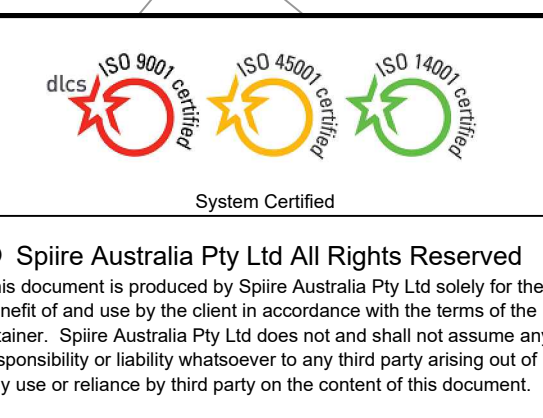
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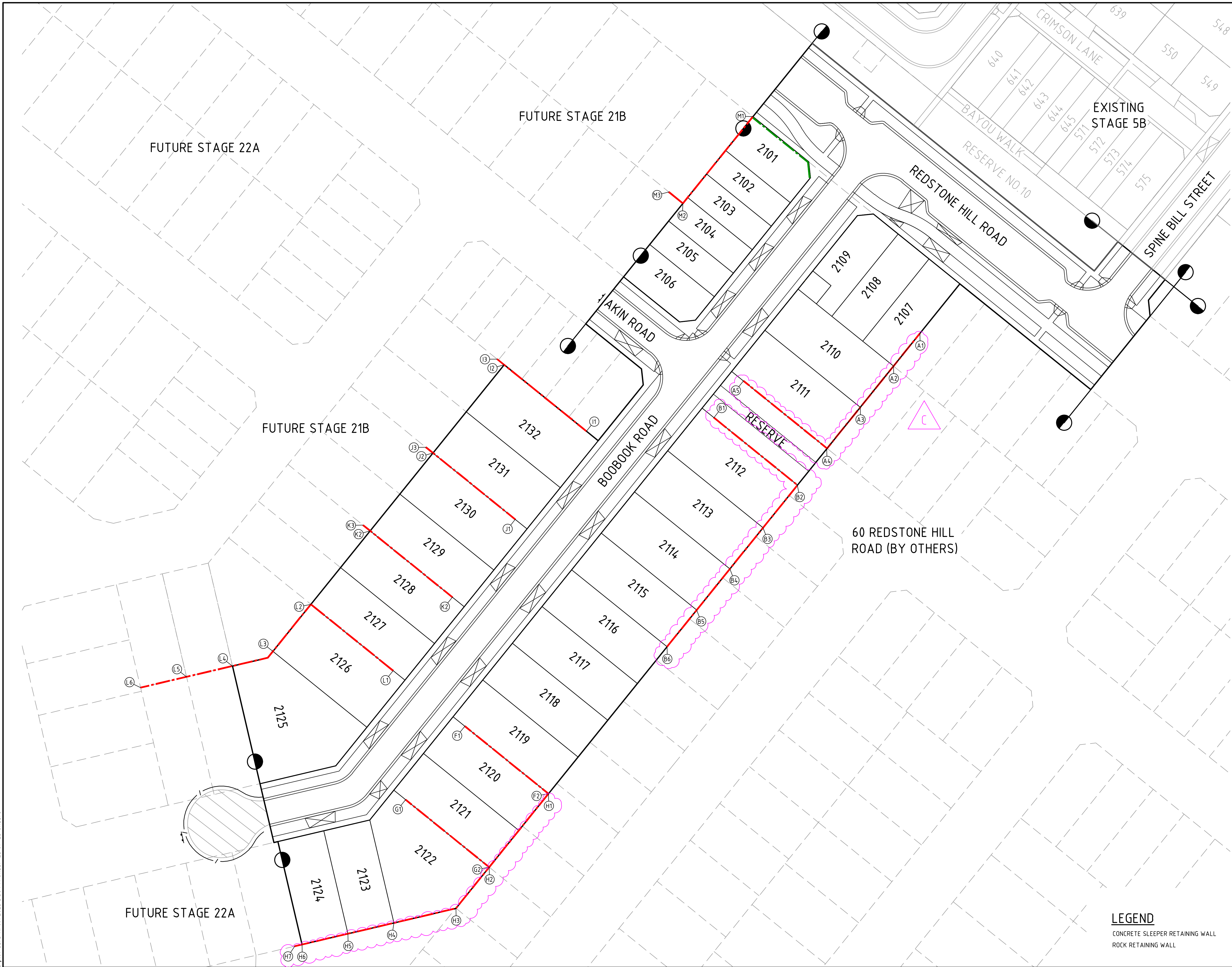
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9	W8-2
10	
11	W5-19
12	W1-4(L)

B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23
Rev	Amendments	Approved	Date



**PRELIMINARY**      Drg No      Rev  
**310827CR800**      **B**





NOTE:  
THE RETAINING WALL PLAN IS NOT PART OF THE  
SUBDIVISIONAL WORKS OR APPROVAL. IT IS SUBJECT TO  
SEPARATE APPROVAL, THIS SHEET IS SUPPLEMENTARY  
TO THE ENGINEERING DRAWINGS.

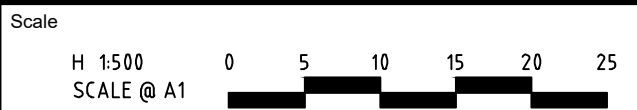
NOTE:  
FOR LEVELS OF RETAINING WALLS FRONTING STREETS,  
REFER TO RELEVANT ROAD/STREET LONGITUDINAL  
SECTIONS

LEGEND

CONCRETE SLEEPER RETAINING WALL  
ROCK RETAINING WALL



Rev	Amendments	Approved	Date
C	RETAINING WALLS A, B & H AMENDED	M.R	11/09/23
B	ISSUED TO COUNCIL	M.R	26/07/23
A	ISSUED FOR TENDER	M.R	29/06/23



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**villawood**  
properties  
Communities Designed for Living

**Redstone.**  
Your world awaits

Designed  
L. TRAN

Authorised  
M. RANJANAN

Checked  
W. ONG

Date  
26/07/23

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
RETAINING WALLS - SHEET 1**  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES

**PRELIMINARY**

Drg No  
**310827CR900**

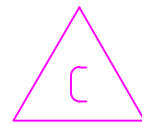
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file location: G:\310827\310827\310827.dwg plot date: 11/09/2023 3:36 PM Sheet 23 of 25 Sheets









Scale

H 1500  
SCALE @ A1  
V 150

Bar	Start	End
1	0	1
2	1	2
3	2	2.5



Villawood  
properties  
Communities Designed for Living

Designed  
L. TRAN  
Authorised  
M. RANJANAN

**REDSTONE ESTATE  
STAGE 21A  
ROAD AND DRAINAGE  
RETAINING WALLS - SHEET 3  
HUME CITY COUNCIL  
VILLAWOOD PROPERTIES**

**PRELIMINARY**      Drg No      Rev  
**310827CR902**      **C**