LOT 500 WIRRING ROAD
COWARAMUP STAGE 01A

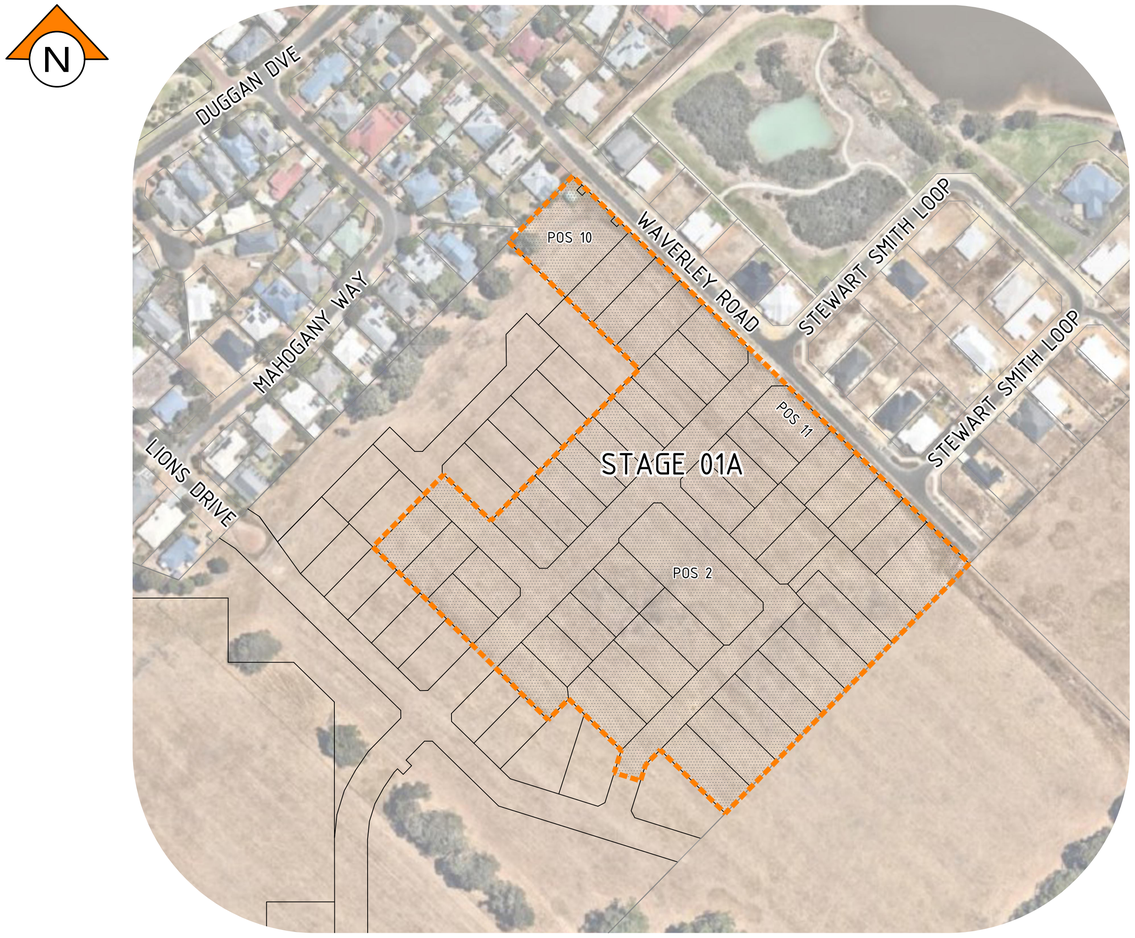
Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

DRAWING LIST

JDS242318.01A_C000	COVER SHEET
JDS242318.01A_C060	SEDIMENT CONTROL PLAN - SHEET 1
JDS242318.01A_C061	SEDIMENT CONTROL PLAN - SHEET 2
JDS242318.01A_C100	EARTHWORKS PLAN - SHEET 1
JDS242318.01A_C101	EARTHWORKS PLAN - SHEET 2
JDS242318.01A_C102	EARTHWORKS SECTIONS
JDS242318.01A_C110	RETAINING WALL PLAN AND PROFILES
JDS242318.01A_C201	SEWER RETICULATION PLAN - SHEET 1
JDS242318.01A_C202	SEWER RETICULATION PLAN - SHEET 2
JDS242318.01A_C300	ROADS AND TREATMENT PLAN - SHEET 1
JDS242318.01A_C301	ROADS AND TREATMENT PLAN - SHEET 2
JDS242318.01A_C302	BIN PAD PLAN AND DETAILS
JDS242318.01A_C303	BATTLE-AXE LOT SERVICING TYPICAL ALIGNMENT AND DETAILS
JDS242318.01A_C320	ROAD LONGITUDINAL SECTIONS - SHEET 1
JDS242318.01A_C321	ROAD LONGITUDINAL SECTIONS - SHEET 2
JDS242318.01A_C330	ROAD INTERSECTION DETAILS - SHEET 1
JDS242318.01A_C331	ROAD INTERSECTION DETAILS - SHEET 2
JDS242318.01A_C340	SIGNS AND LINE MARKING PLAN
JDS242318.01A_C350	DRAINAGE PLAN - SHEET 1
JDS242318.01A_C351	DRAINAGE PLAN - SHEET 2
JDS242318.01A_C360	DRAINAGE CATCHMENT AND BASIN PLAN - SHEET 1
JDS242318.01A_C361	DRAINAGE CATCHMENT AND BASIN PLAN - SHEET 2
JDS242318.01A_C370	DRAINAGE LONGITUDINAL SECTIONS - SHEET 1
JDS242318.01A_C371	DRAINAGE LONGITUDINAL SECTIONS - SHEET 2
JDS242318.01A_C372	DRAINAGE LONGITUDINAL SECTIONS - SHEET 3
JDS242318.01A_C373	DRAINAGE LONGITUDINAL SECTIONS - SHEET 4
JDS242318.01A_C374	DRAINAGE LONGITUDINAL SECTIONS - SHEET 5
JDS242318.01A_C375	DRAINAGE LONGITUDINAL SECTIONS - SHEET 6
JDS242318.01A_C380	SUBSOIL DRAINAGE PLAN - SHEET 1
JDS242318.01A_C381	SUBSOIL DRAINAGE PLAN - SHEET 2
JDS242318.01A_C400	WATER RETICULATION PLAN - SHEET 1
JDS242318.01A_C401	WATER RETICULATION PLAN - SHEET 2

DRAWING LIST

JDS242318.0_C900	STANDARD ROAD DETAILS - SHEET 1
JDS242318.0_C901	STANDARD ROAD DETAILS - SHEET 2
JDS242318.0_C910	STANDARD DRAINAGE DETAILS - SHEET 1
JDS242318.0_C911	STANDARD DRAINAGE DETAILS - SHEET 2
JDS242318.0_C912	STANDARD DRAINAGE DETAILS - SHEET 3
JDS242318.0_C950	STANDARD RETAINING WALL - SHEET 1 OF 2
JDS242318.0_C951	STANDARD RETAINING WALL - SHEET 2 OF 2
JDS242318.0_C952	STANDARD RETAINING WALL DETAILS DEEPEND FOOTINGS DETAILS

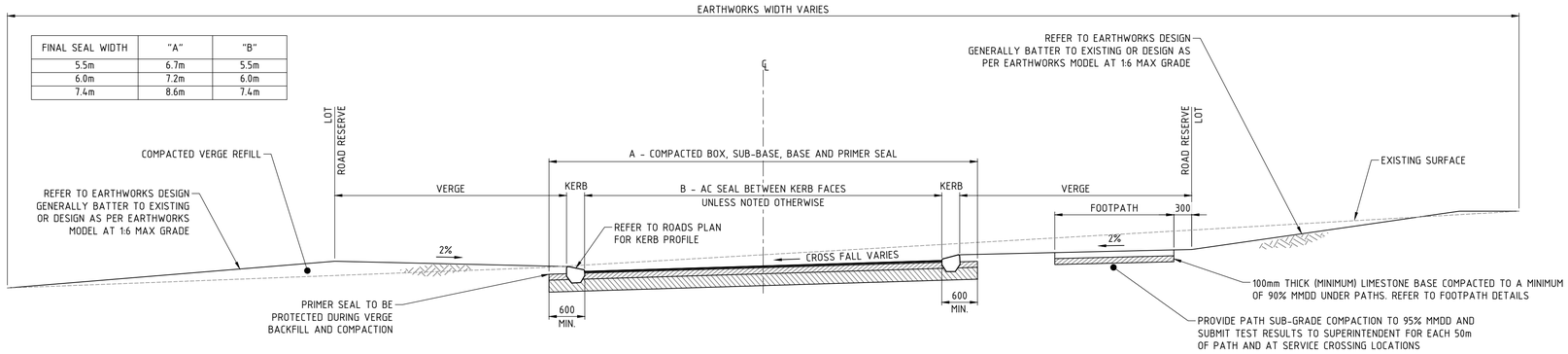


CONTRACT No. JDS242318.01A

WAPC No. 200656

JDSi
CONSULTING ENGINEERS

FINAL SEAL WIDTH	"A"	"B"
5.5m	6.7m	5.5m
6.0m	7.2m	6.0m
7.4m	8.6m	7.4m



PAVEMENT DESCRIPTION - ALL ROADS

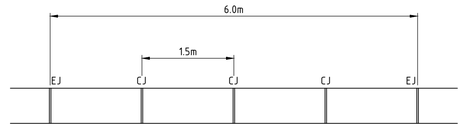
SUB-GRADE COMPACTED TO 95% MMDD TO A DEPTH OF 600mm BELOW BOX. ≤85% OPTIMUM MOISTURE CONTENT
240mm THICK CRUSHED LIMESTONE COMPACTED TO 96% MMDD. ≤85% OPTIMUM MOISTURE CONTENT. (SUB BASE COMPLYING WITH THE REQUIREMENTS OF MAIN ROADS SPECIFICATION 501).
110mm THICK LATERITIC GRAVEL COMPACTED TO 98% MMDD. ≤70% OPTIMUM MOISTURE CONTENT. (BASECOURSE COMPLYING WITH THE REQUIREMENTS OF MAIN ROADS SPECIFICATION 501).
30mm THICK ASPHALT (10mm AGGREGATE DENSE GRADED ASPHALT MANUFACTURED WITH A CLASS 170 BINDER, COMPLYING WITH MRWA SPECIFICATION 511) ON PRIMER SEAL

INDICATIVE ROAD CROSS SECTION

NOT TO SCALE

NOTES

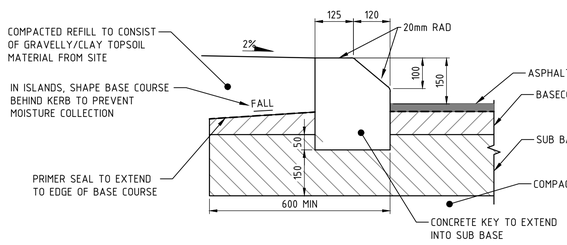
1. CONCRETE STRENGTH TO BE IN ACCORDANCE WITH STANDARD SPECIFICATION.
2. EXPANSION JOINTS TO BE PLACED AT 6m INTERVALS.
3. ALL KERBS TO BE INSITU CONCRETE Fc 25 MPa AT 28 DAYS.
4. REINFORCED FLUSH EDGE BEAMS NOT TO BE CUT
5. REINFORCEMENT TO BE STRUCTURAL GRADE STEEL COMPLYING WITH AS1302 GRADE 410Y



EXPANSION JOINT TO BE FORMED EVERY 6m USING BITUMEN IMPREGNATED CANITE (12mm THICK) FOR FULL DEPTH OF KERB TRENCH AND BOTH ENDS OF FLUSH KERB

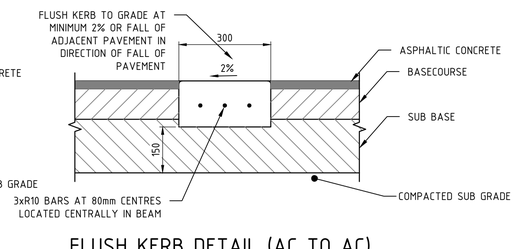
KERB ELEVATION DETAIL

NOT TO SCALE



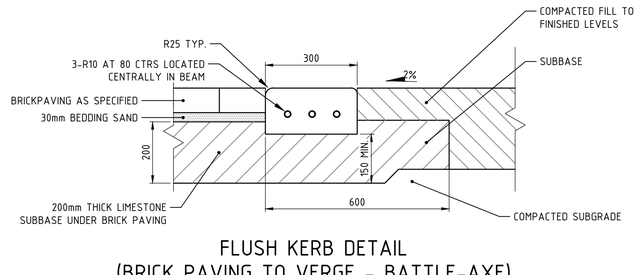
SEMI-MOUNTABLE KERB DETAIL

SCALE 1:10



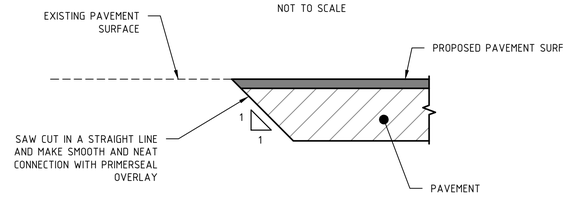
FLUSH KERB DETAIL (AC TO AC)

SCALE 1:10



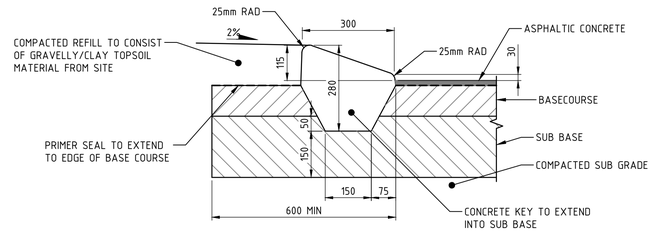
FLUSH KERB DETAIL
(BRICK PAVING TO VERGE - BATTLE-AXE)

SCALE 1:10



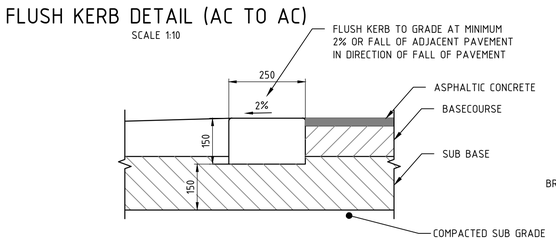
PAVEMENT INTERFACE DETAIL

NOT TO SCALE



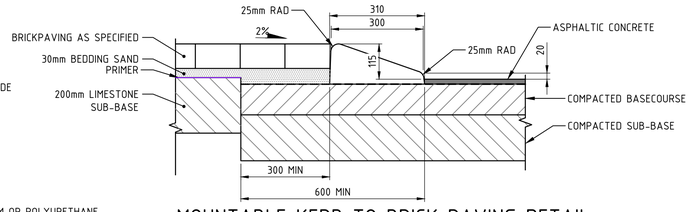
MOUNTABLE KERB DETAIL

SCALE 1:10



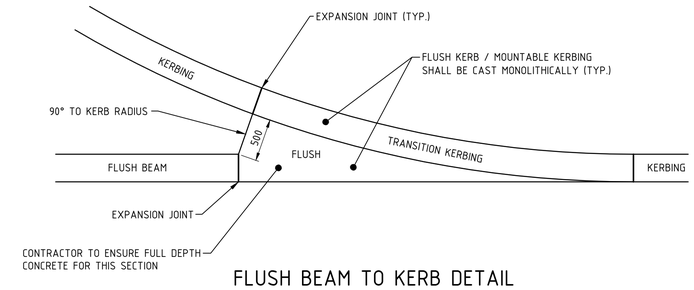
FLUSH KERB DETAIL (AC TO COMPACTED REFILL)

SCALE 1:10



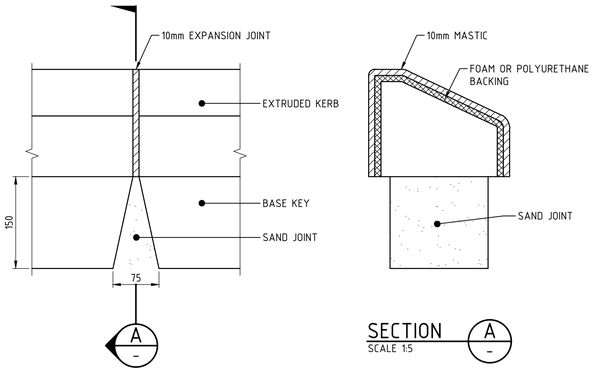
MOUNTABLE KERB TO BRICK PAVING DETAIL
(ROAD TO BATTLE-AXE)

SCALE 1:10



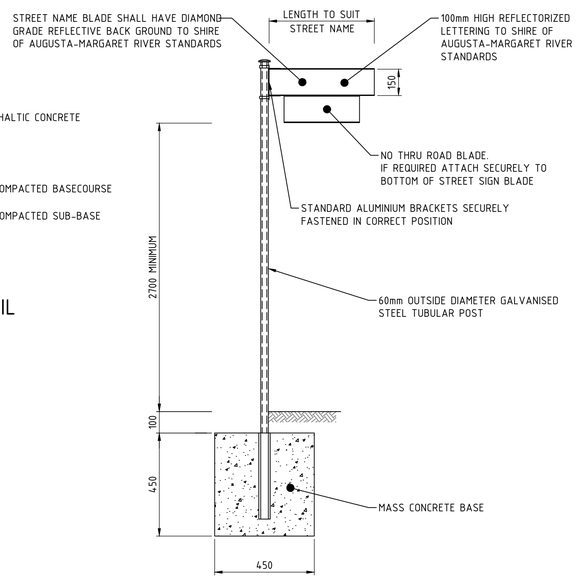
FLUSH BEAM TO KERB DETAIL

NOT TO SCALE



EXPANSION JOINT IN KERB
(SEMI MOUNTABLE KEYED KERB USED AS EXAMPLE)

SCALE 1:5



STANDARD STREET SIGN

NOT TO SCALE

SIGN TO BE LOCATED ON 2.7m ALIGNMENT UNLESS NOTED OTHERWISE.
LOCATION SHALL BE DETERMINED TO AVOID FUTURE DRIVEWAY LOCATIONS

0 0.1 0.2 0.4 0.6m
SCALE 1:10 @ ORIGINAL SHEET SIZE A1

0 0.05 0.1 0.2 0.3m
SCALE 1:5 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

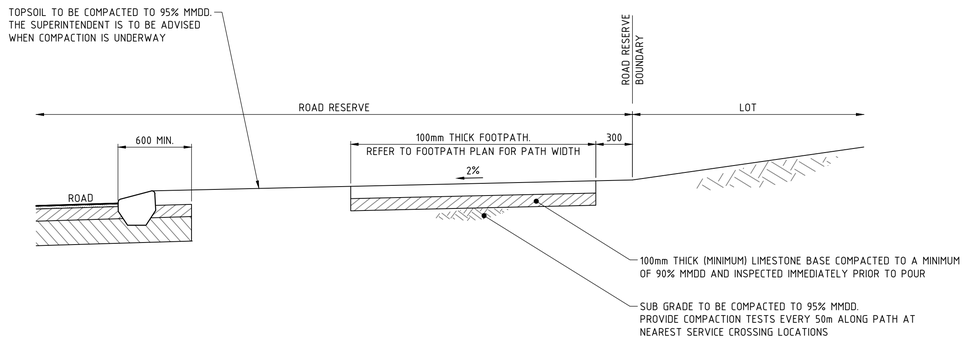
CLIENT: Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

DRAWING TITLE: STANDARD ROAD DETAILS SHEET 1

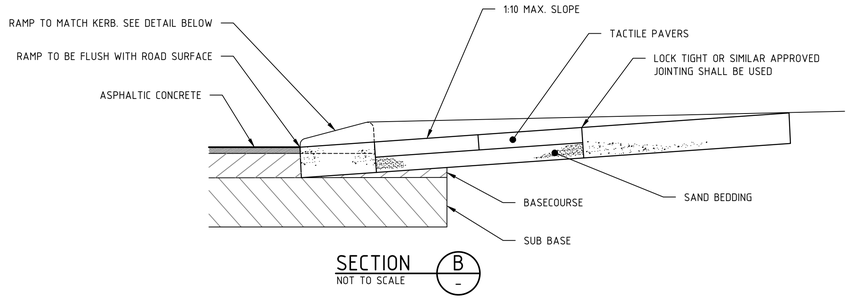
DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD		DATUM: N/A	CO-ORDS: N/A
JDSi PROJECT No.: JDS242318.0	DRAWING No.: C900		REVISION: B

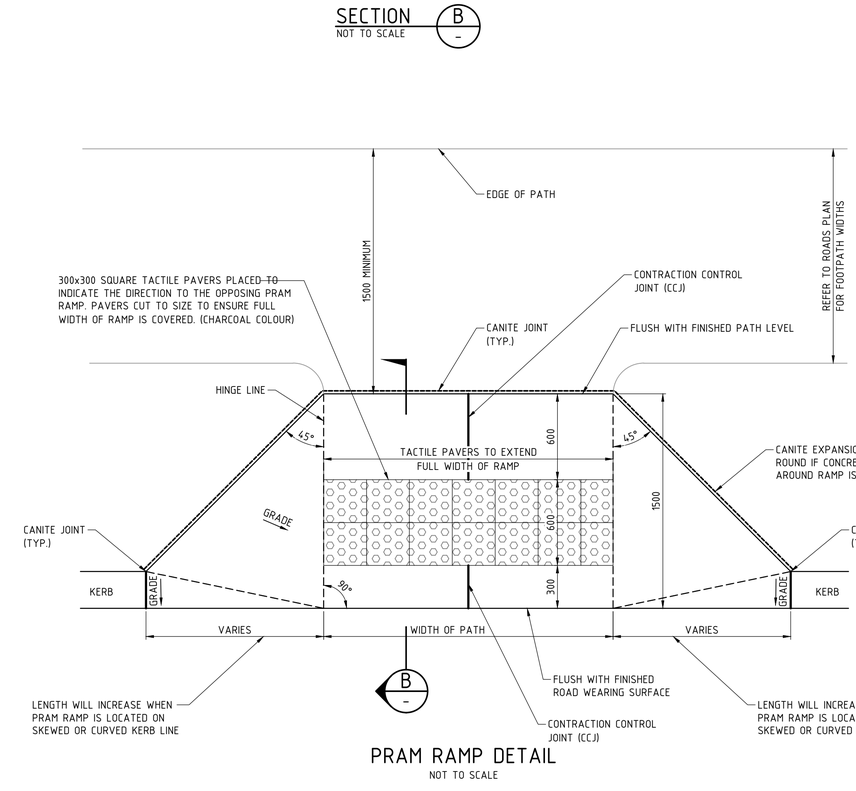
Plotted By: BWhitfield Plot Date: 05/05/25 - 12:05 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C900-C901.dwg



TYPICAL FOOTPATH CROSS SECTION ALONG BOUNDARY

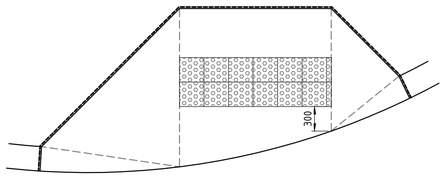
NOT TO SCALE





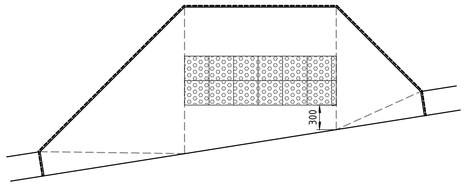
PRAM RAMP DETAIL

NOT TO SCALE



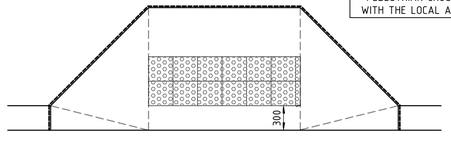
PRAM RAMP - SWEEPS LINE

NOT TO SCALE



PRAM RAMP - SKEWED KERB LINE

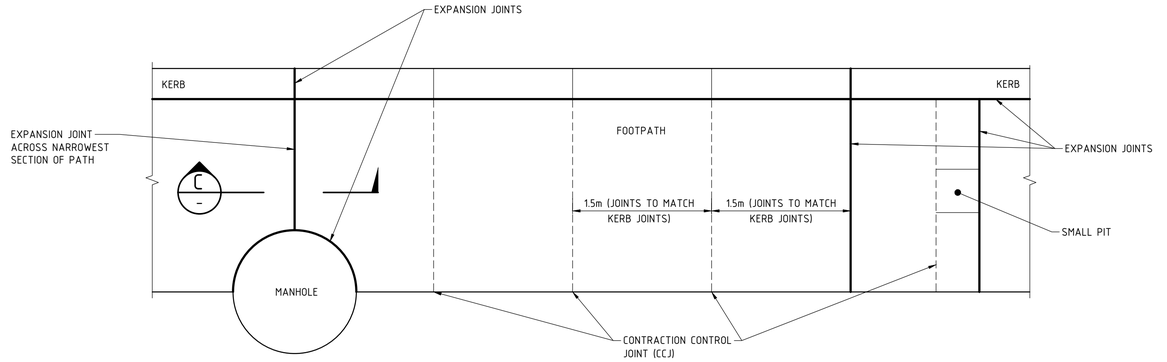
NOT TO SCALE



NOTE: TACTILE BUTTONS SHALL BE INSTALLED AT ALL ASPHALT MEDIAN ISLAND PEDESTRIAN CROSSINGS IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS.

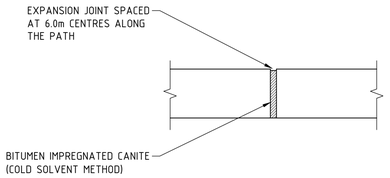
PRAM RAMP - PERPENDICULAR KERB LINE

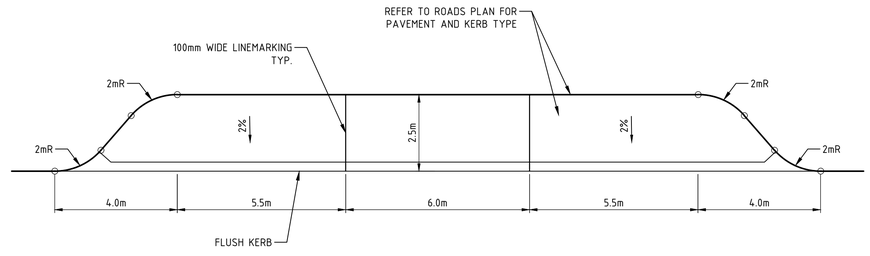
NOT TO SCALE



TYPICAL EXPANSION JOINT LOCATIONS

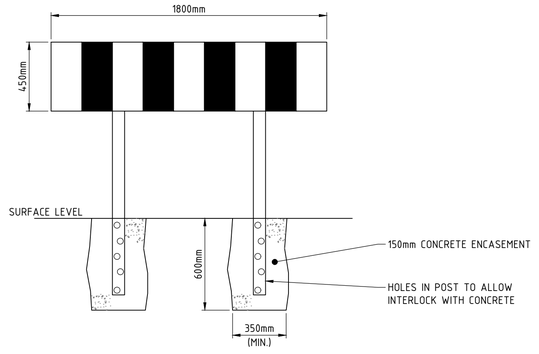
NOT TO SCALE





TYPICAL CARBAY DETAIL

NOT TO SCALE



D4-5 HAZARD BOARD DETAIL

NOT TO SCALE

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

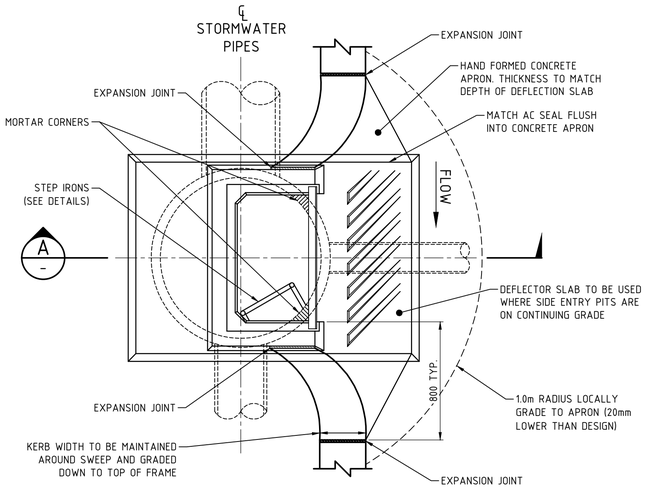
JDSi CONSULTING ENGINEERS

CLIENT: Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

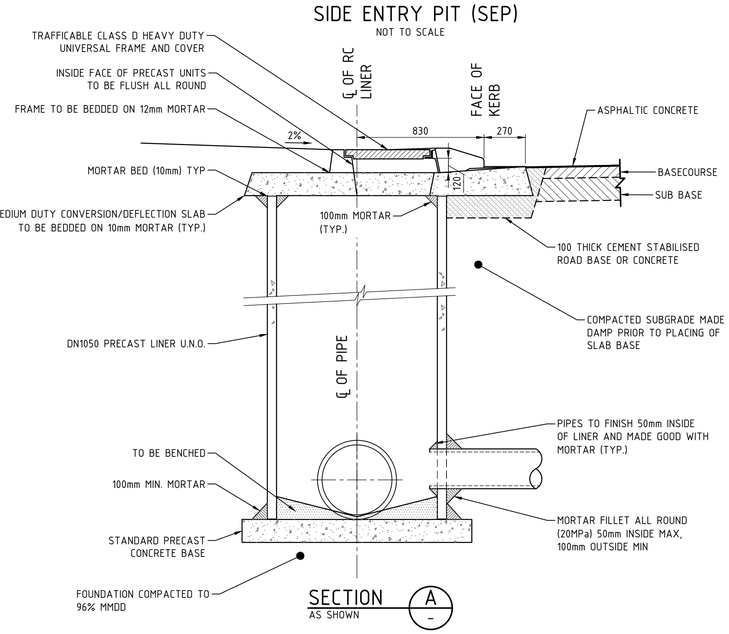
DRAWING TITLE: STANDARD ROAD DETAILS SHEET 2

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: AS SHOWN
PROJECT MANAGER: B.WASHFOLD	DATUM: N/A; CO-ORDS: N/A
JDSI PROJECT No.: JDS242318.0	DRAWING No.: C901; REVISION: B



SIDE ENTRY PIT (SEP)

NOT TO SCALE

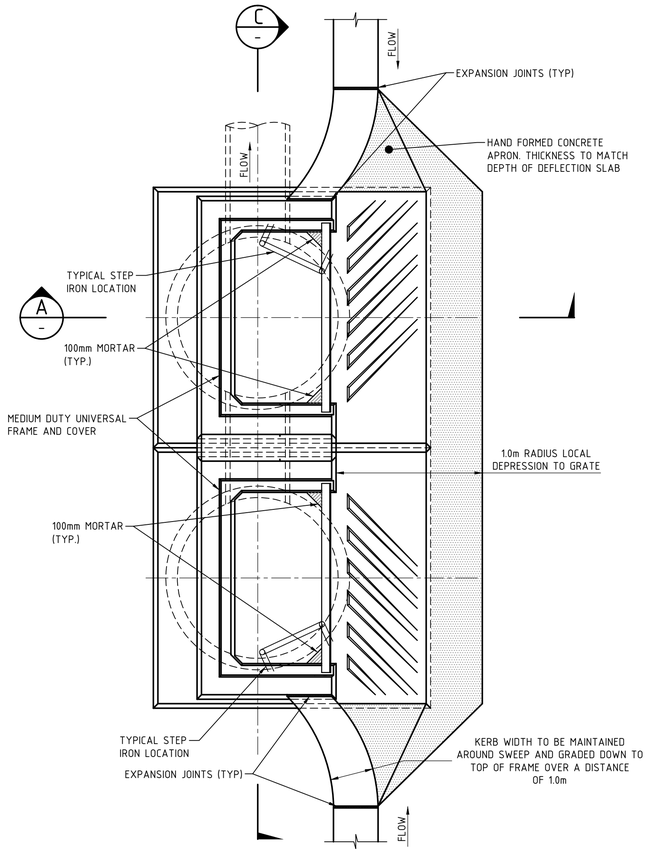


SECTION A – AS SHOWN

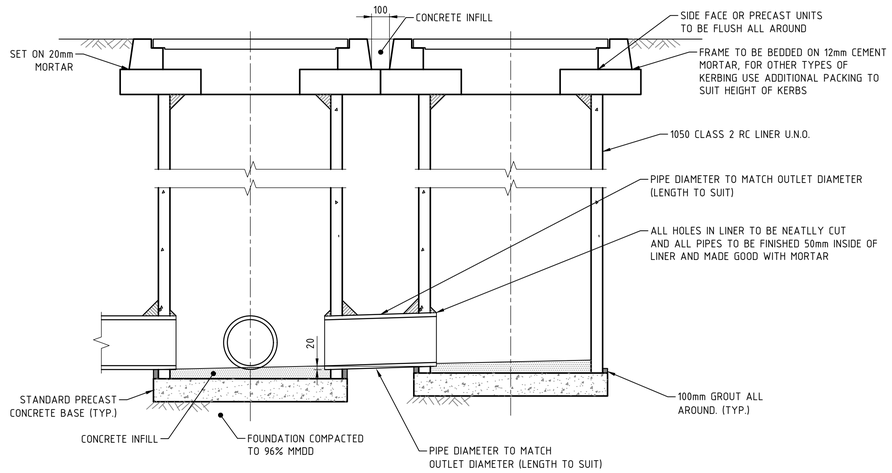
PIPE SIZE	LINER SIZE
Ø225-450	1050
Ø525-675	1200
Ø750-900	1500
Ø900-1200	1800

LINER SIZING TABLE

DRAINAGE PIT LINERS SHALL BE SIZED BASED ON THE LARGEST CONNECTED PIPE IN ACCORDANCE WITH THE ABOVE TABLE UNLESS A SPECIFIC LINER SIZE IS NOTED ON THE PLAN

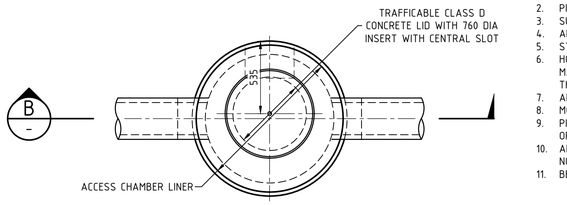


PLAN

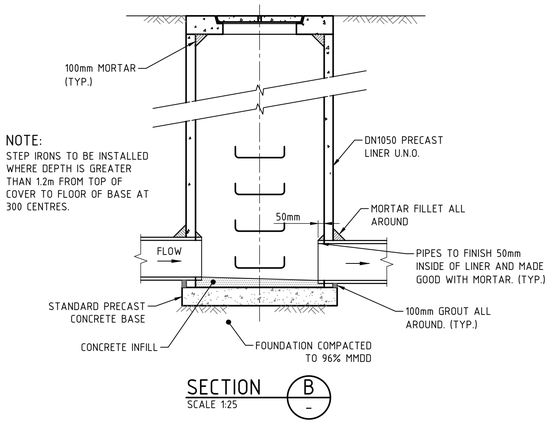


SECTION C – NOT TO SCALE

TYPICAL DOUBLE SIDE ENTRY PIT (DSEP)



PLAN



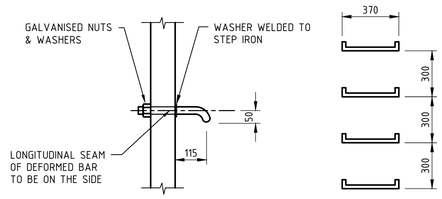
SECTION B – SCALE 1:25

JUNCTION PIT DETAIL (JP)

NOT TO SCALE

NOTES

1. CONCRETE TO BE 20mm NOMINAL AGGREGATE AND HAVE A MINIMUM STRENGTH AT 28 DAYS OF:
   PRECAST UNIT: 40MPa
   INSITU BASE: 20MPa
2. PIPE JOINTS WITHIN ONE METRE OF PIT TO BE SEALED.
3. SUBGRADE TO BASE SHALL BE COMPACTED TO 96% MMDD BEFORE PLACING BASE.
4. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
5. STEP IRONS NOT REQUIRED IN PITS WITH A LINER OF DEPTH 1200mm OR LESS.
6. HOLES FOR PIPES ENTERING JUNCTION PIT WALLS ARE TO BE MACHINE CUT OR MADE BY DRILLING 10mm HOLES AT 20mm CENTRES AROUND A CIRCLE MARKED ON THE INSIDE WALL AND THEN BREAKING OUT THE CONCRETE.
7. ALL COMPONENTS TO BE DESIGNED TO ACCEPT A14 LOADING N.A.A.S.R.A STD.
8. MORTAR TO BE 3:1 SAND : CEMENT . MIXTURE.
9. PIT LINER SHALL BE INTERLOCKING JOINT AND SPUN REINFORCED CONCRETE LINER OR EQUIVALENT TO CLASS 2 OR EQUIVALENT TO CLASS 2 PIPE.
10. ALL PIPES TO BE REINFORCED CONCRETE RUBBER RING JOINT UNLESS OTHERWISE NOTED.
11. BENCH BASE TO SUIT.



SECTION THROUGH WALL — VERTICAL SPACING

STEP IRON DETAILS FOR SIDE ENTRY PIT

STEP IRONS TO BE 24 DIA HOT DIPPED GALVANISED DEFORMED BARS WITH NUT AND THREADED FIXING SYSTEM

0 0.25 0.5 1.0 1.5m
SCALE 1:25 @ ORIGINAL SHEET SIZE A1

0 0.05 0.1 0.2 0.3m
SCALE 1:5 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.25	LV	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

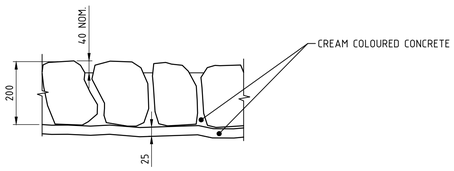
CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

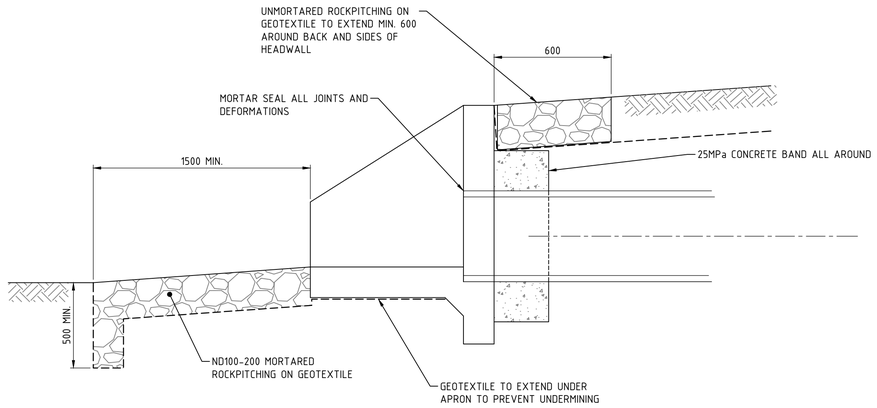
DRAWING TITLE: STANDARD DRAINAGE DETAILS SHEET 1

DRAWN L.VU		WAPC No. 200656	
DESIGNED L.VU		SCALE @ A1 AS SHOWN	
PROJECT MANAGER B.WASHFOLD		DATUM N/A	CO-ORDS N/A
JDSi PROJECT No. JDS242318.0	DRAWING No. C910		REVISION C

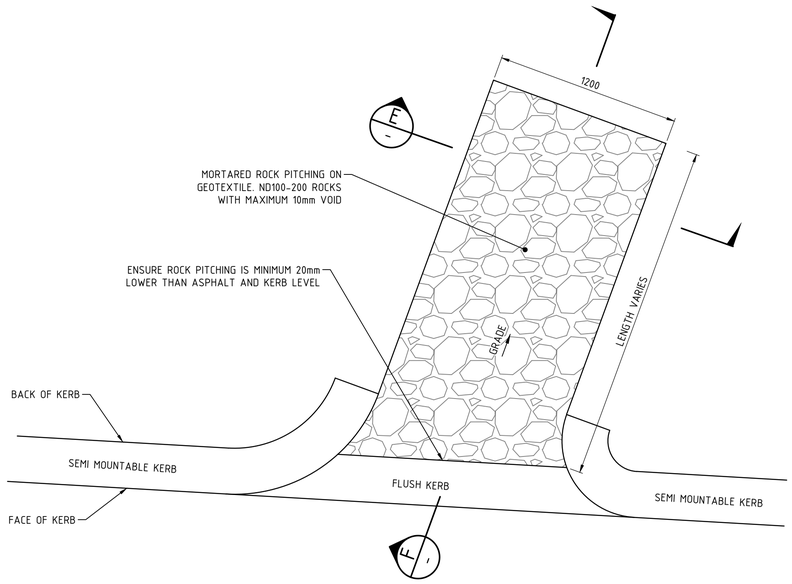
Plotted By: BWhitfield Plot Date: 05/05/25 - 12:19 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C910-C913.dwg



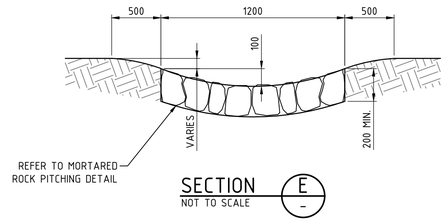
MORTARED ROCK PITCHING DETAIL
NOT TO SCALE



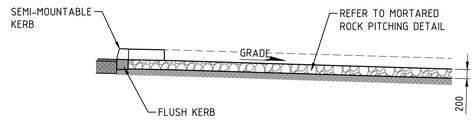
TYPICAL PRECAST HEADWALL SECTION
NOT TO SCALE



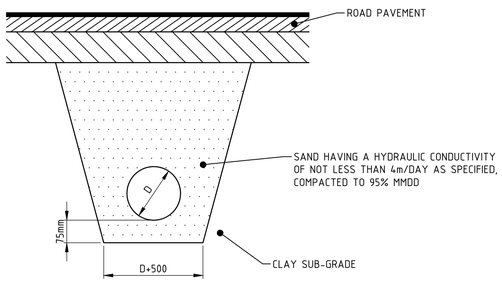
TYPICAL KERB OPENING
NOT TO SCALE



SECTION E
NOT TO SCALE

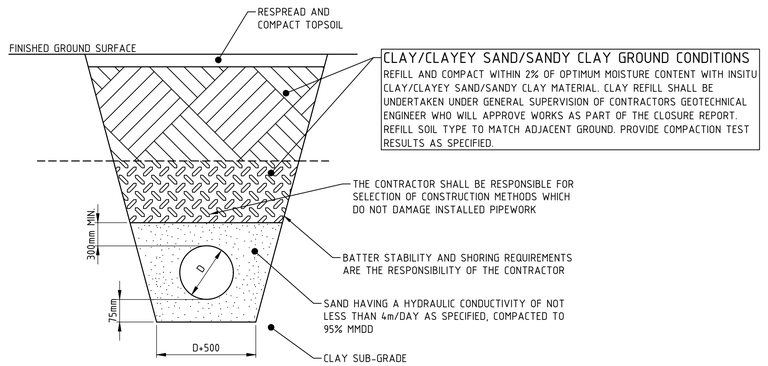


SECTION F
AS SHOWN



(NOT APPLICABLE FOR SEWER TRENCHES REFILL)

TRENCH DETAIL (UNDER ROADS)
NOT TO SCALE



TRENCH DETAIL (NOT UNDER ROADS)
NOT TO SCALE

0 0.05 0.1 0.2 0.3m
SCALE 1:5 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	L.V	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	L.V	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is Issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

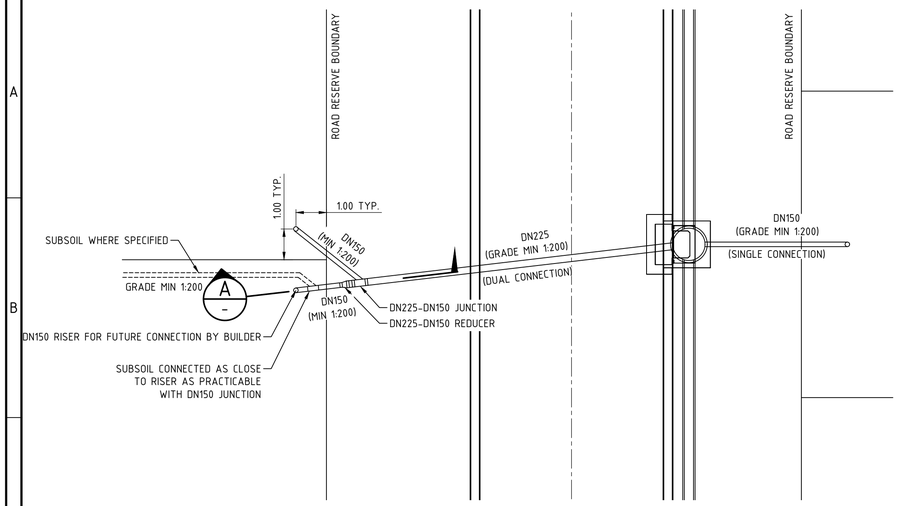
CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

DRAWING TITLE: STANDARD DRAINAGE DETAILS SHEET 2

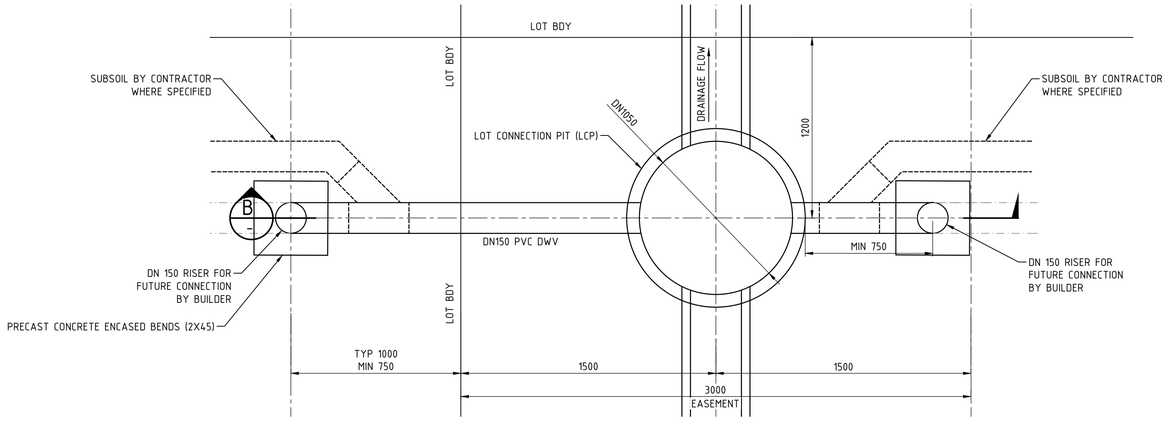
DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: AS SHOWN
PROJECT MANAGER: B.WASHFOLD	DATUM: N/A; CO-ORDS: N/A
JDSi PROJECT No.: JDS242318.0	DRAWING No.: C911; REVISION: B

Plotted By: BWhitfield Plot Date: 05/05/25 - 12:09 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C910-C913.dwg



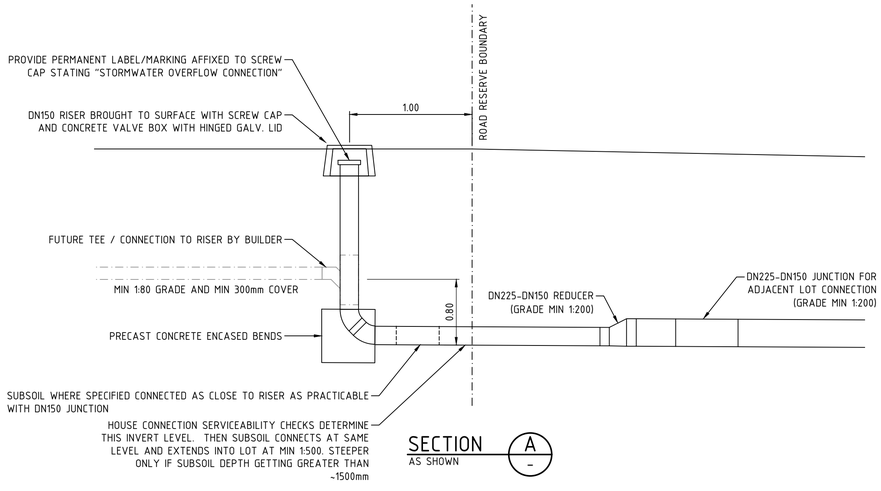
TYPICAL LOT CONNECTION - ROAD RESERVE

NOT TO SCALE



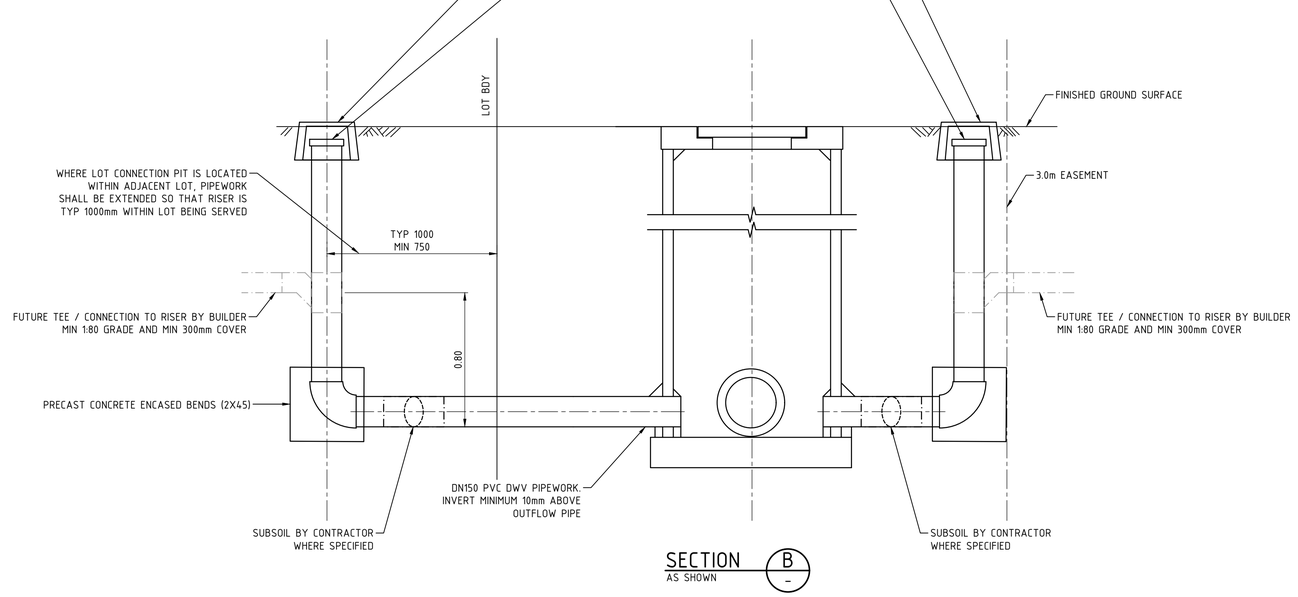
TYPICAL LOT CONNECTION - REAR OF LOT - DUAL CONNECTIONS SHOWN

NOT TO SCALE



SECTION A

AS SHOWN



SECTION B

AS SHOWN

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.26	LV	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.

Certified Quality System to ISO 9001

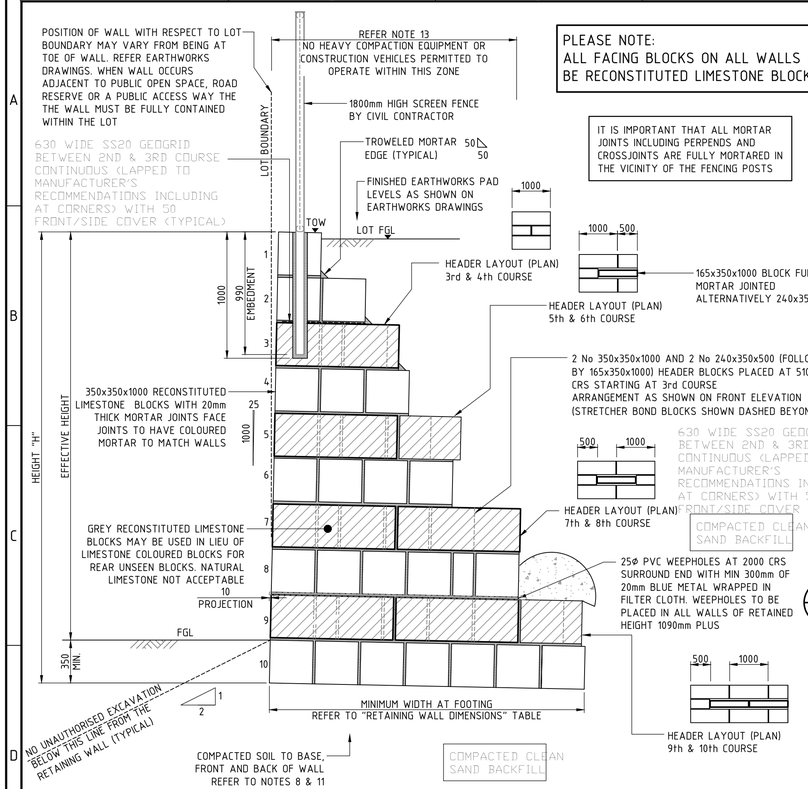
JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

DRAWING TITLE: STANDARD DRAINAGE DETAILS SHEET 3

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: AS SHOWN
PROJECT MANAGER: B.WASHFOLD	DATUM: N/A; CO-ORDS: N/A
JDSi PROJECT No.: JDS242318.0	DRAWING No.: C912; REVISION: C

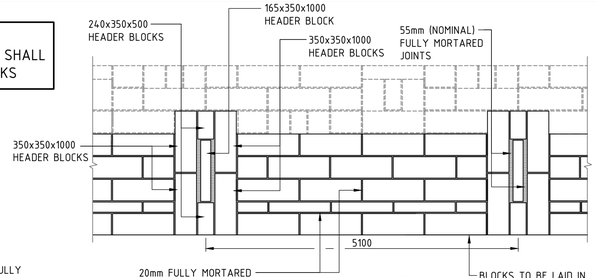


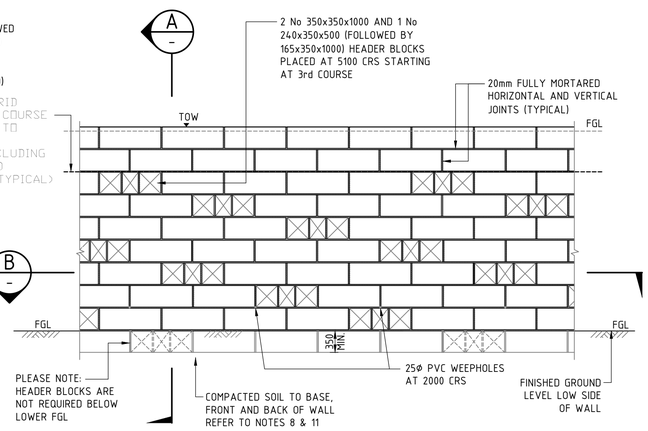
RETAINING WALL GREATER THAN 740mm HIGH

SECTION A – NTS

PLEASE NOTE:
ALL FACING BLOCKS ON ALL WALLS SHALL BE RECONSTITUTED LIMESTONE BLOCKS

IT IS IMPORTANT THAT ALL MORTAR JOINTS INCLUDING PERPENDS AND CROSSJOINTS ARE FULLY MORTARED IN THE VICINITY OF THE FENCING POSTS





TYPICAL RECONSTITUTED LIMESTONE RETAINING WALL ELEVATION

NOT TO SCALE

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL RECONSTITUTED LIMESTONE BLOCKS SHALL BE FREE FROM VOIDS AND EXCESSIVE BONEY AREAS
3. RECONSTITUTED LIMESTONE SHALL HAVE A MINIMUM DRY DENSITY OF 1750 kg/m^3 AND AN UNCONFINED CRUSHING STRENGTH OF 5.0 MPa MINIMUM
4. GREY RECONSTITUTED LIMESTONE BLOCKS MAY BE USED IN LIEU OF LIMESTONE COLOURED BLOCKS FOR REAR UNSEEN BLOCKS
5. MORTAR CLASS SHALL BE M3 UNLESS OTHERWISE DETAILED COMPLYING WITH ALL THE RELEVANT REQUIREMENTS OF AS 3700.
6. ALL JOINTS SHALL BE FULLY MORTARED INCLUDING PERPENDS AND CROSSJOINTS. WATER CONTENT IN MORTAR MUST BE CONTROLLED TO MINIMISE EXCESSIVE SHRINKAGE CRACKING.
7. ALL TOPSOIL, VEGETATION AND DELETERIOUS MATTERS SHALL BE REMOVED FROM THE FOUNDATION AREA
8. COMPACT THE SOIL UNDER WALLS TO 8 BLOWS FOR 150-450mm, 10 BLOWS FOR 450-700mm AND 12 BLOWS FOR 750-1050mm TESTED USING A STANDARD PERTH SAND PENETROMETER FOR A DEPTH OF AT LEAST 750mm BELOW THE FOUNDING LEVEL OF THE WALLS OR TO A MINIMUM OF 95% MODIFIED MAXIMUM DRY DENSITY
9. IMPORTED GRANULAR FILL MUST COMPLY WITH THE MATERIAL REQUIREMENTS AS STATED IN AS 3798-2007. THE SAND PRESENT AT THE SITE IS SUITABLE FOR RE-USE AS INERT STRUCTURAL FILL. ANY ORGANIC RICH SAND OR SAND CONTAINING SIGNIFICANT PROPORTIONS OF FINES (MATERIA LESS THAN 0.075MM IN SIZE) MUST NOT BE USED. WHERE DOUBT EXISTS REGARDING THE POTENTIAL REUSE OF MATERIAL, A GEOTECHNICAL ENGINEER MUST BE ENGAGED TO INSPECT AND APPROVE THE USE OF FILL MATERIALS
10. IN ALL CASES THE BACKFILL MATERIAL SHALL BE SELECTED SUCH THAT ONCE COMPACTED THE STANDARD OF COMPACTION CAN BE MEASURED USING A STANDARD PERTH PENETROMETER
11. COMPACTION OF THE BACKFILL MATERIAL TO THE FRONT AND BACK OF THE WALLS SHALL BE IN ACCORDANCE WITH THE SPECIFIED BACKFILL COMPACTION REQUIREMENTS OF 8 BLOWS FOR 150-450mm, 10 BLOWS FOR 450-700mm AND 12 BLOWS FOR 750-1050mm TESTED USING A STANDARD PERTH SAND PENETROMETER FOR A DEPTH OF AT LEAST 750mm BELOW THE FOUNDING LEVEL OF THE WALLS OR TO A MINIMUM OF 95% MODIFIED MAXIMUM DRY DENSITY
12. PRIOR TO PRACTICAL COMPLETION THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION FROM A CERTIFIED PRACTICING STRUCTURAL ENGINEER THAT THE WALL CONSTRUCTION AND BACKFILL COMPACTION HAS BEEN CARRIED OUT IN ACCORDANCE WITH THESE DRAWINGS, THE SPECIFICATION AND ANY REQUIREMENTS SHOWN ON THE BUILDING LICENCE
13. NO HEAVY COMPACTION EQUIPMENT SHALL OPERATE WITHIN 1200mm FROM THE FACE OF THE WALL FOR H < 800mm AND WITHIN 2000mm FROM THE FACE OF THE WALL FOR H > 800mm
14. PROVIDE CONTROL JOINTS (CJ) WITHIN THE RETAINING WALLS WHERE NOTED BELOW:
    - WHERE 'STRAIGHT' RUNS OF WALLS EXCEED THE SPACING OF 20 METERS
    - WHERE THE DIRECTION OF A RETAINING WALL CHANGES, A CJ SHALL BE PROVIDED AT A DISTANCE NO GREATER THAN THE BASE WIDTH OF THE WALL
    - WHERE THE WALL HEIGHT STEPS >700mm
    - WHERE FENCE POSTS ARE LOCATED WITHIN 1000mm FROM A CJ, IF REQUIRED WITHIN THEN INSTALL POST BOTH SIDES OF CJ WITHIN 350mm
15. THE CONTROL JOINTS SHALL BE CONSTRUCTED AS DETAILED ELSEWHERE IN THE DOCUMENTS
16. COMPLETED THICKNESS OF THE RETAINING WALLS SHALL BE OF A THICKNESS NO LESS THAN THE MINIMUM PROFILE DETAILED ON THIS DRAWING
17. ALL RETAINING WALLS HAVE BEEN DESIGNED FOR A HORIZONTAL BACKFILL SLOPE - ANY OTHER CIRCUMSTANCES SHALL BE ASSESSED INDIVIDUALLY BY A CERTIFIED PRACTICING STRUCTURAL ENGINEER
18. ALL RETAINING WALLS SHALL HAVE STAGGERED INTERLOCKING BLOCKS COMMENCING AT THE THIRD COURSE DOWN FROM TOP OF WALLS AS DETAILED ON THIS DRAWING
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CERTIFICATION OF THE RECONSTITUTED LIMESTONE BLOCK RETAINING WALLS BEING AS-CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHALL BE RESPONSIBLE FOR THE APPOINTMENT OF A CERTIFIED PRACTICING STRUCTURAL ENGINEER TO PROVIDE A LETTER OF CERTIFICATION FOR THE AS-CONSTRUCTED RECONSTITUTED LIMESTONE BLOCK RETAINING WALLS AT PRACTICAL COMPLETION
20. ALL VISIBLE RECONSTITUTED LIMESTONE (INCLUDING THE FRONT, TOP AND REAR OF A WALL) SHALL BE FLUSH POINTED WITH MATCHING COLOURED M4 MORTAR
21. RETAINING WALL HAS BEEN DESIGNED ACCORDING TO AS 4678-2002 (INCORPORATING AMENDMENT NO.1)
    - 21.1. STRUCTURE CLASSIFICATION IS CLASS B
    - 21.2. CLASS II CONTROLLED FILL
    - 21.3. SITE FACTOR IS LESS THAN 1.1 (EARTHQUAKE)

ANTI-GRAFFITI REQUIREMENTS

30. ALL RETAINING WALLS SHALL BE ANTI-GRAFFITI COATED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
31. AS-CONSTRUCTED RECORD OF ANTI-GRAFFITI COATING SHALL BE PROVIDED AT PRACTICAL COMPLETION
32. CLEANING SPECIFICATION SHALL BE PROVIDED AT PRACTICAL COMPLETION
33. WARRANTY CERTIFICATE SHALL BE PROVIDED AT PRACTICAL COMPLETION

FENCING NOTES

40. WHERE FENCING IS REQUIRED TO BE USED ON TOP OF THE RECONSTITUTED LIMESTONE BLOCK RETAINING WALLS, THE FENCING SHALL NOT BE HIGHER THAN 1800mm
41. WHERE FENCING IS REQUIRED TO FIX OVER THE TOP OF THE RECONSTITUTED LIMESTONE BLOCK RETAINING WALL, THE FENCING SHALL BE STRUCTURALLY CONNECTED INTO THE RECONSTITUTED LIMESTONE BLOCK WALL AS DETAILED ON THESE DRAWINGS
42. WHERE FENCING IS TO BE PROVIDED, THE SPACING OF THE STRUCTURAL CONNECTIONS BETWEEN THE RECONSTITUTED LIMESTONE BLOCK RETAINING WALL AND THE NEW FENCE SHOULD NOT BE MORE THAN 2350mm CENTRES
43. IF THE SPACING OF THE CONNECTIONS HAS TO BE INCREASED, THEN THE CONNECTION AND STRUCTURAL ADEQUACY OF THE WALL SHALL TO BE ASSESSED AND DESIGNED BY A PRACTICING STRUCTURAL ENGINEER TO ENSURE NO LOCAL FAILURES OR INSTABILITY CERTIFIED OF THE WALL
44. THE 1800mm HIGH FENCE POSTS SHALL BE PLACED IN 120mm DIAMETER CORED HOLES WHICH EXTEND 260mm INTO THE THIRD COURSE
45. THE 1050mm HIGH OPEN FENCING BALUSTERS SHALL BE PLACED IN 80mm DIAMETER CORED HOLES WHICH EXTEND 160mm INTO THE THIRD COURSE
46. THE FENCE POSTS AND BALUSTERS SHALL BE PLACED CENTRAL TO THE TOP ROW OF BLOCKS IN PLAN. AN APPROVED NON-SHRINK FLOWABLE CONSTRUCTION GROUT eg. CONBEXTRA GP FROM PARCHEM OR SIKA GROUT GP FROM SIKA SHALL BE USED TO ANCHOR THE FENCE POSTS INTO THE CORED HOLES. ALTERNATIVELY THE CORED HOLES SHALL BE THOROUGHLY CLEANED AND FULLY FILLED WITH M4 MORTAR TO WITHIN 25mm FROM TOP OF THE HOLES PRIOR TO INSERTING THE FENCING POSTS TO THEIR CORRECT HEIGHT AND ALIGNMENT. THE TOP OF THE HOLES SHALL BE TOPPED UP WITH MATCHING COLOURED M4 MORTAR.

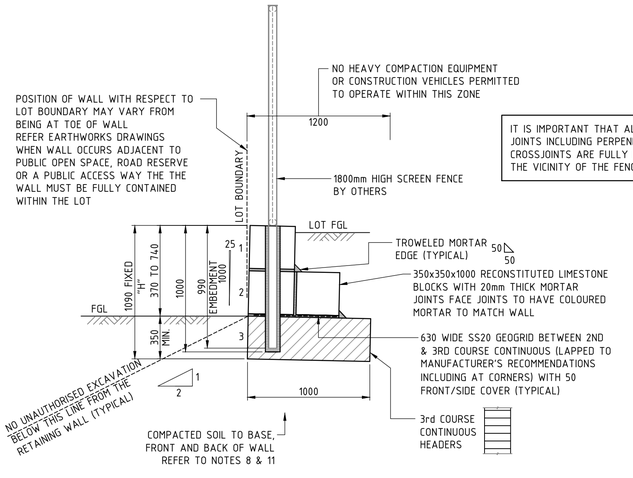
SAFETY

50. ALL RETAINING WALLS SHALL BE CONSTRUCTED TO WORKSAFE PRACTICES TO ENSURE SAFETY TO PERSONNEL AND STRUCTURES
51. DURING CONSTRUCTION THE CONTRACTOR SHALL INSTALL A 3 STRAND STAR PICKET FENCE TO ALL RETAINING WALLS GREATER THAN 1000mm HIGH. PICKETS SHALL BE CAPPED AND PIECES OF YELLOW SURVEY RIBBON SHALL BE ATTACHED TO THE TOP STRAND AT 1000mm CENTRES REFER TO DETAILS ON THESE DRAWINGS
52. THE CONTRACTOR SHALL INSTALL TEMPORARY WARNING SIGNS AS NECESSARY. REFER TO SPECIFICATIONS.

RECONSTITUTED LIMESTONE PIER NOTES

60. ALL RECONSTITUTED LIMESTONE PIERS HIGHER THAN 720mm SHALL BE CENTRALLY REINFORCED WITH A HOT DIPPED GALVANISED N10/N12/N16 BAR AS DETAILED ON THE DRAWINGS.
61. THE HOT DIPPED GALVANISED STARTER BARS SHALL BE ANCHORED INTO THE RECONSTITUTED LIMESTONE WALL BELOW WITHIN A 60ø CORED HOLE WHICH SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLING AN APPROVED NON-SHRINK FLOWABLE CONSTRUCTION GROUT eg. CONBEXTRA GP FROM PARCHEM OR SIKA GROUT GP FROM SIKA AND THE STARTER BAR WHICH SHALL HAVE AN EMBEDMENT DEPTH OF 900mm. IF THE PIERS ARE CONSTRUCTED ONTO A REINFORCED CONCRETE FOOTING, THE CENTRALLY LOCATED STARTER BAR SHALL BE DRILLED AND EPOXIED INTO THE FOUNDING FOOTING USING HILTI HY200 ADHESIVE OR SIMILAR APPROVED WITH A MINIMUM EMBEDMENT OF 200mm.
62. THE CENTRALLY LOCATED N10/N12/N16 PIER REINFORCEMENT SHALL BE FULLY EMBEDDED WITHIN THE M4 PERPEND JOINTS/NOTCHED RECESSES/CORED HOLES AS DETAILED ON THE DRAWINGS. IT IS IMPORTANT THAT THE REINFORCEMENT IS FULLY BONDED TO THE RECONSTITUTED LIMESTONE VIA THE M4 MORTAR JOINT/FILL.

IT IS IMPORTANT THAT ALL MORTAR JOINTS INCLUDING PERPENDS AND CROSSJOINTS ARE FULLY MORTARED IN THE VICINITY OF THE FENCING POSTS



RETAINING WALL 370mm TO 740mm HIGH

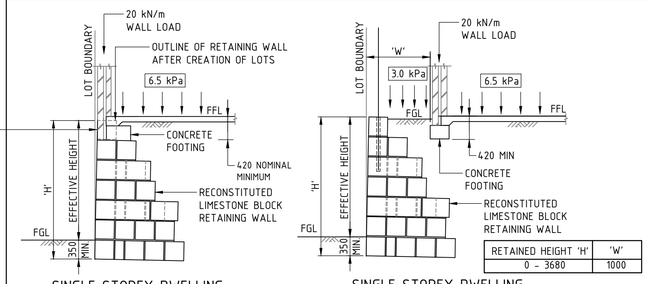
NOT TO SCALE

TOP COURSE BLOCKS SHALL SUBSEQUENTLY BE REMOVED BY LOT OWNERS TO ENABLE STRIP FOOTING, SLAB ON GROUND AND EXTERNAL LEAF OF BRICKWORK TO BE CONSTRUCTED AS INDICATED

RETAINING WALL DIMENSIONS

COURSE No.	HEIGHT "H"	MIN WIDTH AT COURSE
1	350	350
2	720	720
3	1090	905
4	1460	1090
5	1830	1275
6	2200	1460
7	2570	1645
8	2940	2015
9	3310	2385
10	3680	2570

DESIGN LOADS SUMMARY AND SPECIAL CONDITIONS



RETAINED HEIGHT 'H'	'W'
0 - 3680	1000

RETAINED HEIGHT 'H'	'W'
0 - 3680	1500

PARAMETERS REQUIRED FOR DESIGN

EFFECTIVE SOIL FRICTION ANGLE (σ)	34°
DENSITY OF BACKFILL SOIL (γ)	18kN/m^3
FRICTION ANGLE BETWEEN RETAINING STRUCTURE AND SOIL (δ)	30°

WIND LOADINGS FOR RETAINING WALLS TAKEN AS

TERRAIN CATEGORY	2.5
REGION	A1

NOTES

1. SITE CLASSIFICATION - CLASS 'S' FOLLOWING EARTHWORKS IN ACCORDANCE WITH GALT GEOTECHNICAL REPORT J2101299 001 R REV 0.
2. ALL BLOCKS SHALL BE RECONSTITUTED LIMESTONE WITH A MINIMUM DRY DENSITY OF 1750 kg/m^3 AND AN UNCONFINED COMPRESSIVE STRENGTH OF 5.0 MPa MINIMUM
3. THE DOCUMENTED WALL PROFILES HAVE ALSO BEEN DESIGNED FOR THE FOLLOWING LOAD CASES:
   - 3.1. 5 kPa SURCHARGE TO BACK OF WALL PLUS TC2.5 WIND REGION A1 WIND LOADING TO AS/NZS 1170.2 ON AN 1800mm HIGH FENCE ON TOP OF WALL
   - 3.2. 5 kPa SURCHARGE TO BACK OF WALL PLUS BALUSTRADE LOADING TO AS/NZS 1170.1
4. FOR ANY OTHER LOAD CASES CERTIFICATION MUST BE OBTAINED FROM A CERTIFIED PRACTICING STRUCTURAL ENGINEER
5. SURCHARGE LOADS TO THE BACK OF WALLS DURING CONSTRUCTION MUST NOT EXCEED THE ALLOWABLE SURCHARGE LOADS INDICATED ABOVE
6. DO NOT BACKFILL AND COMPACT SAND FILL BEHIND WALLS UNTIL THE LAST BLOCKS LAID ARE AT LEAST 5 DAYS OLD
7. USE ONLY LIGHT COMPACTION EQUIPMENT (PLATE COMPACTORS) WITHIN 'H' OF THE WALL
8. SPECIAL PRECAUTIONS ARE REQUIRED IN THE SELECTION OF TREES AND SHRUBS WITHIN A DISTANCE EQUIVALENT TO THE HEIGHT OF THE RETAINING WALL TO AVOID DAMAGE FROM ROOT IMPOSED LOADS (SEEK PROFESSIONAL ADVICE IF NECESSARY)
9. NO HEAVY COMPACTION EQUIPMENT OR CONSTRUCTION VEHICLES SHALL BE OPERATED BEHIND THE RETAINING WALLS - REFER TO EXCLUSIONS ZONES NOMINATED ON SECTIONS
10. ALL TREES SHALL BE MAINTAINED TO AVOID IMPACT LOADS ON FENCES WHICH MAY BE TRANSFERRED TO THE TOP OF RETAINING WALLS
11. NO TRAFFICABLE DRIVEWAYS SHALL BE CONSTRUCTED CLOSER THAN 1200mm FROM THE FRONT FACE OF THE WALL WITHOUT THE APPROVAL FROM A CERTIFIED PRACTICING STRUCTURAL ENGINEER
12. BLOCKS SHALL NOT BE ADDED TO THE TOP OF RETAINING WALLS AND GROUND LEVELS ALTERED WITHOUT THE APPROVAL FROM A CERTIFIED PRACTICING STRUCTURAL ENGINEER
13. WALL PROFILES HAVE BEEN DESIGNED TO SUPPORT AN 1800mm HIGH POST AND RAIL SHEET FENCING INSTALLED IN STRICT ACCORDANCE WITH THE FENCING NOTES OUTLINED ON THIS DRAWING AND DRAWING C955.

ALLOWABLE FOOTING LOCATIONS ADJACENT TO RETAINING WALLS

NOMINATED ALLOWABLE LOADS ABOVE INCORPORATE BOTH DEAD LOADS AND LIVE LOADS

PRELIMINARY

REV	DATE	DRAWN	CHECKED	APPROVED	
A	17.04.25	BWW	BJW	BJW	ISSUED FOR CERTIFICATION

NOTE
This drawing shall be preliminary only until it is issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

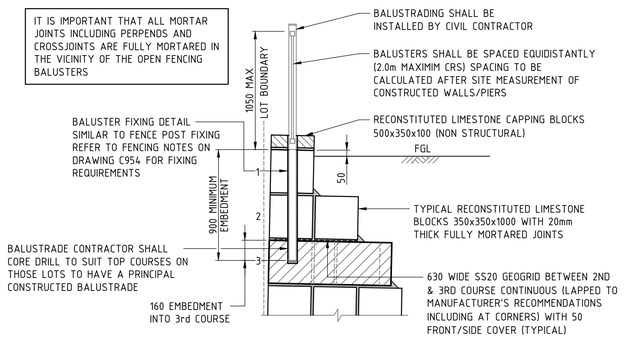
CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

DRAWING TITLE: STANDARD RETAINING WALL SHEET 1 OF 2

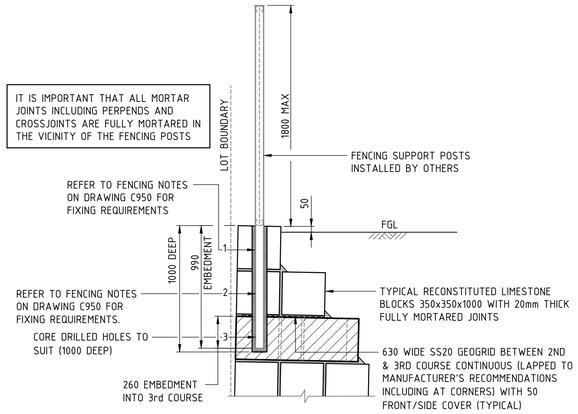
DRAWN B.WHITFIELD		WAPC No. 200656	
DESIGNED B.WHITFIELD		SCALE @ A1 NTS	
PROJECT MANAGER B.WASHFOLD		DATUM N/A	CO-ORDS N/A
JDSi PROJECT No. JDS242318.0	DRAWING No. C950		REVISION A

Plotted By: BWhitfield | Plot Date: 17/04/25 - 15:30 | Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C950.dwg



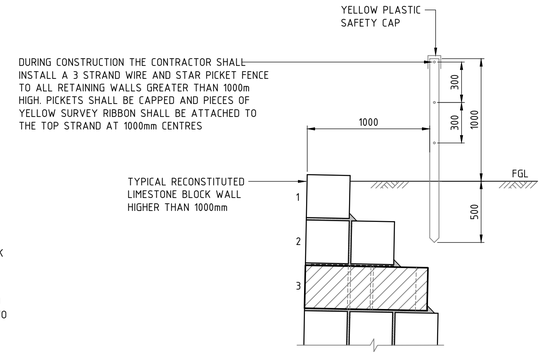
TYPICAL BALUSTER FIXING DETAIL

NOT TO SCALE



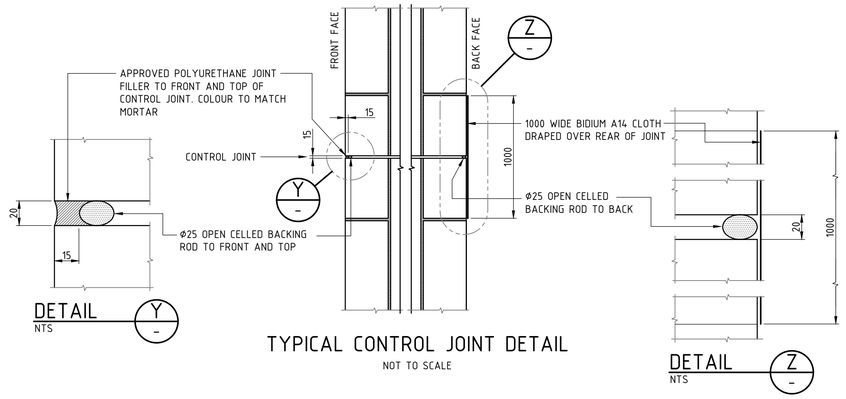
TYPICAL FENCE POST FIXING DETAIL

NOT TO SCALE



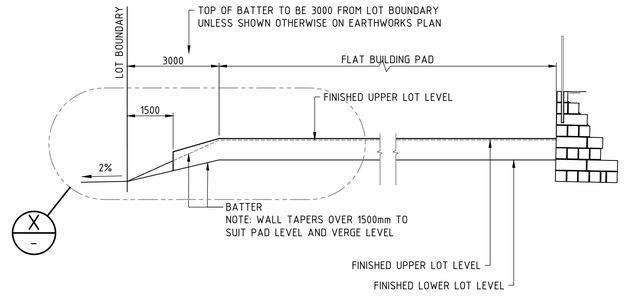
TYPICAL SAFETY FENCE DETAIL

NOT TO SCALE



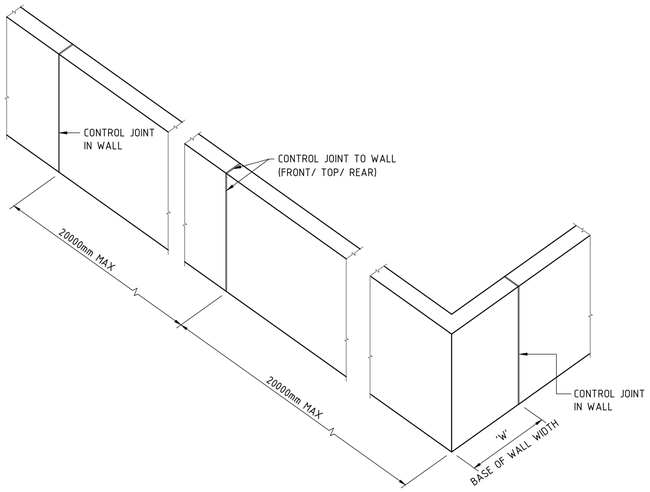
TYPICAL CONTROL JOINT DETAIL

NOT TO SCALE



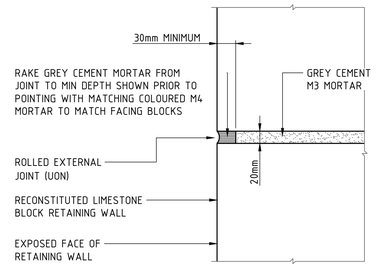
TYPICAL LOT SECTION

NOT TO SCALE



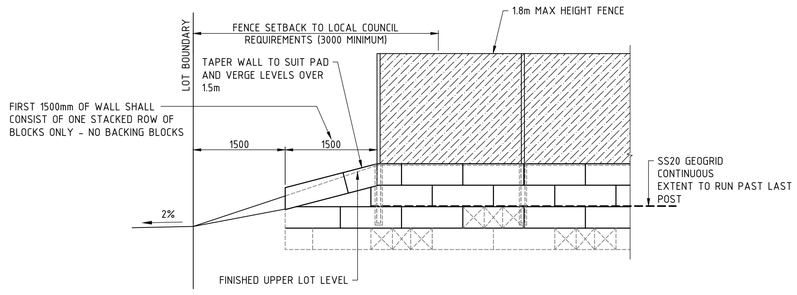
TYPICAL CONTROL JOINT REQUIREMENTS IN RETAINING WALLS

PLEASE NOTE:
ALL FACING BLOCKS ON ALL WALLS SHALL BE RECONSTITUTED LIMESTONE BLOCKS



TYPICAL EXPOSED MORTAR JOINT DETAIL

MORTARS SHALL COMPLY WITH ALL THE RELEVANT REQUIREMENTS OF AS 3700



TYPICAL RETAINING WALL END DETAIL

DETAIL X NTS

PRELIMINARY

REV	DATE	DRAWN	CHECKED	APPROVED	
A	17.04.25	BWW	BJW	BJW	ISSUED FOR CERTIFICATION

NOTE
This drawing shall be preliminary only until it is issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

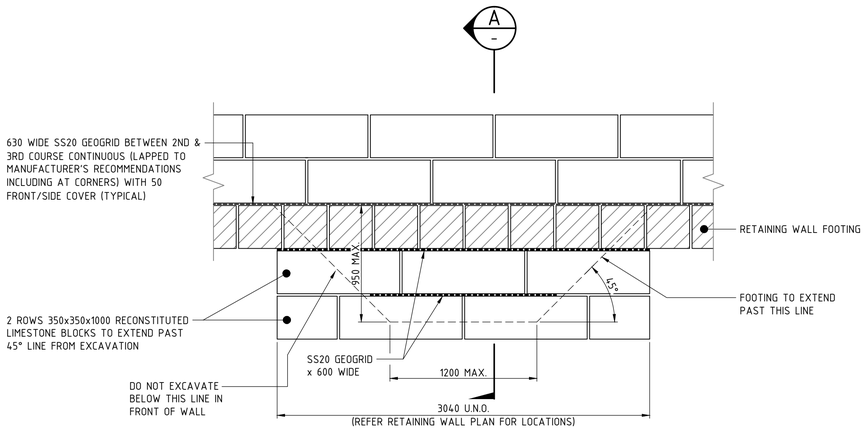
DRAWING TITLE: STANDARD RETAINING WALL SHEET 2 OF 2

DRAWN: B.WHITFIELD		WAPC No.: 200656	
DESIGNED: B.WHITFIELD		SCALE @ A1: NTS	
PROJECT MANAGER: B.WASHFOLD	DATUM: N/A	CO-ORDS: N/A	
JDSi PROJECT No.: JDS242318.0	DRAWING No.: C951	REVISION: A	

Plotted By: BWhitfield Plot Date: 17/04/25 - 15:57 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C951.dwg

NOTES

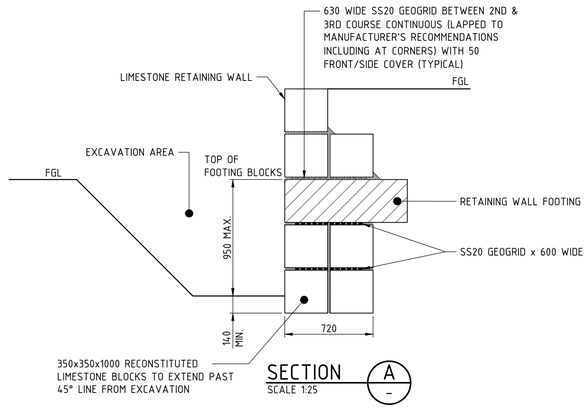
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. CONTRACTOR TO INSTALL ALL CONDUITS UNDER WALL PRIOR TO INSTALLATION OF FOOTINGS. REFER TO STANDARD DRAWINGS JDS171300.0_C954-C955 FOR COMPACTION REQUIREMENTS
3. FOR LIMESTONE RETAINING WALL DETAILS REFER TO STANDARD DRAWINGS JDS171300.0_C954-C955
4. CONTRACTOR TO ENSURE DEEPENED FOOTINGS ARE INSTALLED AT ALL PROPOSED POWER ACCESS LOCATIONS (INCLUDING JOINTING AND CABLE HAULING LOCATIONS)
5. ALL EXCAVATIONS SHALL BE RE-INSTATED TO MATCH COMPACTION OF EXISTING GROUND
6. CONTRACTOR TO PROVIDE DEEPENED FOOTING AS CONSTRUCTED INFORMATION TO BE DOCUMENTED ON THE RELEVANT POWER AS CONSTRUCTED PLAN

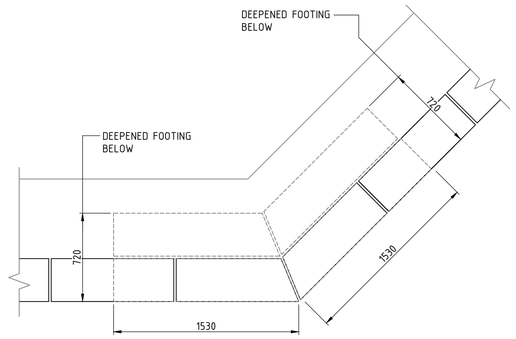


NOTE: MAX EXCAVATION DEPTH = 950mm

RETAINING WALL FOOTING DEEPENING AT ELECTRICAL DUCT TERMINATION AND CONSTRUCTION LOCATIONS (TYPE 1)

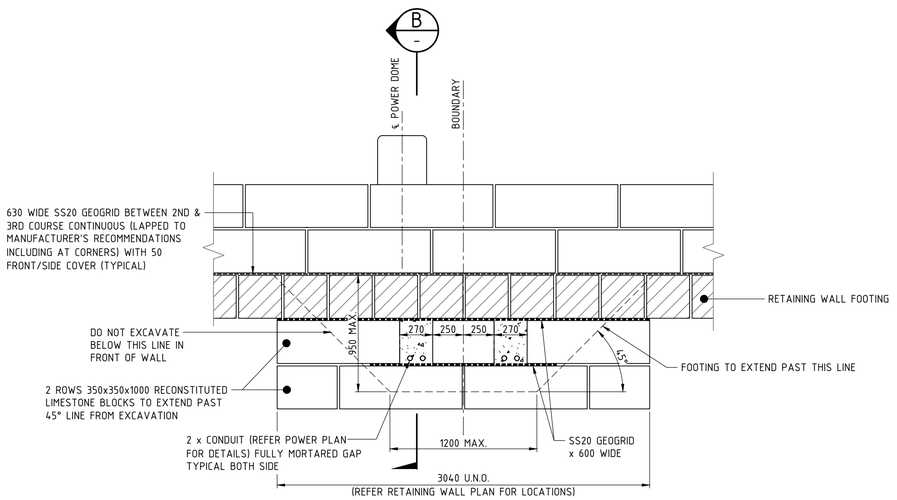
SCALE 1:25





VIEW 'Y'

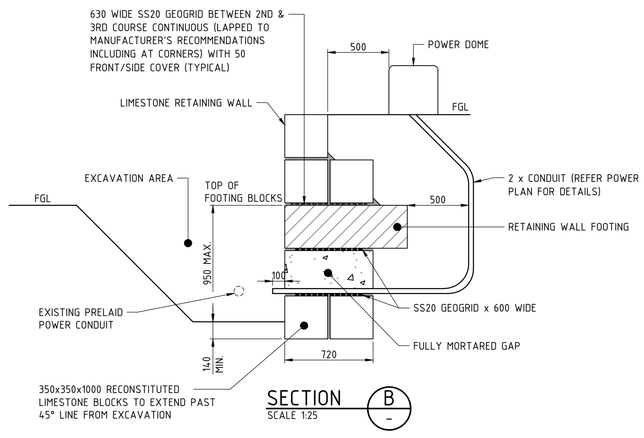
SCALE 1:25

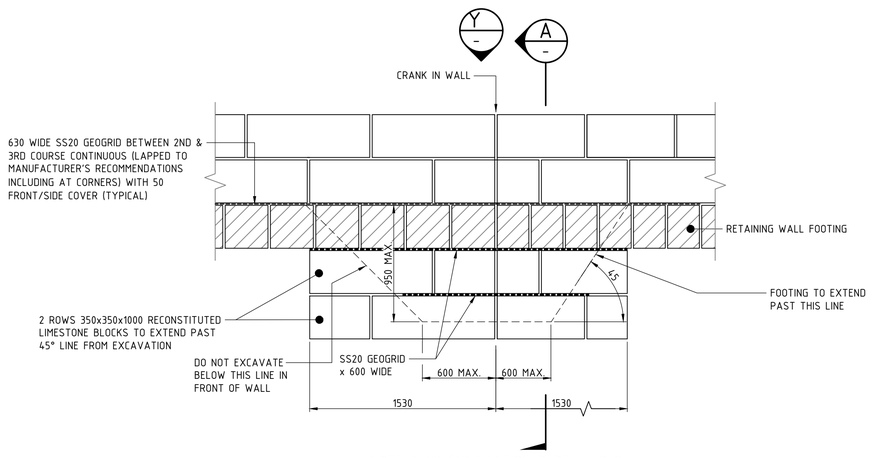


NOTE: MAX EXCAVATION DEPTH = 950mm

RETAINING WALL FOOTING DEEPENING AT POWER DOME CONNECTIONS (TYPE 2)

SCALE 1:25





NOTE: MAX EXCAVATION DEPTH = 950mm

RETAINING WALL FOOTING DEEPENING FOR CRANKED WALL AT SERVICES LOCATIONS

SCALE 1:25

0 0.25 0.5 1.0 1.5m

SCALE 1:25 @ ORIGINAL SHEET SIZE A1

PRELIMINARY

REV	DATE	DRAWN	CHECKED	APPROVED	
A	17.04.25	BWW	BJW	BJW	ISSUED FOR CERTIFICATION

NOTE
This drawing shall be preliminary only until it is Issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP

DRAWING TITLE: STANDARD RETAINING WALL DETAILS DEEPENED FOOTINGS DETAILS

DRAWN: B.WHITFIELD		WAPC No.: 200656	
DESIGNED: B.WHITFIELD		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD	DATUM: N/A	CO-ORDS: N/A	
JDSi PROJECT No.: JDS242318.0	DRAWING No.: C952	REVISION: A	

Plotted By: BWhitfield Plot Date: 17/04/25 - 15:58 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.0\CIVIL\Drawings\JDS242318.0_C952.dwg

PLAN
SCALE 1:500

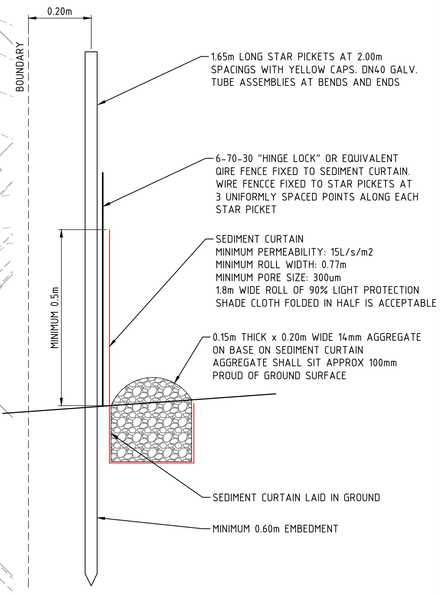
LEGEND

- LIMIT OF WORKS
- 2 PROPOSED LOT NUMBER
- DESIGN/EXISTING CONTOURS (0.20m INTERVAL)
- PROPOSED RETAINING WALL
- PROPOSED SUBSOIL DRAINAGE. REFER DRAWINGS JDS242318.01 C380 AND C381
- FUTURE SUBSOIL DRAINAGE
- PROPOSED SEDIMENT CURTAIN INSTALLED PRIOR TO EARTHWORKS COMMENCING
- EXISTING TREE TO BE RETAINED
- PROPOSED BATTER
- PROPOSED SEDIMENT CURTAIN INSTALLED AT COMPLETION OF WORKS

5.00 TYP.

NOTES

1. CONTRACTOR TO ALLOW TO REMOVE ALL SEDIMENT CURTAINS NOT WITHIN LOTS AT COMPLETION OF WORKS
2. STAR PICKET SPACING TO BE REDUCED TO 1.00m EITHER SIDE OF THE BEND AT RETURN LOCATIONS (FOR 5M LENGTH TYPICAL)
3. ALL DRAINAGE PROPERTY CONNECTION RISERS ADJACENT SEDIMENT CURTAINS TO BE EXTENDED TO 100MM ABOVE FINISHED SURFACE AND PROVIDE GLUE ON GRATE INLET



SEDIMENT CURTAIN DETAIL
NOT TO SCALE

WARNING
BEWARE OF UNDERGROUND SERVICES
BEFORE YOU DIG www.byda.com.au
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	CS	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is Issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SEDIMENT CONTROL PLAN SHEET 1

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C060 / REVISION: B

Plotted By: BWhitfield Plot Date: 05/05/25 - 10:46 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C060-C061.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C060 FOR NOTES AND LEGEND

PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
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BEFORE YOU DIG www.byda.com.au
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	CS	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.

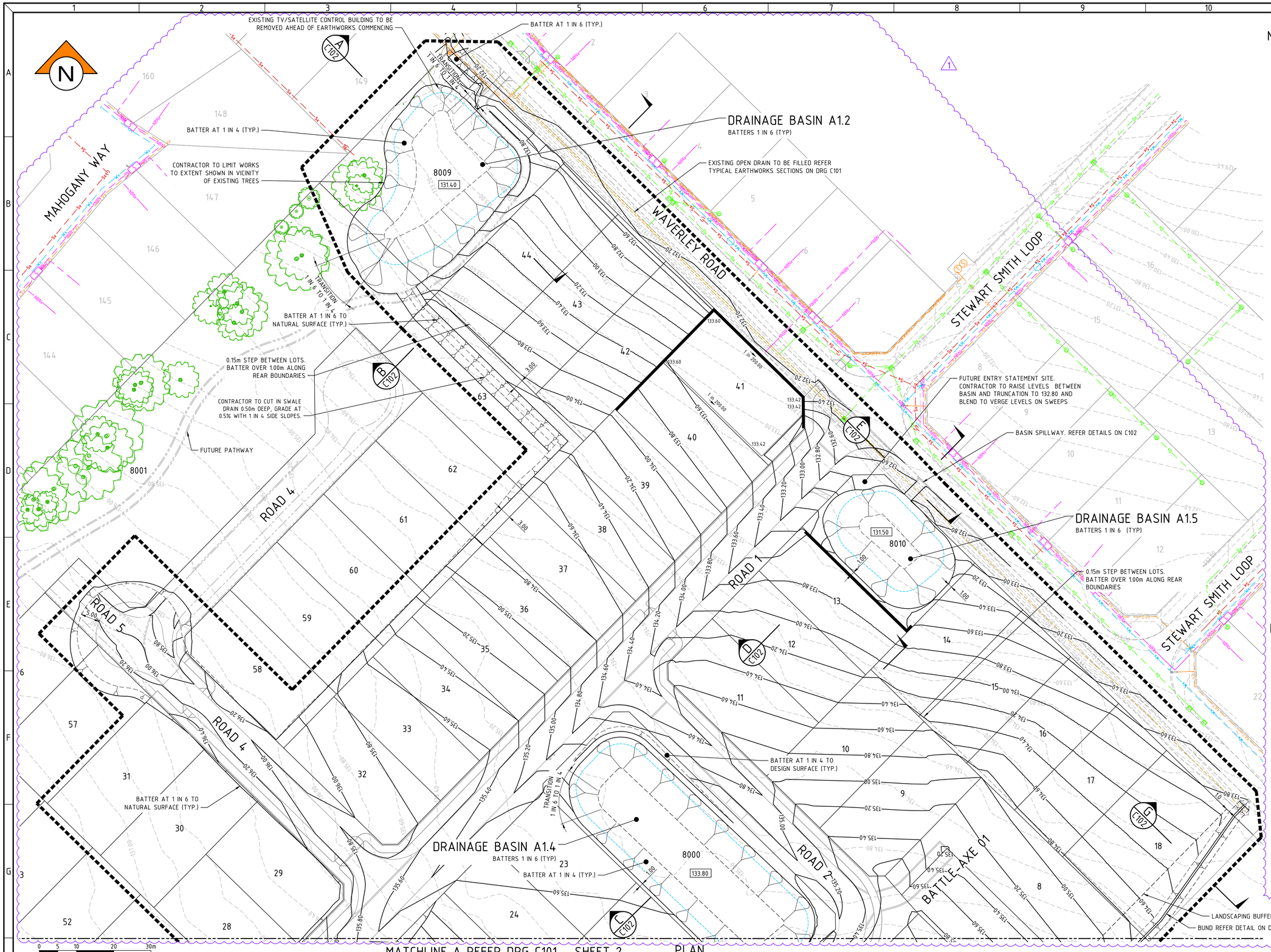
JDSi CONSULTING ENGINEERS
Certified Quality System to ISO 9001

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SEDIMENT CONTROL PLAN SHEET 2

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:500	
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71	CO-ORDS: MRCG94	
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C061	REVISION: B	



NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242318.01 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL DIMENSIONS SHOWN ARE IN METRES UNLESS OTHERWISE SHOWN
4. SURVEY DATA PROVIDED BY MNG
5. ALL LEVELS SHALL BE DETERMINED FROM BENCH MARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL SETBACKS TO BE 3.0m FROM FRONT BOUNDARY UNLESS NOTED OTHERWISE
7. ALL LEVELS ARE FINISHED SURFACE LEVELS. ROADS, FOOTPATHS AND HARDSTANDS TO BE BOXED OUT TO APPROPRIATE DEPTHS
8. FOR RETAINING WALL LEVELS REFER TO DRAWING C110 OF THIS SET
9. GEOTECHNICAL INSPECTIONS AND ASSESSMENTS TO BE CARRIED OUT AS PER SPECIFICATION AND AT RECOMMENDATION FROM THE PRINCIPAL NOMINATED GEOTECHNICAL CONSULTANT
10. EXISTING SERVICES ARE SHOWN FOR INFORMATION ONLY - FOR CONSTRUCTION DETAILS REFER TO RELEVANT SERVICES DRAWINGS
11. THE CONTRACTOR SHALL CUT AND FILL THE SITE TO ACHIEVE THE SPECIFIED FINISHED SURFACE LEVELS. ONLY GRAVELLY CUT MATERIAL SHALL BE USED AS FILL AND SHALL BE DONE SO UNDER THE SUPERVISION OF AND TO THE ACCEPTANCE OF THE GEOTECHNICAL ENGINEER. CLAY CUT MATERIAL SHALL NOT BE USED AS FILL AND IS TO BE REMOVED FROM SITE AND CLAIMED VIA THE APPROPRIATE PROVISIONAL ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND SEQUENCING WORKS TO ACHIEVE THE INTENDED FINISHED PRODUCT AND OUTCOMES
12. EXCESS GRAVELLY CUT MATERIAL SHALL BE STOCKPILED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT WITHIN 1km OF THE WORKS AREA. THE CONTRACTOR SHALL CONFIRM AND AGREE A LOCATION WITH SUPERINTENDENT PRIOR TO ANY STOCKPILING OCCURRING
13. EXCESS CLAY MATERIAL SHALL BE REMOVED FROM SITE AND CLAIMED VIA THE APPROPRIATE PROVISIONAL ITEM
14. ALL LOTS THAT AREN'T SPECIFICALLY SHOWN TO BE EARTHWORKED SHALL HAVE TOPSOIL STRIPPED, BE PROOF ROLLED, AND BE GRADED TO SMOOTH OUT AND REMOVE ANY TRAPPED LOW AREAS AND SHALL SUBSEQUENTLY HAVE TOPSOIL RESPREAD
15. THE CONTRACTOR SHALL STRIP TOPSOIL FROM ALL AREAS TO BE EARTHWORKED AND PROVIDE MINIMUM 48 HOURS NOTICE TO THE GEOTECHNICAL ENGINEER AND THE LOCAL GOVERNMENT TO INSPECT AND APPROVE THE STRIPPED SURFACE PRIOR TO FURTHER EARTHWORKS OCCURRING
16. TOPSOIL SHALL BE RESPREAD TO ALL LOTS, ALL VERGES AND ALL BATTERS ON COMPLETION OF EARTHWORKS TO THE REQUIREMENTS OF THE SPECIFICATION (E.G. IN TERMS OF SCREENING OUT). EXCESS TOPSOIL SHALL BE REMOVED FROM SITE AND CLAIMED VIA THE APPROPRIATE PROVISIONAL ITEM
17. ALL AREAS DISTURBED OR AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE MADE GOOD AND HAVE TOPSOIL REINSTATED
18. THE NEED FOR SURFACE STABILISATION VIA HYDROMULCH SHALL BE DETERMINED IN CONSULTATION WITH THE SUPERINTENDENT AND LOCAL AUTHORITY AS THE WORKS PROGRESS. IF DEEMED REQUIRED, HYDROMULCHING SHALL BE UNDERTAKEN AND CLAIMED VIA THE APPROPRIATE PROVISIONAL ITEM
19. SITE STABILISATION, MANAGEMENT OF STORMWATER RUNOFF, MANAGEMENT OF EROSION AND SEDIMENT CONTROL DURING THE WORKS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ALLOWED FOR WITHIN THE LUMP SUM TENDER

LEGEND

- LIMIT OF WORKS
- 2 LOT NUMBER
- PROPOSED CONTOURS (0.2m INTERVAL)
- EXISTING CONTOURS (0.20m INTERVAL)
- PROPOSED ROAD / PATH
- PROPOSED RETAINING WALL
- EXISTING ROAD/TRACK
- FUTURE ROAD / PATH
- EXISTING FENCE
- EXISTING BATTER
- Sx EXISTING SEWER
- Wx EXISTING WATER
- Dx EXISTING DRAINAGE
- Gx EXISTING GAS
- LVx EXISTING LOW VOLTAGE CABLE
- HVx EXISTING HIGH VOLTAGE CABLE
- NBNx EXISTING NBN
- Tx EXISTING TELECOMMS
- PROPOSED BATTER
- EXISTING TREE TO BE RETAINED
- BASIN TWL 1% AEP TOP WATER LEVEL

WARNING

BEWARE OF UNDERGROUND SERVICES

BEFORE YOU DIG www.byda.com.au

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REV	DATE	DRAWN	CHECKED	APPROVED	
1	05.05.25	LV	BWW	BJW	RE-ISSUED FOR CONSTRUCTION
0	21.03.25	LV	BWW	BJW	ISSUED FOR CONSTRUCTION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.

JDSi CONSULTING ENGINEERS
Certified Quality System to ISO 9001

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

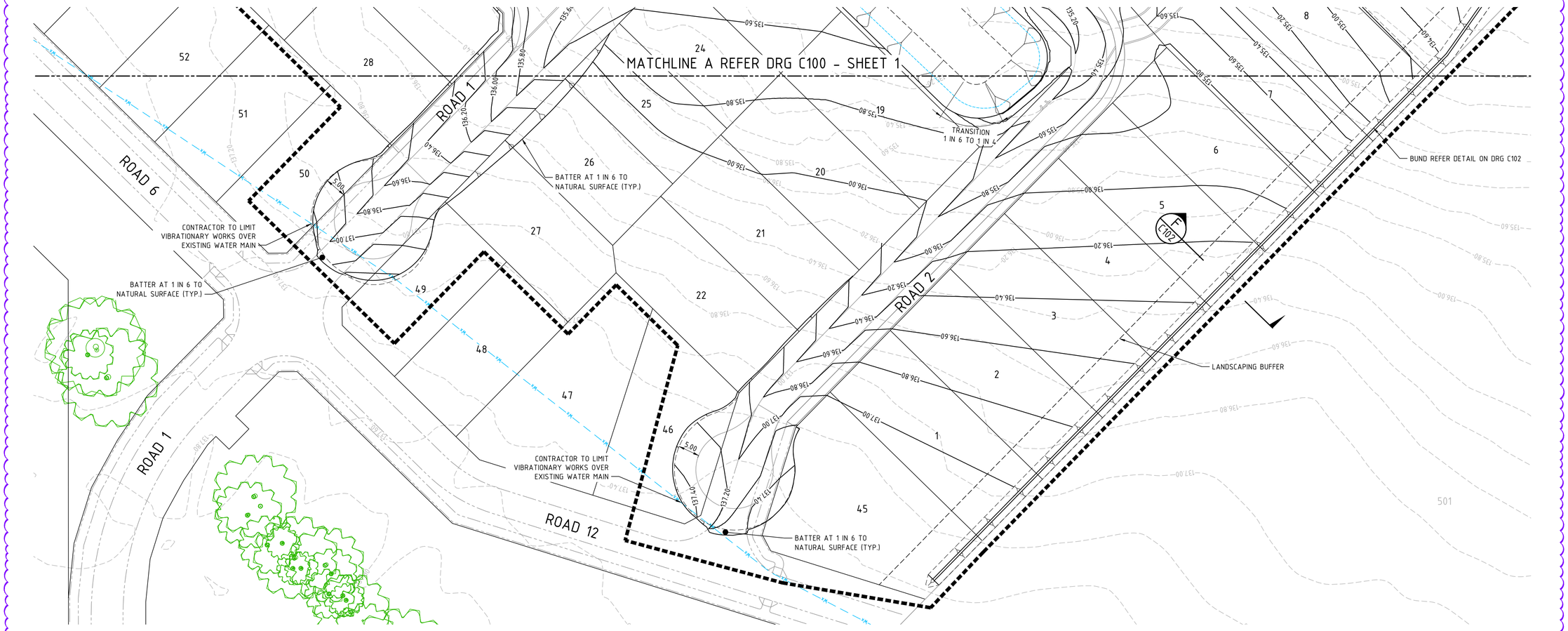
DRAWING TITLE: EARTHWORKS PLAN SHEET 1

DRAWN L.VU	WAPC No. 200656
DESIGNED L.VU	SCALE @ A1 1:500
PROJECT MANAGER B.WASHFOLD	DATUM AHD71 / CO-ORDS MRCG94
JDSI PROJECT No. JDS242318.01A	DRAWING No. C100 / REVISION 1

Plotted By: BWhitfield Plot Date: 05/05/25 - 10:49 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C100-C102.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C100 FOR NOTES AND LEGEND



PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES
BEFORE YOU DIG www.byda.com.au
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REV	DATE	DRAWN	CHECKED	APPROVED	
1	05.05.25	LV	BWW	BJW	RE-ISSUED FOR CONSTRUCTION
0	21.03.25	LV	BWW	BJW	ISSUED FOR CONSTRUCTION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is Issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: EARTHWORKS PLAN SHEET 2

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:500	
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71	CO-ORDS: MRCG94	
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C101	REVISION: 1	

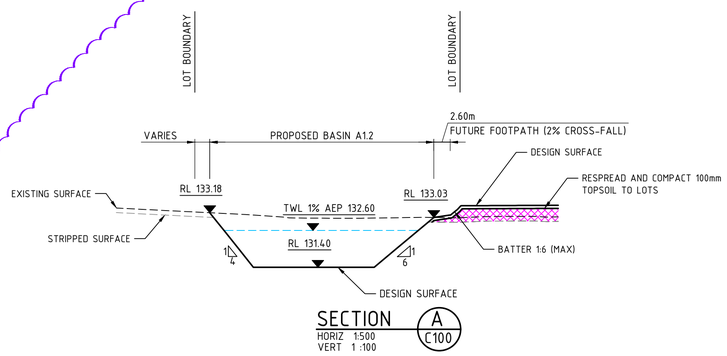
Plotted By: BWhitfield Plot Date: 05/05/25 - 10:50 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C100-C102.dwg

NOTES

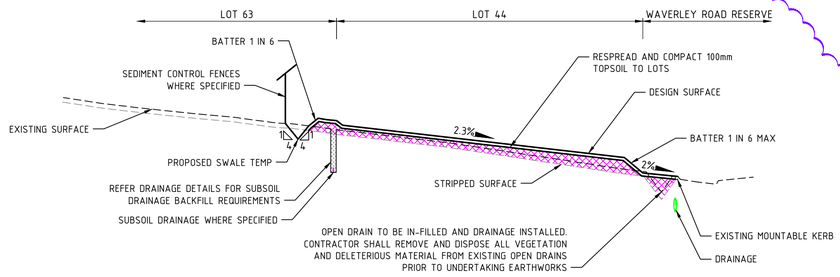
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
2. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.

LEGEND

CUT TO FILL ON SITE SANDY /GRAVELLY MATERIAL ONLY, NO CLAY OR ROCK

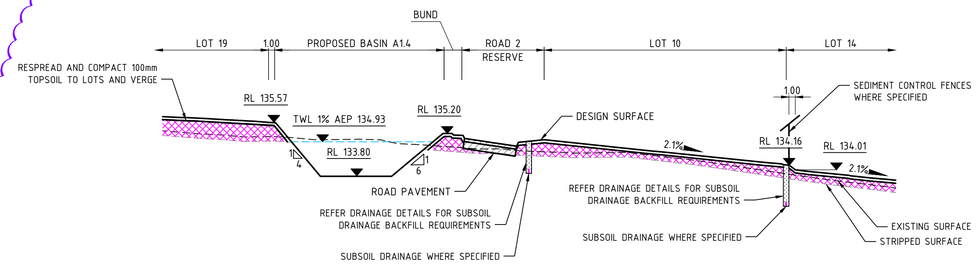


SECTION A C100
HORIZ 1:500
VERT 1 :100

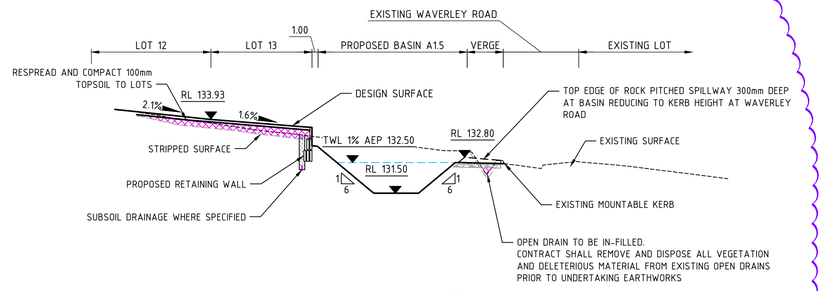


SECTION B C100
HORIZ 1:500
VERT 1 :100

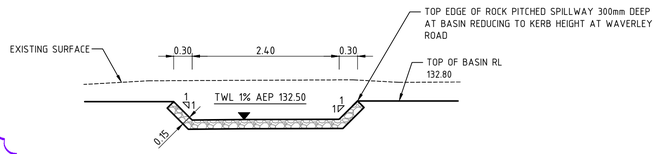
1



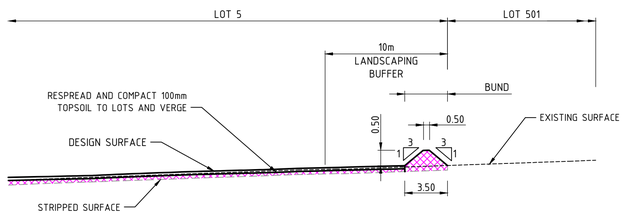
SECTION C C100
HORIZ 1:500
VERT 1 :100



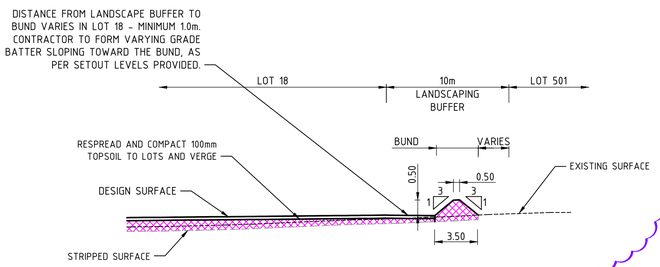
SECTION D C100
HORIZ 1:500
VERT 1 :100



SECTION E C100
HORIZ 1:50
VERT 1 :50



SECTION F C101
HORIZ 1:250
VERT 1 :100



SECTION G C100
HORIZ 1:250
VERT 1 :100

WARNING
BEWARE OF UNDERGROUND SERVICES
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0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

0 1 2 4 6m
SCALE 1:100 @ ORIGINAL SHEET SIZE A1

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
1	05.05.25	LV	BWW	BJW	AMENDMENTS TO SECTIONS. ADDITION OF SPILLWAY DETAILS AND RE-ISSUED FOR CONSTRUCTION
0	21.03.25	LV	BWW	BJW	ISSUED FOR CONSTRUCTION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: EARTHWORKS SECTIONS

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: AS SHOWN
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C102 / REVISION: 1

PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

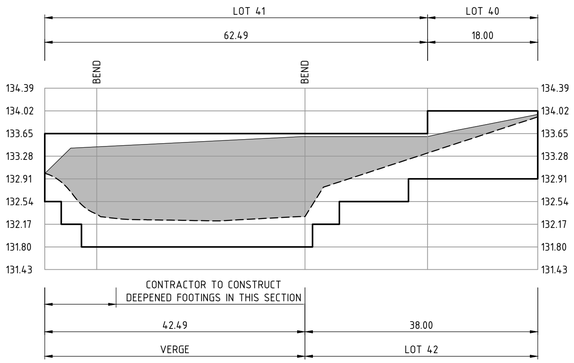
0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

NOTES

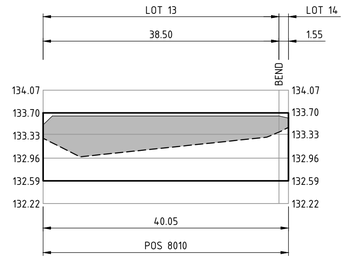
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. THE CONTRACTOR SHALL ENSURE THAT ALL INTERCONNECTING WALL COURSES MATCH
3. FOR DETAILS REFER DRAWING C950–C952 OF THIS SET
4. BOUNDING WALLS BETWEEN LOTS TO BE TAPERED TO SUIT PAD LEVEL AND VERGE LEVEL OVER 2.5m TO 1 COURSE HEIGHT AT 1500 SETBACK, UNLESS NOTED OTHERWISE
5. ALL LEVELS AND SETOUT BENCHMARKS TO BE BY LICENSED SURVEYOR
6. CONTROL JOINT LOCATIONS ARE DEPENDENT ON CONSTRUCTION METHODOLOGY. THE CONTRACTOR SHALL REFER TO STANDARD RETAINING WALL DRAWINGS FOR JOINT LOCATIONS
7. CONTRACTOR TO INSTALL ALL CONDUITS REQUIRED UNDER WALLS AS PER THE RELEVANT AUTHORITY STANDARDS PRIOR TO CONSTRUCTION OF WALLS

LEGEND

2	LOT NUMBER
	PROPOSED LIMESTONE RETAINING WALL
WALL 'A'	WALL ELEVATION REFERENCE
15.00	PROPOSED CONTOURS (0.2m INTERVAL)
15.00	EXISTING CONTOURS (0.20m INTERVAL)
DF1	DEEPENED FOOTING LOCATION (TYPE 1) REFER C952
DF2	DEEPENED FOOTING LOCATION (TYPE 2) REFER C952
	PROPOSED BATTER
	PROPOSED LIMESTONE RETAINING WALL
	PROPOSED LOT LEVEL
	PROPOSED VERGE LEVEL
	GRID LINE
TOW 133.00	TOP OF WALL LEVEL
	RETAINED AREA/HEIGHT



RETAINING WALL A
SCALE H 1 : 500
V 1 : 50



RETAINING WALL B
SCALE H 1 : 500
V 1 : 50

WARNING
BEWARE OF UNDERGROUND SERVICES
BEFORE YOU DIG www.byda.com.au
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	CS	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

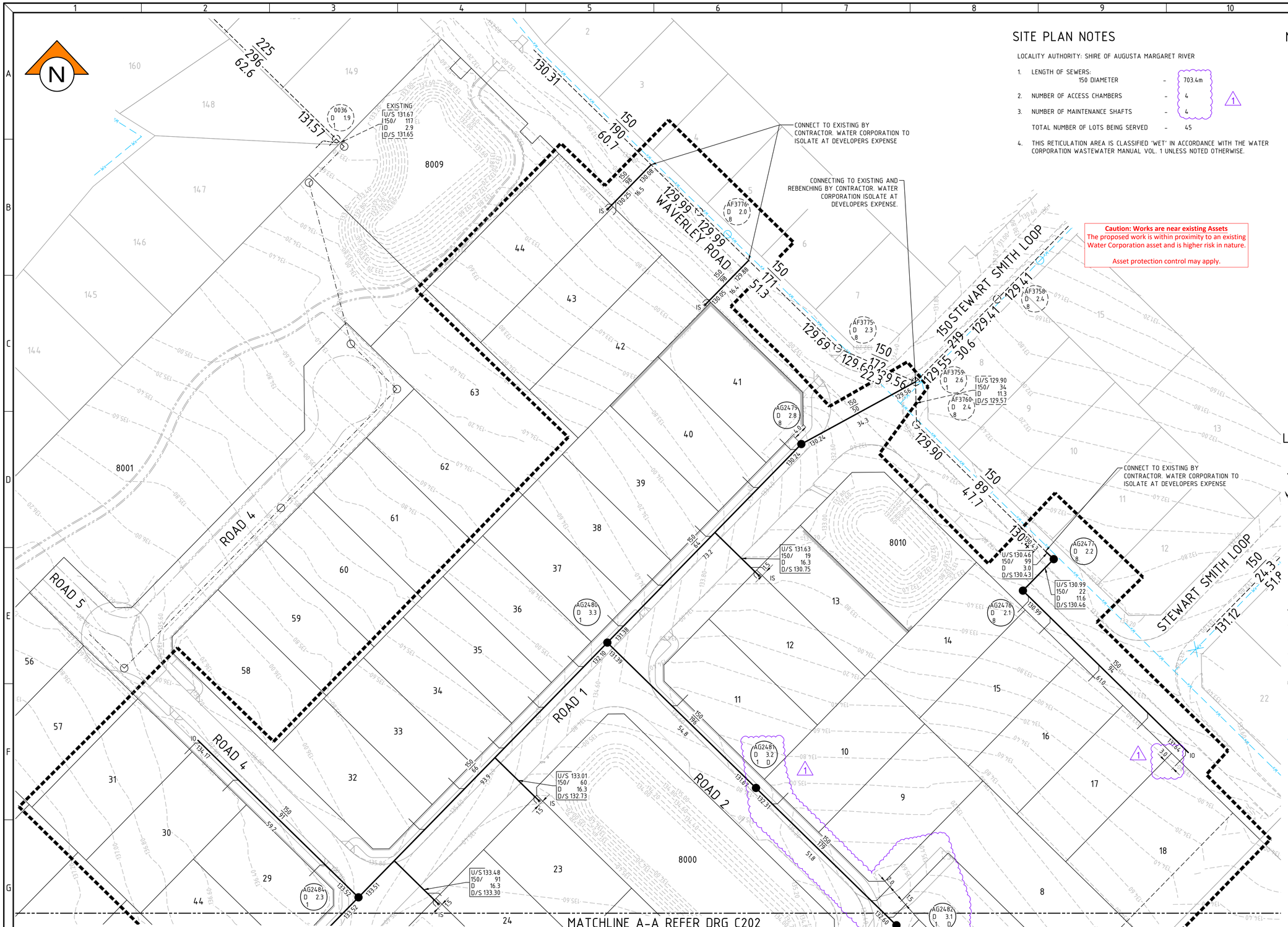
CLIENT: Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: RETAINING WALL PLAN AND PROFILES

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71	CO-ORDS: MRCG94	
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C110	REVISION: B	

Plotted By: BWhitfield Plot Date: 05/05/25 - 10:52 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C110.dwg



PLAN
SCALE 1:500

SITE PLAN NOTES

LOCALITY AUTHORITY: SHIRE OF AUGUSTA MARGARET RIVER

1. LENGTH OF SEWERS:
   150 DIAMETER – 703.4m
2. NUMBER OF ACCESS CHAMBERS – 4
3. NUMBER OF MAINTENANCE SHAFTS – 4

   TOTAL NUMBER OF LOTS BEING SERVED – 45
4. THIS RETICULATION AREA IS CLASSIFIED 'WET' IN ACCORDANCE WITH THE WATER CORPORATION WASTEWATER MANUAL VOL. 1 UNLESS NOTED OTHERWISE.

NOTES

1. ALL SEWERAGE RETICULATION WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER CORPORATION'S DESIGN STANDARD DS50 (DS50), THE CONTRACT, THE SPECIFICATIONS AND THE CURRENT WATER CORPORATION STANDARD DRAWINGS
2. CONSTRUCTION OF SEWERS IN LOTS WITH FILL SHALL NOT PROCEED UNTIL FILL IS PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION
3. THE CONTRACTOR SHALL DETERMINE AND BE RESPONSIBLE FOR THE BEDDING CONDITIONS TO COMPLY WITH THE REQUIREMENTS OF DS50
4. DX = DUPLEX (REQUIRES TWO BOUNDARY CONNECTIONS) GH = GROUP HOUSING (REQUIRES 150 CONNECTION)
5. CENTRES OF ALL ACCESS CHAMBERS TO BE 3.2m FROM FRONT BOUNDARIES AND 1.0m FROM SIDE AND REAR BOUNDARIES OF LOT UNLESS OTHERWISE DIMENSIONED
6. PROPERTY CONNECTIONS ARE SHOWN INDICATIVELY. CONTRACTOR TO CONSTRUCT IN ACCORDANCE WITH DS50 – TAKING INTO CONSIDERATION LOCATION OF OTHER SERVICES, INCLUDING POWER PILLARS
7. CONTRACTOR TO CONFIRM EXISTING SEWER INVERTS AT CONNECTION POINTS PRIOR TO COMMENCEMENT. LEVELS SHOWN MAY NOT BE AS-CONSTRUCTED. NOTIFY SUPERINTENDENT WHERE DISCREPANCIES EXIST
8. EXISTING SERVICES – INFORMATION ON THESE DRAWINGS PURPORTING TO RELATE TO EXISTING SERVICES IS INDICATIVE ONLY AND MAY NOT BE COMPLETE
9. THE CONTRACTOR SHALL NOTE THAT NON-TRAFFICABLE SUBTERRANEAN STRUCTURES AND/OR VOIDS (SOAKWELLS, ETC.) MAY EXIST ON THE SITE AND SHALL TAKE ADEQUATE MEASURES TO LOCATE THESE PRIOR TO COMMENCING WORKS AND SHALL ADOPT SAFE WORK PRACTICES THAT OBVIATE ANY RISK THAT SUCH STRUCTURES MAY PRESENT
10. THE SUPERINTENDENT HAS NOT INVESTIGATED THE SITE AND MAKES NO REPRESENTATION AS TO WHAT MAY EXIST ON OR BELOW THE SITE. THE CONTRACTOR SHALL MAKE THEIR OWN INVESTIGATIONS AS TO THE NATURE OF THE SUBSURFACE CONDITIONS OF THE SITE
11. ACCESS CHAMBER DEPTHS ARE SHOWN FOR WATER CORPORATION INFORMATION ONLY AND NOT TO BE USED FOR CONSTRUCTION
12. ALL LEVELS SHALL BE LOCATED FROM ESTABLISHED BENCHMARKS AS SUPPLIED BY THE SURVEYOR
13. CONTRACTOR SHALL PROVIDE SAFE AND DRY ACCESS FOR WATER CORPORATION

LEGEND

- PROPOSED SEWERS WITH NOTATION (PIPE DIA-CLASS / GRADE; IL IL; LENGTH(m))
- U/S 00.00 — UPSTREAM INVERT LEVEL
- 000/ 0.0 — PIPE DIA / GRADE
- D 0.0 — LENGTH
- D/S 00.00 — DOWNSTREAM INVERT LEVEL
- x0000 D 0.00 1 D — ACCESS CHAMBERS AS ABOVE WITH GATIC TYPE COVER; CLASS OF COVER, ACCESS CHAMBER DEPTH; ACCESS CHAMBER TYPE, D = DROP
- x0000 D 0.00 1 D — EXISTING ACCESS CHAMBER; ACCESS CHAMBER NUMBER
- PROPOSED GRAVITY SEWER WITH ACCESS CHAMBER AND PROPERTY CONNECTION
- EXISTING GRAVITY SEWER
- FUTURE GRAVITY SEWER
- DESIGN/EXISTING CONTOURS (0.20m INTERVAL)
- PROPOSED/ EXISTING/ FUTURE RETAINING WALL
- RETICULATION AREA BOUNDARY
- LOTS SERVICED IN PREVIOUS STAGE AND RELEASED IN THIS STAGE
- LOTS SERVICED IN THIS STAGE BUT RELEASED IN FUTURE STAGE
- EXISTING WATER MAIN

WARNING
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LOW RISK ISOLATION - EXCAVATION, CONSTRUCTION AND PIECE UP WORKS BY THE DEVELOPERS' CONTRACTOR. ISOLATION BY WATER CORPORATION AT THE DEVELOPERS COST.

HIGH RISK ISOLATION - WATER CORPORATION RESERVES THE RIGHT TO COMPLETE ALL, OR A PORTION OF, THE PIECE UP WORKS AT THE DEVELOPERS COST. ARRANGEMENTS FOR QUOTING AND PAYMENT FOR THOSE WORKS TO BE AGREED AT THE START-UP MEETING

SHIRE OF AUGUSTA MARGARET RIVER

FILE No. : 185839972

THIS PLAN IS ACCEPTED AS BEING IN ACCORDANCE WITH THE ENDORSED CONCEPT PLAN:

OQ71-200-001-01A

COMPLIANCE WITH THE RELEVANT DESIGN STANDARDS AND MANUALS REMAINS THE RESPONSIBILITY OF THE DESIGN ENGINEER.

NO WORKS ARE TO COMMENCE ON SITE UNTIL START-UP MEETING REQUIREMENTS HAVE BEEN MADE WITH THE RELEVANT ASSET INSPECTOR. REFER TO THE DEVELOPERS' MANUAL FOR CONTACT DETAILS.

TEETO LOMBARDO DEC 16, 2024

FOR MANAGER, DEVELOPMENT SERVICES

OR32-203-001-01A

REV	DATE	DRAWN	CHECKED	APPROVED	
1	05.05.25	CS	BWW	BJW	PRECAL REVISED TO REMOVE ROAD 3. SEWER ADJUSTED TO SUIT
0	20.01.25	LV	BJW	BJW	ISSUED FOR CONSTRUCTION
C	11.12.24	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	06.12.24	BWW	BWW	BJW	REVISED INITIAL SUBMISSION FOR APPROVAL
A	04.12.24	LV	BWW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

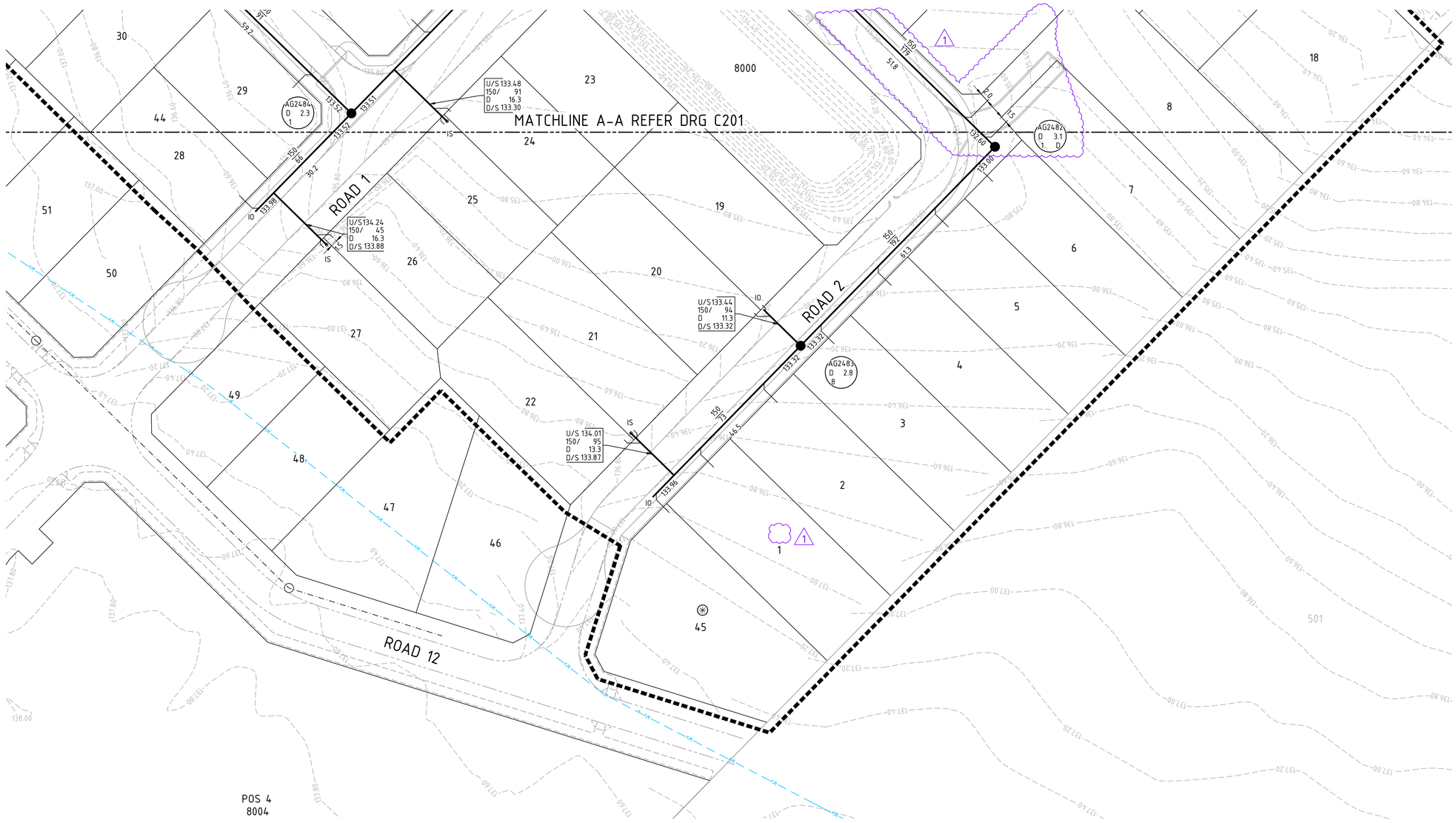
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SEWER RETICULATION PLAN SHEET 1

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: B.WHITFIELD	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C201 / REVISION: 1

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01_C201 FOR NOTES AND LEGEND



PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

LOW RISK ISOLATION – EXCAVATION, CONSTRUCTION AND PIECE UP WORKS BY THE DEVELOPERS' CONTRACTOR. ISOLATION BY WATER CORPORATION AT THE DEVELOPERS COST.

HIGH RISK ISOLATION – WATER CORPORATION RESERVES THE RIGHT TO COMPLETE ALL, OR A PORTION OF, THE PIECE UP WORKS AT THE DEVELOPERS COST. ARRANGEMENTS FOR QUOTING AND PAYMENT FOR THOSE WORKS TO BE AGREED AT THE START-UP MEETING

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OQ71-200-001-01A

COMPLIANCE WITH THE RELEVANT DESIGN STANDARDS AND MANUALS REMAINS THE RESPONSIBILITY OF THE DESIGN ENGINEER.

NO WORKS ARE TO COMMENCE ON SITE UNTIL START-UP MEETING REQUIREMENTS HAVE BEEN MADE WITH THE RELEVANT ASSET INSPECTOR. REFER TO THE DEVELOPERS' MANUAL FOR CONTACT DETAILS.

TEETO LOMBARDO DEC 16, 2024

FOR MANAGER, DEVELOPMENT SERVICES

SHIRE OF AUGUSTA MARGARET RIVER

FILE No. : 185839972

OR32-203-002-01A

REV	DATE	DRAWN	CHECKED	APPROVED	
1	05.05.25	CS	BWW	BJW	PRECAL REVISED TO REMOVE ROAD 3. SEWER ADJUSTED TO SUIT
0	20.01.25	LV	BJW	BJW	ISSUED FOR CONSTRUCTION
C	11.12.24	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	06.12.24	BWW	BWW	BJW	REVISED INITIAL SUBMISSION FOR APPROVAL
A	04.12.24	LV	BWW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SEWER RETICULATION PLAN SHEET 2

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: B.WHITFIELD	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C202 / REVISION: 1

Plotted By: BWhitfield Plot Date: 05/05/25 - 10:34 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C201-C202.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242318.01 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL CONSTRUCTION DETAILS TO BE TO LOCAL AUTHORITY SPECIFICATION AND SATISFACTION
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL ROADS TO BE BLACK ASPHALT UNLESS SHOWN OTHERWISE
6. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
7. ALL TRANSITIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE
8. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AND MAKE SMOOTH CONNECTION PRIOR TO CONSTRUCTION COMMENCING
9. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
10. FOR LOCATION OF UNDERGROUND SERVICES REFER TO RELEVANT SERVICES PLAN
11. ALL IRRIGATION SLEEVES SHALL EXTEND 0.5m PAST KERBS PATHS ETC.
12. ALL IRRIGATION SLEEVES SHALL BE LAID WITH 600mm COVER MINIMUM.

LEGEND

- LIMIT OF WORKS
- 2 — PROPOSED LOT NUMBER
- PROPOSED MOUNTABLE KERB
- PROPOSED SEMI MOUNTABLE KERB
- PROPOSED BARRIER KERB
- PROPOSED REINFORCED FLUSH EDGE BEAM
- EXISTING KERB
- FUTURE PATH/ROAD
- PROPOSED/EXISTING DRAINAGE PIT
- PROPOSED/EXISTING HEADWALL
- PROPOSED/EXISTING SEWER MANHOLE
- EXISTING PAVEMENT
- PROPOSED RED ASPHALT
- PROPOSED FOOTPATH 2.0m
- PROPOSED BRICK PAVING (MIDLAND BRICK PAVESTONE 80 CLASSIC - HERITAGE RED)
- MAKE SMOOTH TRANSITION TO EXISTING PAVEMENT
- PROPOSED PRAM RAMP AND TACTILE MARKERS IN ACCORDANCE WITH COUNCIL SPECIFICATIONS
- CHEVRON BOARD D4-5
- PROPOSED STREET SIGN
- PROPOSED STREET LIGHT
- PROPOSED STREET LIGHT WITH 2 ROAD NAME SIGNS
- EXISTING STREET LIGHT
- CH 100 — ROAD CENTRELINE CHAINAGE
- TP 100 — ROAD CENTRELINE TANGENT POINT
- ROAD 1 — ROAD NAME
- PROPOSED KERB OPENING - REFER TO DRAWING C911 FOR DETAILS
- PROPOSED BASIN
- PROPOSED IRRIGATION SLEEVE UNDER ROAD DN200 UPVC CLASS 9
- PROPOSED BIN PAD (REFER C302 FOR DETAIL)
- PROPOSED/EXISTING RETAINING WALL
- EXISTING KERB TO BE REMOVED

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A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

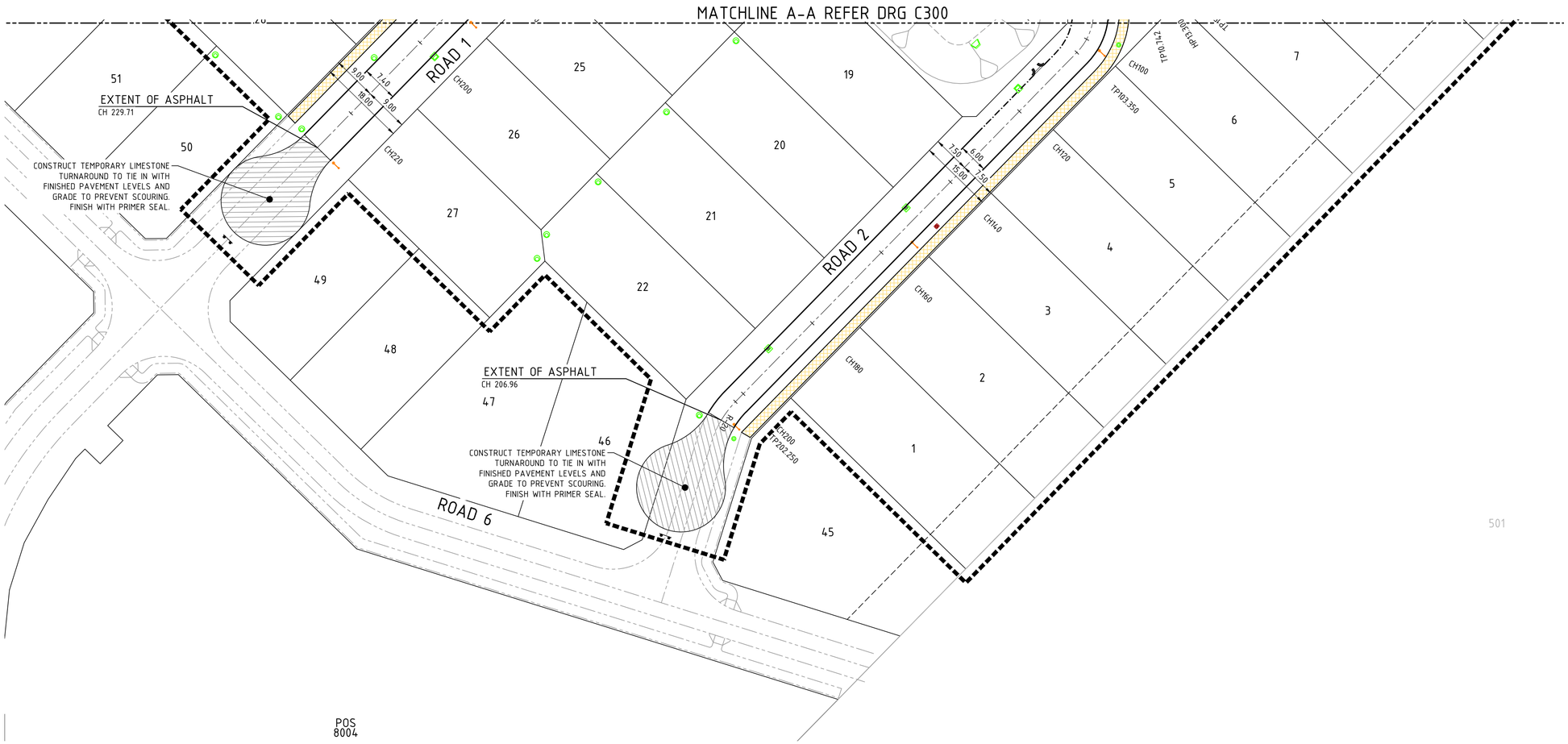
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: ROADS AND TREATMENT PLAN SHEET 1

DRAWN	WAPC No.
L.VU	200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C300 / REVISION: B

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C300 FOR NOTES AND LEGEND



PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

501

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A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: ROADS AND TREATMENT PLAN SHEET 2

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C301 / REVISION: B

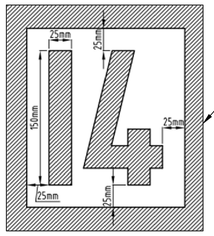
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:04 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C300-C302.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C300 FOR NOTES AND LEGEND

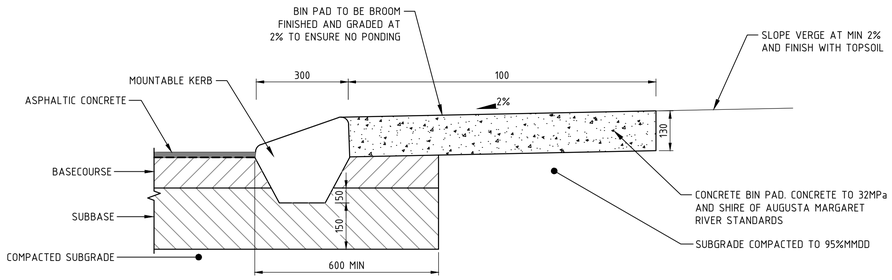
PROVISION FOR 2 BINS (1 PAD) PER HOUSE.
PAD DIMENSIONS 2.0L X 1.0D.

HOUSE NUMBERS TO BE CONFIRMED BY SHIRE.

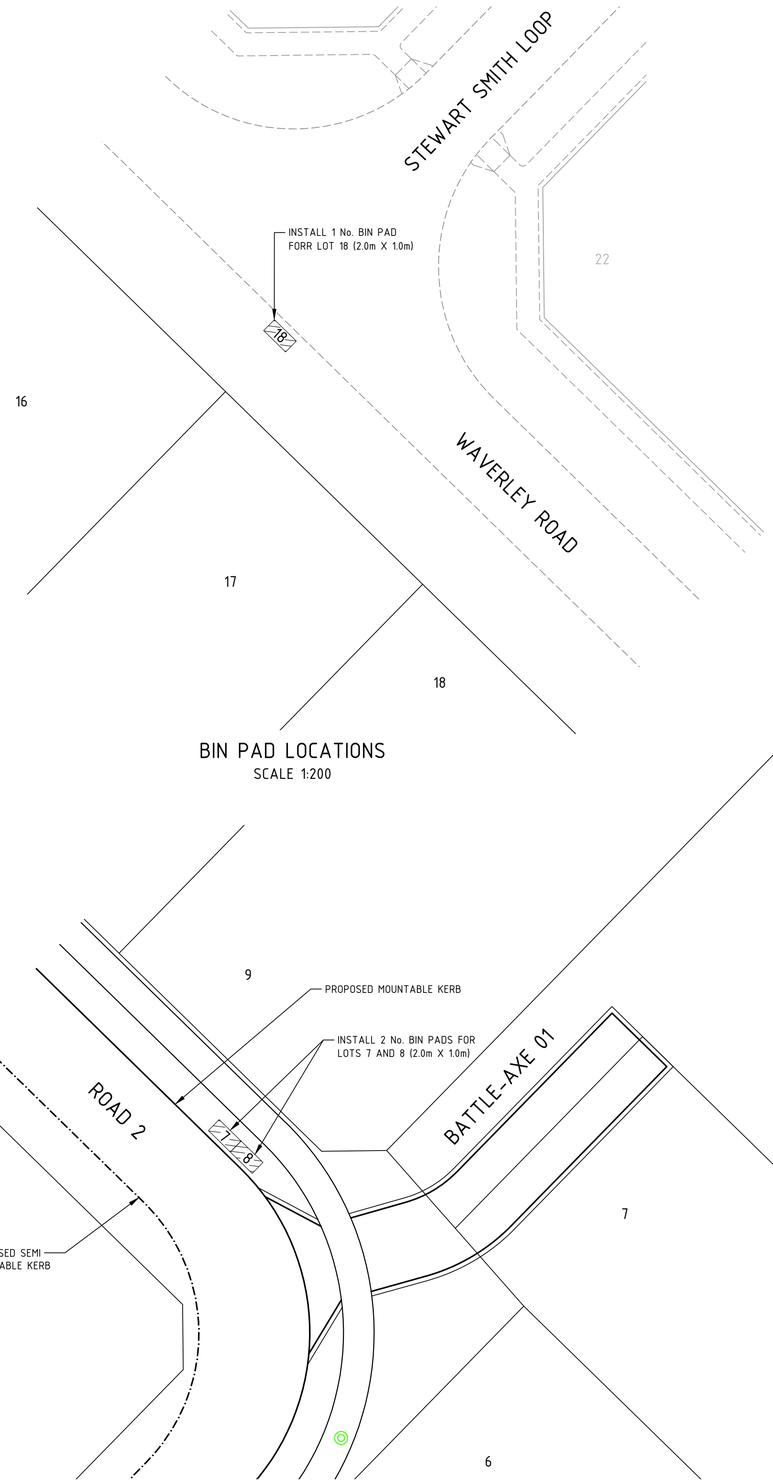


BIN PAD NUMBERING (BLACK) AND BACKING PAINT (WHITE) TO BE PLACED CENTRALLY ON EACH PAD WITH PAINT SUITABLE FOR EXTERNAL CONCRETE APPLICATIONS. NUMBERING ORIENTATION TO SUIT READING FROM ROAD.

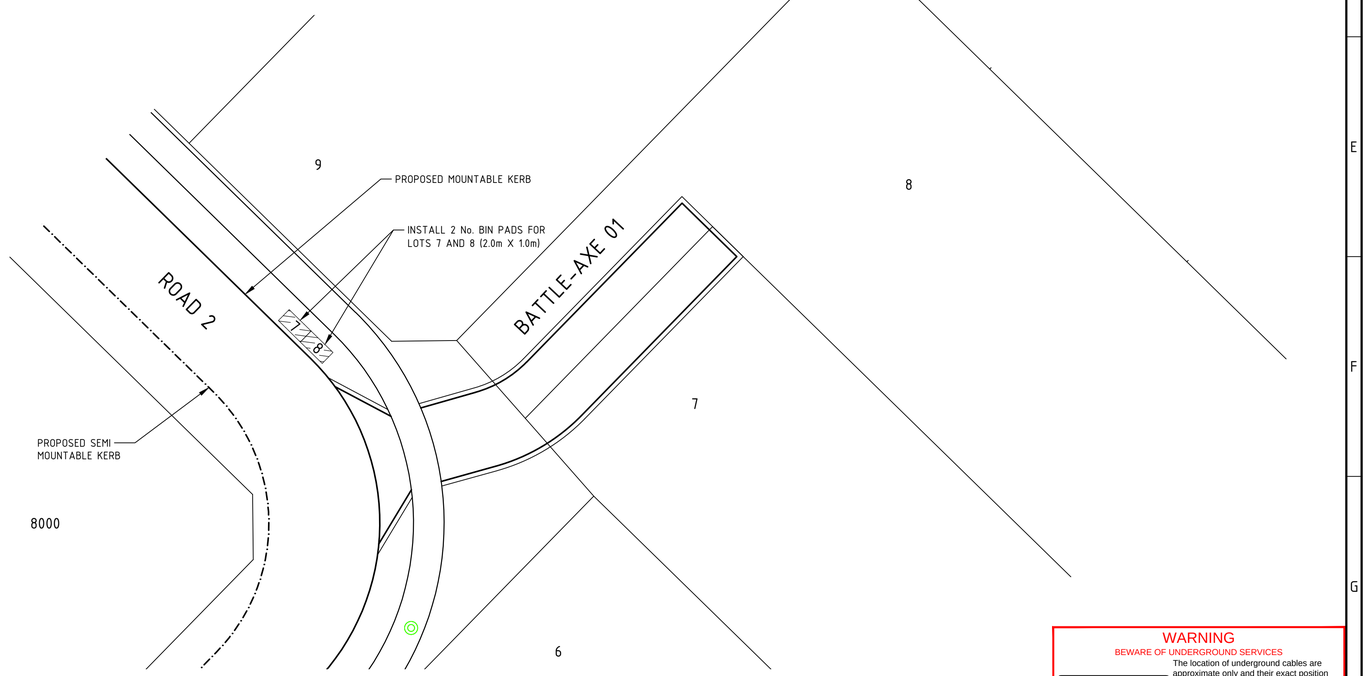
TYPICAL BIN PAD NUMBERING DETAIL
NOT TO SCALE



TYPICAL BIN PAD
NOT TO SCALE



BIN PAD LOCATIONS
SCALE 1:200



BIN PAD LOCATIONS
SCALE 1:200

0 2 4 8 12m
SCALE 1:200 @ ORIGINAL SHEET SIZE A1

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

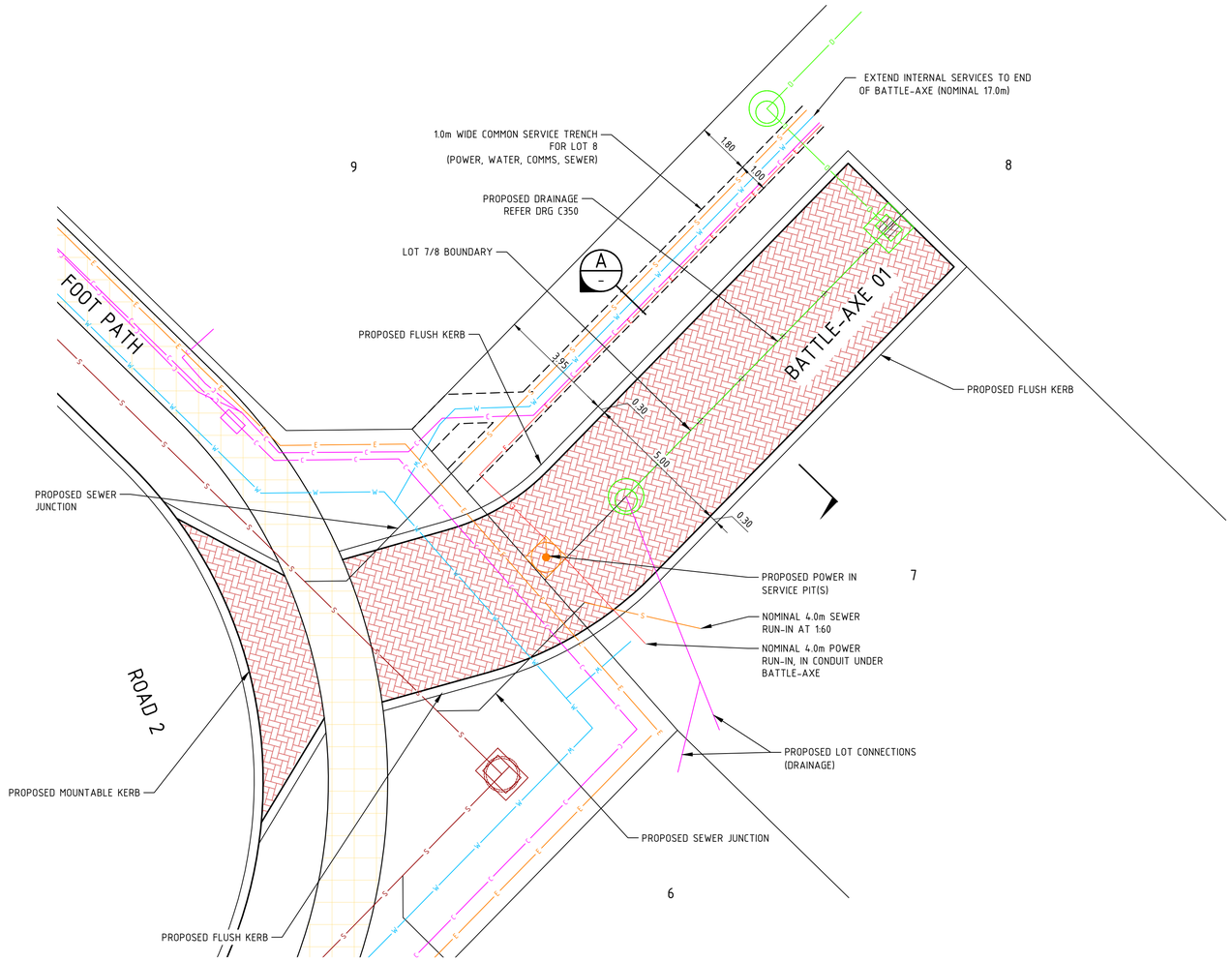
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: BIN PAD PLAN AND DETAILS

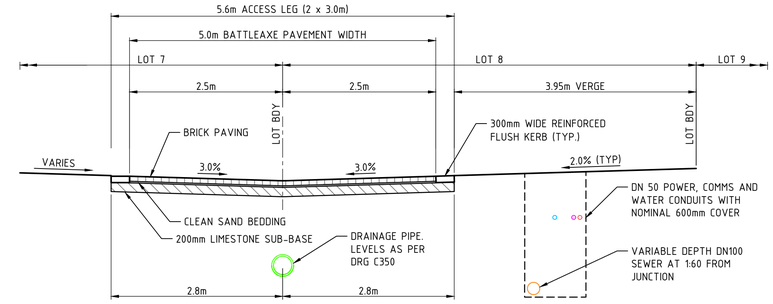
DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:200
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C302 / REVISION: B

NOTES

1. FOR LEGEND REFER TO DRAWING JDS242318.01A_C300



BATTLE-AXE LOTS 7 & 8
SCALE 1:100



SECTION
SCALE 1:20

0 1 2 4 6m
SCALE 1:100 @ ORIGINAL SHEET SIZE A1

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

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REV	DATE	DRAWN	CHECKED	APPROVED	
A	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: BATTLE-AXE LOT SERVICING TYPICAL ALIGNMENT AND DETAILS

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C303		REVISION: A

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:13 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C303.dwg

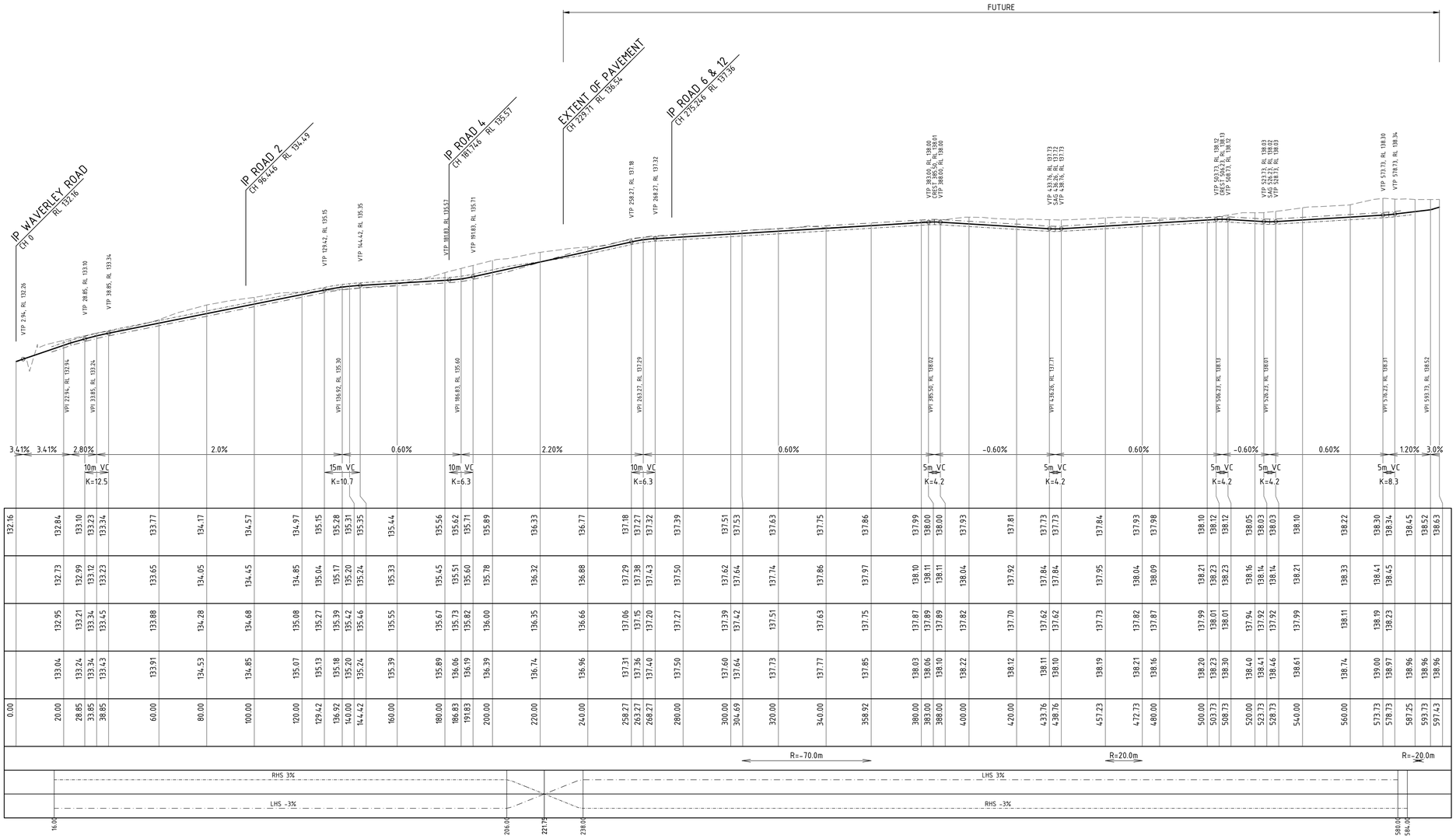
NOTES

1. DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

LEGEND

DESIGN SURFACE

EXISTING SURFACE



LONGITUDINAL SECTION ROAD 1

SCALE HORIZ 1 : 1000
VERT 1 : 100

0 10 20 40 60m
SCALE 1:1000 @ ORIGINAL SHEET SIZE A1

0 1 2 4 6m
SCALE 1:100 @ ORIGINAL SHEET SIZE A1

WARNING

BEWARE OF UNDERGROUND SERVICES

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	CS	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRRING ROAD
COWARAMUP STAGE 01A

DRAWING TITLE:
ROAD LONGITUDINAL SECTIONS
SHEET 1

DRAWN L.VU	WAPC No. 200656
DESIGNED L.VU	SCALE @ A1 AS SHOWN
PROJECT MANAGER B.WASHFOLD	DATUM AHD71 / CO-ORDS MRCG94
JDSI PROJECT No. JDS242318.01A	DRAWING No. C320 / REVISION B

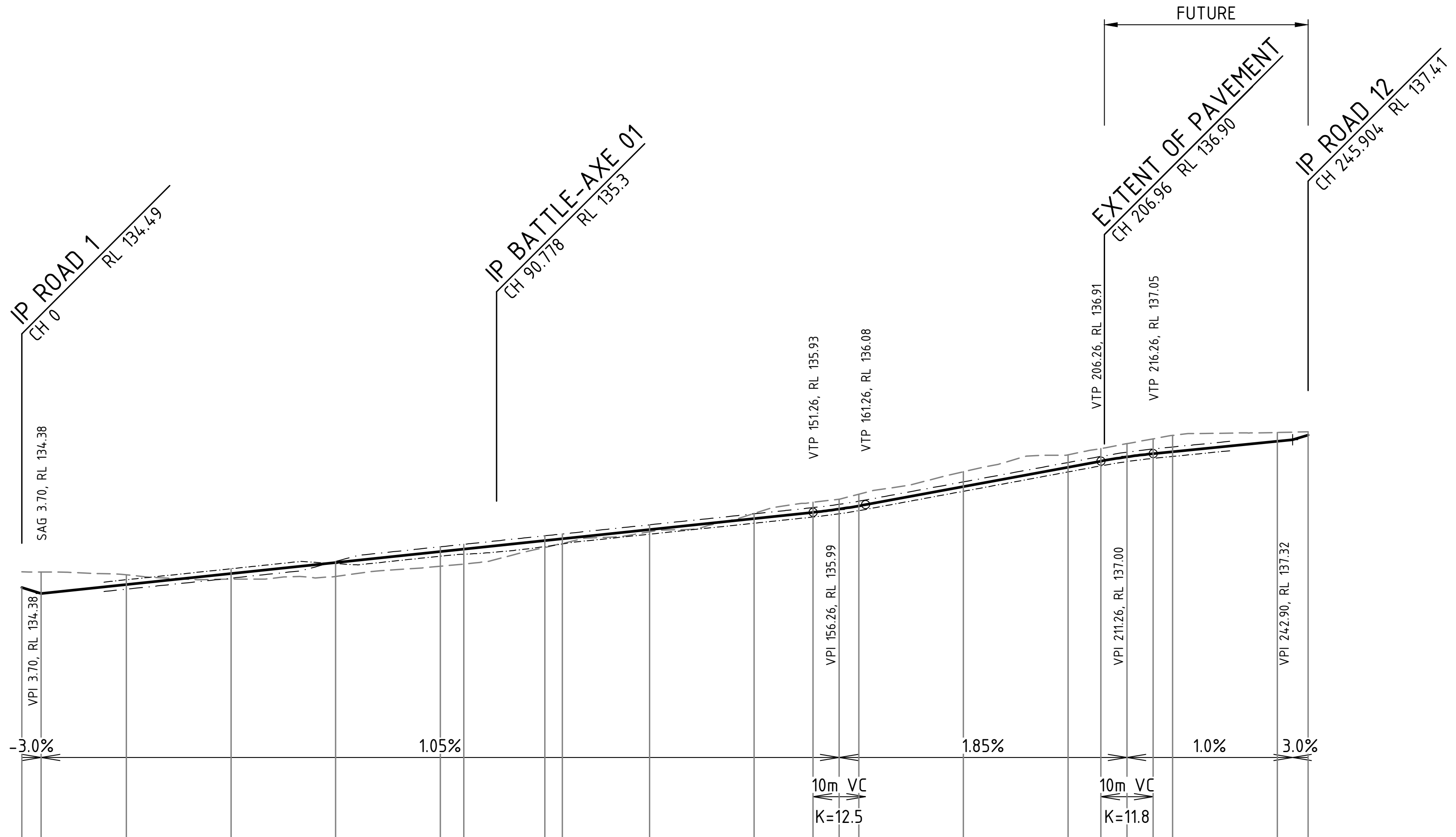
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:15 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C320-C321.dwg

NOTES

1. DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

LEGEND

▬▬▬	DESIGN SURFACE
– – –	EXISTING SURFACE



GRADE (%)
VC LENGTH / K VALUE

DATUM RL 129.0

CENTRE LINE CHAINAGE	0.00	3.70	20.00	40.00	60.00	80.00	84.50	100.00	103.35	120.00
CENTRE LINE DESIGN LEVEL	134.49	134.38	134.55	134.76	134.97	135.18	135.23	135.39	135.43	135.60
LEFT EDGE			134.46	134.67	135.00	135.27	135.32	135.48	135.52	135.69
RIGHT EDGE			134.64	134.85	134.95	135.09	135.13	135.28	135.33	135.51
EXISTING SURFACE LEVEL		134.79	134.74	134.66	134.71	134.90	134.94	135.26	135.34	135.56

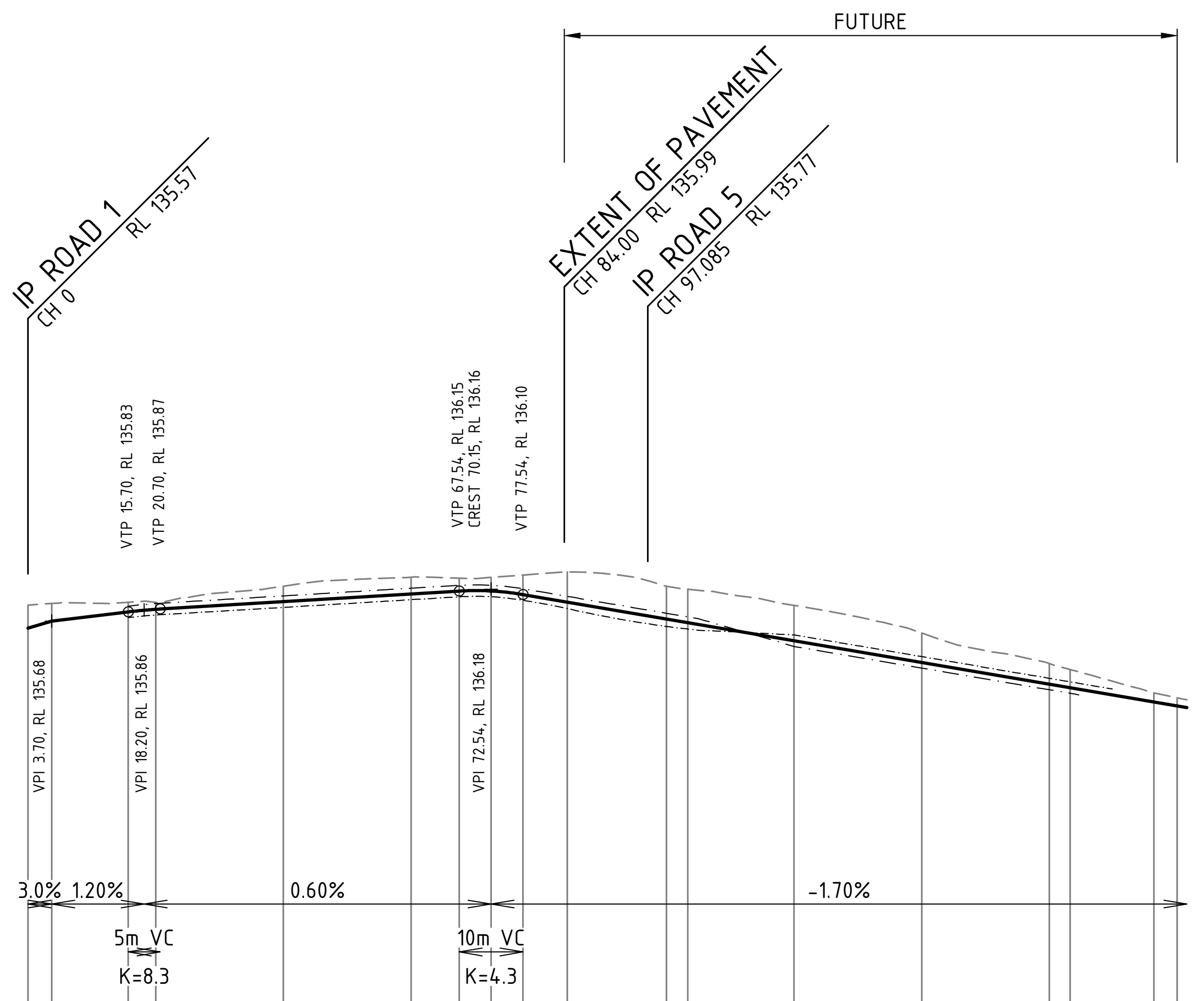
CENTRE LINE CHAINAGE	140.00	151.26	156.26	160.00	180.00	200.00	206.26	211.26	216.26	220.00	240.00	245.90
CENTRE LINE DESIGN LEVEL	135.81	135.93	136.00	136.06	136.42	136.79	136.91	136.99	137.05	137.09	137.29	137.41
LEFT EDGE	135.90	136.02	136.09	136.15	136.51	136.88	137.00	137.08	137.14	137.18		
RIGHT EDGE	135.72	135.84	135.91	135.97	136.33	136.70	136.82	136.90	136.96	137.00		
EXISTING SURFACE LEVEL	135.91	136.13	136.18	136.28	136.71	137.03	137.15	137.24	137.34	137.40	137.46	137.47

HORIZONTAL ALIGNMENT: R=12.0m; R=-20.0m

SUPER ELEVATION: RHS 3%, LHS -3% (16.00 – 52.00); 58.00; LHS 3%, RHS -3% (64.00 – 230.00)

LONGITUDINAL SECTION ROAD 2

SCALE HORIZ 1 : 1000
VERT 1 : 100



GRADE (%)
VC LENGTH / K VALUE

DATUM RL 129.0

CENTRE LINE CHAINAGE	0.00	3.70	15.70	20.00	40.00	60.00	67.54	72.54	77.54
CENTRE LINE DESIGN LEVEL	135.57	135.68	135.83	135.87	135.99	136.11	136.15	136.16	136.10
LEFT EDGE				135.96	136.08	136.20	136.24	136.25	136.19
RIGHT EDGE			135.74	135.78	135.90	136.02	136.06	136.07	136.01
EXISTING SURFACE LEVEL	135.93	135.96	135.98	135.98	136.23	136.37	136.36	136.37	136.41

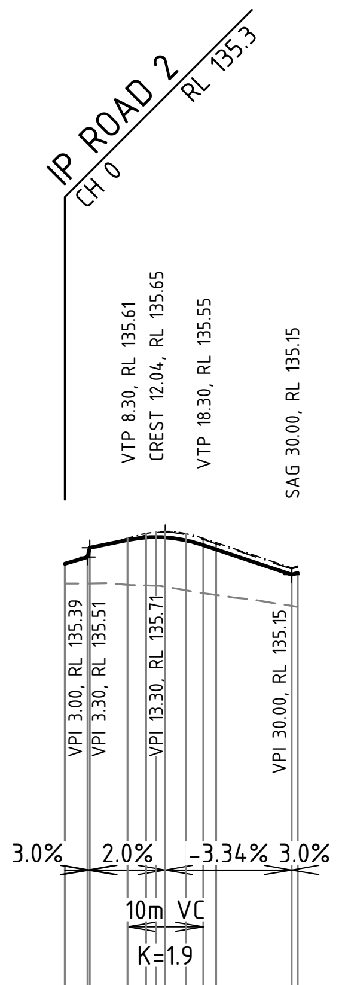
CENTRE LINE CHAINAGE	84.50	100.00	103.35	120.00	140.00	160.00	163.27	176.36	180.00
CENTRE LINE DESIGN LEVEL	135.98	135.72	135.66	135.38	135.04	134.70	134.64	134.42	134.36
LEFT EDGE	136.07	135.81	135.75	135.29	134.95	134.61	134.55		
RIGHT EDGE	135.88	135.60	135.56	135.47	135.13	134.79	134.73		
EXISTING SURFACE LEVEL	136.45	136.23	136.18	135.93	135.50	135.02	134.93	134.56	134.48

HORIZONTAL ALIGNMENT: R=12.0m; R=-30.0m

SUPER ELEVATION: LHS 3%, RHS -3% (16.00 – 104.00); 112.50; RHS 3%, LHS -3% (120.00 – 164.00); 168.00

LONGITUDINAL SECTION ROAD 4

SCALE HORIZ 1 : 1000
VERT 1 : 100



GRADE (%)
VC LENGTH / K VALUE

DATUM RL 129.0

CENTRE LINE CHAINAGE	0.00	3.00	3.30	8.30	10.74	12.04	13.30	15.99	18.30	20.00	30.00	30.80
CENTRE LINE DESIGN LEVEL	135.30	135.39	135.51	135.61	135.65	135.65	135.65	135.61	135.55	135.49	135.15	135.18
LEFT EDGE				135.61	135.67	135.70	135.71	135.68	135.62	135.56	135.23	
RIGHT EDGE				135.64	135.70	135.72	135.73	135.70	135.64	135.58	135.24	
EXISTING SURFACE LEVEL	135.04	135.04	135.04	135.02	135.01	135.01	135.00	134.95	134.91	134.89	134.74	134.73

HORIZONTAL ALIGNMENT: R=-10.0m

SUPER ELEVATION: LHS and RHS 3% (8.64; 14.00 – 30.00)

LONGITUDINAL SECTION BATTLE-AXE 01

SCALE HORIZ 1 : 1000
VERT 1 : 100

0 10 20 40 60m
SCALE 1:1000 @ ORIGINAL SHEET SIZE A1

0 1 2 4 6m
SCALE 1:100 @ ORIGINAL SHEET SIZE A1

WARNING
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BEFORE YOU DIG www.byda.com.au
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A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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Certified Quality System to ISO 9001

JDSi
CONSULTING ENGINEERS

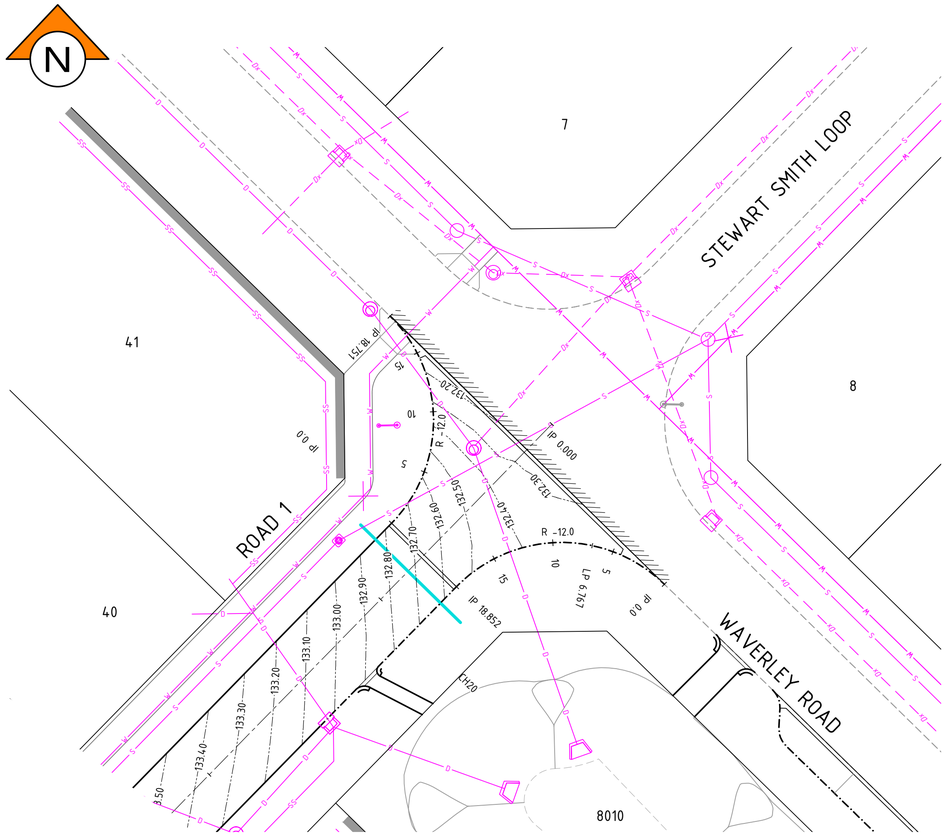
CLIENT:
Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRRING ROAD
COWARAMUP STAGE 01A

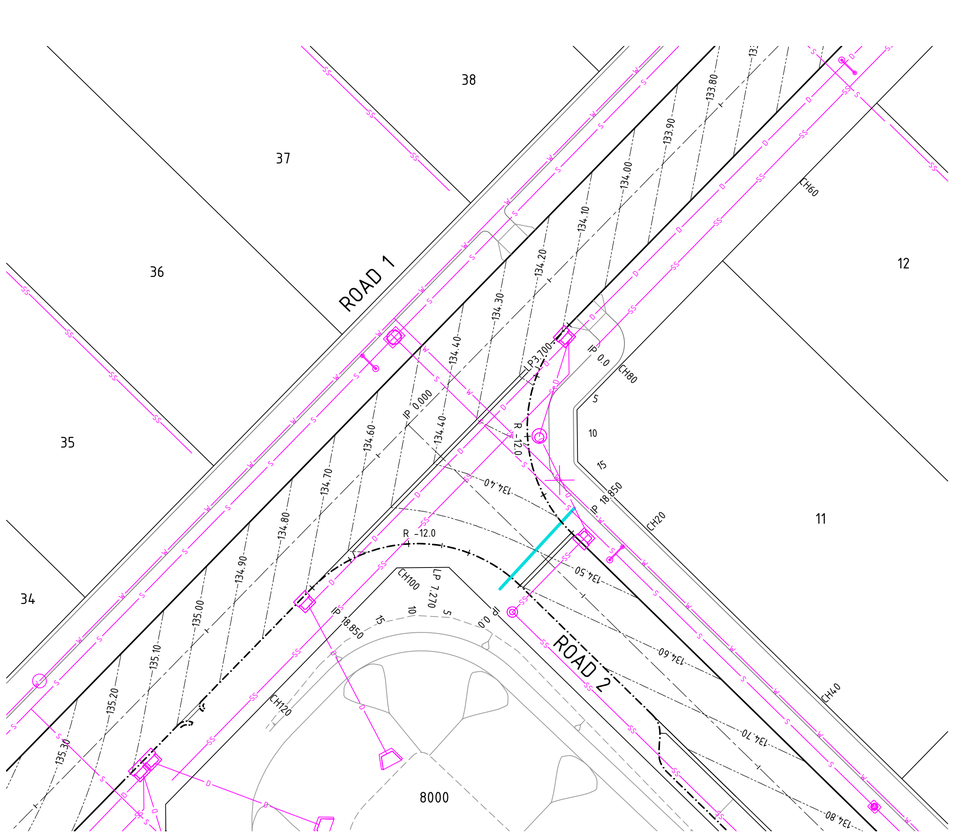
DRAWING TITLE:
ROAD LONGITUDINAL SECTIONS
SHEET 2

DRAWN	L.VU
DESIGNED	L.VU
PROJECT MANAGER	B.WASHFOLD
WAPC No.	200656
SCALE @ A1	AS SHOWN
DATUM	AHD71
CO-ORDS	MRCG94
JDSi PROJECT No.	JDS242318.01A
DRAWING No.	C321
REVISION	B

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:15 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C320-C321.dwg



PLAN
SCALE 1:250



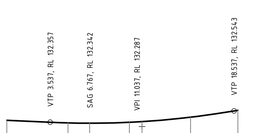
PLAN
SCALE 1:250

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL CONSTRUCTION DETAILS TO BE TO LOCAL AUTHORITY SPECIFICATION AND SATISFACTION
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL TRANSITIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE
7. ALL TRENCHING, PIPE BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH AS3725
8. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AND MAKE SMOOTH CONNECTION

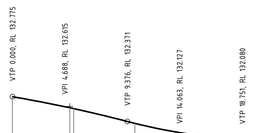
LEGEND

- 2 — PROPOSED LOT NUMBER
- PROPOSED MOUNTABLE KERB
- PROPOSED SEMI MOUNTABLE KERB
- PROPOSED BARRIER KERB
- PROPOSED REINFORCED FLUSH EDGE BEAM
- PROPOSED RETAINING WALL
- EXISTING KERB
- FUTURE WORKS
- PROPOSED DRAINAGE & SEP
- PROPOSED DRAINAGE & CSEP
- PROPOSED DRAINAGE & JP
- PROPOSED DRAINAGE & GP OR CGP
- EXISTING DRAINAGE & PITS
- FUTURE DRAINAGE & PITS
- FUTURE SEWER
- FUTURE WATER
- PROPOSED/EXISTING SEWER
- PROPOSED/EXISTING SUBSOIL DRAINAGE
- PROPOSED/EXISTING GAS
- PROPOSED/EXISTING WATER
- 15.0 — DESIGN CONTOURS (0.1m INTERVAL)
- KERB RETURN CHAINAGE
- 10 5 — PROPOSED PRAM RAMP IN ACCORDANCE WITH COUNCIL SPECIFICATIONS TGSI TO BE INSTALLED WHERE INDICATED
- PROPOSED STREET SIGN
- PROPOSED STREET LIGHT
- PROPOSED STREET LIGHT WITH 2 ROAD NAME SIGNS
- EXSTING STREET LIGHT
- ROAD 1 — ROAD NAME
- MAKE SMOOTH TRANSITION TO EXISTING PAVEMENT
- PROPOSED IRRIGATION SLEEVE UNDER ROAD DN200 UPVC
- PROPOSED BATTER



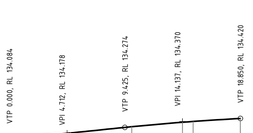
GRADE (%)		-0.94%		3.41%
VC LENGTH		15m VC		
		K=3.5		
DATUM RL 130.0				
DESIGN LEVEL	132.39	132.35	132.34	132.36	132.37	132.44	132.55
CHAINAGE	0.00	5.00	6.77	10.00	11.04	15.00	18.85
RADIUS	R=-12.0m						

KERB RETURN LONGITUDINAL SECTION
WAVERLEY ROAD to ROAD 1
SCALE HORIZ 1 : 250
VERT 1 : 50



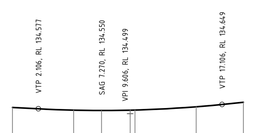
GRADE (%)		-3.41%	-5.21%	-1.01%	
VC LENGTH		9.376m VC	9.376m VC		
		K=5.2	K=2.2		
DATUM RL 130.0					
DESIGN LEVEL	132.78	132.59	132.58	132.34	132.18	132.15	132.08
CHAINAGE	0.00	4.69	5.00	10.00	14.06	15.00	18.75
RADIUS	R=-12.0m						

KERB RETURN LONGITUDINAL SECTION
ROAD 1 to WAVERLEY ROAD
SCALE HORIZ 1 : 250
VERT 1 : 50



GRADE (%)		2.00%	2.04%	1.05%	
VC LENGTH		9.425m VC	9.425m VC		
		K=235.2	K=9.5		
DATUM RL 132.0					
DESIGN LEVEL	134.08	134.18	134.18	134.29	134.36	134.37	134.42
CHAINAGE	0.00	4.71	5.00	10.00	14.14	15.00	18.85
RADIUS	R=-12.0m						

KERB RETURN LONGITUDINAL SECTION
ROAD 1 to ROAD 2
SCALE HORIZ 1 : 250
VERT 1 : 50



GRADE (%)		-1.05%	2.00%	
VC LENGTH		15m VC		
		K=4.9		
DATUM RL 132.0				
DESIGN LEVEL	134.6	134.56	134.55	134.56	134.56	134.61	134.68
CHAINAGE	0.00	5.00	7.27	9.61	10.00	15.00	18.85
RADIUS	R=-12.0m						

KERB RETURN LONGITUDINAL SECTION
ROAD 2 to ROAD 1
SCALE HORIZ 1 : 250
VERT 1 : 50

0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

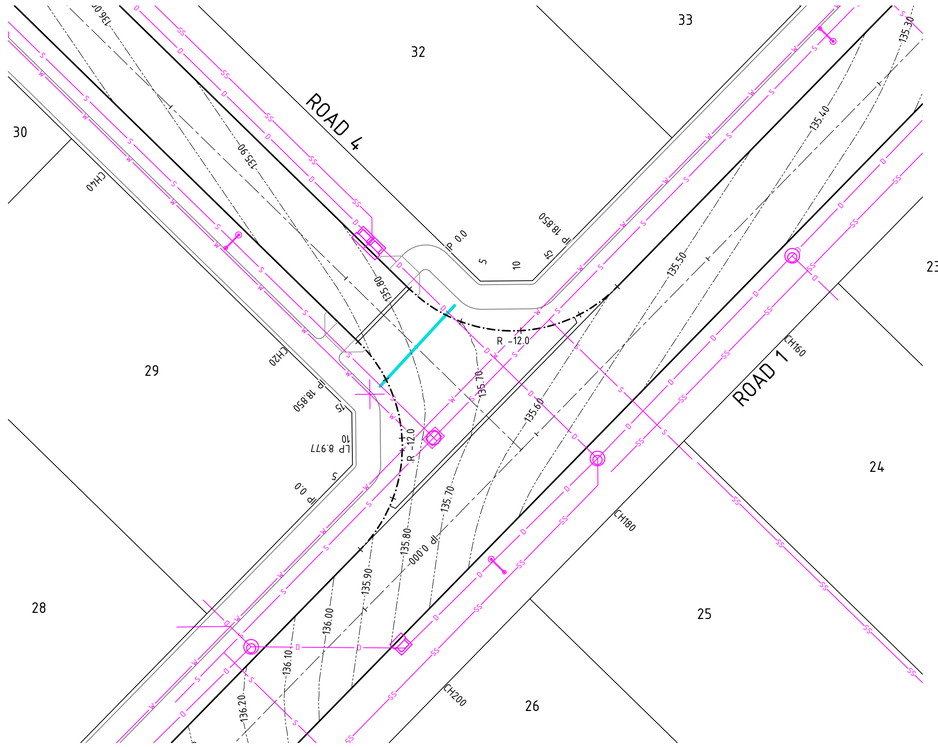
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 1

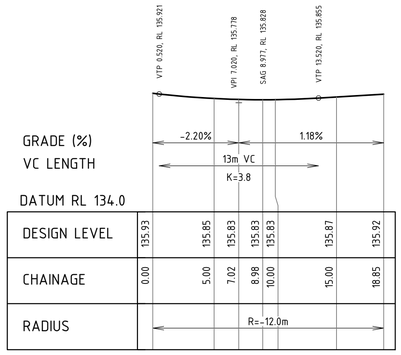
DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSI PROJECT No.: JDS242318.01A	DRAWING No.: C330	REVISION: B	

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. REFER DRAWING JDS242318.01A_C330 FOR NOTES AND LEGEND.

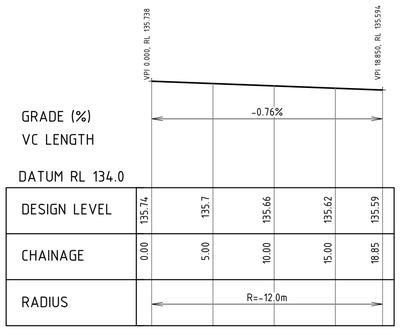


PLAN
SCALE 1:250



DATUM RL 134.0							
DESIGN LEVEL	135.93	135.85	135.83	135.83	135.83	135.87	135.92
CHAINAGE	0.00	5.00	7.02	8.98	10.00	15.00	18.85
RADIUS	R=-12.0m						

KERB RETURN LONGITUDINAL SECTION
ROAD 1 to ROAD 4
SCALE HORIZ 1 : 250
VERT 1 : 50



DATUM RL 134.0						
DESIGN LEVEL	135.74	135.7	135.66	135.62	135.59	
CHAINAGE	0.00	5.00	10.00	15.00	18.85	
RADIUS	R=-12.0m					

KERB RETURN LONGITUDINAL SECTION
ROAD 4 to ROAD 1
SCALE HORIZ 1 : 250
VERT 1 : 50

0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 2

DRAWN L.VU		WAPC No. 200656	
DESIGNED L.VU		SCALE @ A1 AS SHOWN	
PROJECT MANAGER B.WASHFOLD	DATUM AHD71	CO-ORDS MRCG94	
JDSi PROJECT No. JDS242318.01A	DRAWING No. C331	REVISION B	

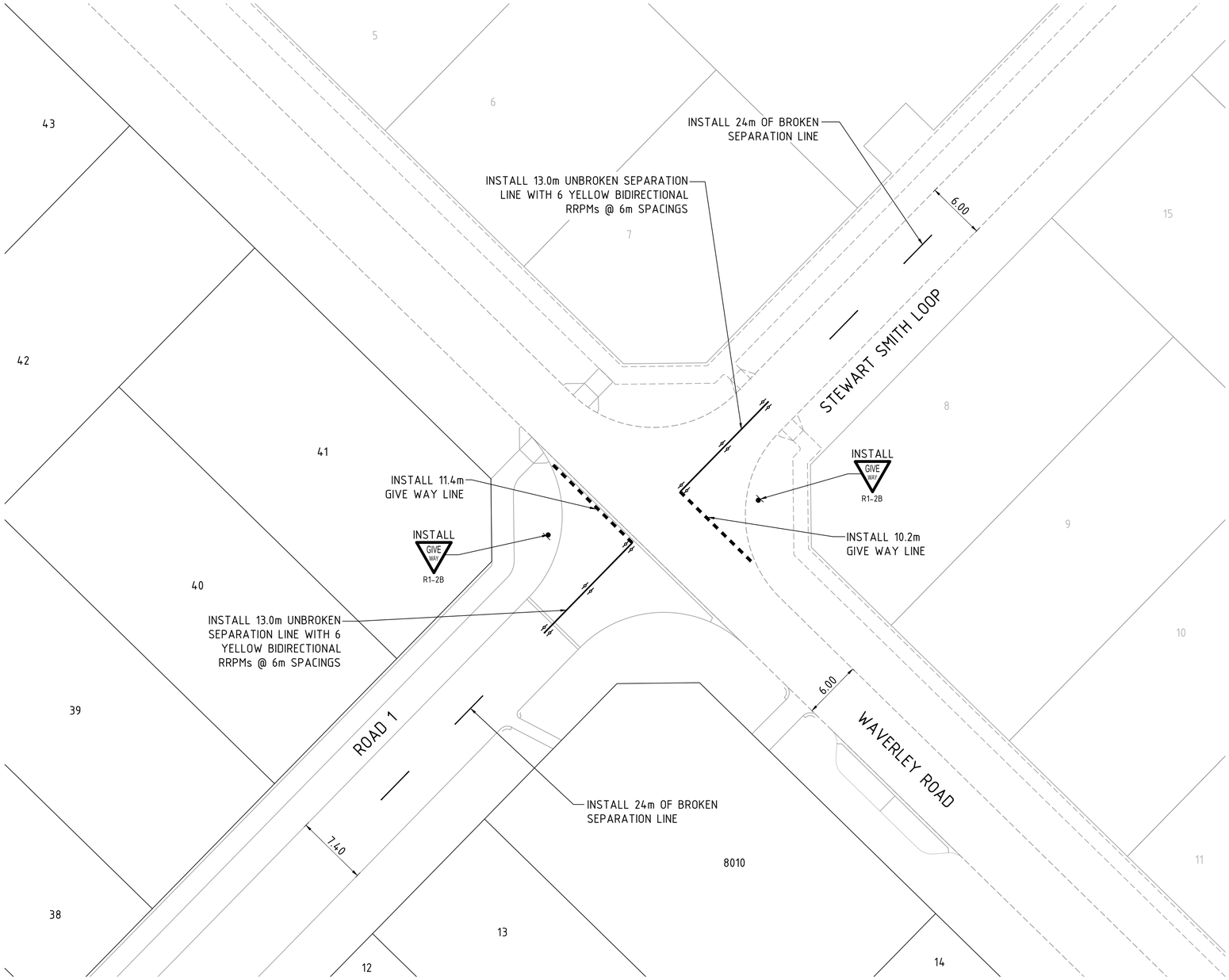
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:17 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C330-C331.dwg

NOTES

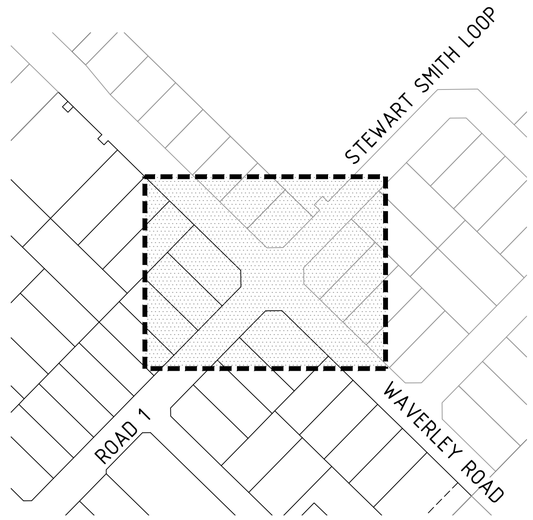
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
3. FOR PAVEMENT MARKING LINE TYPES REFER TO MRWA STANDARD DRG 9931-0198
4. FOR DIAGONAL MARKING DETAILS REFER TO MRWA STANDARD DRG 200331-091
5. FOR RAISED RETRO-REFLECTIVE PAVEMENT MARKER LOCATIONS REFER TO MRWA STANDARD DRG 9120-158
6. ALL LINEMARKING AND SIGNS TO BE INSTALLED AS PER MRWA SPECIFICATIONS AND BY MRWA APPROVED CONTRACTORS.
7. CONTRACTOR TO PROVIDE:
   - 7.1. PVC SLEEVES (150mm) WHERE SIGNS ARE LOCATED WITHIN PAVED AREAS
   - 7.2. SPOTTING TO MRWA GUIDELINES AT THE PROPOSED POSITIONS OF PAVEMENT MARKINGS

LEGEND

- PROPOSED LINEMARKING
- PROPOSED EDGE OR ROAD
- EXISTING EDGE OF ROAD
- YELLOW BIDIRECTIONAL RAISED PAVEMENT MARKER
- PROPOSED SIGN POST
- EXISTING SIGN POST



PLAN
SCALE 1:250



LOCALITY PLAN
NTS

0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

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A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SIGNS AND LINE MARKING PLAN

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:250	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C340		REVISION: B

DRAINAGE BASIN A1.2
REFER C360 FOR BASIN DETAILS

DRAINAGE BASIN A1.4
REFER C360 FOR BASIN DETAILS

DRAINAGE BASIN A1.5
REFER C360 FOR BASIN DETAILS

WAVERLEY ROAD

ROAD 1

ROAD 2

ROAD 4

ROAD 5

BATTLE-AXE 01

STEWART SMITH LOOP

CUT BACK EXISTING DN150 PVC TO BE CLEAR OF PROPOSED SERVICES. CAP AND SEAL PIPE.

CUT BACK EXISTING DN150 PVC PIPE TO BE MINIMUM 0.5M CLEAR OF NEW DRAINAGE TRENCH. CAP AND SEAL PIPE

EXISTING SWALE TO BE IN-FILLED AND PIPED DRAINAGE INSTALLED

CONTRACTOR TO CONVERT EXISTING GP TO JP AND RAISE TO NEW FINISHED LEVEL

CONTRACTOR TO INSTALL A DN225mm PVC (SN8) SLEEVE INSIDE OF EXISTING DN300 RC PIPE. SLEEVE TO BE CENTRED AND EXTEND A MINIMUM OF 0.5m INTO THE EXISTING PIPE AND 100mm OUTSIDE OF PIPE. GAP BETWEEN PIPES TO BE FULLY GROUTED WITH MORTAR.

INSTALL 6m SEALED INLET AT I.L 132.32

INSTALL JP ON EXISTING DRAINAGE LINE

OUTLET REFER TABLE 1

REFER NOTE 16 FOR LOT CONNECTION DETAILS IN REAR OF LOTS (TYP).

MATCHLINE B-B REFER DRG C351

MATCHLINE A-A REFER DRG C351

TABLE 1

BASIN	OUTLET PIPE SIZE	HEADWALL ORIFICE PLATE DIAMETER
A1.2	DN300	175mm
A1.4	DN375	350
A1.5	DN300	N/A

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242318.01 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. THE CONSTRUCTION OF WORKS SHALL BE TO THE APPROVAL OF THE LOCAL AUTHORITY
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL TRENCHING, PIPE BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH AS3725
7. ALL DRAINAGE PITS SHALL BE LOCATED AS SHOWN IRRESPECTIVE OF PIPE LENGTHS SHOWN ON THE DRAWINGS
8. AT LOW POINTS THE ENTRY PITS SHALL BE LOCATED AT THE LOW POINT OF THE ROAD PAVEMENT
9. THE DRAINAGE PIT LIDS SHALL BE SET TO SUIT THE VERGE SLOPE, NOMINALLY 2% UPWARDS FROM THE TOP OF BACK OF KERB
10. WHERE A SEWER LINE INTERSECTS WITH STORMWATER DRAINAGE LINE AND THE SEWER PASSES OVER THE DRAIN THEN THE SEWER SHALL HAVE A TIMBER PILE AND KEEL PROVIDED FOR THE FULL EXTENT NECESSARY TO SUPPORT THE SEWER DURING EXCAVATION FOR THE DRAIN
11. THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
12. ALL JUNCTION PITS LOCATED IN THE ROAD PAVEMENT SHALL HAVE TRAFFICABLE LIDS
13. FOR SERVICE CROSSING LEVELS REFER TO DRAINAGE LONGITUDINAL SECTIONS
14. ROAD PAVEMENT TYPES AND BRICK PAVING REMOVED FOR CLARITY - REFER TO PAVEMENT DRAWING FOR DETAILS
15. IN CIRCUMSTANCES WHERE MULTIPLE PIPES ENTER A LINER A MINIMUM OF 40% OF THE LINER SHALL REMAIN IN ANY HORIZONTAL PLANE. ALL PITS CLASS 2 RCP UNO ALL JP LIDS TO BE RAISED STEEL LIDS CLASS 'D' TO AS3996.
16. REFER DRAWING C912 FOR TYPICAL LOT CONNECTION AND LOT CONNECTION PIT DETAIL

LEGEND

- LIMIT OF WORKS
- 2 — LOT NUMBER
- PIPE DIA-CLASS / GRADE / IL / IL / LENGTH(m) — PROPOSED DRAINAGE WITH NOTATION
- CLASS (CLASS IF NOT CLASS 2)
- U/S 00.00 — UPSTREAM INVERT LEVEL
- 300/ 0.0 — PIPE DIA / GRADE
- D 0.0 — LENGTH
- D/S 00.00 — DOWNSTREAM INVERT LEVEL
- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- EXISTING DRAINAGE TO BE REMOVED
- FUTURE DRAINAGE
- EXISTING/ PROPOSED/ FUTURE SUBSOIL DRAINAGE
- PROPOSED/EXISTING/FUTURE SEWER
- PROPOSED JUNCTION PIT
- PROPOSED SIDE ENTRY PIT
- PROPOSED DOUBLE SIDE ENTRY PIT
- PROPOSED COMBINATION SIDE ENTRY/GULLY PIT
- PROPOSED GULLY PIT
- JP 1 — PIT TYPE / PIT NUMBER
- CH 0.0 — CHAINAGE
- JP — JUNCTION PIT
- DGP — DOUBLE GRATED PIT
- GP — GRATED PIT (TRAPPED WHEN IN SWALES)
- SEP — SIDE ENTRY PIT
- CSEP — COMBINATION SIDE ENTRY/GULLY PIT
- LCP — LOT CONNECTION PIT
- BUP — BUBBLE-UP PIT
- GPT — GROSS POLLUTANT TRAP
- PROPOSED BATTER
- PROPOSED KERB OPENING - REFER TO DRAWING C911 FOR DETAILS
- PROPOSED/EXISTING/FUTURE CONTOUR
- 1% AEP TWL

WARNING
BEWARE OF UNDERGROUND SERVICES
BEFORE YOU DIG www.byda.com.au
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SCALE 1:500 @ ORIGINAL SHEET SIZE A1

PLAN
SCALE 1:500

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	L.V	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.25	L.V	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	L.V	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.
Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

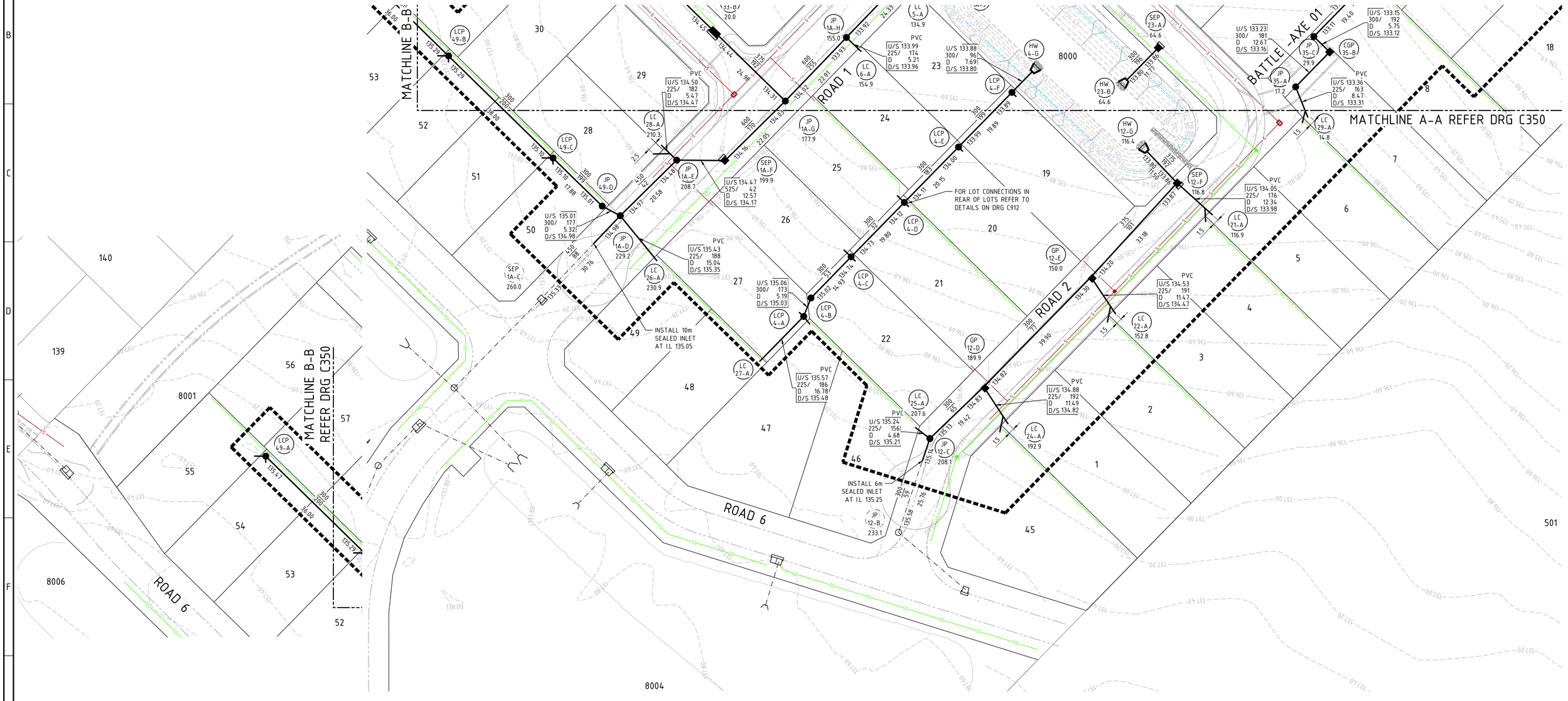
DRAWING TITLE: DRAINAGE PLAN SHEET 1

DRAWN L.VU		WAPC No. 200656	
DESIGNED L.VU		SCALE @ A1 1:500	
PROJECT MANAGER B.WASHFOLD		DATUM AHD71	CO-ORDS MRCG94
JDSI PROJECT No. JDS242318.01A	DRAWING No. C350		REVISION C

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:21 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C350-C351.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C350 FOR NOTES AND LEGEND



PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.25	LV	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP · MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE PLAN SHEET 2

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD72 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C351 / REVISION: C

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:21 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C350-C351.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.
2. FOR DETAILED LAYOUT REFER TO DRAWING C350 OF THIS SET.

LEGEND

- 2 — LOT NUMBER
- PROPOSED STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE
- FUTURE STORMWATER DRAINAGE
- 360m² — CATCHMENT AREA
- LOT CATCHMENT
- ROAD RESERVE CATCHMENT
- DIRECTION OF 100 YEAR A.R.I. STORM FLOW PATH

DRAINAGE BASIN A1.2
BATTERS 1 IN 6
1% AEP TOP WATER LEVEL 132.60
BASE RL 131.40
BASE AREA 401m2
VOLUME 872m3

DRAINAGE BASIN A1.5
BATTERS 1 IN 6
1% AEP TOP WATER LEVEL 132.50
BASE RL 131.50
BASE AREA 117m2
VOLUME 293m3

DRAINAGE BASIN A1.4
BATTERS 1 IN 6 (TYP)
1% AEP TOP WATER LEVEL 134.93
BASE RL 133.80
BASE AREA 711m2
VOLUME 1318m3

WAVERLEY ROAD
STEWART SMITH LOOP
ROAD 1
ROAD 2
ROAD 3
ROAD 4
ROAD 5

EXTERNAL CATCHMENT FLOW TO WAVERLEY RD

MATCHLINE A-A REFER DRG C361

PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

0 1 2 4 6m
SCALE 1:100 @ ORIGINAL SHEET SIZE A1

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BEFORE YOU DIG www.byda.com.au

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

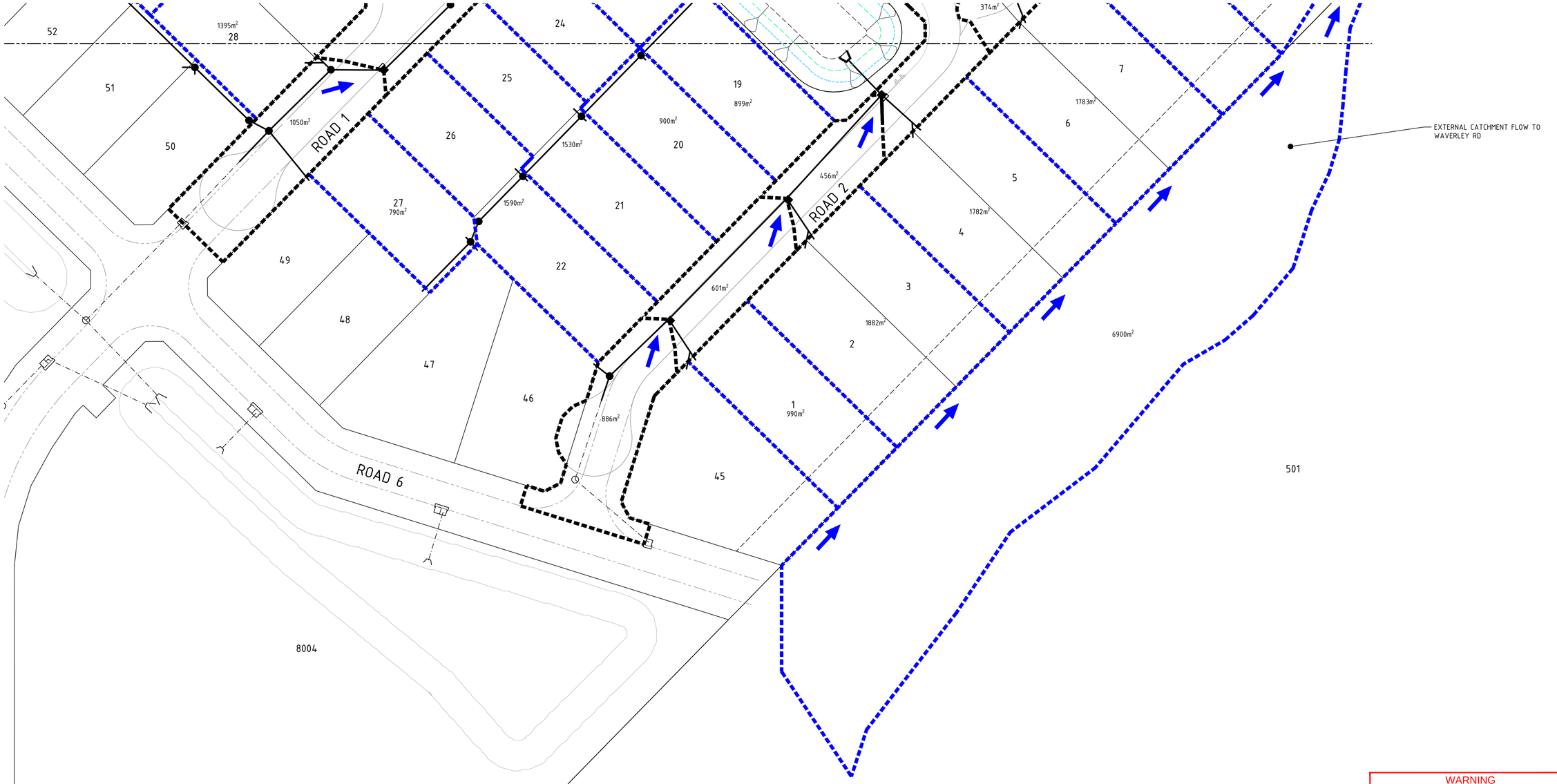
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE CATCHMENT AND BASIN PLAN SHEET 1

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: AS SHOWN
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD73 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C360 / REVISION: B

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.
2. FOR DETAILED LAYOUT REFER TO DRAWING C351 OF THIS SET.



PLAN
SCALE 1:500

WARNING
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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JDSi CONSULTING ENGINEERS
Certified Quality System to ISO 9001

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE CATCHMENT AND BASIN PLAN SHEET 2

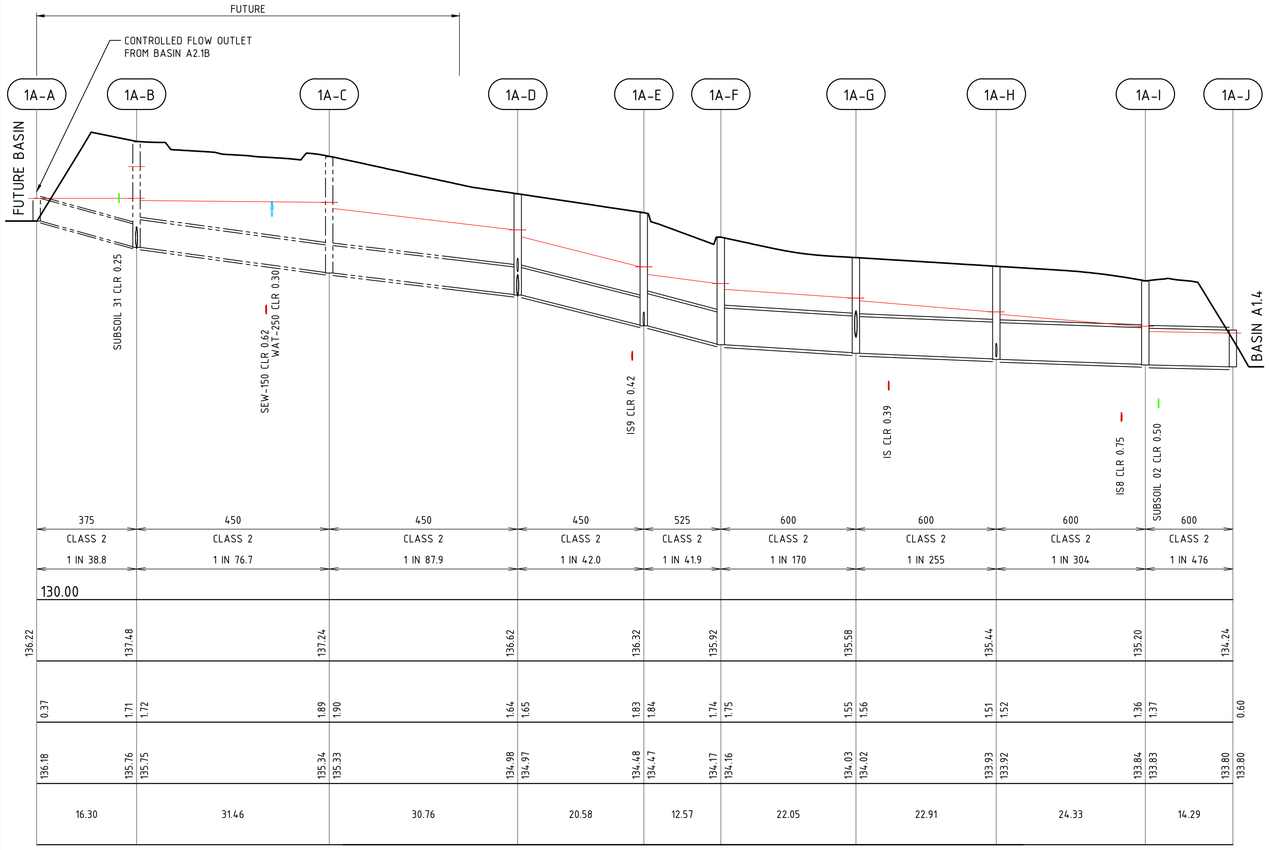
DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:500	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD74	CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C361		REVISION: B

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

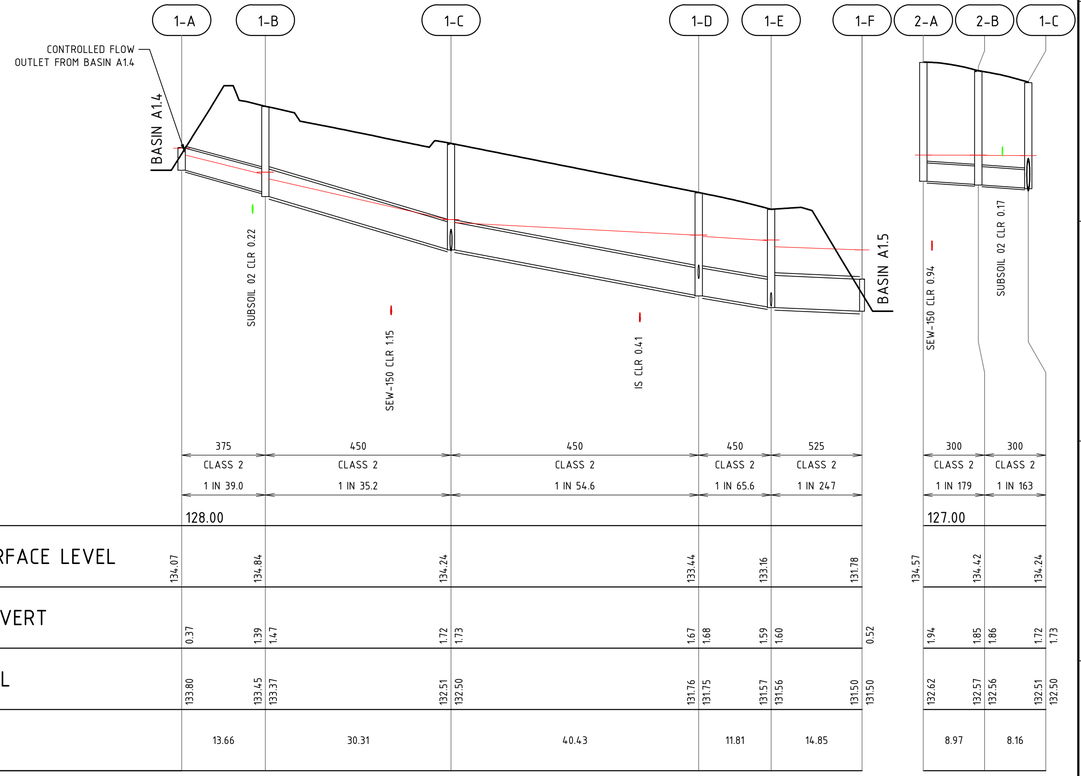
LEGEND

- FINISHED SURFACE LEVEL
- HGL LINE 20%AEP
- DRAINAGE PIPE
- FUTURE DRAINAGE PIPE



PIPE SIZE (mm)	375	450	450	450	525	600	600	600	600
PIPE GRADE	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2
	1 IN 38.8	1 IN 76.7	1 IN 87.9	1 IN 42.0	1 IN 41.9	1 IN 170	1 IN 255	1 IN 304	1 IN 476
DATUM R.L.	130.00								
FINISHED SURFACE LEVEL	136.22	137.48	137.24	136.62	136.32	135.92	135.58	135.44	135.20	134.24
DEPTH TO INVERT	0.37	1.71 / 1.72	1.89 / 1.90	1.64 / 1.65	1.83 / 1.84	1.74 / 1.75	1.55 / 1.56	1.51 / 1.52	1.36 / 1.37	0.60
INVERT LEVEL	136.18	135.76 / 135.75	135.34 / 135.33	134.98 / 134.97	134.48 / 134.47	134.17 / 134.16	134.03 / 134.02	133.93 / 133.92	133.84 / 133.83	133.80 / 133.80
PIPE LENGTH	16.30	31.46	30.76	20.58	12.57	22.05	22.91	24.33	14.29	

DRAIN LINE 1A



PIPE SIZE (mm)	375	450	450	450	525	300	300	
PIPE GRADE	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	CLASS 2	
	1 IN 39.0	1 IN 35.2	1 IN 54.6	1 IN 65.6	1 IN 24.7	1 IN 179	1 IN 163	
DATUM R.L.	128.00					127.00		
FINISHED SURFACE LEVEL	134.07	134.84	134.24	133.44	133.16	131.78	134.57	134.42	134.24	
DEPTH TO INVERT	0.37	1.39 / 1.47	1.72 / 1.73	1.67	1.68 / 1.59 / 1.60	0.52	1.94	1.85 / 1.86	1.72 / 1.73	
INVERT LEVEL	133.80	133.45 / 133.37	132.51 / 132.50	131.76	131.75 / 131.57 / 131.56	131.50 / 131.50	132.62	132.57 / 132.56	132.51 / 132.50	
PIPE LENGTH	13.66	30.31	40.43	11.81	14.85		8.97	8.16		

DRAIN LINE 1

DRAIN LINE 2

SCALE 1:50 @ ORIGINAL SHEET SIZE A1

SCALE 1:500 @ ORIGINAL SHEET SIZE A1

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE LONGITUDINAL SECTIONS SHEET 1

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: AS SHOWN	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSI PROJECT No.: JDS242318.01A	DRAWING No.: C370		REVISION: B

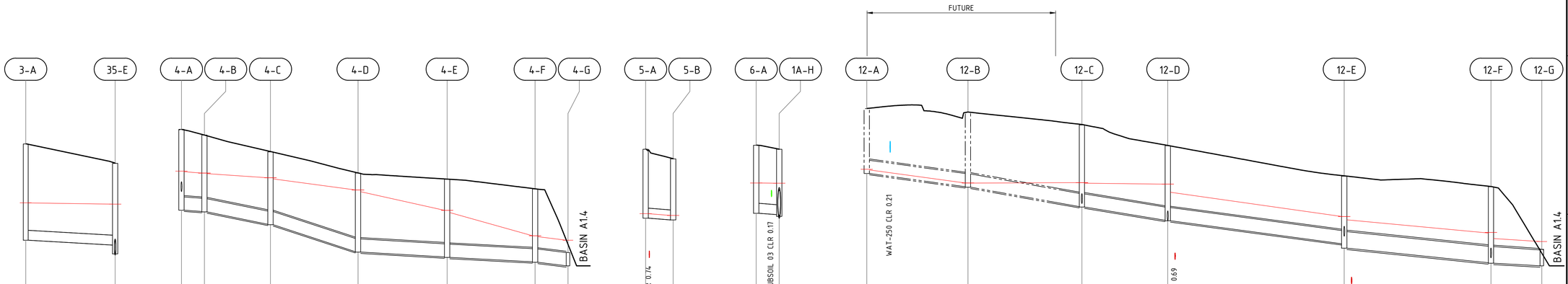
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:30 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

LEGEND

- FINISHED SURFACE LEVEL
- EXISTING SURFACE LEVEL
- HGL LINE 20%AEP
- DRAINAGE PIPE
- FUTURE DRAINAGE PIPE



PIPE SIZE (mm)	225	300	300	300	300	300	300
PIPE GRADE	CLASS PVC 1 IN 184	CLASS 2 1 IN 173	CLASS 2 1 IN 53.3	CLASS 2 1 IN 32.5	CLASS 2 1 IN 183	CLASS 2 1 IN 199	CLASS 2 1 IN 93.0
DATUM R.L.	128.00	130.00					
FINISHED SURFACE LEVEL	134.56 / 134.13	136.89 / 136.76	136.39	135.90	135.76	135.54	134.29
DEPTH TO INVERT	2.18 / 1.85 / 2.05	1.83 / 1.73	1.74 / 1.64	1.65 / 1.78	1.79 / 1.76	1.77 / 1.65	1.66 / 0.30
INVERT LEVEL	132.38 / 132.27 / 132.07	135.06 / 135.03	135.02 / 134.74	134.73 / 134.12	134.11 / 134.00	133.99 / 133.89	133.88 / 133.80
PIPE LENGTH	20.22	5.19	14.93	19.80	20.15	19.89	7.44

DRAIN LINE 3 — DRAIN LINE 4

PIPE SIZE (mm)	225	225
PIPE GRADE	CLASS PVC 1 IN 156	CLASS PVC 1 IN 174
DATUM R.L.	129.00	129.00
FINISHED SURFACE LEVEL	135.45 / 135.23	135.53 / 135.44
DEPTH TO INVERT	1.56 / 1.38	1.54 / 1.48 / 1.52
INVERT LEVEL	133.88 / 133.84 / 133.84	133.99 / 133.96 / 133.92
PIPE LENGTH	6.22	5.21

DRAIN LINE 5 — DRAIN LINE 6

PIPE SIZE (mm)	300	300	300	300	375	375
PIPE GRADE	CLASS 2 1 IN 76.3	CLASS 2 1 IN 58.6	CLASS 2 1 IN 64.7	CLASS 2 1 IN 76.7	CLASS 2 1 IN 101	CLASS 2 1 IN 192
DATUM R.L.	130.00					
FINISHED SURFACE LEVEL	137.36 / 137.28	137.00	136.53	135.84	135.60	134.08
DEPTH TO INVERT	1.47 / 1.69	1.70 / 1.85	1.86 / 1.69	1.70 / 1.53	1.63 / 1.72	1.73 / 0.37
INVERT LEVEL	135.89 / 135.59	135.58 / 135.14	135.13 / 134.83	134.82 / 134.30	134.20 / 133.87	133.86 / 133.80
PIPE LENGTH	22.88	25.76	19.42	39.90	33.18	11.50

DRAIN LINE 12

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE LONGITUDINAL SECTIONS SHEET 2

DRAWN	WAPC No.
L.VU	200656
DESIGNED	SCALE @ A1
L.VU	AS SHOWN
PROJECT MANAGER	DATUM / CO-ORDS
B.WASHFOLD	AHD71 / MRCG94
JDSi PROJECT No.	DRAWING No. / REVISION
JDS242318.01A	C371 / B

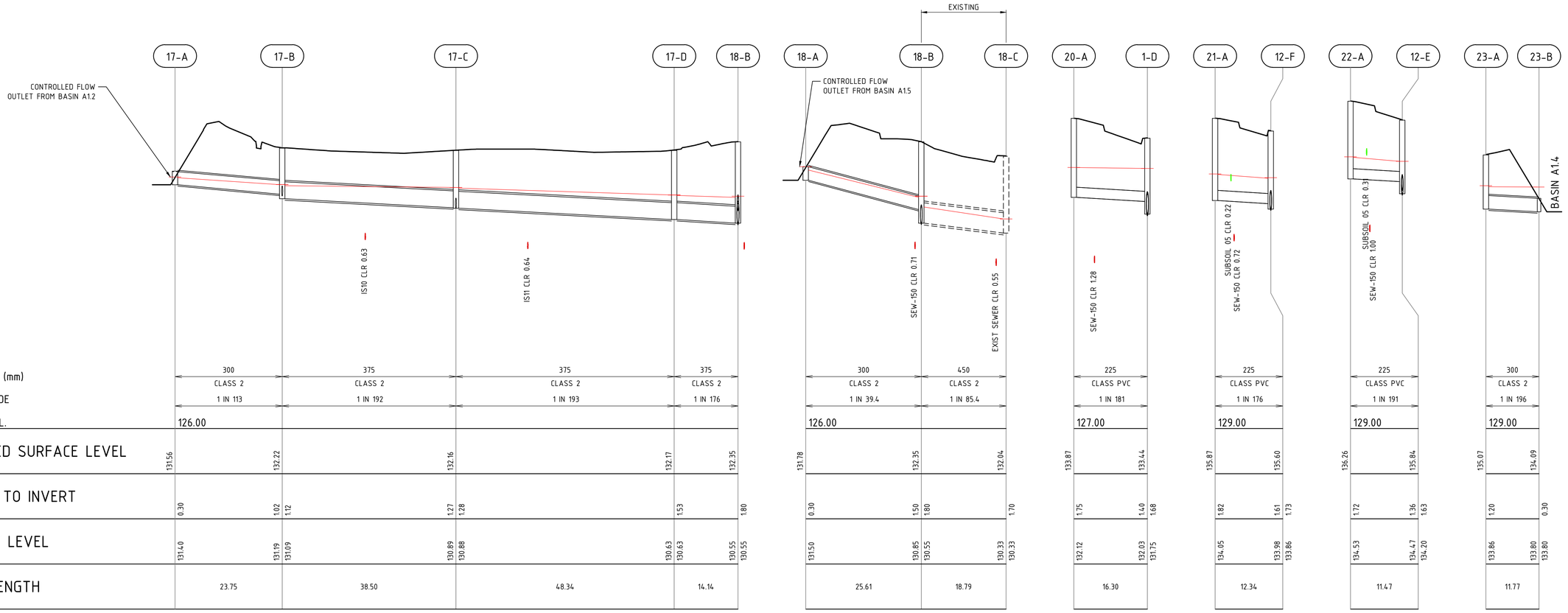
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:30 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

LEGEND

- FINISHED SURFACE LEVEL
- EXISTING SURFACE LEVEL
- HGL LINE 20%AEP
- DRAINAGE PIPE
- EXISTING DRAINAGE PIPE



	17-A	17-B	17-C	17-D	18-B	18-A	18-B	18-C	20-A	1-D	21-A	12-F	22-A	12-E	23-A	23-B
PIPE SIZE (mm)	300	375	375	375		300	450		225		225		225		300	
PIPE GRADE	CLASS 2 1 IN 113	CLASS 2 1 IN 192	CLASS 2 1 IN 193	CLASS 2 1 IN 176		CLASS 2 1 IN 39.4	CLASS 2 1 IN 85.4		CLASS PVC 1 IN 181		CLASS PVC 1 IN 176		CLASS PVC 1 IN 191		CLASS 2 1 IN 196	
DATUM R.L.	126.00					126.00			127.00		129.00		129.00		129.00	
FINISHED SURFACE LEVEL	131.56	132.22	132.16	132.17	132.35	131.78	132.35	132.04	133.87	133.44	135.87	135.60	136.26	135.84	135.07	134.09
DEPTH TO INVERT	0.30	1.02	1.12	1.27	1.28	0.30	1.50	1.80	1.75	1.40	1.82	1.61	1.72	1.36	1.20	0.30
					1.53			1.70		1.68		1.73		1.63		1.80
INVERT LEVEL	131.40	131.19	131.09	130.89	130.88	131.50	130.85	130.55	132.12	132.03	134.05	133.98	134.53	134.47	133.86	133.80
				130.63	130.63			130.33		131.75		133.86		134.20		133.80
				130.55	130.55			130.33								
PIPE LENGTH	23.75	38.50	48.34	14.14		25.61	18.79		16.30		12.34		11.47		11.77	

DRAIN LINE 17 | DRAIN LINE 18 | DRAIN LINE 20 | DRAIN LINE 21 | DRAIN LINE 22 | DRAIN LINE 23

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	L.V	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	L.V	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE LONGITUDINAL SECTIONS SHEET 3

DRAWN L.VU	WAPC No. 200656
DESIGNED L.VU	SCALE @ A1 AS SHOWN
PROJECT MANAGER B.WASHFOLD	DATUM AHD71 / CO-ORDS MRCG94
JDSi PROJECT No. JDS242318.01A	DRAWING No. C372 / REVISION B

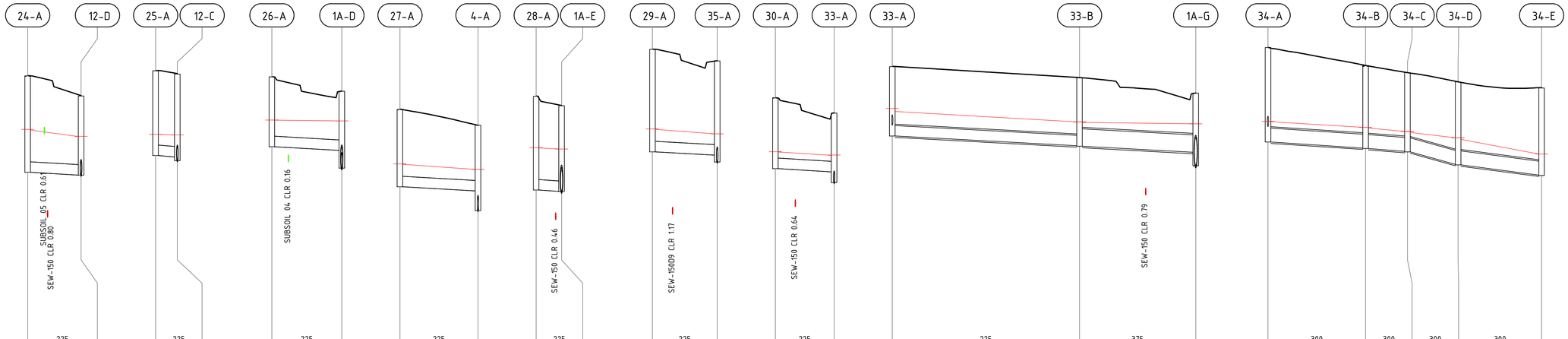
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:30 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

LEGEND

━━	FINISHED SURFACE LEVEL
🟥	HGL LINE 20%AEP
═	DRAINAGE PIPE



	DRAIN LINE 24	DRAIN LINE 25	DRAIN LINE 26	DRAIN LINE 27	DRAIN LINE 28	DRAIN LINE 29	DRAIN LINE 30	DRAIN LINE 33	DRAIN LINE 34
PIPE SIZE (mm)	225	225	225	225	225	225	225	225 375	300 300 300 300
	CLASS PVC	CLASS PVC	CLASS PVC	CLASS PVC	CLASS PVC	CLASS PVC	CLASS PVC	CLASS 2 CLASS 2	CLASS 2 CLASS 2 CLASS 2 CLASS 2
PIPE GRADE	1 IN 192	1 IN 156	1 IN 188	1 IN 186	1 IN 182	1 IN 199	1 IN 181	1 IN 192 1 IN 192	1 IN 161 1 IN 150 1 IN 40.3 1 IN 81.5
DATUM R.L.	130.00	130.00	130.00	131.00	130.00	128.00	130.00	129.00	128.00
FINISHED SURFACE LEVEL	136.96 136.53	137.06 137.00	136.93 136.62	137.24 136.89	136.52 136.32	135.52 135.28	136.48 136.16	136.16 135.91 135.58	135.56 135.18 135.02 134.82 134.70
DEPTH TO INVERT	2.07 1.70	1.82 1.78 1.86	1.50 1.27 1.65	1.66 1.41 1.83	2.01 1.84	2.20 2.02 2.17	1.52 1.26 1.49	1.49 1.46 1.47 1.27 1.56	2.03 1.77 1.78 1.69 1.70 1.77 1.78 1.87
INVERT LEVEL	134.88 134.82 134.82	135.24 135.21 135.13	135.43 135.35 134.97	135.57 135.48 135.06	134.50 134.47 134.47	133.32 133.25 133.10	134.96 134.89 134.66	134.66 134.45 134.44 134.31 134.02	133.53 133.40 133.39 133.33 133.32 133.05 133.04 132.82
PIPE LENGTH	11.49	4.68	15.04	16.78	5.47	13.93	12.64	40.25 24.98	20.98 9.00 10.89 17.94

0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES
BEFORE YOU DIG www.byda.com.au
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi
CONSULTING ENGINEERS

CLIENT:
Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRRING ROAD
COWARAMUP STAGE 01A

DRAWING TITLE:
DRAINAGE LONGITUDINAL SECTIONS
SHEET 4

DRAWN: L.VU
DESIGNED: L.VU
PROJECT MANAGER: B.WASHFOLD
WAPC No.: 200656
SCALE @ A1: AS SHOWN
DATUM: AHD71
CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A
DRAWING No.: C373
REVISION: B

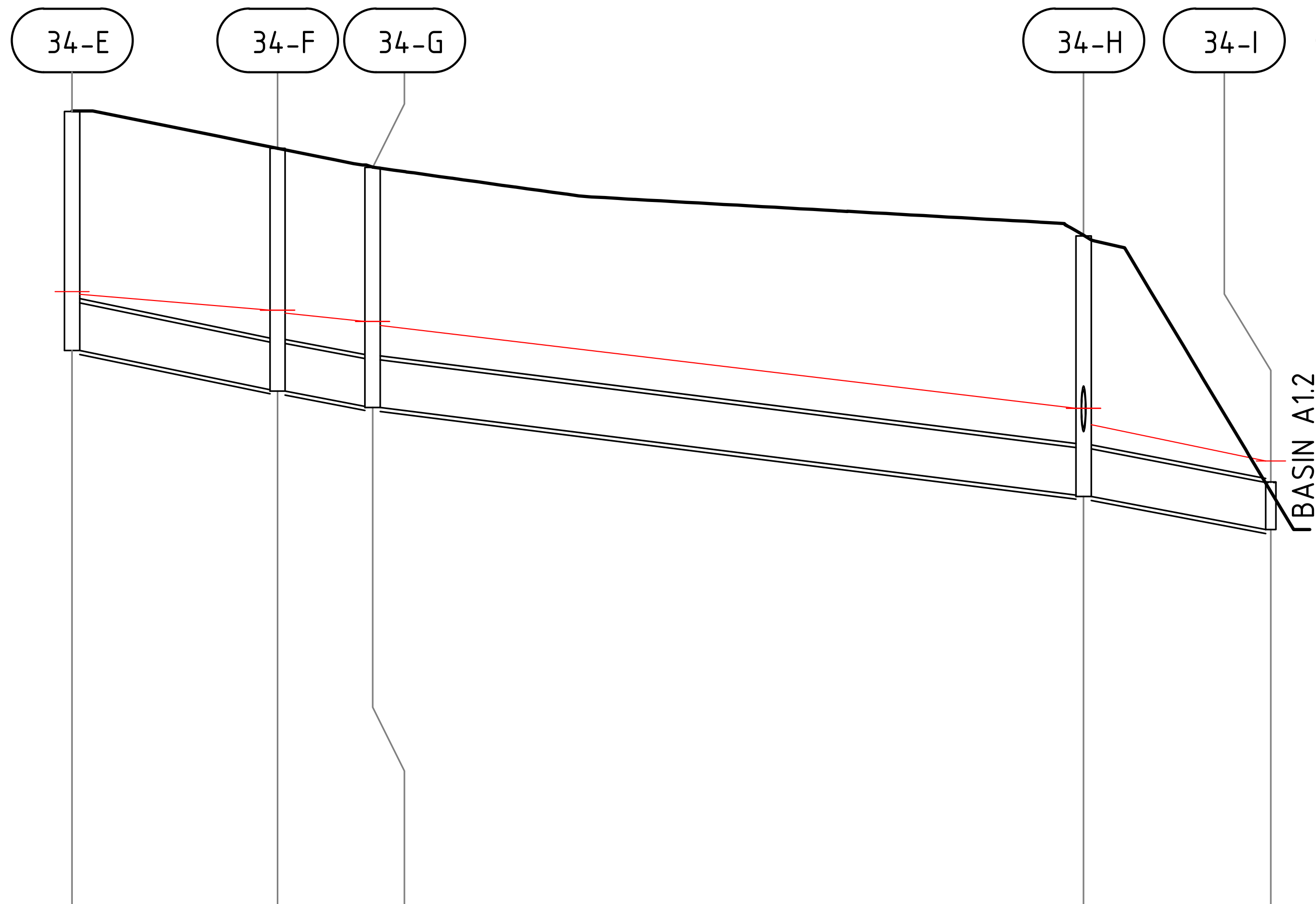
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:30 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

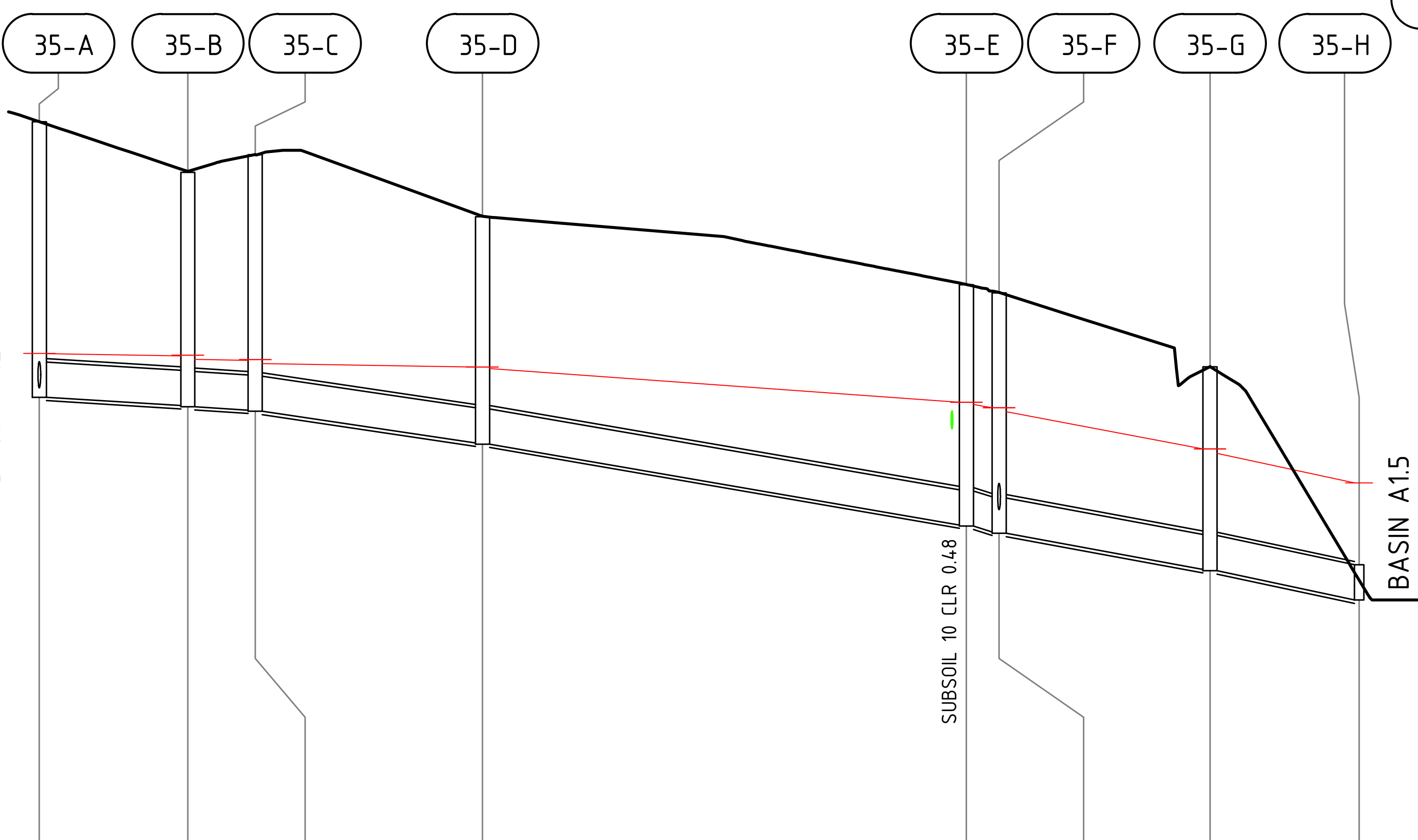
LEGEND

━━	FINISHED SURFACE LEVEL
──	HGL LINE 20%AEP
═══	DRAINAGE PIPE
═ ─ ═	FUTURE DRAINAGE PIPE



PIPE SIZE (mm)		375		375		375		375	
		CLASS 2		CLASS 2		CLASS 2		CLASS 2	
PIPE GRADE		1 IN 52.2		1 IN 62.4		1 IN 81.2		1 IN 56.7	
DATUM R.L.	127.00								
FINISHED SURFACE LEVEL	134.70		134.40		134.25		133.72		131.70
DEPTH TO INVERT	1.87 1.88		1.90 1.91		1.88 1.89		2.04 2.05		0.37
INVERT LEVEL	132.82 132.81		132.50 132.49		132.37 132.36		131.67 131.66		131.40 131.40
PIPE LENGTH		16.19		7.48		56.00		14.75	

DRAIN LINE 34



PIPE SIZE (mm)		300		300		300		300		300		300		300	
		CLASS 2		CLASS 2		CLASS 2		CLASS 2		CLASS 2		CLASS 2		CLASS 2	
PIPE GRADE		1 IN 181		1 IN 192		1 IN 71.9		1 IN 59.9		1 IN 55.8		1 IN 58.1		1 IN 50.9	
DATUM R.L.	128.00														
FINISHED SURFACE LEVEL	135.58		135.16		135.30		134.77		134.19		134.13		133.49		131.67
DEPTH TO INVERT	2.35		1.99 2.00		2.18 2.19		1.93 1.94		2.05 2.06		2.04 2.05		1.73 1.74		0.30
INVERT LEVEL	133.23		133.16 133.15		133.12 133.11		132.84 132.83		132.14 132.13		132.08 132.07		131.76 131.75		131.50 131.50
PIPE LENGTH		12.67		5.75		19.40		41.30		2.79		18.00		12.72	

DRAIN LINE 35

PIPE SIZE (mm)		300		300		300		300		300		300	
		CLASS 2		CLASS 2		CLASS 2		CLASS 2		CLASS 2		CLASS 2	
PIPE GRADE		1 IN 89.4		1 IN 57.8		1 IN 51.3		1 IN 50.6		1 IN 54.5		1 IN 47.0	
DATUM R.L.	128.00												
FINISHED SURFACE LEVEL	136.14		135.89		135.62		134.70		134.37		134.33		133.72
DEPTH TO INVERT	1.48		1.38 1.39		1.29 1.30		1.34 1.35		1.53 1.54		1.60 1.61		1.51 2.05
INVERT LEVEL	134.66		134.51 134.50		134.32 134.31		133.35 133.34		132.83 132.82		132.72 132.71		132.20 131.66
PIPE LENGTH		13.41		10.40		49.28		25.80		5.45		23.99	

DRAIN LINE 37

WARNING

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0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi
CONSULTING ENGINEERS

CLIENT:
Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRRING ROAD
COWARAMUP STAGE 01A

DRAWING TITLE:
DRAINAGE LONGITUDINAL SECTIONS
SHEET 5

DRAWN	L.VU
DESIGNED	L.VU
PROJECT MANAGER	B.WASHFOLD
WAPC No.	200656
SCALE @ A1	AS SHOWN
DATUM	AHD71
CO–ORDS	MRCG94
JDSi PROJECT No.	JDS242318.01A
DRAWING No.	C374
REVISION	B

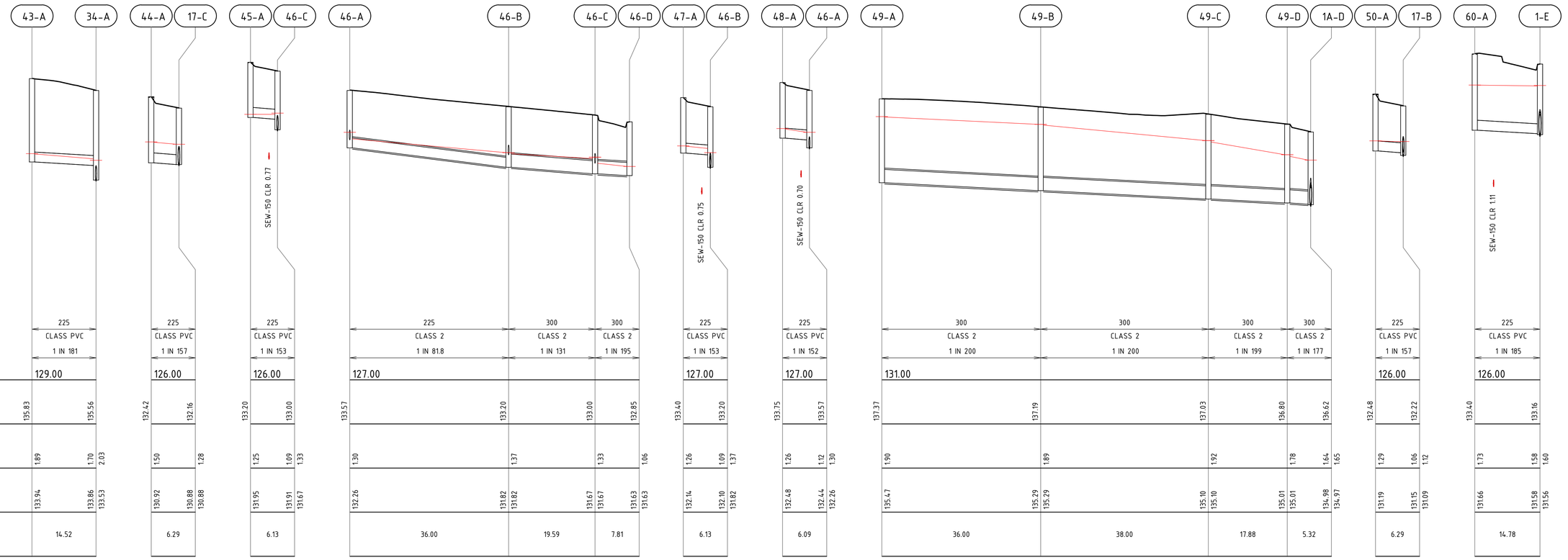
Plotted By: BWhitfield Plot Date: 05/05/25 - 11:31 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

LEGEND

- FINISHED SURFACE LEVEL
- HGL LINE 20%AEP
- DRAINAGE PIPE



	43-A	34-A	44-A	17-C	45-A	46-C	46-A	46-B	46-C	46-D	47-A	46-B	48-A	46-A	49-A	49-B	49-C	49-D	1A-D	50-A	17-B	60-A	1-E
PIPE SIZE (mm)	225		225		225		225	300		300	225		225		300			300		225		225	
PIPE GRADE	CLASS PVC		CLASS PVC		CLASS PVC		CLASS 2	CLASS 2		CLASS 2	CLASS PVC		CLASS PVC		CLASS 2			CLASS 2		CLASS PVC		CLASS PVC	
	1 IN 181		1 IN 157		1 IN 153		1 IN 81.8	1 IN 131		1 IN 195	1 IN 153		1 IN 152		1 IN 200			1 IN 199		1 IN 157		1 IN 185	
DATUM R.L.	129.00		126.00		126.00		127.00				127.00		127.00		131.00					126.00		126.00	
FINISHED SURFACE LEVEL	135.83	135.56	132.42	132.16	133.20	133.00	133.57	133.20	133.00	132.85	133.40	133.20	133.75	133.57	137.37	137.19	137.03	136.80	136.62	132.48	132.22	133.40	133.16
DEPTH TO INVERT	1.89	1.70	1.50	1.28	1.25	1.09	1.30	1.37	1.33	1.06	1.26	1.09	1.26	1.12	1.90	1.89	1.92	1.78	1.64	1.29	1.06	1.73	1.58	1.60
	2.03				1.33						1.37		1.30		1.65					1.12				
INVERT LEVEL	133.94	133.86	130.92	130.88	131.95	131.91	132.26	131.82	131.67	131.63	132.14	132.10	132.48	132.44	135.47	135.29	135.10	135.01	134.98	131.19	131.15	131.66	131.58	131.56
	133.53		130.88		131.67		131.63				131.82		132.26		134.97					131.09				
PIPE LENGTH	14.52		6.29		6.13		36.00		19.59	7.81	6.13		6.09		36.00		38.00	17.88	5.32	6.29		14.78	

DRAIN LINE 43 | DRAIN LINE 44 | DRAIN LINE 45 | DRAIN LINE 46 | DRAIN LINE 47 | DRAIN LINE 48 | DRAIN LINE 49 | DRAIN LINE 50 | DRAIN LINE 60

WARNING

BEWARE OF UNDERGROUND SERVICES

BEFORE YOU DIG www.byda.com.au

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0 0.5 1 2 3m
SCALE 1:50 @ ORIGINAL SHEET SIZE A1

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

REV	DATE	DRAWN	CHECKED	APPROVED	
B	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: DRAINAGE LONGITUDINAL SECTIONS SHEET 6

DRAWN L.VU		WAPC No. 200656	
DESIGNED L.VU		SCALE @ A1 AS SHOWN	
PROJECT MANAGER B.WASHFOLD		DATUM AHD71	CO-ORDS MRCG94
JDSI PROJECT No. JDS242318.01A	DRAWING No. C375		REVISION B

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:31 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C370-C375.dwg

NOTES

1. SUBSOIL PIPES CROSSING PAVEMENT SHALL BE SOLID PIPE UNDER PAVEMENT (NOT SLOTTED)
2. SOLID PVC SUBSOIL SHALL BE EXTENDED MINIMUM 1m BEYOND PAVEMENT
3. PIPE SIZES ARE IN MILLIMETRES – DISTANCES AND LEVELS ARE IN METRES
4. ALL SUBSOIL PIPES SHALL BE CLASS 8 PVC SWJ
5. MINIMUM COVER TO ANY SUBSOIL PIPE SHALL BE 600mm MINIMUM CLEARANCE TO OTHER SERVICES SHALL BE 150mm
6. CONTRACTOR SHALL LIAISE WITH RELEVANT AUTHORITIES WHEN NEAR EXISTING SERVICES
7. ALL PIPE DISTANCES ARE MEASURED BETWEEN CENTRE OF PIT LINERS
8. SUBSOIL AGGREGATE TO BE SINGLE SIZE STONE 14mm OR 20mm IN ACCORDANCE WITH LOCAL AUTHORITIES STANDARDS.
9. REFER TO DRAWING C300 FOR GENERAL & ROAD NOTES
10. REFER TO DRAWING C912 FOR CONSTRUCTION DETAILS

LEGEND

- LIMIT OF WORKS
- PROPOSED SUBSOIL DRAINAGE WITH NOTATION (PIPE DIA / GRADE, IL, IL, LENGTH(m))
- SUBSOIL: U/S 00.00 (UPSTREAM INVERT LEVEL); 300/ 0.0 (PIPE DIA / GRADE); D 0.0 (LENGTH); D/S 00.00 (DOWNSTREAM INVERT LEVEL)
- PROPOSED SUBSOIL DRAINAGE
- EXISTING SUBSOIL DRAINAGE
- FUTURE SUBSOIL DRAINAGE
- PROPOSED/EXISTING/FUTURE DRAINAGE
- PROPOSED JUNCTION PIT
- PROPOSED MAINTENANCE SHAFT
- LCP 1 — PIT TYPE / PIT NUMBER
- JP — JUNCTION PIT
- MS — MAINTENANCE SHAFT
- LCP — LOT CONNECTION PIT
- LC — LOT CONNECTION
- DO — DROP OUT (REFER DRG C912)
- FP — PROPOSED FLUSHING POINT (REFER DRG C912)
- PROPOSED/EXISTING/FUTURE SEWER
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED BATTER

MATCHLINE A-A REFER DRG C381

PLAN

SCALE 1:500

0 5 10 20 30m

SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING

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BEFORE YOU DIG www.byda.com.au

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.25	LV	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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JDSi CONSULTING ENGINEERS
Certified Quality System to ISO 9001

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

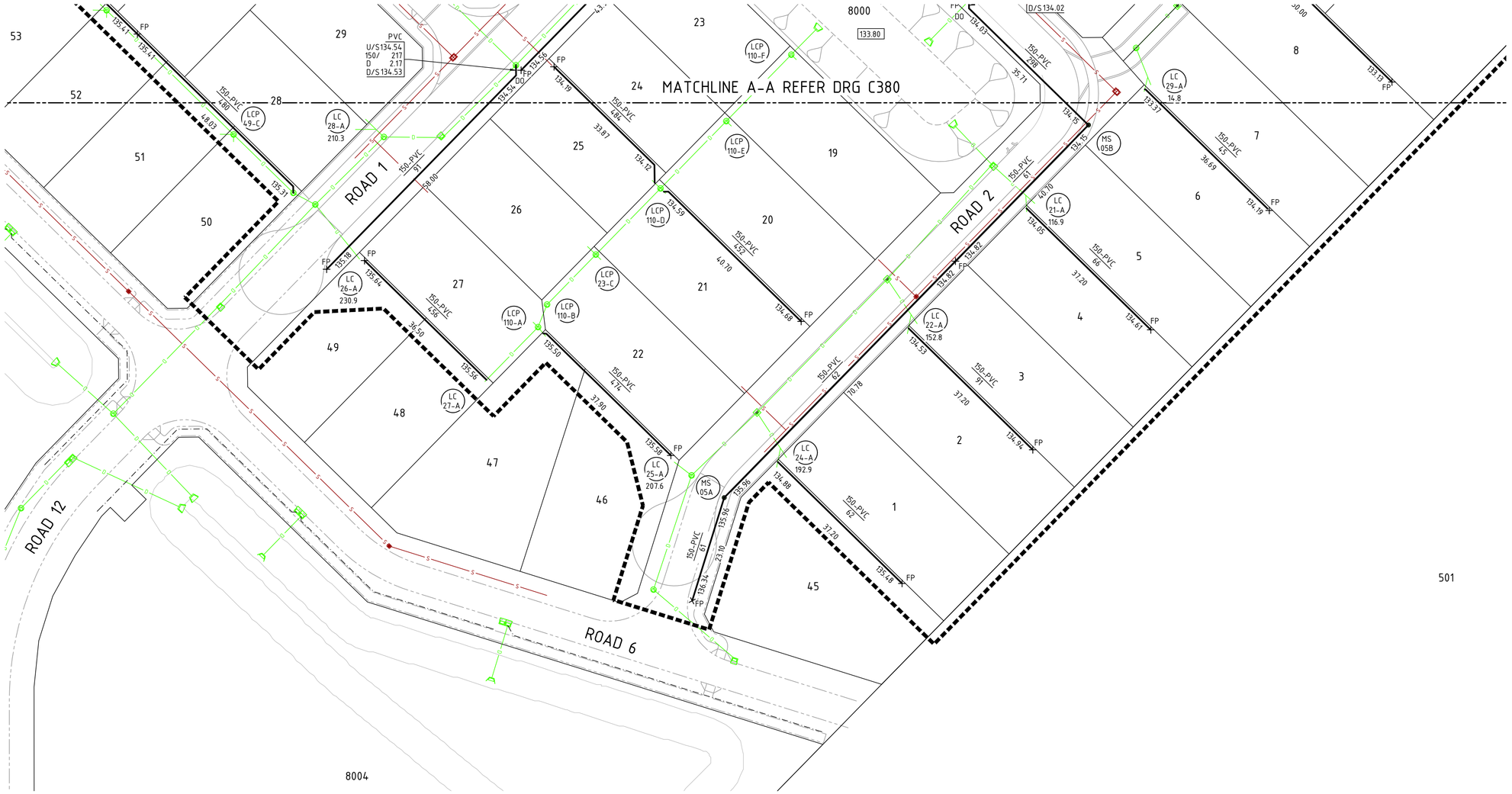
DRAWING TITLE: SUBSOIL DRAINAGE PLAN SHEET 1

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C380 / REVISION: C

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:41 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C380-C381.dwg

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C380 FOR NOTES AND LEGEND



PLAN
SCALE 1:500

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES

BEFORE YOU DIG www.byda.com.au

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REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	L.V	BWW	BJW	FINAL SUBMISSION FOR APPROVAL
B	31.03.25	L.V	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	L.V	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: SUBSOIL DRAINAGE PLAN SHEET 2

DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:500	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C381		REVISION: C

Plotted By: BWhitfield Plot Date: 05/05/25 - 11:41 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C380-C381.dwg

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

MATCHLINE A-A REFER DRG C401
PLAN
SCALE 1:500

SHIRE OF AUGUSTA MARGARET RIVER
FILE No. : 187070896

WARNING
BEWARE OF UNDERGROUND SERVICES
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NOTES

GENERAL

1.1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

1.2. THE CONSTRUCTION OF THE WORKS SHALL COMPLY WITH THE WATER CORPORATION'S DESIGN STANDARDS 63. (DS63).

1.3. ALL WELDING AND JOINING OF THERMOPLASTICS TO COMPLY WITH WATER CORPORATIONS SPECIFICATION WS-2.

1.4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

1.5. THE MAINS SHALL BE LAID ON A 2.1m (COMMON TRENCHING) ALIGNMENT MEASURED FROM THE CENTRE OF THE PIPE TO THE ROAD RESERVE BOUNDARY.

1.6. THE MAINS SHALL BE LAID BETWEEN A MINIMUM AND MAXIMUM COVER IN ACCORDANCE WITH THE WATER CORPORATION DESIGN STANDARDS 63. (DS63).

1.7. ALL SERVICES TO LOTS SHALL BE FULLY PRELAID UNLESS NOTED OTHERWISE.

1.8. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT.

1.9. THE CONTRACTOR SHALL ENSURE THAT COVER ON WATER MAIN TO BE LOWERED TO ACCOMMODATE FUTURE INTERSECTIONS.

1.10. CONTRACTOR TO MAKE ALLOWANCE FOR, INCLUDING BUT NOT LIMITED TO - EXCAVATION, SITE SAFETY, BACKFILL AND REINSTATEMENT AT CONNECTION POINTS.

1.11. CONTRACTOR TO CONFIRM LEVEL OF EXISTING WATER AT CONNECTION POINT. IF EXISTING WATER PIPE IS NOT TO WATER CORPORATION STANDARD DEPTH CONTRACTOR SHALL NOTIFY SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORKS.

MAINS AND SERVICES

2.1. CONSTRUCT MAINS OF:

100P-16	-	319.1m
150P-16	-	245.1m
VALVES	-	5
HYDRANT	-	5

2.2. CONSTRUCT SERVICES OF:

SHORT SINGLE	-	4
SHORT DUAL	-	11
LONG SINGLE	-	3
LONG DUAL	-	8
DEFERRED SERVICE	-	0
TOTAL LOTS SERVED	-	45

DEFERRED SERVICE

LEGEND

- 100P-16 — PROPOSED WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- 100P-16 — EXISTING WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- 100P-16 — FUTURE WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- SERVICE CROSSING COMPLETE
- PROPOSED HYDRANT
- PROPOSED SLUICE VALVE
- CHANGE IN PIPE SIZE
- FP — BLANK END AND FLUSHING POINT
- FL FR — SERVICE LOCATION
- "D" — DEFERRED SERVICE
- PROPOSED/EXISTING/FUTURE RETAINING WALL
- RETICULATION AREA BOUNDARY
- LOTS SERVICED IN THIS STAGE BUT RELEASED IN FUTURE STAGE
- LOTS SERVICED IN PREVIOUS STAGE AND RELEASED IN THIS STAGE
- PROPOSED ROAD
- EXISTING ROAD

THIS PLAN IS ACCEPTED AS BEING IN ACCORDANCE WITH THE ENDORSED CONCEPT PLAN:

OQ71-100-001-01A

COMPLIANCE WITH THE RELEVANT DESIGN STANDARDS AND MANUALS REMAINS THE RESPONSIBILITY OF THE DESIGN ENGINEER.

NO WORKS ARE TO COMMENCE ON SITE UNTIL START-UP MEETING REQUIREMENTS HAVE BEEN MADE WITH THE RELEVANT ASSET INSPECTOR. REFER TO THE DEVELOPERS' MANUAL FOR CONTACT DETAILS.

FOR MANAGER, DEVELOPMENT SERVICES

OR32-103-001-01A

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	AMENDED SUBMISSION FOR APPROVAL. PRECAL REVISED TO REMOVE ROAD 3
B	24.01.25	LV	BJW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

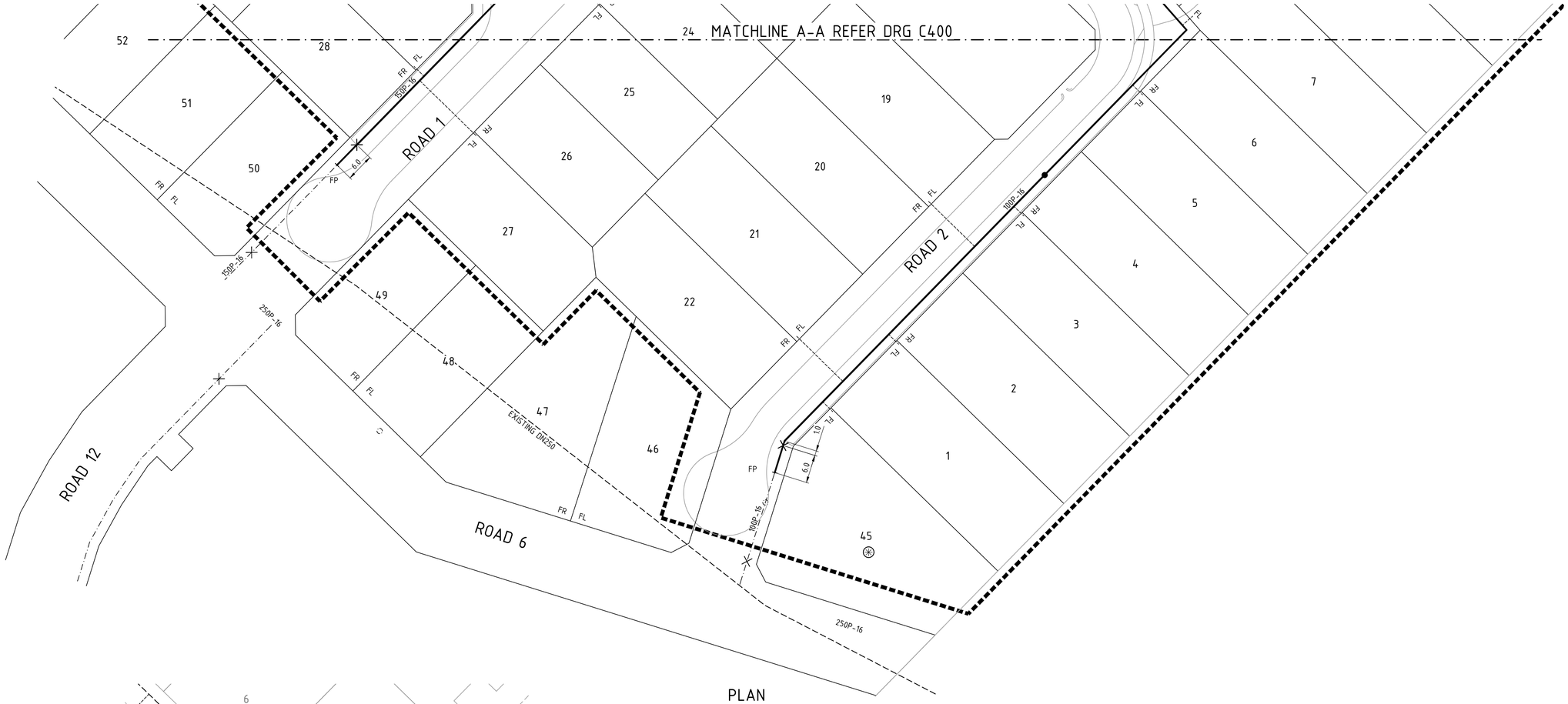
PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: WATER RETICULATION PLAN SHEET 1

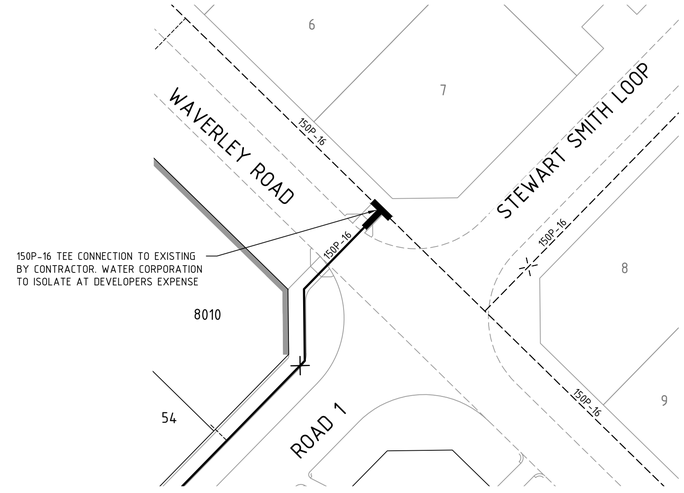
DRAWN: L.VU		WAPC No.: 200656	
DESIGNED: L.VU		SCALE @ A1: 1:500	
PROJECT MANAGER: B.WASHFOLD		DATUM: AHD71	CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C400		REVISION: C

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. REFER TO DRAWING JDS242318.01A_C400 FOR NOTES AND LEGEND



PLAN
SCALE 1:500



CONNECTION DETAIL 'A'
SCALE NTS

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

THIS PLAN IS ACCEPTED AS BEING IN ACCORDANCE WITH THE ENDORSED CONCEPT PLAN:

OQ71-100-001-01A

COMPLIANCE WITH THE RELEVANT DESIGN STANDARDS AND MANUALS REMAINS THE RESPONSIBILITY OF THE DESIGN ENGINEER.

NO WORKS ARE TO COMMENCE ON SITE UNTIL START-UP MEETING REQUIREMENTS HAVE BEEN MADE WITH THE RELEVANT ASSET INSPECTOR. REFER TO THE DEVELOPERS' MANUAL FOR CONTACT DETAILS.

FOR MANAGER, DEVELOPMENT SERVICES

SHIRE OF AUGUSTA MARGARET RIVER

FILE No. : 187070896

OQ32-103-002-01A

REV	DATE	DRAWN	CHECKED	APPROVED	
C	05.05.25	LV	BWW	BJW	AMENDED SUBMISSION FOR APPROVAL. PRECAL REVISED TO REMOVE ROAD 3
B	24.01.25	LV	BJW	BJW	FINAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

NOTE
This drawing shall be preliminary only until it is issued for Construction.

Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: Birdwood COWARAMUP • MASTERPLANNED COMMUNITY

PROJECT: LOT 500 WIRRING ROAD COWARAMUP STAGE 01A

DRAWING TITLE: WATER RETICULATION PLAN SHEET 2

DRAWN: L.VU	WAPC No.: 200656
DESIGNED: L.VU	SCALE @ A1: 1:500
PROJECT MANAGER: B.WASHFOLD	DATUM: AHD71 / CO-ORDS: MRCG94
JDSi PROJECT No.: JDS242318.01A	DRAWING No.: C401 / REVISION: C

Plotted By: BWhitfield Plot Date: 05/05/25 - 10:36 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C400-C401.dwg