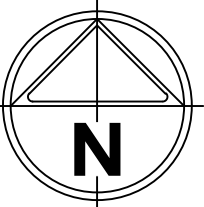
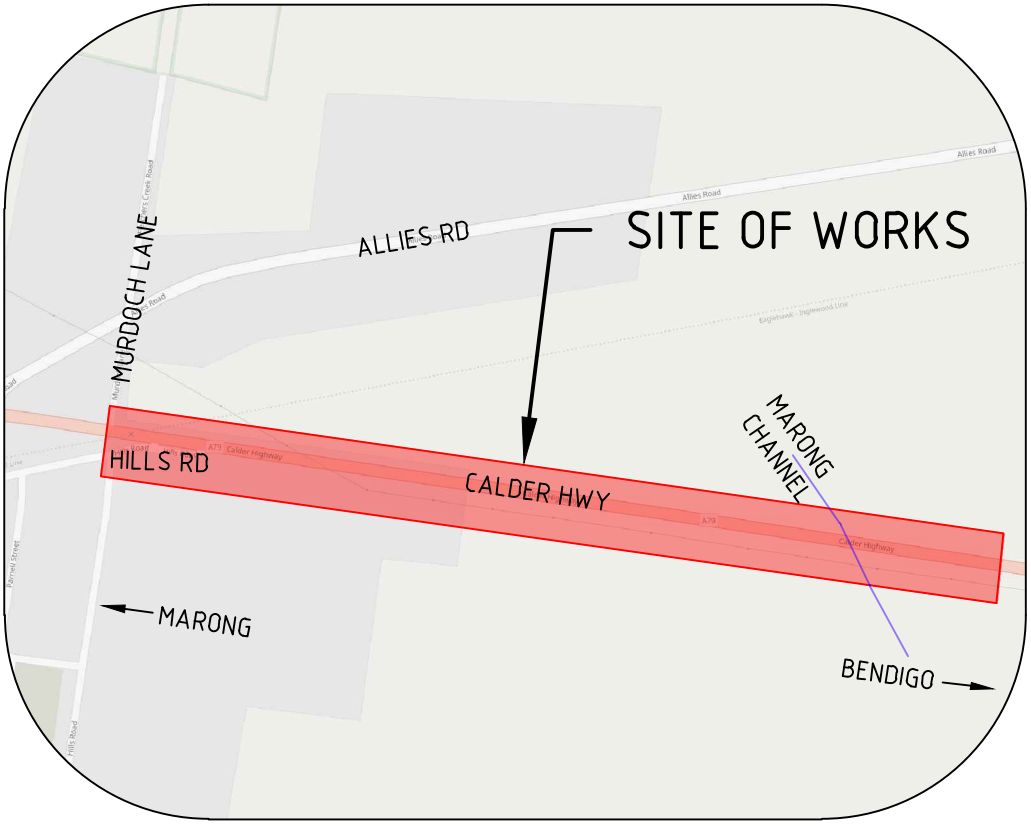


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file location: D:\31\310974\Coliban\CAD\plot date: 26/03/2024, 2:10 PM Sheet 1 of 12 Sheets

	DRINKING WATER
DESIGN HEAD AT ANCHOR (m)	112
ZONE	RESIDENTIAL
TEST PRESSURE (kPa)	1393



LOCALITY PLAN

SCALE: NOT TO SCALE
VICROADS: 44D5 44E5

DRAWING SCHEDULE

DRAWING No.	TITLE	SHEET No.	CURRENT REVISION
CWA100	GENERAL NOTES - WATER MAIN SECTION D	1	B
CWA101	GENERAL NOTES - SRM SECTION D	2	B
CWA200	OVERALL LAYOUT PLAN SECTION D - KEY PLAN	3	B
CWA201	LAYOUT & LONGITUDINAL SECTION D - SHEET 1 OF 5	4	B
CWA202	LAYOUT & LONGITUDINAL SECTION D - SHEET 2 OF 5	5	B
CWA203	LAYOUT & LONGITUDINAL SECTION D - SHEET 3 OF 5	6	B
CWA204	LAYOUT & LONGITUDINAL SECTION D - SHEET 4 OF 5	7	B
CWA205	LAYOUT & LONGITUDINAL SECTION D - SHEET 5 OF 5	8	B
CWA300	SECTION D - DETAILS SHEET 1 OF 4	9	B
CWA301	SECTION D - DETAILS SHEET 2 OF 4	10	B
CWA302	SECTION D - DETAILS SHEET 3 OF 4	11	B
CWA303	SECTION D - DETAILS SHEET 4 OF 4	12	A

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WARNING
BEWARE OF ASBESTOS
SOME UNDERGROUND SERVICES MAY BE CONSTRUCTED FROM ASBESTOS CONTAINING MATERIAL. CONTACT THE SUPERINTENDENT FOR INSTRUCTIONS ON HOW TO MANAGE ANY POTENTIAL ASBESTOS HAZARD

FOR THE DURATION OF PROCLAIMED WATER RESTRICTIONS, THE CONTRACTOR SHALL CONFORM WITH THE RESTRICTIONS AND ANY OTHER WATER CONSERVATION REQUIREMENTS IMPOSED BY THE WATER AGENCY.

CONTRACTOR TO LOCATE ALL SERVICES PRIOR TO COMMENCEMENT OF WORKS

NOTE: CONTRACTOR TO ALLOW PE PIPE TO COOL TO GROUND TEMPERATURE (MIN 20°) BEFORE WELDING AND POURING CONCRETE ANCHORAGE



GENERAL NOTES:

- ONLY CONTRACTORS APPROVED BY COLIBAN WATER SHALL BE ELIGIBLE TO CONSTRUCT THESE WORKS.
- ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
- WORKS MUST BE CONSTRUCTED ACCORDING TO WSA 03-2011-3.1 MRWA EDITION. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH ALL CURRENT REVISIONS, AMENDMENTS AND UPDATES THAT THE RELEVANT WATER AGENCY HAS MADE TO THEIR STANDARDS.
- DW ASSETS SHALL ONLY BE CONSTRUCTED AFTER DEEPER ASSETS AFFECTING THE WATER MAINS HAVE BEEN CONSTRUCTED (EG: SEWERAGE & DRAINAGE ASSETS).
- THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL REQUIREMENTS OF THE ROAD OWNER INCLUDING MAKING THE ROAD GOOD AFTER CONSTRUCTION WORKS ARE COMPLETE
- ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH AS 4970 FOR THE PROTECTION OF TREES WITHIN THE WORKS AREA.

SURVEY, SET OUT AND ASSET RECORDING

- TEMPORARY BENCH MARKS (TBM) FOR THE SET OUT OF WORKS TO THE AUSTRALIAN HEIGHT DATUM (AHD).
- ALL LEVELS ARE IN METRES TO AHD.
- ALL CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 2020).
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR ENSURING THE PROJECT SET OUT IS CONSISTENT WITH THE DESIGN. SHOULD ACTUAL SITE CONDITIONS CONFLICT IN ANY WAY WITH THAT DOCUMENTED, THE CONTRACTOR SHALL CONTACT THE SUPERINTENDENT FOR CLARIFICATION BEFORE PROCEEDING.
- WHERE NOT ALLOWED FOR IN THE CONTRACT, THE CONTRACTOR IS TO ENGAGE A SUITABLY QUALIFIED AND EXPERIENCED SURVEYOR TO UNDERTAKE ASSET RECORDING OF THE WORK. ALL SURVEYOR WORKS AND DATA RECORDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA SURVEY MANUAL.
- ALL SPECIFIC PIPE MATERIALS (EG: PVC-O) SHALL BE INDICATED IN THE AS CONSTRUCTED INFORMATION

PRODUCTS AND MATERIALS (REFER TABLES 1 & 2)

- WHERE PE PIPE CONSTRUCTION IS REQUIRED, REFER TO DRAWING MRWA-W-103 AND WSA 01 (PE PIPELINE CODE). WELDERS SHALL BE ACCREDITED TO PMBWELD301A (BUTT) AND PMBWELD302B (ELECTROFUSION).

APPURTENANCES (FITTINGS-REFER TABLE 3)

- REFER TO MRWA-W-300 SERIES FOR VALVES AND HYDRANTS SURROUNDS, COVERS, SURFACE MARKING AND ARRANGEMENTS.

WATER MAIN ALIGNMENT, TRENCHING & COVER (REFER TABLE 5)

- OFFSETS OF MAINS FROM PROPERTY BOUNDARIES SHALL BE; MIN 600MM (MAINS < DN100) AND MIN 1M (MAINS ≥DN100).
- ALL WATER MAINS SHALL PASS OVER DRAINS AND SEWERS UNLESS SHOWN OTHERWISE IN THE DESIGN DRAWINGS.

EMBEDMENT

- EMBEDMENT SHALL BE TYPE A (REFER MRWA-W-203), UNLESS OTHERWISE SPECIFIED.

BACKFILL

- TRAFFICABLE BACKFILL SHALL BE COMPLETED AS PER MRWA-W-201 AND THE CURRENT VERSION OF MRWA BACKFILL SPECIFICATION NO. 04-03.1 UNLESS HIGHER STANDARDS ARE REQUIRED FROM ROAD AUTHORITY. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN CONFIRMATION OF THE ROAD AUTHORITIES ACCEPTANCE OF THE PROPOSED BACKFILL.
- NON-TRAFFICABLE BACKFILL SHALL BE COMPLETED AS PER MRWA-W-201 AND THE CURRENT VERSION OF MRWA BACKFILL SPECIFICATION NO. 04-03.1

THRUST RESTRAINT (REFER TABLE 5)

- THRUST RESTRAINTS HAVE BEEN DESIGNED ON THE BASIS OF THE AHBP (GROUND STRENGTH) NOMINATED IN TABLE 5. THE CONTRACTOR SHALL CONFIRM THE ACTUAL GROUND CONDITIONS AND DISCUSS WITH THE SUPERINTENDENT ANY GROUND CONDITIONS WHICH ARE FOUND TO BE DIFFERENT TO THAT NOMINATED. THE AHBP OF THE GROUND USED IN CALCULATING EACH THRUST RESTRAINT IS 50KPA (CONFIRMED ON SITE BY CONTRACTOR BASED ON SITE CONDITIONS).

PROPERTY SERVICES

- NOT USED

CONNECTIONS (NOT USED)

- NOT USED

OTHER SERVICES (REFER TABLES 6 & 7)

- TO RECEIVE THE MOST UP TO DATE INFORMATION PRIOR TO CONSTRUCTION, "BEFORE YOU DIG" SHALL BE UNDERTAKEN TO AID IN THE LOCATION OF OTHER SERVICES. OTHER SERVICES SHALL BE CAREFULLY LOCATED PRIOR TO FULL EXCAVATION AT THE CONTRACTOR'S RISK AND COST. ANY CLASHES OF PROPOSED NEW WORKS WITH OTHER ASSETS SHALL BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY FOR CLARIFICATION.
- CLEARANCES TO OTHER SERVICES SHALL BE AS PER TABLE 6 AND TABLE 5.5 OF WSA03-2011-3.1 MRWA EDITION. THESE CLEARANCES SHALL APPLY TO SURFACE COVERS AS WELL AS UNDERGROUND ASSETS.

EARTHWORKS AND RETAINING WALLS

- IN AREAS SUBJECT TO EARTHWORKS, CONSTRUCTION OF WATER ASSETS SHALL NOT COMMENCE UNTIL EARTHWORKS AND RETAINING WALLS HAS BEEN COMPLETED UNLESS WRITTEN APPROVAL HAS BEEN GIVEN BY WATER AUTHORITY.

TESTING, ASSET ACCEPTANCE AND LIVE CONNECTIONS

- POST CONSTRUCTION ACTIVITIES SUCH AS WATER QUALITY TESTING, PRESSURE TESTING AND CHLORINATION SHALL BE CARRIED OUT IN ACCORDANCE WITH WSA03-2011-3.1 MRWA EDITION AND THE MRWA WATER QUALITY COMPLIANCE SPECIFICATION. ALL TEST RESULTS SHALL BE DOCUMENTED AND REPORTED TO THE SUPERINTENDENT.
- THE WATER AGENCY SHALL BE NOTIFIED IN WRITING 2 FULL WORKING DAYS IN ADVANCE OF TESTING BEING UNDERTAKEN.
- THE WATER AGENCY SHALL BE NOTIFIED IN WRITING 5 FULL WORKING DAYS IN ADVANCE OF CONNECTION TO THE LIVE NETWORK BEING UNDERTAKEN. SHUT DOWN WORK SHALL BE A SHORT AS PRACTICAL AND SCHEDULED TO COMMENCE AT 9AM ON WORKING DAYS WITH COMPLETION TO OCCUR NO LATER THAN 4PM.
IN INDUSTRIAL AND COMMERCIAL AREAS THE IMPACT ON BUSINESS SHALL BE CONSIDERED AND IT MAY BE NECESSARY TO CARRY OUT THE WORK OUTSIDE NORMAL WORKING HOURS. SHUT DOWN SHALL BE LIMITED TO 4 HOURS IN DURATION. ARRANGE FOR ALTERNATE SUPPLIES SHOULD THE SHUT DOWN EXCEED 4 HOURS.
- VALVES CONNECTING NEW ASSETS TO THE WATER AGENCY'S LIVE SYSTEM SHALL NOT BE OPERATED BY THE CONTRACTOR.

LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN	--- W ---	--- DW ---
SEWER RISING MAIN	--- SRM ---	--- SRM ---
WATER MAIN IN OTHER SECTIONS		--- DW ---
SEWER RISING MAIN IN OTHER SECTIONS		--- SRM ---
UNDERGROUND ELECTRICITY	--- E ---	
OVERHEAD ELECTRICITY & POLE	--- OE ---	
TELECOMMUNICATIONS & SERVICE PIT	--- T ---	
GAS MAIN	--- G ---	
SEWER & MAINTENANCE STRUCTURE	--- S ---	
SEWER RISING MAIN	--- SRM ---	
SWALE DRAIN	--- ---	
COUNCIL STORMWATER DRAIN AND PIT	--- D ---	
LIGHT & POLE (BY OTHERS)	● ●	
WATER MAIN CHAINAGES		CH20.06
LIMIT OF WORKS		● ●
FENCE	--- / --- / --- / ---	
ROAD CENTRELINE	--- -- -- --	
AIR VALVE		AV
SCOUR VALVE		SV
BORE LAUNCH/RECEIVAL AREA		□
EDGE OF SEAL/TRACK	/// /// ///	
STREET TREE WITH TPZ	⊗	
ISOLATION VALVE		IV X
THRUST RESTRAINT		≡
TAPPING UNDER PRESSURE TO EXISTING MAIN		TUP
PROTECTIVE VEGETATION		■
SITE OFFICE LAYDOWN AREA		■
BORE PIPE PULL AREA/ PULL IN DIRECTION		→
ADDITIONAL VEG REMOVAL FOR ACCESS		■
ACCESS POINT		→

TABLE 1. NEW PIPE SCHEDULE

NEW WORK			DRINKING WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)
OD500	PE100 AS/NZS 4130	PN16/SDR11	1368.60
OD280	PE100 AS/NZS 4130	PN16/SDR11	14.00

TABLE 2. PIPE MATERIAL SCHEDULE

MATERIAL	REFERENCE
PE (RETIC & SUBMAIN)	WSA-PS-207

TABLE 3. HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	OWNERSHIP	LOCATION	CHAINAGE
OD500	AIR-VALVE	COLIBAN WATER	INLINE NON-TRAFFICABLE (ABOVE GROUND)	CH100
OD500	SCOUR	COLIBAN WATER	OFFSET TRAFFICABLE (BELOW GROUND)	CH521.7
OD500	AIR-VALVE	COLIBAN WATER	OFFSET TRAFFICABLE (BELOW GROUND)	CH524.3
OD500	SCOUR	COLIBAN WATER	OFFSET NON-TRAFFICABLE (BELOW GROUND)	CH1082.35
OD500	AIR-VALVE	COLIBAN WATER	INLINE NON-TRAFFICABLE (BELOW GROUND)	CH1094.3
OD500	SCOUR	COLIBAN WATER	OFFSET TRAFFICABLE (BELOW GROUND)	CH1331.94

TABLE 4. CURVED PIPE & DEFLECTION SCHEDULE

LOCATION	METHOD	OFFSET/RADIUS (m)
VARIOUS (AS SHOWN IN DRAWINGS)	500 PE COLD BEND	MIN 7.5 RADIUS
VARIOUS (AS SHOWN IN DRAWINGS)	280 PE COLD BEND	MIN 4.2 RADIUS

- PE PIPE TO BE BENT IN ACCORDANCE WITH PIPA GUIDELINE POP202.

TABLE 5. THRUST RESTRAINT SCHEDULE

LOCATION (AS SHOWN ON DWGS)	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (M²)	THRUST RESTRAINT LxWxH	QUANTITY
A	IN-LINE	500PE SHRINKAGE + VALVE	100	4.75	3.12x0.25x2.52	1
B	IN-LINE	500PE SHRINKAGE + VALVE	100	4.75	3.3x0.25x3.15	1

TABLE 6: VERTICAL CLEARANCES

EXISTING OR PROPOSED SERVICE	MINIMUM VERTICAL CLEARANCE (mm)
WATER MAINS ≤ DN375	150
WATER MAINS > DN375	300
GAS MAINS	150
TELECO CONDUITS AND CABLES	150
ELECTRICITY CONDUITS AND CABLES	225
STORMWATER DRAIN & PITS	150
SEWERS - GRAVITY	500
SEWERS - PRESSURE & VACUUM	500

- VERTICAL CLEARANCE BETWEEN WATER MAINS SHALL DEPEND ON THE LARGER MAIN DIAMETER.
- WATER MAINS SHALL CROSS OVER SEWERS AND DRAINS UNLESS SHOWN OTHERWISE.
- MAINTAIN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING.

TABLE 7: MINIMUM COVER REQUIREMENTS AS PER COLIBAN SUPPLEMENT TO THE MRWA

LOCATION	REQUIRED COVER (mm)		
	<100	150	225-750
MINOR ROAD	900	900	900
MAJOR ROAD	1200	1200	1200
NATURESTRIP	600	600	750

B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	06-03-24	T.Z
A	PRELIMINARY ISSUE	21-11-23	T.Z
REV	DESCRIPTION	DATE	APPROVED

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	21-11-23

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Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

GENERAL NOTES - WATER MAIN SECTION D

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	
SHEET: 1 OF 12	
SPIIRE DWG No.: 310974CWD100	REV B

PRELIMINARY

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file location: D:\31\310974\Coliban\ACAD\plot date: 26/03/2024, 2:10 PM Sheet 2 of 12 Sheets

	SEWER RISING MAIN
PUMP HEAD (m)	55
ZONE	RESIDENTIAL
TEST PRESSURE (kPa)	SUBJECTED TO WATER HAMMER REPORT

GENERAL NOTES:

1. RISING MAIN PE MATERIAL IS REQUIRED TO BE CONSTRUCTED IN CREAM STRIPES, PN16 PE100 PRESSURE PIPE.
2. DETECTABLE MARKING TAPE TO BE INSTALLED IN TRENCH ABOVE THE PIPE IN ACCORDANCE WITH WSA 05-2005, WSA 07-2007 AND COLIBAN WATER REQUIREMENTS
3. SCOUR, AIR AND ISOLATION VALVES ARE REQUIRED TO HAVE MARKER POST WITH A MARKER PLATE CLEARLY INDICATING THE COLIBAN WATER ASSET, CONTACT DETAIL, DEPTH OF COVER TO THE ASSET AND OFFSET DETAILS.
4. ALL WORKS TO BE INSTALLED IN ACCORDANCE WITH THE PRESSURE SEWERAGE CODE WSA 04-2005 AND WSA 07-2007 v11 TOGETHER WITH A WATER AGENCY SUPPLEMENT AND OTHER REFERENCED DOCUMENTS.
5. LOCATION MARKERS ARE REQUIRED AT THE CHANGES OF DIRECTION, VALVES, FITTINGS, AND AT THE MAXIMUM 200m CENTRES. LOCATION MARKERS ARE ALSO REQUIRED WHERE PRESSURE SEWER PIPES ARE INSTALLED AT VARYING OFFSETS OR IN LOCATIONS THAT MAY MAKE IT DIFFICULT TO LOCATE THE PIPES IN THE FUTURE.

WARNING
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CONTRACTOR TO LOCATE ALL SERVICES PRIOR TO COMMENCEMENT OF WORKS

NOTE: CONTRACTOR TO ALLOW PE PIPE TO COOL TO GROUND TEMPERATURE (MIN 20°) BEFORE WELDING AND POURING CONCRETE ANCHORAGE



TABLE 8. NEW PIPE SCHEDULE

NEW WORK			SEWER RISING MAIN
SIZE (mm)	TYPE	CLASS	LENGTH (m)
OD315	PE100 AS/NZS 4130	PN16/SDR11	1200

TABLE 9. PIPE MATERIAL SCHEDULE

MATERIAL	REFERENCE
PE (RETIC & SUBMAIN)	WSA-PS-207

TABLE 10. HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	OWNERSHIP	LOCATION	CHAINAGE (ON WATER MAIN)
OD315	AIR-VALVE	COLIBAN WATER	INLINE NON-TRAFFICABLE	CH100
OD315	AIR-VALVE	COLIBAN WATER	OFFSET TRAFFICABLE	CH524.3
OD315	SCOUR	COLIBAN WATER	OFFSET NON-TRAFFICABLE	CH1082.35
OD315	AIR-VALVE	COLIBAN WATER	INLINE NON-TRAFFICABLE	CH1094.3

TABLE 11. CURVED PIPE & DEFLECTION SCHEDULE

LOCATION	METHOD	OFFSET/RADIUS (m)
VARIOUS (AS SHOWN IN DRAWINGS)	315 PE COLD BEND	MIN 4.73 RADIUS

- PE PIPE TO BE BENT IN ACCORDANCE WITH PIPA GUIDELINE POP202.

TABLE 12: VERTICAL CLEARANCES

EXISTING OR PROPOSED SERVICE	MINIMUM VERTICAL CLEARANCE (mm)
WATER MAINS ≤ DN375	500
WATER MAINS > DN375	500
GAS MAINS	150
TELECO CONDUITS AND CABLES	150
ELECTRICITY CONDUITS AND CABLES (LV & HV)	225
STORMWATER DRAIN & PITS	150 MIN (300 PREFERRED)
SEWERS - GRAVITY	500
SEWERS - PRESSURE & VACUUM	300

- VERTICAL CLEARANCE BETWEEN WATER MAINS SHALL DEPEND ON THE LARGER MAIN DIAMETER.
- WATER MAINS SHALL CROSS OVER SEWERS AND DRAINS UNLESS SHOWN OTHERWISE.
- MAINTAIN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING.

TABLE 13: PIPE COVER

LOCATION	MINIMUM COVER (mm)
PRIVATE PROPERTY - NON TRAFICABLE	450
PUBLIC PROPERTY - NON TRAFICABLE	900
TRAFFICABLE AREAS	1200

PRELIMINARY
NOT FOR CONSTRUCTION

B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	06-03-24	T.Z
A	PRELIMINARY ISSUE	21-11-23	T.Z
REV	DESCRIPTION	DATE	APPROVED

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	21-11-23

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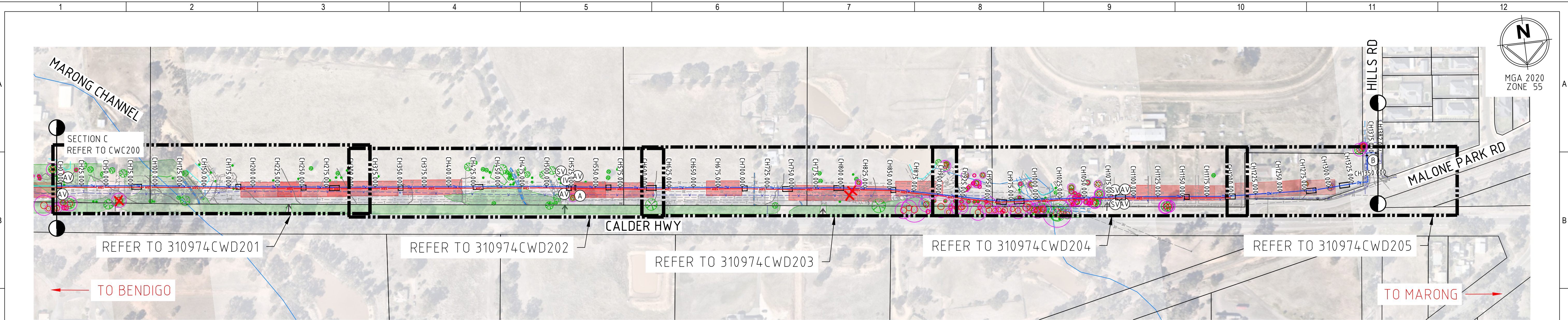


COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

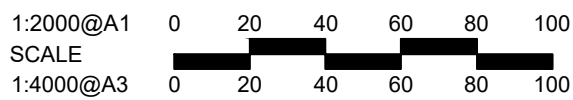
GENERAL NOTES - SRM SECTION D

SCALE: AS SHOWN	
SHEET: 2 OF 12	
SPIIRE DWG No.:	REV
310974CWD101	B
PRELIMINARY	

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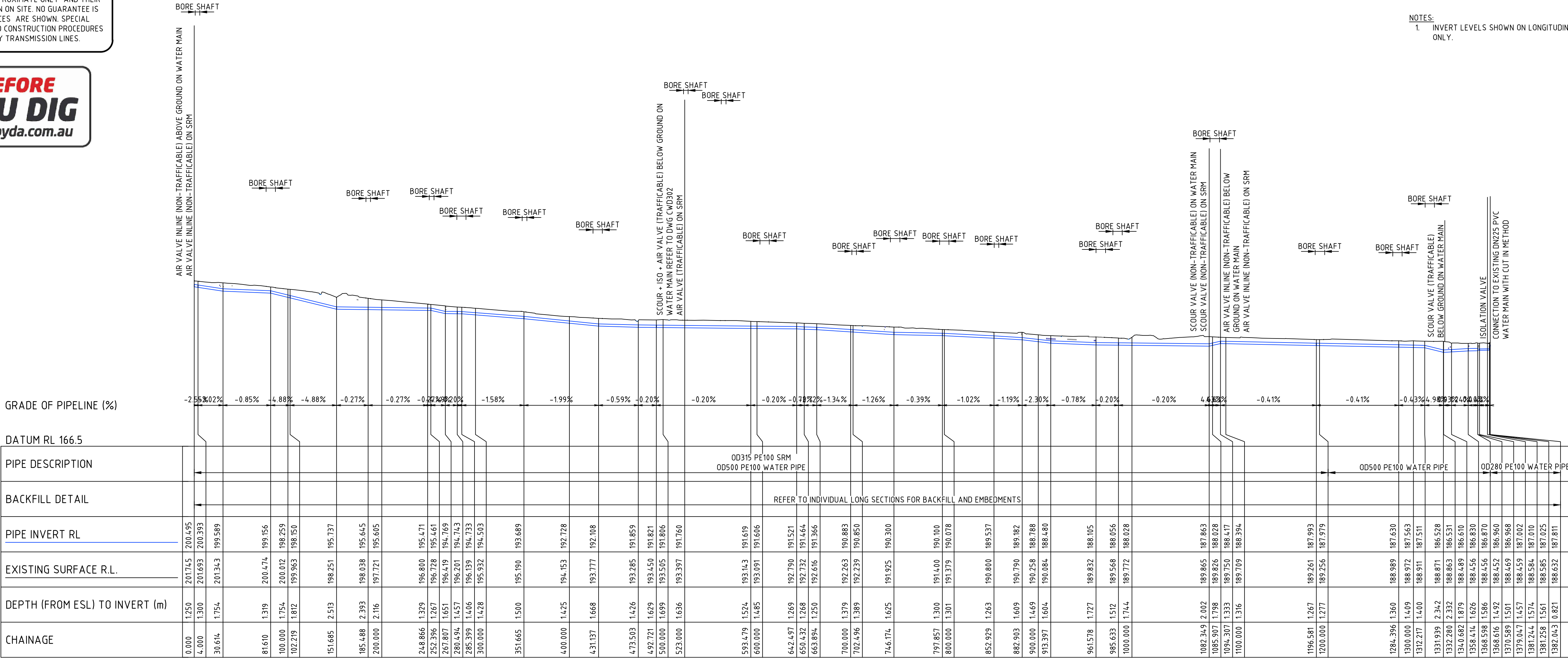
SECTION D OVERALL LAYOUT



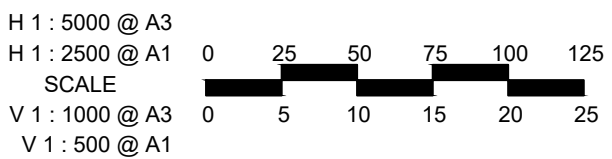
WARNING
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NOTES:
1. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.



MARONG WATER MAIN - SECTION D - OVERALL LONGITUDINAL SECTION



REV	DESCRIPTION	DATE	APPROVED
B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	06-03-24	T.Z
A	PRELIMINARY ISSUE	21-11-23	T.Z

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	21-11-23

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COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

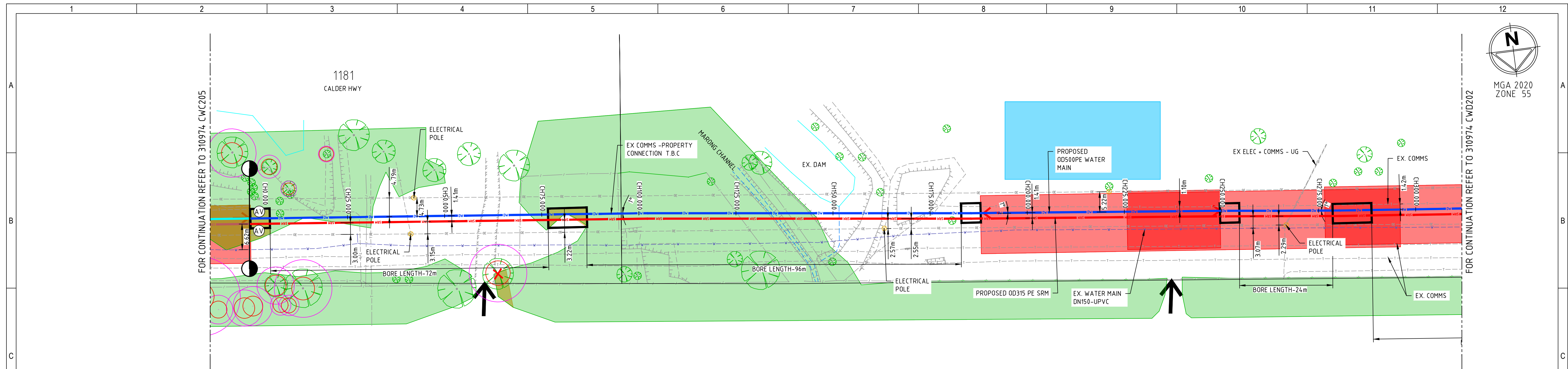
OVERALL LAYOUT PLAN SECTION D - KEY PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	REV
SHEET: 3 OF 12	
SPiIRE DWG No.: 310974CWD200	B

PRELIMINARY

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SECTION D LAYOUT 1 OF 5

1:500@ A1
SCALE
1:1000@ A3

- NOTES:
- CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 - CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 - FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS - REFER TO DRAWING CWD300.
 - FOR TYPICAL AIR/SCOUR VALVE DETAILS - REFER TO DRAWING CWD301 & 302.
 - PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 - FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWD300.
 - EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES. CAUTION TO BE TAKEN AROUND POLE.
 - INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 - CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 - FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 - FOR SRM MARKER POST DETAIL REFER TO CWD301.

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GRADE OF PIPELINE (%)

DATUM RL 190.5

PIPE DESCRIPTION	OD500 PE100 WATER PIPE OD315 PE100 SRM
BACKFILL DETAIL	TYPE 4 TRENCHLESS TYPE 4 TRENCHLESS TYPE 4 TRENCHLESS TYPE 4 TRENCHLESS TYPE 4 TRENCHLESS
PIPE INVERT RL	200.495 200.393 199.758 199.589 199.424 199.212 199.156 198.259 198.150 197.039 195.820 195.737 195.674 195.465 195.605 195.537 195.471 195.468 195.461 194.769 194.754 194.743 194.733 194.503
EXISTING SURFACE R.L.	201.745 201.693 201.413 201.343 201.046 200.631 200.474 200.002 199.963 199.443 198.394 198.251 198.468 198.038 197.721 197.276 196.800 196.777 196.728 196.419 196.276 196.201 196.139 195.932
DEPTH (FROM ESL) TO INVERT (m)	1.250 1.300 1.654 1.754 1.622 1.419 1.319 1.754 1.812 2.404 2.574 2.513 2.794 2.393 2.116 1.739 1.329 1.309 1.267 1.651 1.521 1.457 1.406 1.428
CHAINAGE	0.000 4.000 25.000 30.614 50.000 75.000 81.610 100.000 102.219 125.000 150.000 151.085 175.000 185.488 200.000 225.000 248.866 250.000 252.396 267.807 275.000 280.494 285.399 300.000

MARONG WATER MAIN - SECTION D

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

- LEGEND
- VALVE
 - AIR VALVE
 - SCOUR VALVE
 - ISOLATION VALVE
 - THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	21-11-23

S&R ENGINEERING & CONSTRUCTION



COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

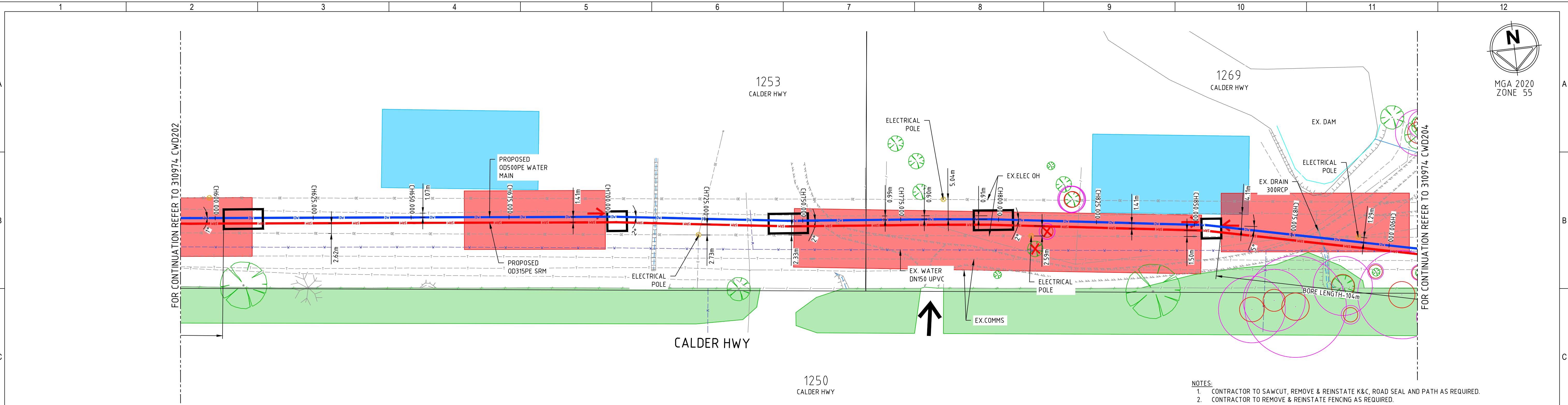
LAYOUT & LONGITUDINAL SECTION D - SHEET 1 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	REV
SHEET: 4 OF 12	
SPiIRE DWG No.: 310974CWD201	B

PRELIMINARY

file name: 310974_CWD202.dwg, layout name: CWD202, plotted by: Saeed Esai, file location: D:\310974\310974_CWD202.dwg, plot date: 26/03/2024, 2:13 PM, Sheet 6 of 12, Sheets



SECTION D LAYOUT 3 OF 5

1:500 @ A1
SCALE
1:1000 @ A3
0 5 10 15 20 25
0 5 10 15 20 25

- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWD300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWD301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWD300.
 7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, CAUTION TO BE TAKEN AROUND POLE.
 8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 11. FOR SRM MARKER POST DETAIL REFER TO CWD301.

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GRADE OF PIPELINE (%)

DATUM RL 184.5

PIPE DESCRIPTION

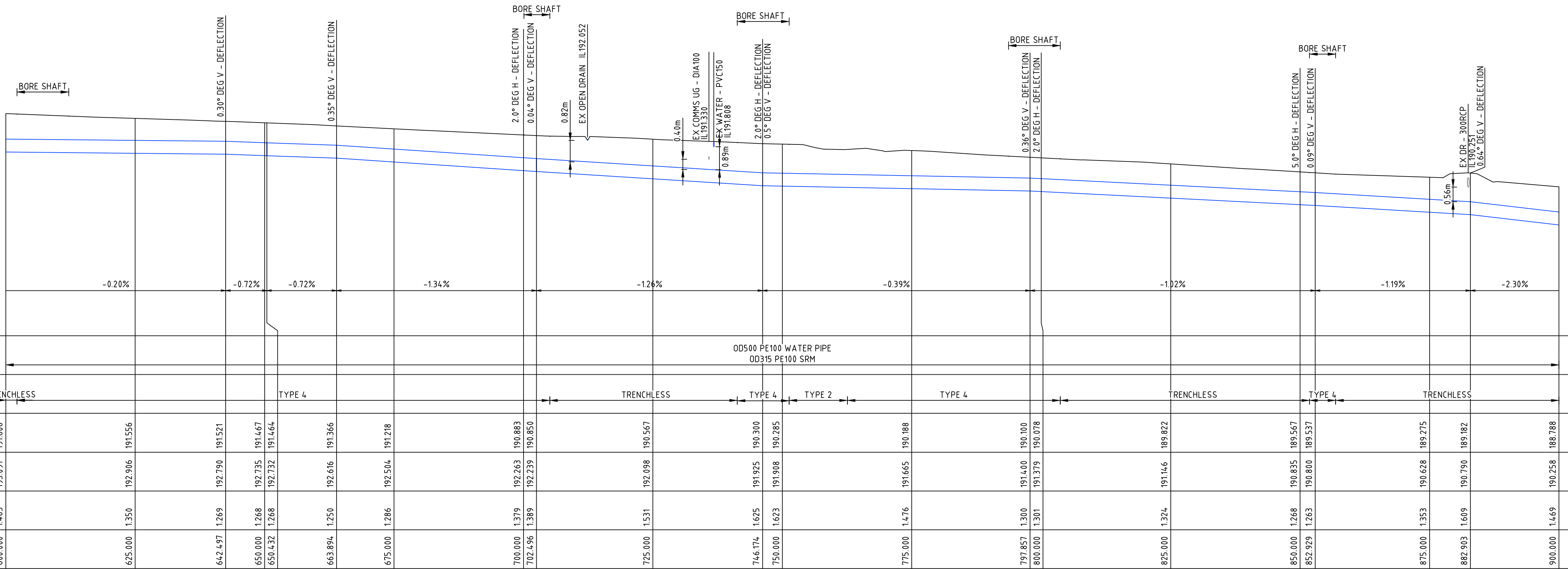
BACKFILL DETAIL

PIPE INVERT RL

EXISTING SURFACE R.L.

DEPTH (FROM ESL) TO INVERT (m)

CHAINAGE



MARONG WATER MAIN - SECTION D

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1
0 5 10 15 20 25
0 1 2 3 4 5

- LEGEND
- X VALVE
 - (A) AIR VALVE
 - (S) SCOUR VALVE
 - (I) ISOLATION VALVE
 - (R) THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	21-11-23

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Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

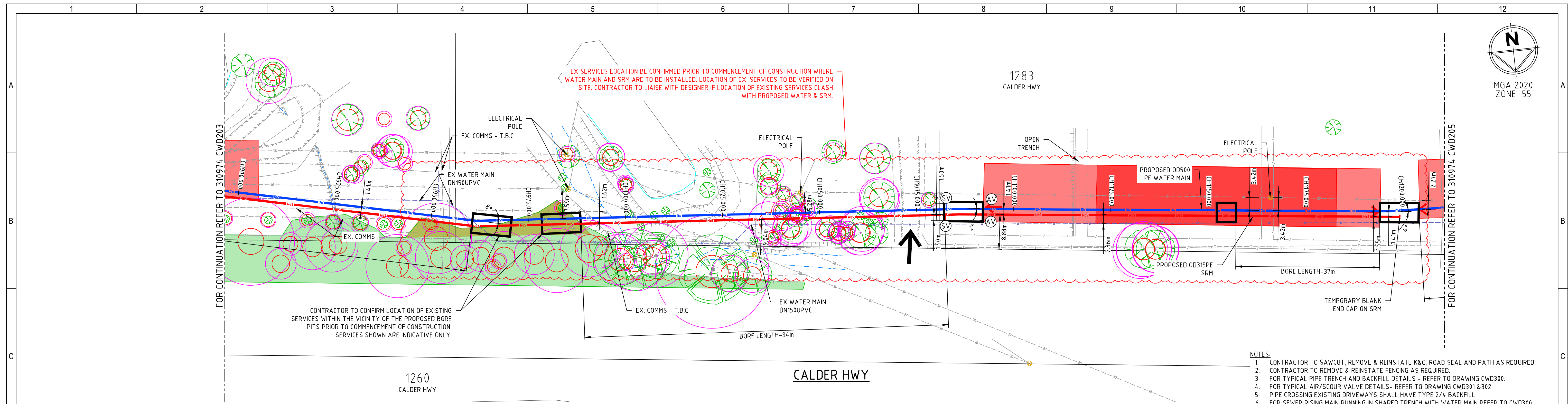
LAYOUT & LONGITUDINAL SECTION D - SHEET 3 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 6 OF 12
SPIIRE DWG No.: 310974CWD203
REV B

PRELIMINARY

file name: 310974.CWD200.dwg, layout name: CWD200, plotted by: Saeed Saei
file location: D:\310974\310974\310974.dwg, plot date: 26/03/2024, 2:13 PM, Sheet 7 of 12 Sheets



SECTION D LAYOUT 4 OF 5

1:500 @ A1
SCALE
1:1000 @ A3

- NOTES:
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 - FOR SEWER RISING MAIN RUNNING IN SHARED TRENCH WITH WATER MAIN REFER TO CWD300.
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GRADE OF PIPELINE (%)

DATUM RL 183.5

PIPE DESCRIPTION

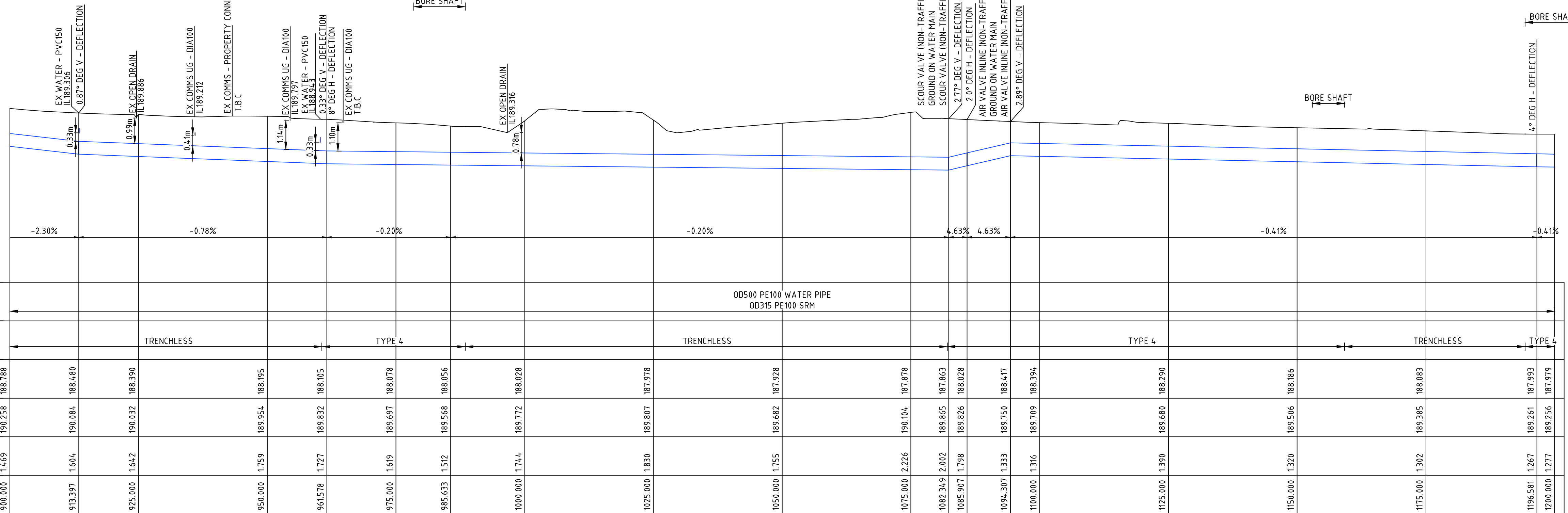
BACKFILL DETAIL

PIPE INVERT RL

EXISTING SURFACE R.L.

DEPTH (FROM ESL) TO INVERT (m)

CHAINAGE



MARONG WATER MAIN - SECTION D

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

LEGEND

X VALVE
AIR VALVE
SCOUR VALVE
ISOLATION VALVE
THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED S. SAEI
DRAWN P. HAY
CHECKED C. MULHOLLAND
AUTHORITY PROJECT No.
VICROADS REFERENCE
44D5 44E5
AUTHORISED T. ZAHLE
DATE: 21-11-23

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CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION D

LAYOUT & LONGITUDINAL SECTION D - SHEET 4 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN

SHEET: 7 OF 12

SPiIRE DWG No.:

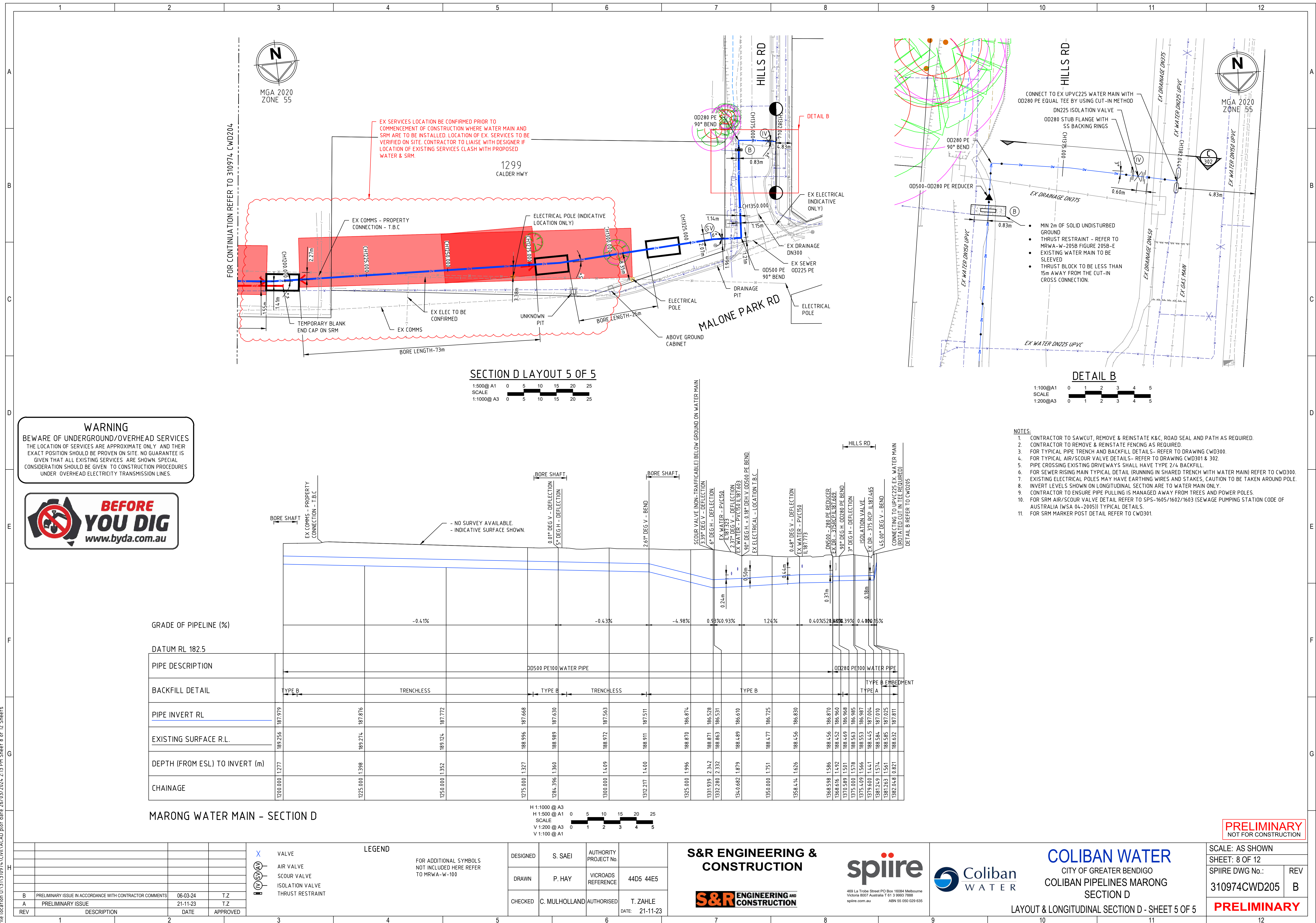
310974CWD204

REV

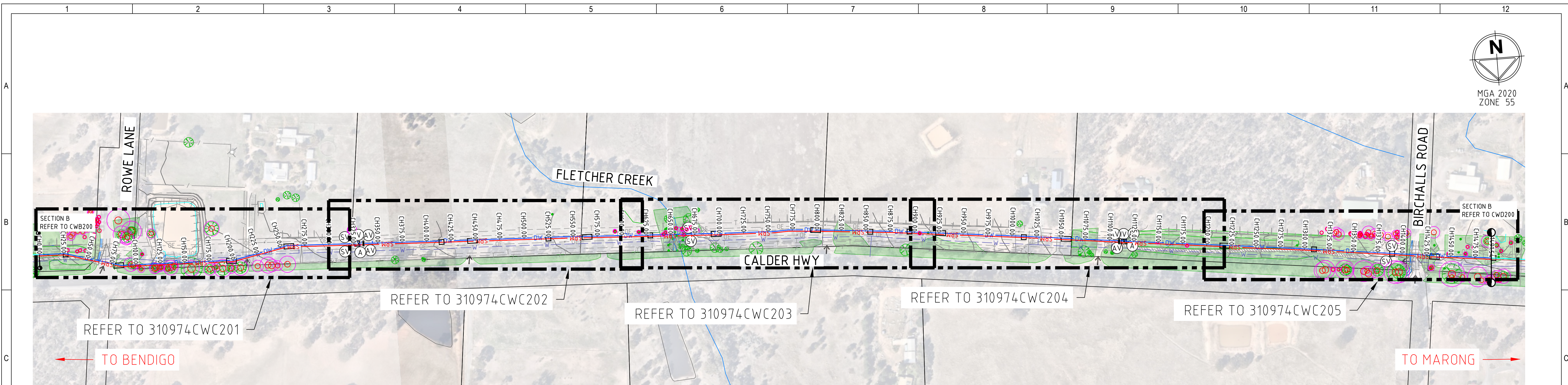
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PRELIMINARY

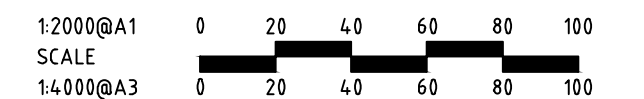
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file name: 310974CWC200.dwg, layout name: CWC200, plotted by: Savda Esai, file location: D:\31\310974\Coliban\CAD\plot date: 27/03/2024, 9:55 AM, Sheet: 3 of 11 Sheets

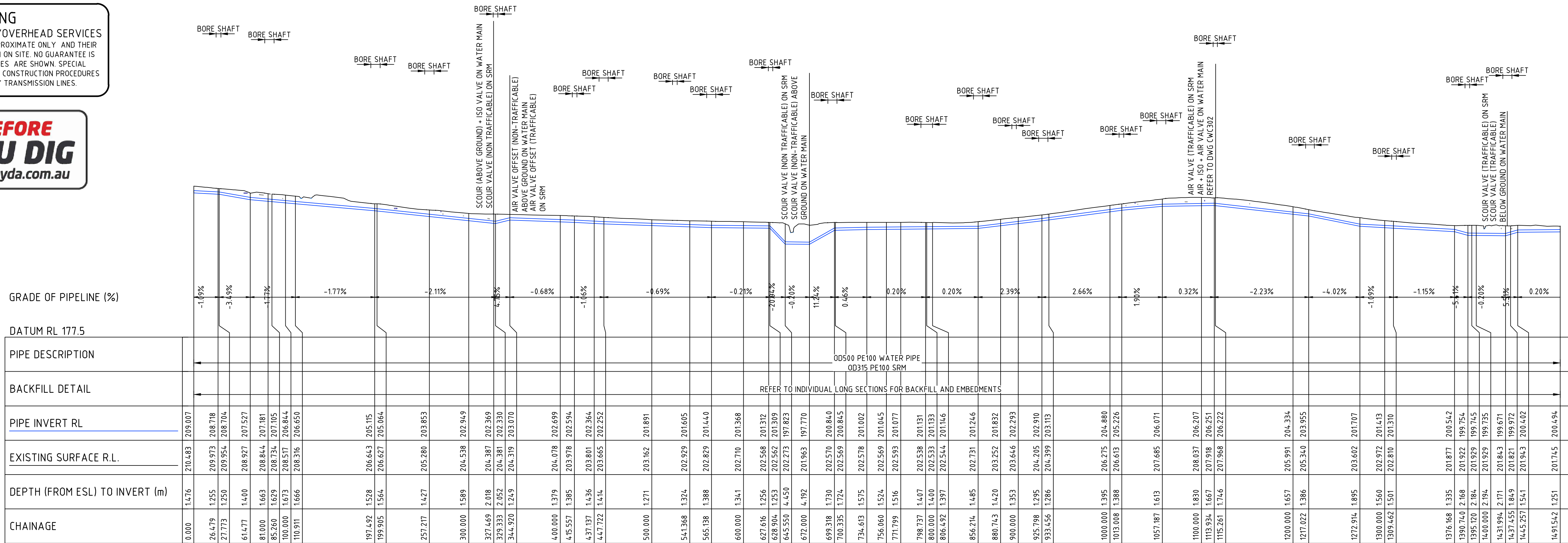


SECTION C OVERALL LAYOUT

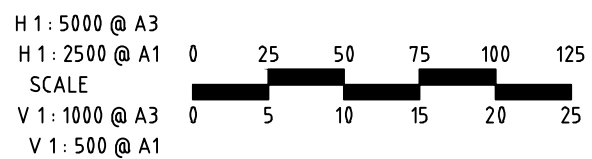


NOTES:
1. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.

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MARONG WATER MAIN - SECTION C - OVERALL LONGITUDINAL SECTION



- LEGEND**
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TR) THRUST RESTRAINT
 - (IV) ISOLATION VALVE

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

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Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

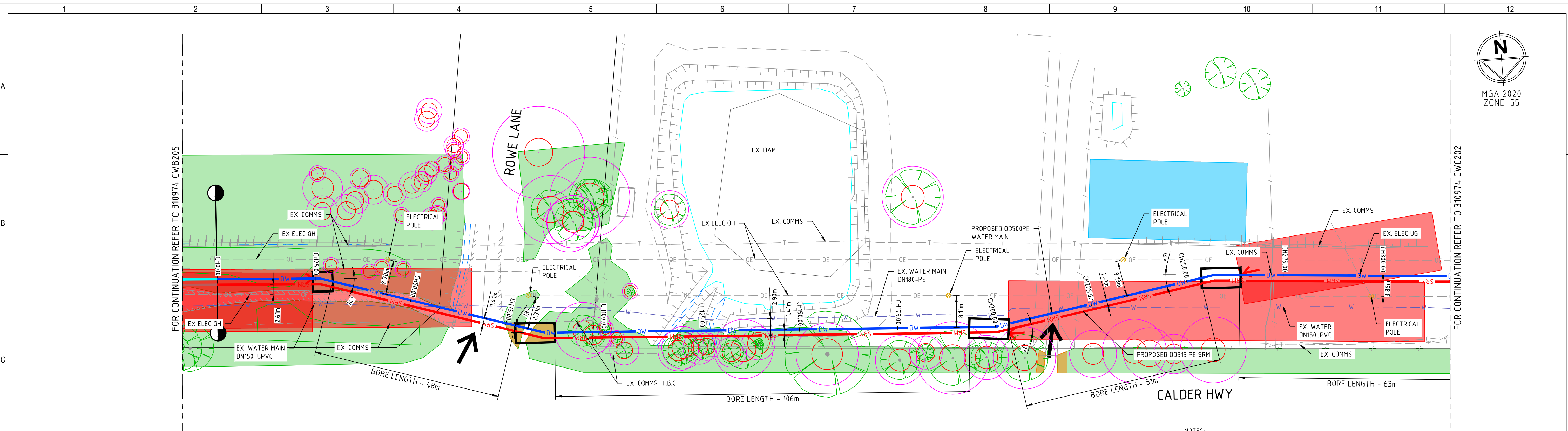
OVERALL LAYOUT PLAN SECTION C - KEY PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 3 OF 11
SPIIRE DWG No.:
310974CWC200
REV
B

PRELIMINARY

file name: 310974-CWC200.dwg, layout name: CWC201, plot date: 27/03/2024, 9:55 AM, Sheet 4 of 11 Sheets



- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWC300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWC301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
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 11. FOR SRM MARKER POST DETAIL REFER TO CWC301.

SECTION C LAYOUT 1 OF 5



WARNING
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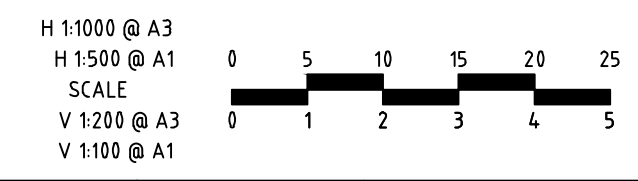


GRADE OF PIPELINE (%)

DATUM RL 198.5

PIPE DESCRIPTION	OD500 PE100 WATER PIPE OD315 PE100 SRM									
BACKFILL DETAIL	TYPE 4		TRENCHLESS		TYPE 2		TRENCHLESS		TYPE 4	
PIPE INVERT RL	209.007	208.734	207.928	207.527	207.287	206.844	206.450	206.400	205.957	205.513
EXISTING SURFACE R.L.	210.483	210.003	209.973	209.954	209.938	208.844	208.316	207.972	206.627	205.984
DEPTH (FROM ESL) TO INVERT (m)	1.476	1.269	1.255	1.250	1.261	1.663	1.629	1.572	2.274	1.451
CHAINAGE	0.000	25.000	26.479	27.773	50.000	61.477	81.000	100.000	110.911	125.000

MARONG WATER MAIN - SECTION C



- LEGEND**
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TV) THRUST RESTRAINT
 - (IV) ISOLATION VALVE
- FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

S&R ENGINEERING & CONSTRUCTION



COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

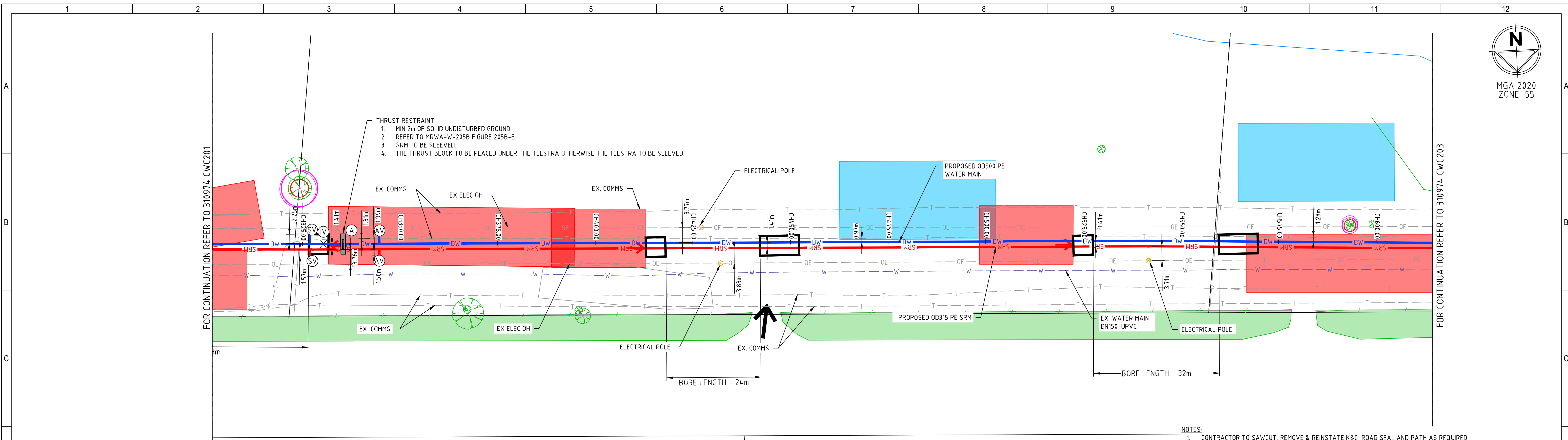
LAYOUT & LONGITUDINAL SECTION C - SHEET 1 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 4 OF 11
SPIIRE DWG No.: 310974CWC201
REV B

PRELIMINARY

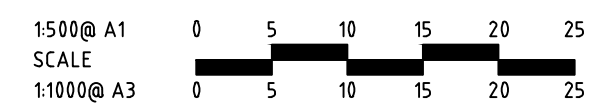
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WARNING
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SECTION C LAYOUT 2 OF 5



- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
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 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWC300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWC301 & 302.
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 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWC300.
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 11. FOR SRM MARKER POST DETAIL REFER TO CWC301.

GRADE OF PIPELINE (%)

DATUM RL 197.0

PIPE DESCRIPTION

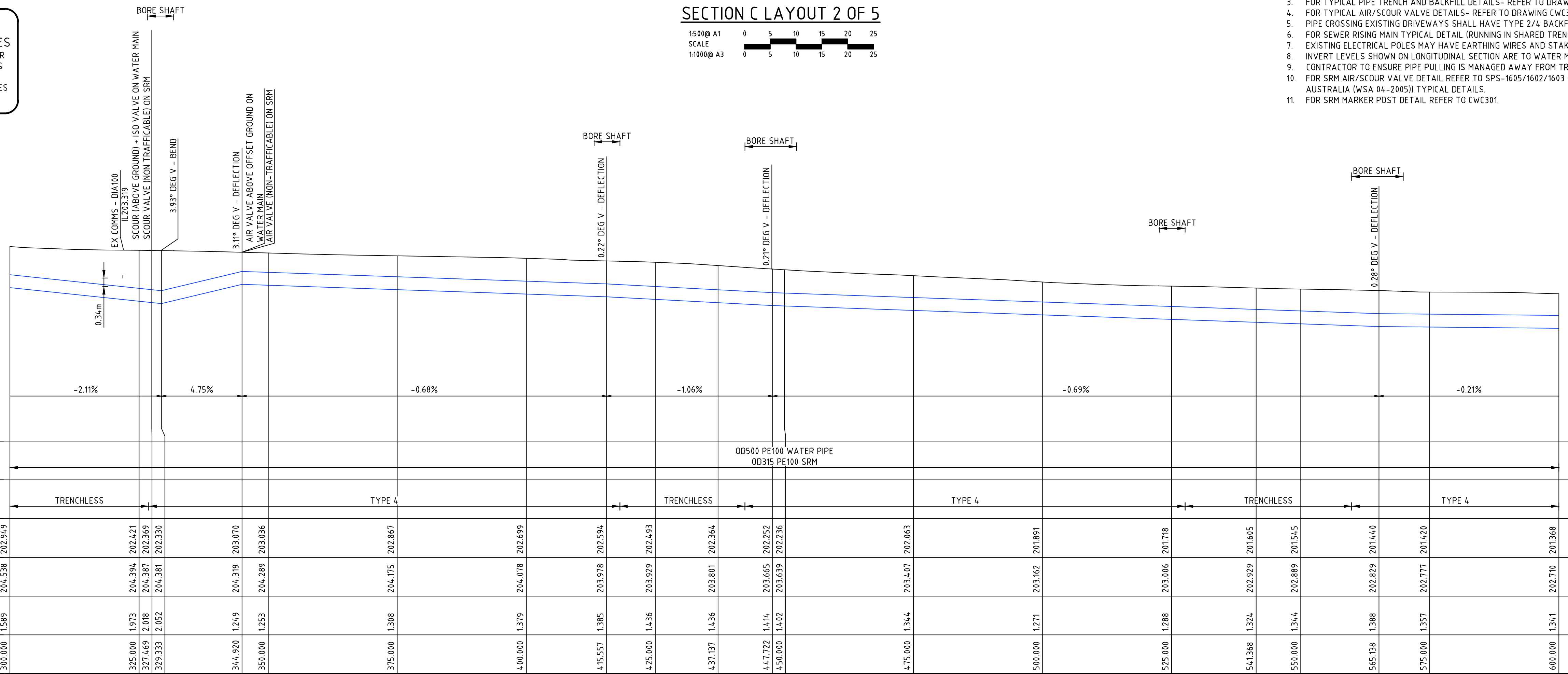
BACKFILL DETAIL

PIPE INVERT RL

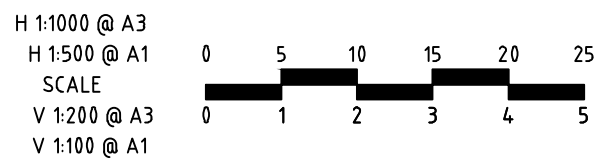
EXISTING SURFACE R.L.

DEPTH (FROM ESL) TO INVERT (m)

CHAINAGE



MARONG WATER MAIN - SECTION C



- LEGEND
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TR) THRUST RESTRAINT
 - (IV) ISOLATION VALVE

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

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Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

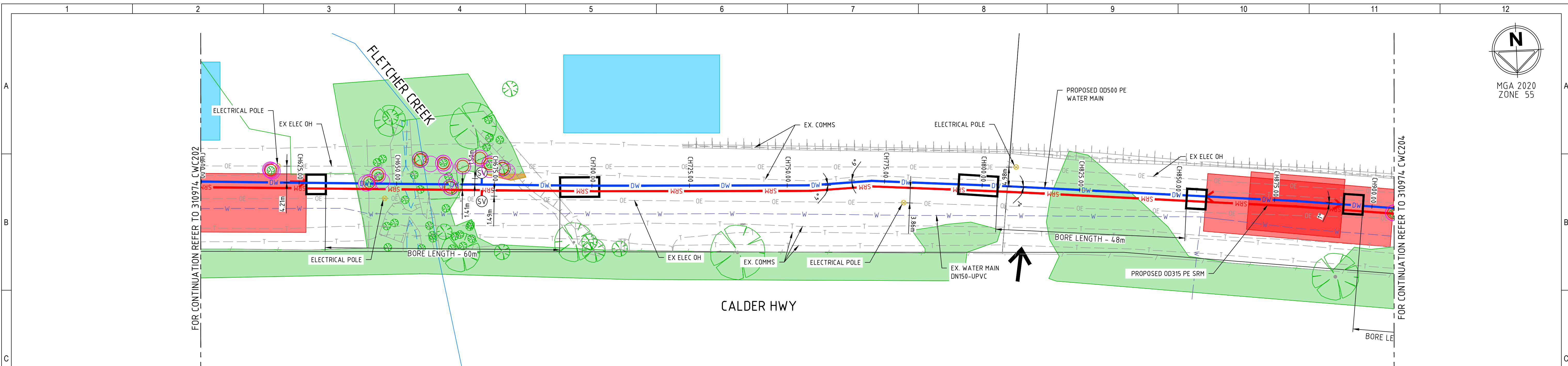
LAYOUT & LONGITUDINAL SECTION C - SHEET 2 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

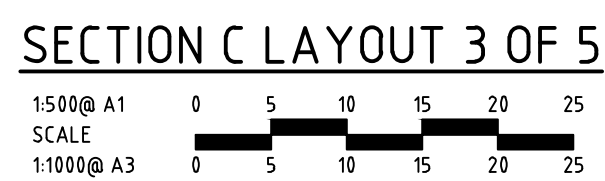
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SHEET: 5 OF 11
SPIIRE DWG No.:
310974CWC202
REV
B

PRELIMINARY

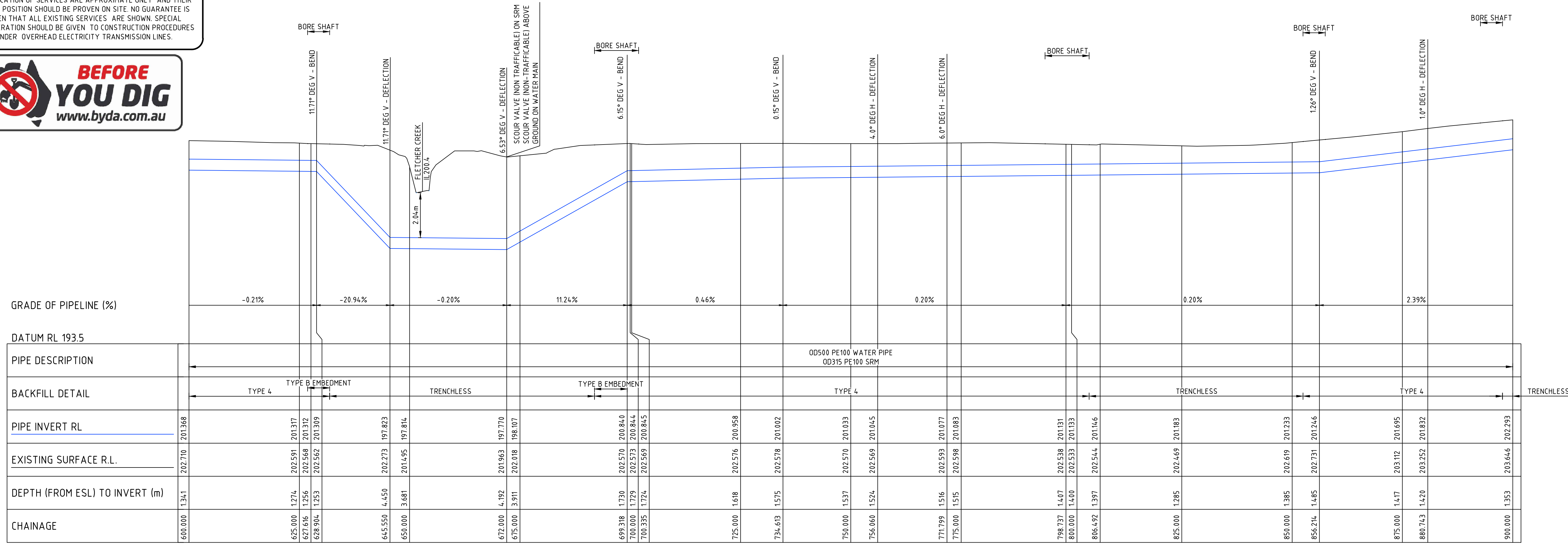
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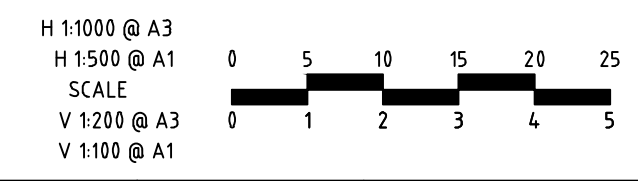
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GRADE OF PIPELINE (%)		-0.21%	-20.94%	-0.20%	11.24%	0.46%	0.20%	0.20%	2.39%
DATUM RL 193.5									
PIPE DESCRIPTION		OD500 PE100 WATER PIPE				OD315 PE100 SRM			
BACKFILL DETAIL		TYPE 4		TRENCHLESS		TYPE 4		TRENCHLESS	
PIPE INVERT RL		201.368	201.317	201.312	201.309	201.304	201.303	201.302	201.293
EXISTING SURFACE R.L.		202.710	202.591	202.568	202.562	202.570	202.538	202.469	203.646
DEPTH (FROM ESL) TO INVERT (m)		1.341	1.274	1.256	1.253	1.270	1.407	1.285	1.353
CHAINAGE		600.000	625.000	627.566	628.904	645.550	650.000	672.000	700.000



MARONG WATER MAIN - SECTION C

- LEGEND**
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TV) THRUST RESTRAINT
 - (IV) ISOLATION VALVE
- FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

S&R ENGINEERING & CONSTRUCTION

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Victoria 8007 Australia T 61 3 9993 7888
spiire.com.au ABN 55 020 029 635

COLIBAN WATER

CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

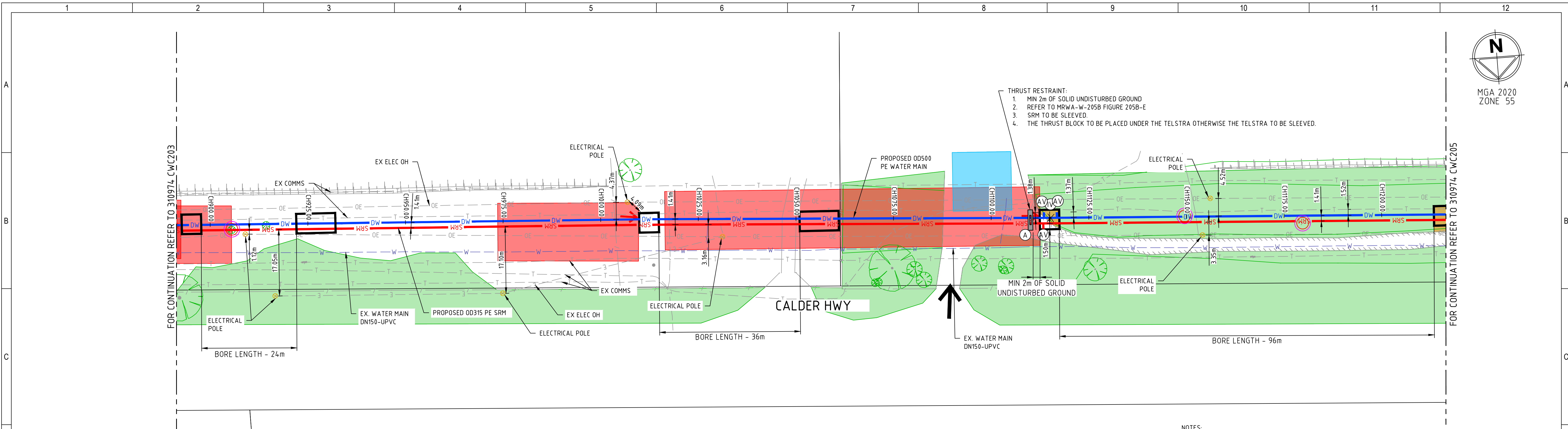
LAYOUT & LONGITUDINAL SECTION C - SHEET 3 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 6 OF 11
SPIIRE DWG No.: 310974CWC203
REV B

PRELIMINARY

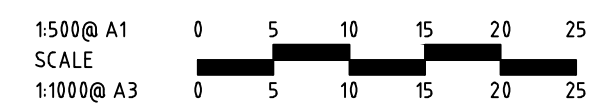
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SECTION C LAYOUT 4 OF 5

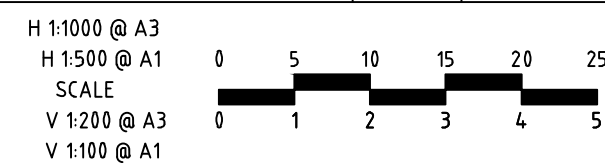


- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWC300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWC301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWC300.
 7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, CAUTION TO BE TAKEN AROUND POLE.
 8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 11. FOR SRM MARKER POST DETAIL REFER TO CWC301.

GRADE OF PIPELINE (%)

DATUM RL 198.0

PIPE DESCRIPTION	OD500 PE100 WATER PIPE OD315 PE100 SRM									
BACKFILL DETAIL	TRENCHLESS		TYPE 4			TRENCHLESS		TYPE 4		TRENCHLESS
PIPE INVERT RL	202.493	202.891	202.910	203.113	203.552	204.216	204.880	205.935	206.071	206.128
EXISTING SURFACE R.L.	203.646	204.184	204.205	204.399	204.848	205.612	206.275	207.510	208.037	208.207
DEPTH (FROM ESL) TO INVERT (m)	1.353	1.294	1.295	1.286	1.295	1.396	1.395	1.575	1.613	1.833
CHAINAGE	900.000	925.000	925.188	925.556	950.000	975.000	1000.000	1013.008	1013.788	1025.000



MARONG WATER MAIN - SECTION C

- LEGEND
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TR) THRUST RESTRAINT
 - (IV) ISOLATION VALVE

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

S&R ENGINEERING & CONSTRUCTION

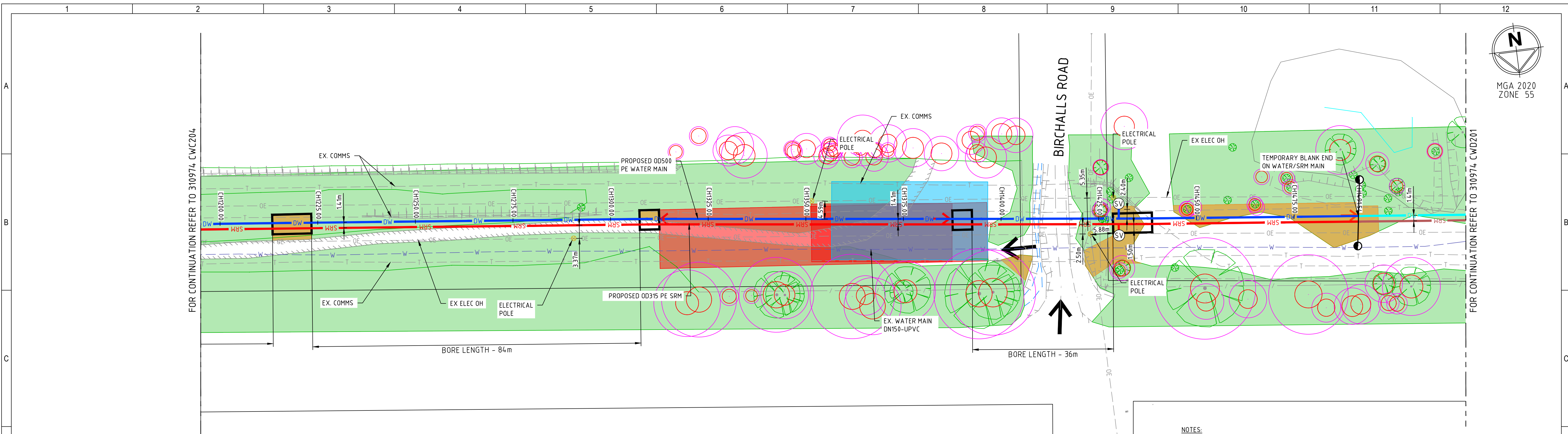


COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

LAYOUT & LONGITUDINAL SECTION C - SHEET 4 OF 5

SCALE: AS SHOWN	
SHEET: 7 OF 11	
SPIIRE DWG No.:	REV
310974CWC204	B
PRELIMINARY NOT FOR CONSTRUCTION	

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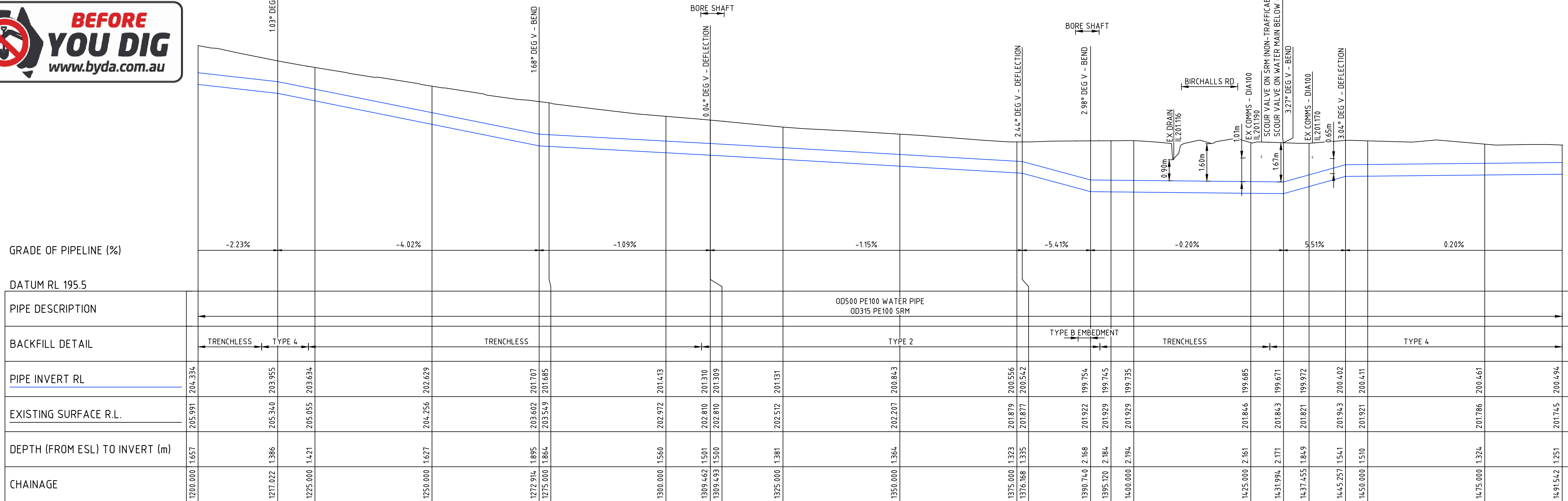


WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION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



SECTION C LAYOUT 5 OF 5
1:500@ A1
SCALE
1:1000@ A3

- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWC300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWC301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWC300.
 7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, CAUTION TO BE TAKEN AROUND POLE.
 8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 11. FOR SRM MARKER POST DETAIL REFER TO CWC301.



GRADE OF PIPELINE (%)

DATUM RL 195.5

PIPE DESCRIPTION

BACKFILL DETAIL

PIPE INVERT RL

EXISTING SURFACE R.L.

DEPTH (FROM ESL) TO INVERT (m)

CHAINAGE

MARONG WATER MAIN - SECTION C

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

- LEGEND**
- X VALVE
 - (AV) AIR VALVE
 - (SV) SCOUR VALVE
 - (TV) THRUST RESTRAINT
 - (IV) ISOLATION VALVE

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	P. HAY	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	1-11-23

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Coliban WATER

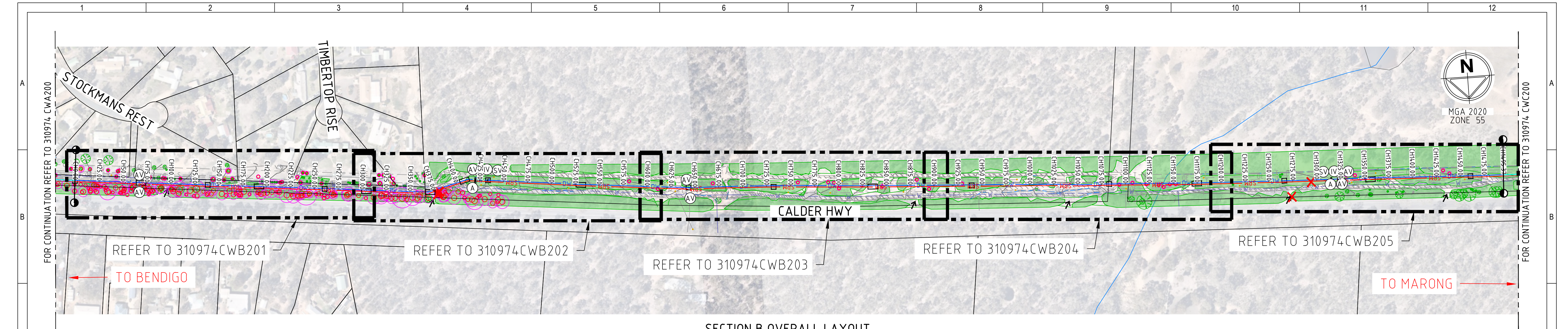
COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION C

LAYOUT & LONGITUDINAL SECTION C - SHEET 5 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 8 OF 11
SPIIRE DWG No.:
310974CWC205
REV
B

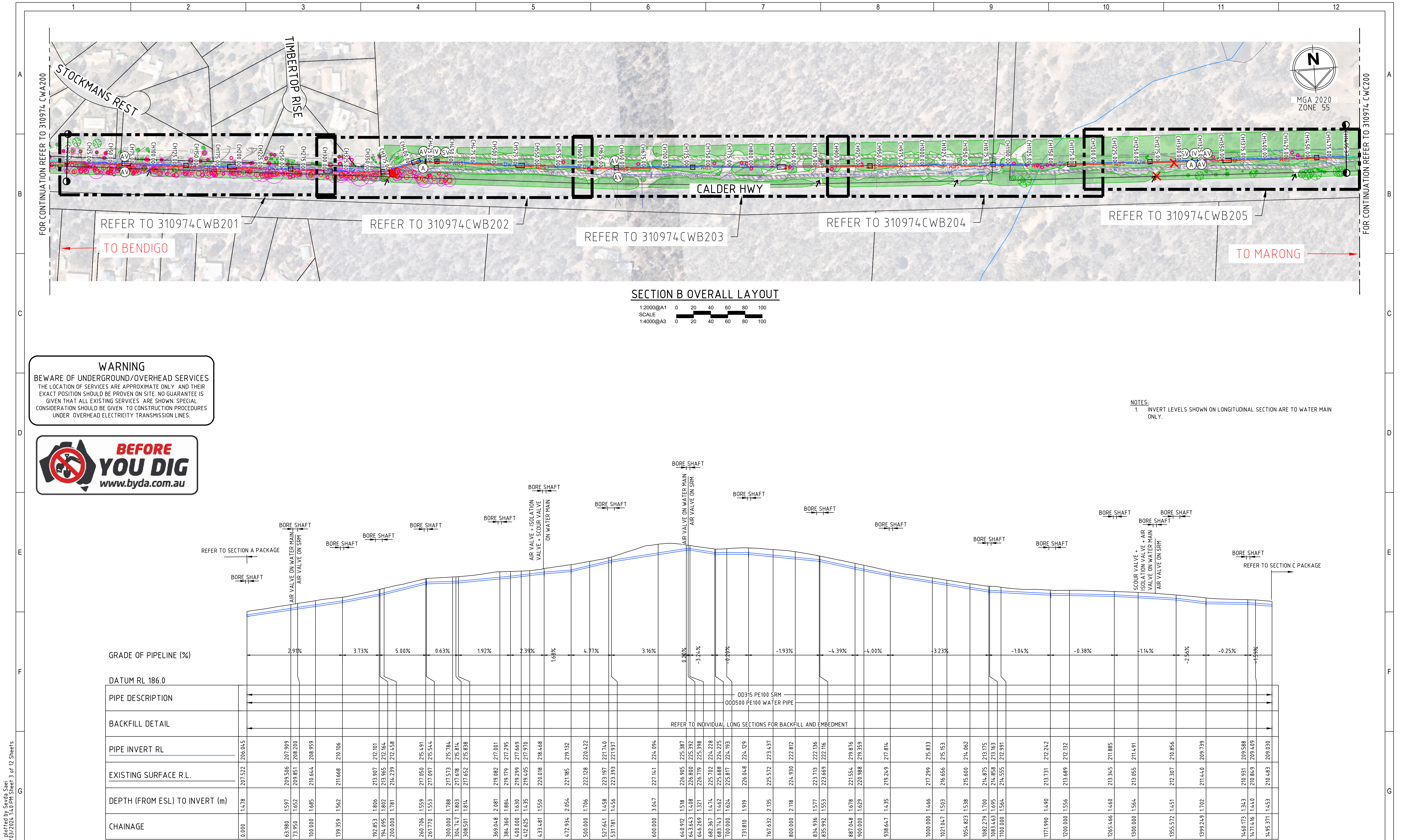
PRELIMINARY



WARNING
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NOTES:
1. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.



file name: 310974CWB200.dwg layout name: CWB200 plotted by: Savda Esai
file location: D:\310974\310974CWB200.dwg plot date: 26/03/2024 14:40 PM Sheet 3 of 12 Sheets

REV	DESCRIPTION	DATE	APPROVED
B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	27-02-24	T.Z
A	PRELIMINARY ISSUE	30-10-23	T.Z

LEGEND		FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100
X	VALVE	
(A)	AIR VALVE	
(S)	SCOUR VALVE	
(I)	ISOLATION VALVE	
(R)	THRUST RESTRAINT	

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

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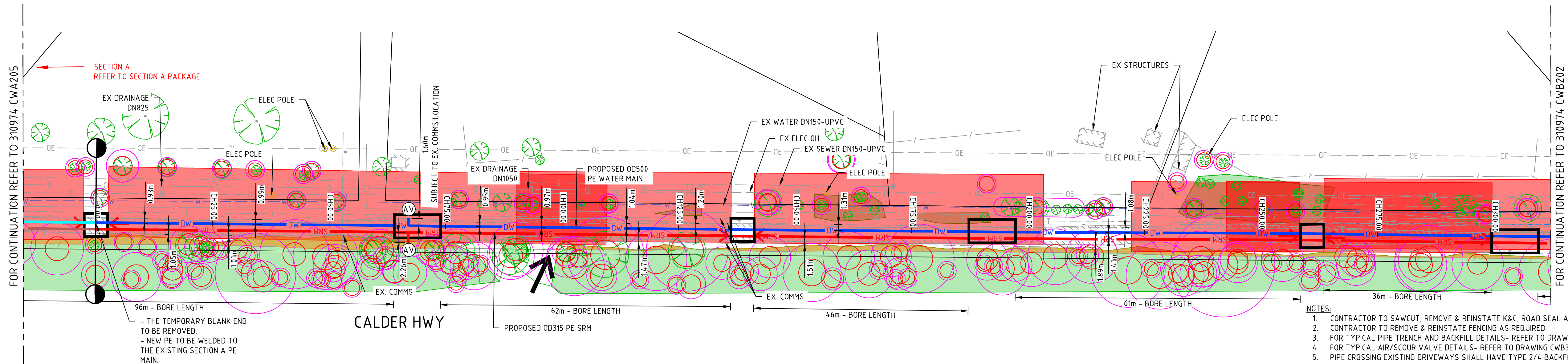
COLIBAN WATER

CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION B - KEY PLAN
OVERALL LAYOUT PLAN - KEY PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 3 OF 12
SPIIRE DWG No.:
310974CWB200
PRELIMINARY

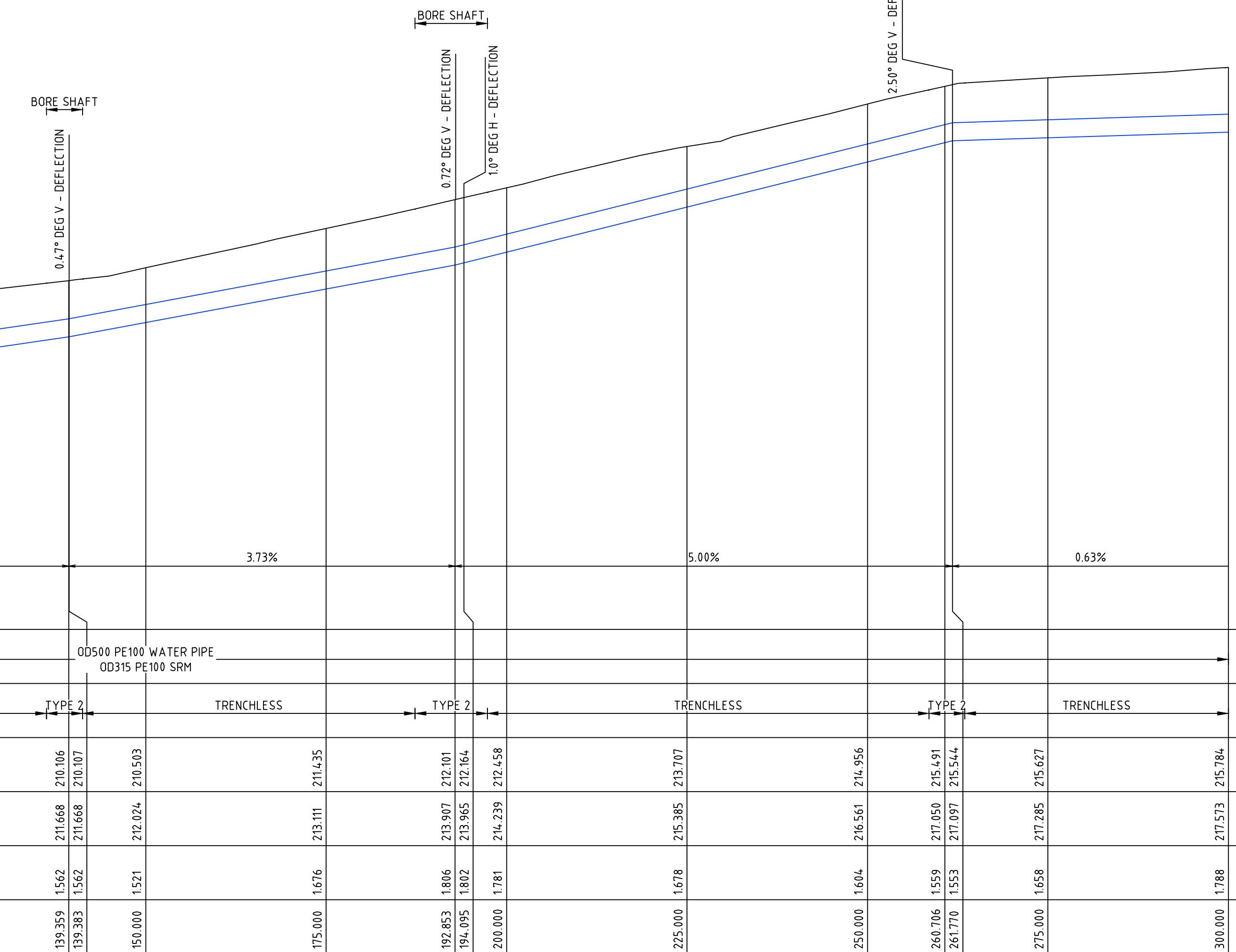
REV
B



- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWB300.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWB301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWB300.
 7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, CAUTION TO BE TAKEN AROUND POLE.
 8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 11. FOR SRM MARKER POST DETAIL REFER TO CWB301.

SECTION B LAYOUT 1 OF 5

1:500@ A1
SCALE
1:1000@ A3



GRADE OF PIPELINE (%)

DATUM RL 202.0

PIPE DESCRIPTION	OD500 PE100 WATER PIPE OD315 PE100 SRM									
BACKFILL DETAIL	TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS									
PIPE INVERT RL	206.045	206.773	207.502	207.909	207.997	208.200	208.230	208.959	211.435	215.784
EXISTING SURFACE R.L.	207.522	208.238	209.062	209.506	209.616	209.851	209.887	210.644	213.111	215.513
DEPTH (FROM ESL) TO INVERT (m)	1.478	1.465	1.560	1.597	1.619	1.652	1.657	1.685	1.676	1.788
CHAINAGE	0.000	25.000	50.000	63.980	67.000	73.950	75.000	100.000	175.000	300.000

MARONG WATER MAIN - SECTION B

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

- LEGEND
- VALVE
 - AIR VALVE
 - SCOUR VALVE
 - ISOLATION VALVE
 - THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

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Coliban WATER

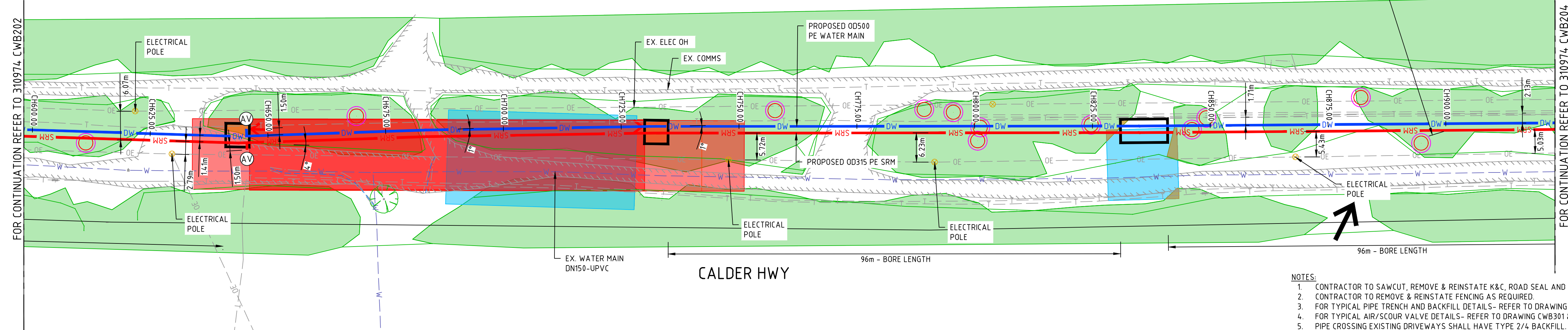
COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION B

LAYOUT & LONGITUDINAL SECTION SHEET 1 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	
SHEET: 4 OF 12	
SPiRE DWG No.:	REV
310974CWB201	B

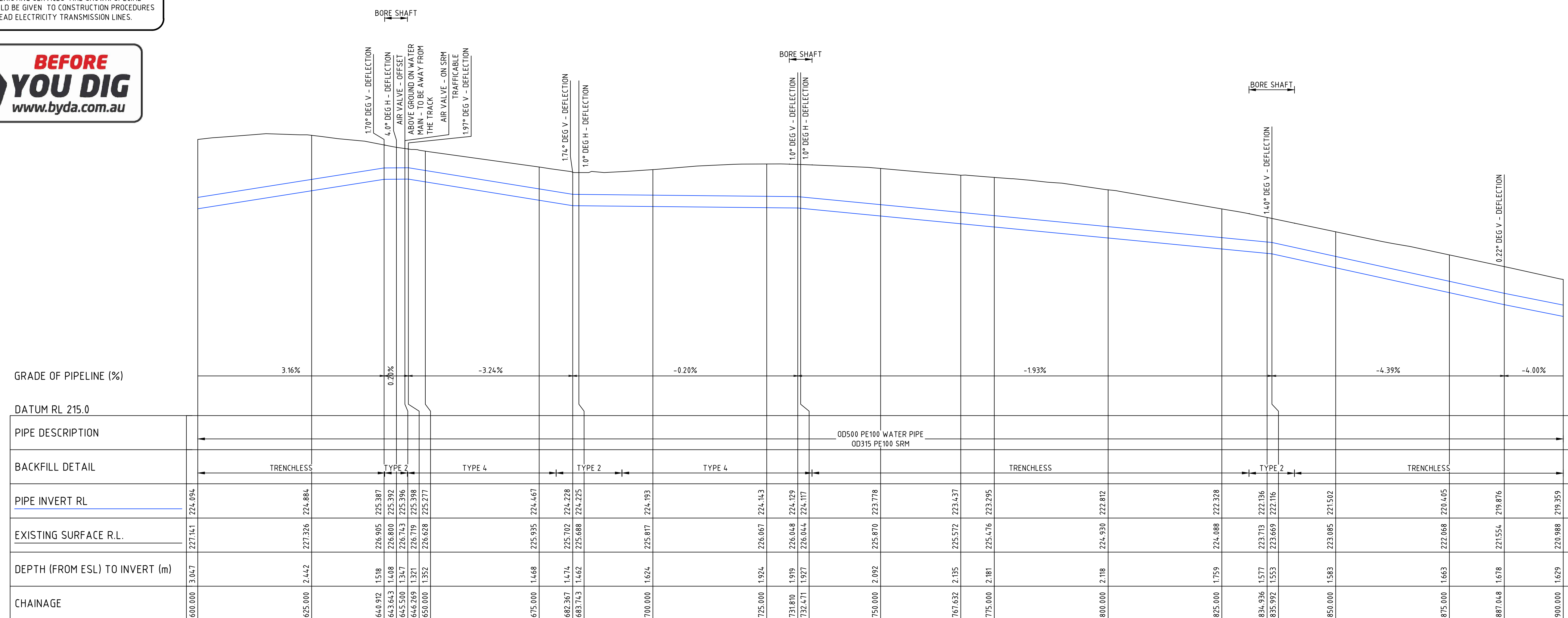
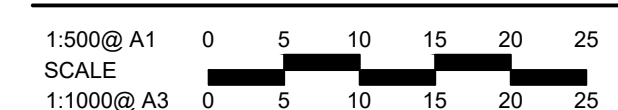
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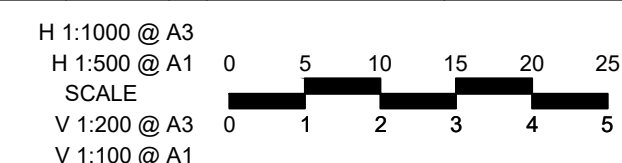
NOTES:

1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWB300.
4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWB301 & 302.
5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
6. FOR SOWER SISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWB300.
7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, (CAUTION TO BE TAKEN AROUND POLES).
8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
9. CABLE TRENCHING AND CABLE TRENCH LAYING IS MANAGED AWAY FROM TRAILS AND POWER POLES.
10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
11. FOR SRM MARKER POST DETAIL, REFER TO CWB301.

WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
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MARONG WATER MAIN - SECTION B



LEGEND

	VALVE
	AIR VALVE
	SCOUR VALVE
	ISOLATION VALVE
	THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE DATE: 27-02-24

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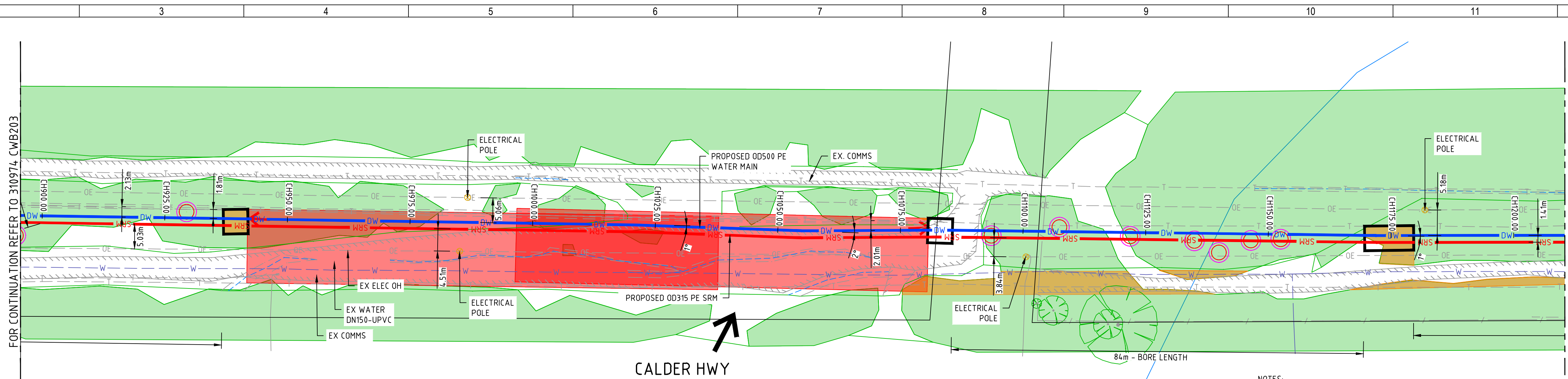
COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION B

LAYOUT & LONGITUDINAL SECTION SHEET 3 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	
SHEET: 6 OF 12	
SPIIRE DWG No.:	REV
310974CWB203	B

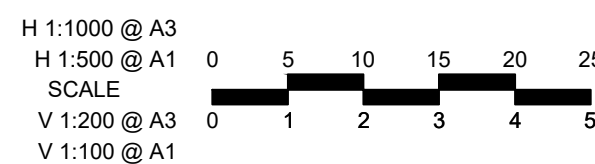
5 **PRELIMINARY**



SECTION B LAYOUT 4 OF 5

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SCALE
1:1000@ A3 0 5 10 15 20 25

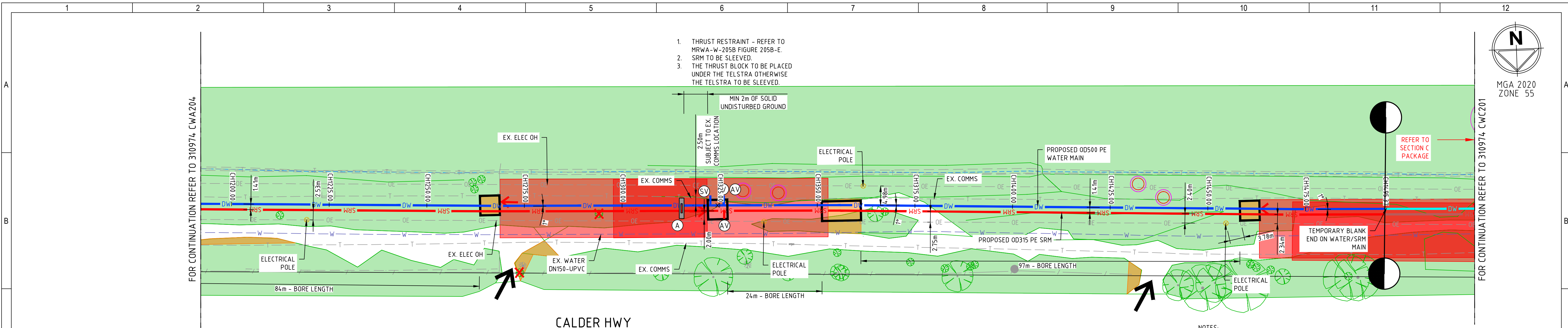
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PRELIMINARY

SCALE: AS SHOWN	
SHEET: 7 OF 12	
SPIIRE DWG No.:	REV
310974CWB204	B
PRELIMINARY	

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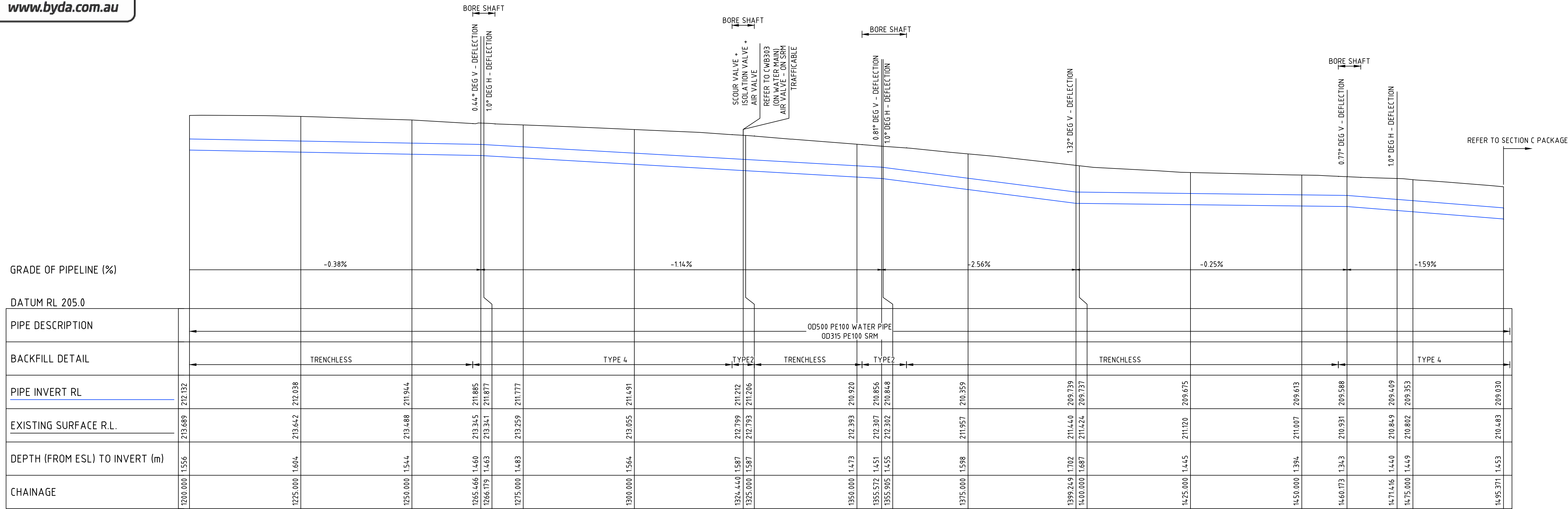


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SECTION B LAYOUT 5 OF 5

1:500@ A1
SCALE
1:1000@ A3



MARONG WATER MAIN - SECTION B

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

- LEGEND
- VALVE
 - AIR VALVE
 - SCOUR VALVE
 - ISOLATION VALVE
 - THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

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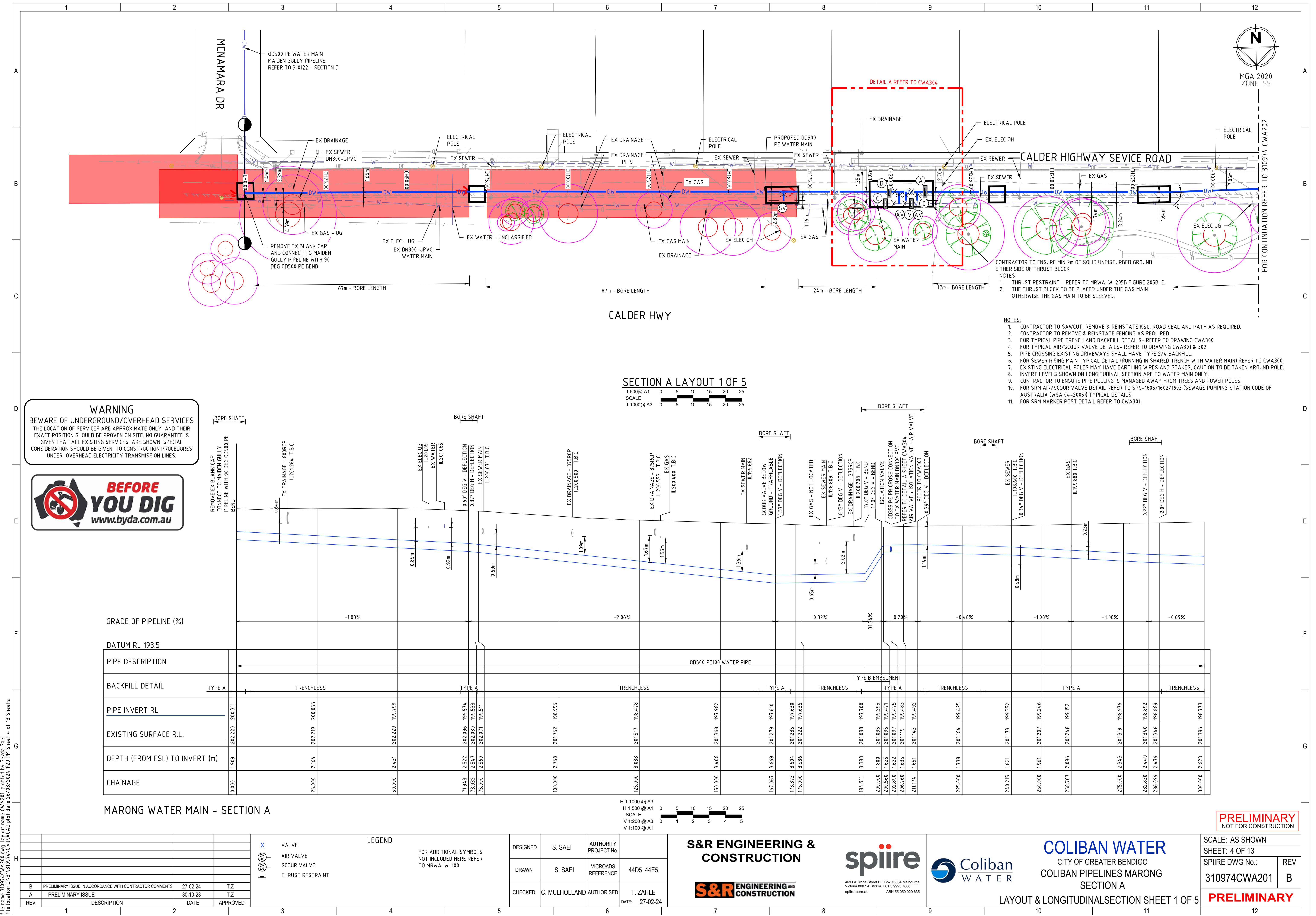
Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION B

LAYOUT & LONGITUDINAL SECTION SHEET 5 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	
SHEET: 8 OF 12	
SPiIRE DWG No.:	REV
310974CWB205	B
PRELIMINARY	



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REV	DESCRIPTION	DATE	APPROVED
B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	27-02-24	T.Z
A	PRELIMINARY ISSUE	30-10-23	T.Z

LEGEND	
X	VALVE
(A)	AIR VALVE
(S)	SCOUR VALVE
(R)	THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

S&R ENGINEERING & CONSTRUCTION



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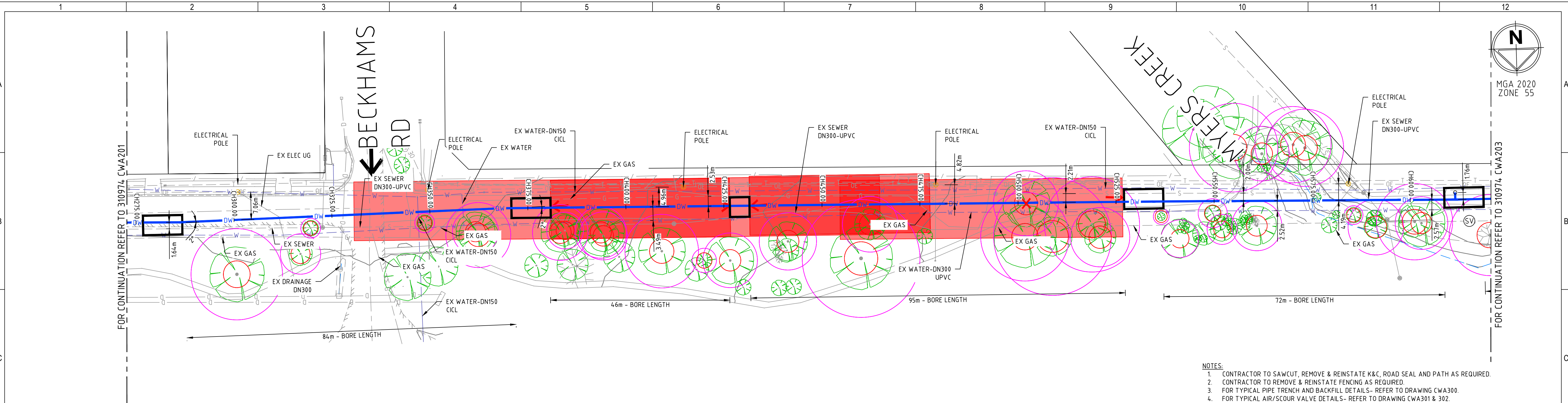
COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION A

LAYOUT & LONGITUDINAL SECTION SHEET 1 OF 5

SCALE: AS SHOWN
SHEET: 4 OF 13
SPIIRE DWG No.: 310974CWA201
REV B

PRELIMINARY
NOT FOR CONSTRUCTION

file name: 310974CWA200.dwg | Layout name: CWA202 | plotted by: Sunde Saei
file location: D:\310974\Coliban\440\440.dwg | plot date: 26/03/2024 | 12:59 PM | Sheet 5 of 13 Sheets



SECTION A LAYOUT 2 OF 5

1:500@ A1
SCALE
1:1000@ A3

- NOTES:
- CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 - CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 - FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWA301.
 - FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWA301 & 302.
 - PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 - FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWA300.
 - EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES, CAUTION TO BE TAKEN AROUND POLE.
 - INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 - CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 - FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 - FOR SRM MARKER POST DETAIL REFER TO CWA301.

WARNING
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GRADE OF PIPELINE (%)

DATUM RL 189.0

PIPE DESCRIPTION	ODS00 PE100 WATER PIPE									
BACKFILL DETAIL	TRENCHLESS									
PIPE INVERT RL	198.773	198.601	198.581	198.537	198.501	197.744	197.694	196.516	195.623	193.022
EXISTING SURFACE R.L.	201.396	201.374	201.374	201.209	200.969	200.859	199.217	198.710	197.779	197.240
DEPTH (FROM ESL) TO INVERT (m)	2.623	2.800	2.793	2.672	2.468	2.369	1.522	2.193	3.719	4.118
CHAINAGE	300.000	325.000	327.916	350.000	368.316	373.744	428.391	450.000	550.000	600.000

MARONG WATER MAIN - SECTION A

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1

- LEGEND
- X VALVE
 - (A) AIR VALVE
 - (SV) SCOUR VALVE
 - THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

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Coliban WATER

COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION A

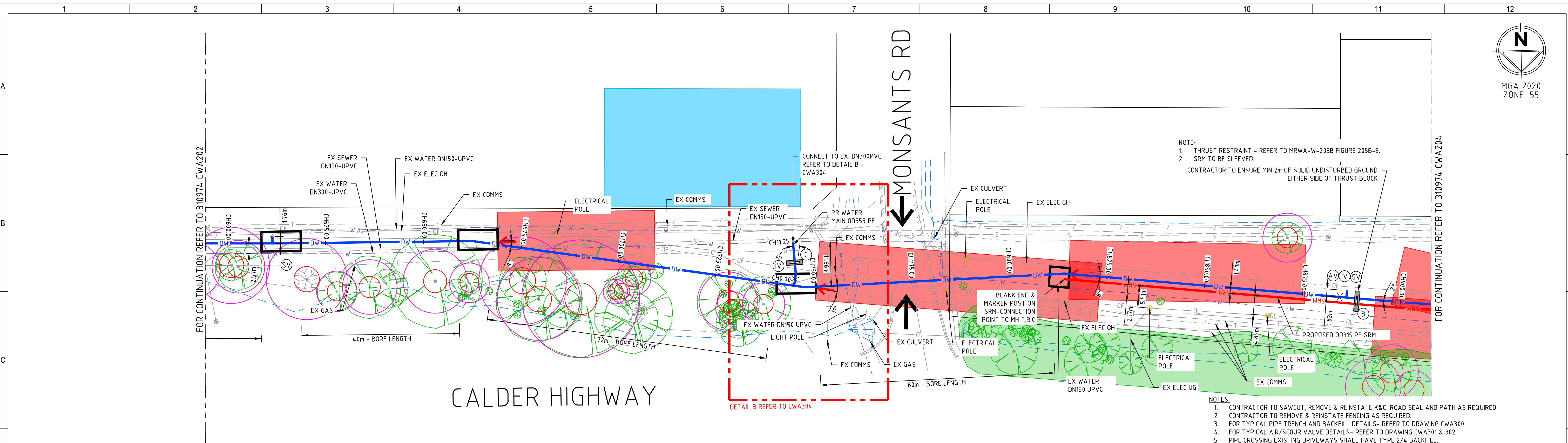
LAYOUT & LONGITUDINALSECTION SHEET 2 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

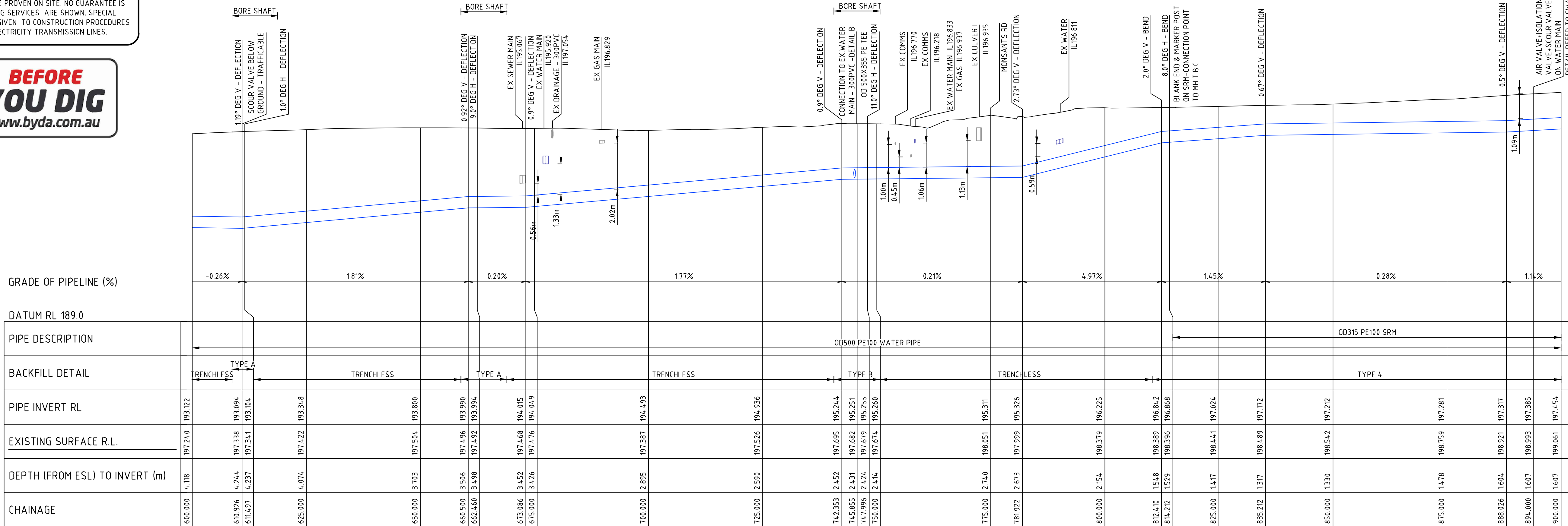
SCALE: AS SHOWN
SHEET: 5 OF 13
SPIIRE DWG No.:
310974CWA202
REV
B

PRELIMINARY

file name: 310974CWA202.dwg | print name: CWA202 | plotted by: Sunde Saei
file location: D:\310974\Coliban\CA202\plot data\310974CWA202.dwg | Plot Sheet 6 of 13 Sheets



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



REV	DESCRIPTION	DATE	APPROVED
B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	27-02-24	T.Z
A	PRELIMINARY ISSUE	30-10-23	T.Z

LEGEND	
X	VALVE
(AV)	AIR VALVE
(SV)	SCOUR VALVE
—	THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
		DATE:	27-02-24

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spiire

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spiire.com.au ABN 55 050 029 635

Coliban WATER

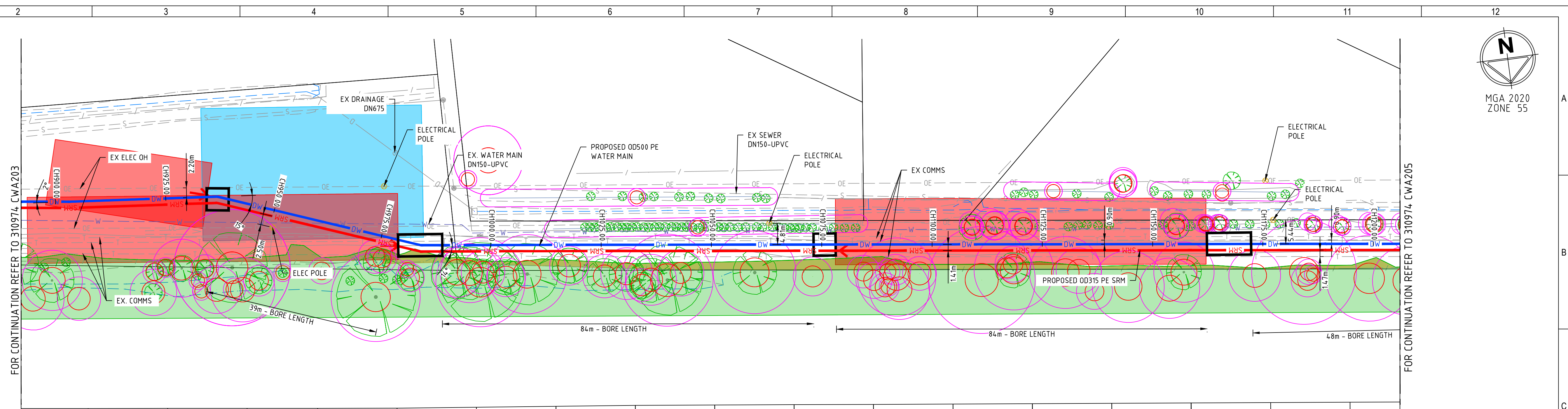
COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION A

LAYOUT & LONGITUDINALSECTION SHEET 3 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN
SHEET: 6 OF 13
SPIIRE DWG No.:
310974CWA203
REV
B

PRELIMINARY



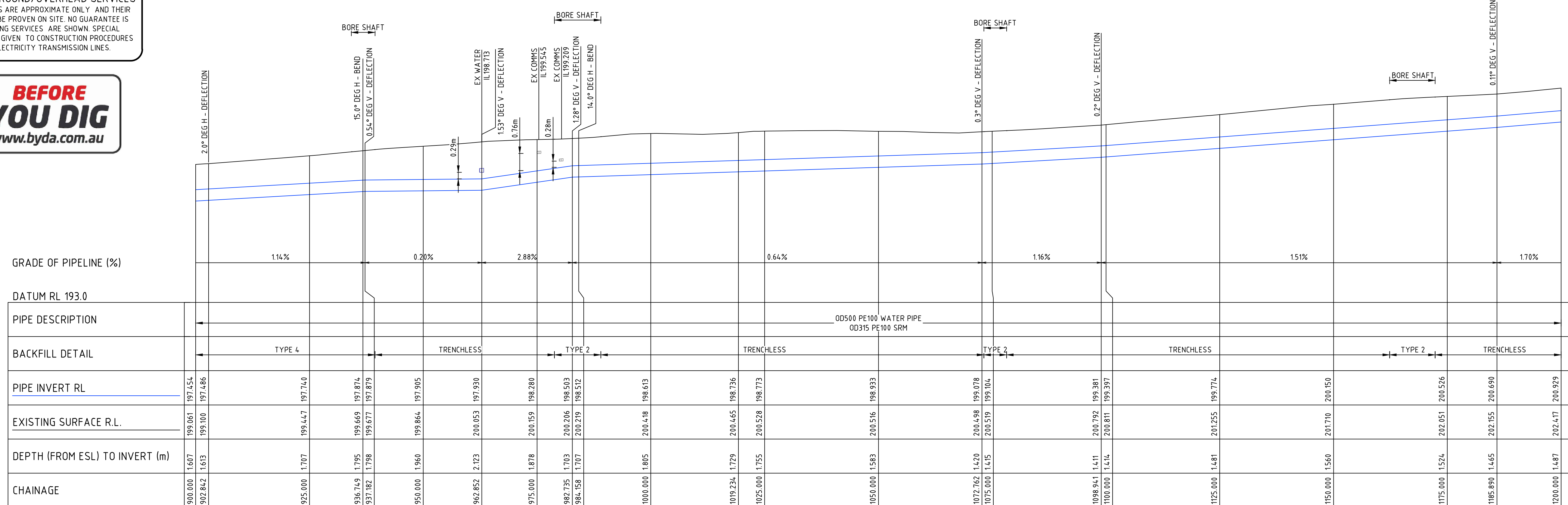
NOTES:

1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWA300.
4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWA301 & 302.
5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
6. FOR SEWER SINKING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWA300.
7. EXISTING ELECTRICAL WAYS MAY HAVE EXISTING WIRES AND STAKES. CAUTION TO BE TAKEN AROUND POLE.
8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
11. FOR SRM MARKER POST DETAIL REFER TO CWA301.

SECTION A LAYOUT 4 OF 5

1:500@ A1	0	5	10	15	20	25
SCALE						
1:1000@ A3	0	5	10	15	20	25

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GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL
CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES
UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.



MARONG WATER MAIN - SECTION A

B	PRELIMINARY ISSUE IN ACCORDANCE WITH CONTRACTOR COMMENTS	27-02-24	T Z	
A	PRELIMINARY ISSUE	30-10-23	T Z	
REV	DESCRIPTION	DATE	APPROVED	

	VALVE	LEGEND	FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100
	AIR VALVE		
	SCOUR VALVE		
	THRUST RESTRAINT		

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE DATE: 27-02-24

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CONSTRUCTION**

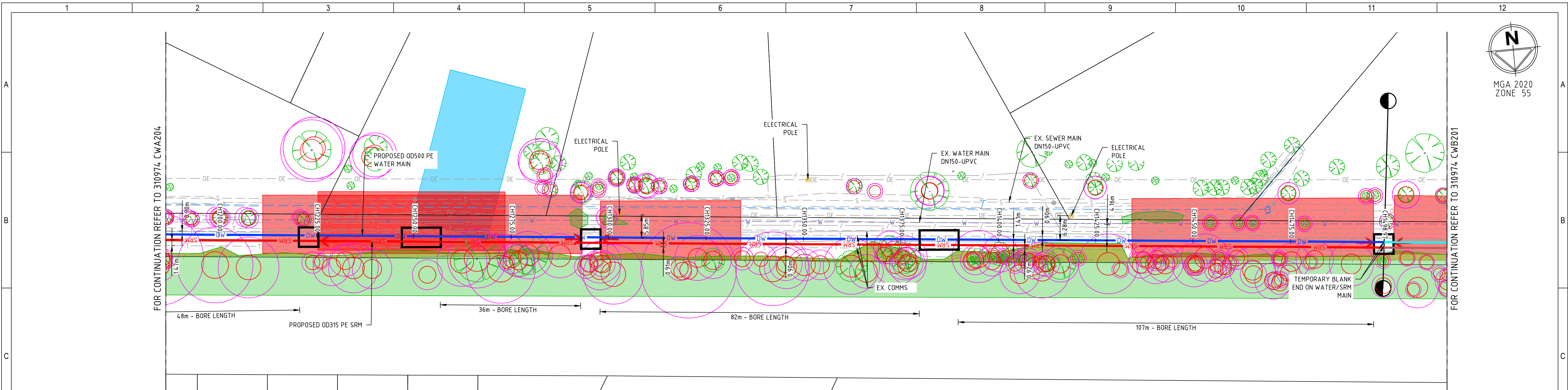


COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION A

LAYOUT & LONGITUDINALSECTION SHEET 4 OF 5

SCALE: AS SHOWN	
SHEET: 7 OF 13	
SPIIRE DWG No.:	REV
310974CWA204	B
PRELIMINARY	

file name: 310974CWA205.dwg | print name: CWA205 | plotted by: Sunde Saji
file location: D:\310974\Coliban\EA\plot data\310974_CWA205_Plot_Sheet 8 of 13 Sheets

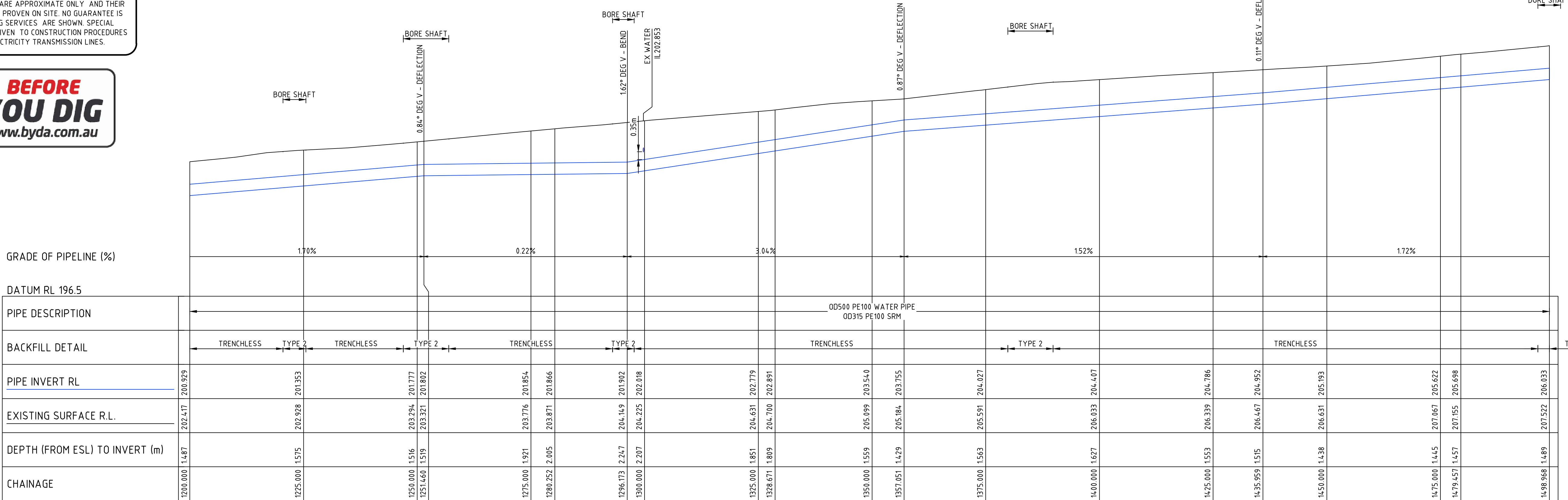


SECTION A LAYOUT 5 OF 5

1:500 @ A1
SCALE
1:1000 @ A3
0 5 10 15 20 25
0 5 10 15 20 25

- NOTES:
1. CONTRACTOR TO SAWCUT, REMOVE & REINSTATE K&C, ROAD SEAL AND PATH AS REQUIRED.
 2. CONTRACTOR TO REMOVE & REINSTATE FENCING AS REQUIRED.
 3. FOR TYPICAL PIPE TRENCH AND BACKFILL DETAILS- REFER TO DRAWING CWA301 & 302.
 4. FOR TYPICAL AIR/SCOUR VALVE DETAILS- REFER TO DRAWING CWA301 & 302.
 5. PIPE CROSSING EXISTING DRIVEWAYS SHALL HAVE TYPE 2/4 BACKFILL.
 6. FOR SEWER RISING MAIN TYPICAL DETAIL (RUNNING IN SHARED TRENCH WITH WATER MAIN) REFER TO CWA300.
 7. EXISTING ELECTRICAL POLES MAY HAVE EARTHING WIRES AND STAKES. CAUTION TO BE TAKEN AROUND POLE.
 8. INVERT LEVELS SHOWN ON LONGITUDINAL SECTION ARE TO WATER MAIN ONLY.
 9. CONTRACTOR TO ENSURE PIPE PULLING IS MANAGED AWAY FROM TREES AND POWER POLES.
 10. FOR SRM AIR/SCOUR VALVE DETAIL REFER TO SPS-1605/1602/1603 (SEWAGE PUMPING STATION CODE OF AUSTRALIA (WSA 04-2005)) TYPICAL DETAILS.
 11. FOR SRM MARKER POST DETAIL REFER TO CWA301.

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GRADE OF PIPELINE (%)

DATUM RL 196.5

PIPE DESCRIPTION	OD500 PE100 WATER PIPE OD315 PE100 SRM										
BACKFILL DETAIL	TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2 TRENCHLESS TYPE 2										
PIPE INVERT RL	200.929	201.953	201.777	201.802	201.854	201.866	201.902	202.008	202.719	203.540	204.407
EXISTING SURFACE R.L.	202.417	202.928	203.294	203.321	203.776	203.871	204.149	204.225	204.631	205.099	206.033
DEPTH (FROM ESL) TO INVERT (m)	1.487	1.575	1.516	1.519	1.921	2.005	2.247	2.207	1.851	1.559	1.627
CHAINAGE	1200.000	1225.000	1250.000	1251.460	1275.000	1280.252	1296.473	1300.000	1325.000	1357.051	1400.000

MARONG WATER MAIN - SECTION A

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:200 @ A3
V 1:100 @ A1
0 5 10 15 20 25
0 1 2 3 4 5

- LEGEND
- X VALVE
 - ⊗ AIR VALVE
 - ⊗ SCOUR VALVE
 - ⊗ THRUST RESTRAINT

FOR ADDITIONAL SYMBOLS
NOT INCLUDED HERE REFER
TO MRWA-W-100

DESIGNED	S. SAEI	AUTHORITY PROJECT No.	
DRAWN	S. SAEI	VICROADS REFERENCE	44D5 44E5
CHECKED	C. MULHOLLAND	AUTHORISED	T. ZAHLE
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COLIBAN WATER
CITY OF GREATER BENDIGO
COLIBAN PIPELINES MARONG
SECTION A

LAYOUT & LONGITUDINALSECTION SHEET 5 OF 5

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE: AS SHOWN	
SHEET: 8 OF 13	
SPiRE DWG No.: 310974CWA205	REV B
PRELIMINARY	