

DESIGN LIMITATIONS:

1. MAJORITY REQUIREMENTS OF AS 1657 CAN BE MET BY EXISTING HATCH ARRANGEMENT.
2. NON-COMPLIANCE WITH CLAUSE 7.4.8.4, REGARDING EXTENSION OF LANDING TO TOP RUNG (DUE TO THICKNESS HAVE PROVIDED 200 mm OFFSET AT TOP RUNG). CLIENT TO PERFORM A HAZOP TO DETERMINE SUITABILITY OF DESIGN VERSUS COST OF MODIFICATION.
3. TOP RUNG ALIGNED WITH TOP OF ROOF PLATE AT CENTRELINE OF LADDER (IN ACCORDANCE WITH AS 1657) WHICH IS ALLOWABLE BY THE RAISED HATCH SURROUND. CROSS-SLOPE AT TOP OF LADDER VARIES DUE TO CURVATURE OF ROOF, BUT IS APPROXIMATELY 5°
4. OPEN SPACE BETWEEN LADDER STILE AND INSIDE OF TANK WALL IS LARGER THAN 25 - 50 mm (ALLOWED BY AS 1657). THE SPACE IS NOT LARGE ENOUGH FOR A STANCHION C/W CLOSURE BEND. IT IS PROPOSED TO INSTALL A VERTICAL STANCHION WITHOUT ADDITIONAL COMPONENTS TO REDUCE OPEN GAP, BUT CLIENT SHALL REVIEW THIS TO CONFIRM SUITABILITY (CONSIDERING LIMITED ACCESS REQUIREMENTS, PLATFORM USAGE ETC.).
4. REFER CONSTRUCTION METHODOLOGY NOTE FOR PROPOSED INSTALLATION SEQUENCE. PROPOSED SEQUENCE IS SUBJECT TO REVIEW AND MODIFICATIONS BY CONSTRUCTION AND FABRICATION CONTRACTORS. INSTALLATION CONTRACTOR TO PROVIDE THEIR OWN METHODOLOGY TO BANANA SHIRE COUNCIL FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
5. SITE MODIFICATION OF EQUIPMENT AND HANDRAILS ON SITE WILL BE REQUIRED DUE TO THE LIMITED EXISTING DOCUMENTATION AND EXTENT OF MODIFICATIONS REQUIRED BY THE PROPOSED DESIGN. CONTRACTOR TO ALLOW FOR ALL MODIFICATION WORKS INCLUDING MATERIALS AND SITE INSPECTIONS, AND WORK IN CONJUNCTION WITH BSC SUPERINTENDENT.
6. INTERNAL AREAS OF THE CONCRETE TANK ARE CONSIDERED CONFINED SPACES, AND SHALL REQUIRE A FULL HAZOP PRIOR TO ENTRY BY ANY PERSONNEL. A SAFETY DAVIT HAS BEEN PROVIDED AS PART OF THIS DESIGN.
7. ANY WORK CONDUCTED ON THE PLATFORM PRIOR TO FULL INSTALLATION OF HANDRAILS AND LADDER WILL REQUIRE ATTACHMENT TO A SAFETY LINES AND OTHER SAFETY EQUIPMENT AS THIS WILL BE WORKING AT HEIGHTS. PERSONNEL SHALL BE FULLY TRAINED AND CERTIFIED FOR WORKING AT HEIGHTS AND ACCESS SHALL BE ASSESSED (I.E. HAZOP) PRIOR TO ENTRY INTO THE AREA.
8. WORK CARRIED OUT IN THE CONCRETE TANK WILL REPRESENT A POTENTIAL HAZARD FROM ITEMS FALLING FROM ABOVE. CONTRACTORS SHALL TAKE STEPS TO PREVENT ACCIDENTAL DROPPING OF ELEMENTS INTO THE CHAMBER, AND HAZOPS SHALL BE UNDERTAKEN TO DETERMINE THE BEST APPROACH FOR LOWERING OF EQUIPMENT SAFELY. HARDHATS AND OTHER PPE WILL BE REQUIRED.
9. LIKEWISE THE LIFTING OF ELEMENTS ONTO THE TANK ROOF WILL PRESENT A HAZARD TO ALL WORKERS ON THE OUTSIDE OF THE TANK, AND ADDITIONALLY MEMBERS OF THE PUBLIC. THE WORKSITE SHALL BE FULLY FENCED AS REQUIRED TO ALLOW FOR THE MOVEMENT OF MATERIALS SAFELY AND WITHOUT RISK TO THE PUBLIC (WHERE POSSIBLE). HAZOP SHALL CONSIDER CRANE OPERATION, POSITIONING AND ACCESS.
10. PLATFORM DESIGN ASSUMES STANDARD ENTRY TO TANK WILL BE CONDUCTED BY DIVERS WITH WATER LEVEL ABOVE THE LEVEL OF THE PLATFORM DECK. WHERE THIS IS NOT THE CASE A HAZOP SHALL BE CONDUCTED TO IDENTIFY ANY ADDITIONAL SAFETY ISSUES THAT MAY BE PRESENT AND DETERMINE SUITABLE CONTROLS / METHODS.
11. CLIENT TO PRODUCE A PROCEDURE FOR SAFETY ACCESS FOR DIVERS FOR INDIVIDUAL TANKS. ALL DESIGN CONSTRAINTS AND SAFETY ISSUES RAISED ABOVE SHALL BE INCLUDED, IN ADDITION TO ANY OTHER ISSUES IDENTIFIED BY BSC PERSONNEL AND CONTRACTORS

CONSTRUCTION METHODOLOGY:

1. BANANA SHIRE COUNCIL TO ARRANGE AND DRAIN EXISTING RESERVOIR. TIME TO BE ALLOWED FOR DRYING OF CONCRETE SURFACES PRIOR TO INSTALLING NEW ELEMENTS.
2. PROCEED WITH DEMOLITION WORKS AS INDICATED. ALL EXISTING ELEMENTS TO REMOVED AND DISPOSED OF SAFELY AND IN ACCORDANCE WITH BSC SUPERINTENDENTS INSTRUCTION. WHERE EXISTING ITEMS ARE REMOVED FROM EXISTING CONCRETE SURFACES, ENSURE ALL EXPOSED SURFACES (I.E. CUT ANCHORS ETC.) ARE FULLY SEALED WITH POTABLE WATER APPROVED SEALANT. ANY CONCRETE DAMAGE SHALL BE REMEDIATED TO THE SPECIFICATION OF THE BSC SUPERINTENDENT.
3. LOWER NEW FRP AND STAINLESS STEEL MEMBERS, CLEATS, FIXINGS ETC. FOR NEW PLATFORM INTO THE EXISTING RESERVOIR CHAMBER. ELEMENTS TO BE PLACED ONTO TANK FLOOR.
4. POSITIVELY LOCATE POSITIONS FOR INSTALLATION OF NEW WALL MOUNTING BRACKETS. START WITH LAYOUT OF PLATFORM MEMBERS ON THE TANK FLOOR TO ASSIST IN ENSURING MEMBERS ALIGN WITH BRACKET POSITIONS, THEN TRACE UP THE WALL (I.E. USE OF PLUMB-BOB FROM ABOVE TO ALIGN POSITIONS).
5. ONCE WALL MOUNT POSITIONS ARE PREPARED, FULLY ASSEMBLE MAIN PLATFORM LEVEL, COMPLETE WITH HANDRAIL, GRATING AND KICK PLATE SECTIONS.
6. PREPARE TO LIFT PLATFORM ASSEMBLY. BEFORE LIFTING INTO PLACE (BUT WHILE SUSPENDED) INSTALL KNEE BRACE ELEMENTS TO PLATFORM BEAMS. ONCE FULLY ASSEMBLED, ELEVATE PLATFORM ASSEMBLY UP AND ONTO WALL BRACKETS. FIX ALL MEMBERS TO WALL BRACKETS IN ACCORDANCE WITH ENGINEERING DETAILS. WHERE APPLICABLE, FIX UPPER HANDRAIL BASE PLATES TO UNDERSIDE OF EXISTING TANK ROOF.
7. LOWER ELEMENTS FOR LADDER SUPPORT ONTO PLATFORM BELOW AND ASSEMBLE FRAME. INSTALL ONTO WALL BRACKETS AND FASTEN AS PER ENGINEERING DETAILS.
8. LOWER NEW LADDER ASSEMBLY ONTO NEW PLATFORM. LOCATE AND FIX TO NEW PLATFORM AND EXISTING STRUCTURE IN ACCORDANCE WITH ENGINEERING DETAILS.

DESIGN INCORPORATES REQUIREMENTS OF AS 2299.1-2015 WHERE APPLICABLE:

- 3.10 DIVE REQUIREMENTS:
 - 3.10.1 GENERAL
 - DIVING OPERATIONS SHALL BE CONDUCTED ONLY FROM A SAFE AND SUITABLE SITE OR VESSEL, WHICH AT TIMES PROVIDES:
 - (a) SUITABLE ACCESS & EXIT FOR THE DIVERS;
 - (b) MEANS TO RECOVER AN INJURED DIVER FROM THE WATER; AND
 - (c) MEANS OF COMMUNICATION TO EMERGENCY SUPPORTED SERVICES (SEE CLAUSE 3.6.4)
 - 3.13.3 HARNESSES
 - PROVIDES REQUIREMENT SHOULD A HARNESS BE REQUIRED
 - 3.13.6 LIFELINE
 - A HARNESS AND LIFELINE WOULD BE A HINDRANCE IN THESE OPERATIONS, PREVENTING SAFE MOVEMENT THROUGHOUT THE TANK. BANANA SHIRE COUNCIL SHALL HAZOP WITH COMMERCIAL DIVER.
 - 7.3.4 DIVER DEPTHS TO 30 m (SCUBA)
 - THE TEAM SHALL INCLUDE 1 SUPERVISOR, 1 DIVER, 1 DIVERS ATTENDANT AND 1 STANDBY DIVER (4 IN TOTAL). ROOFTOP PLATFORM SHOULD BE DESIGNED TO ALLOW FOR 4 PEOPLE.

STAINLESS STEEL:

1. ALL STAINLESS STEEL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF:
 - 1.1. AS 4100 - SAA STEEL STRUCTURES CODES
 - 1.2. AS 1554.6 - STRUCTURAL STEEL WELDING - WELDING STAINLESS STEELS FOR STRUCTURAL PURPOSES
2. STAINLESS STEEL GRADES AS FOLLOWS:
 - 2.1. PLATE, SHEET AND STRIP SHALL BE TO ASTM A240M GRADE 316L
 - 2.2. BARS SHALL BE TO ASTM A276M GRADE 316L
3. STAINLESS STEEL FINISHING DETAILS:
 - 3.1. ALL SHARP EDGES AND BURRS TO BE REMOVED
 - 3.2. STAINLESS STEELWORK SHALL BE CLEANED, PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 "STANDARD PRACTICE FOR CLEANING, DESCALING AND PASSIVATION OF STAINLESS STEEL PARTS, EQUIPMENT AND SYSTEMS".
4. WELD DETAILS:
 - 4.1. ALL WELDS SHALL BE 6 CFW UNO.
 - 4.2. BUTT WELDS SHALL BE PRE-QUALIFIED FULL PENETRATION UNO.
 - 4.3. ALL WELDING SHALL CONFORM WITH AS 1554.6, CATEGORY 1A.
 - 4.4. ALL WELDING CONSUMABLES SHALL BE TO AS/NZS 1167.2 AND/OR AS/NZS 4854.
 - 4.5. ALL WELDS SHALL BE VISUALLY INSPECTED.
 - 4.6. ALL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS AND GROSS POROSITY.

FIBRE REINFORCED PLASTIC (FRP) / COMPOSITE FIBRE:

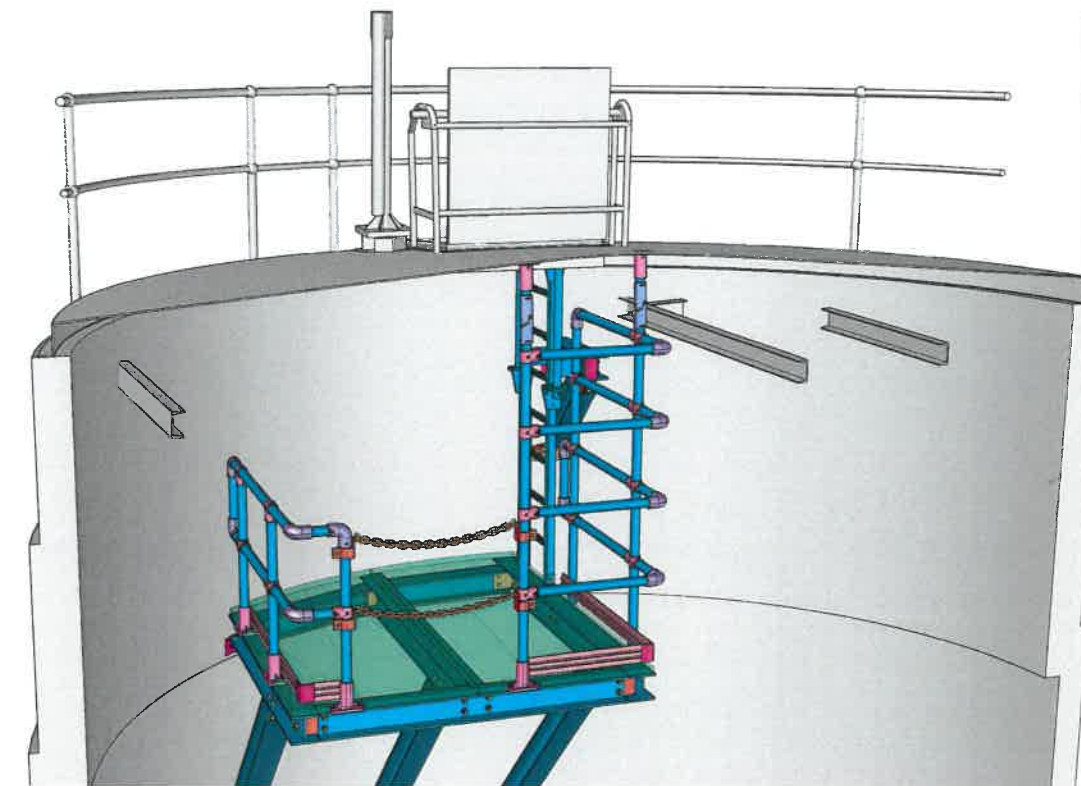
1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. ENSURE COMPLIANCE WITH MANUFACTURER QUALITY ASSURANCE STANDARDS.
2. UNLESS NOTED OTHERWISE OR APPROVED COMPOSITE MATERIALS FOR USE IN THIS PROJECT SHALL BE MANUFACTURED BY TREADWELL. SUBSTITUTIONS IN MATERIALS SHALL NOT BE UNDERTAKEN WITHOUT PRIOR APPROVED OF BSC SUPERINTENDENT AND STRUCTURAL ENGINEER.
3. ALL MEMBERS SHALL BE IN SOUND CONDITION FREE FROM PITTING, DE-LAMINATIONS AND OTHER DEFECTS WHICH ARE LIKELY TO IMPAIR THE STRUCTURAL CAPACITY OF THE MEMBERS.
4. APPLY A WATERPROOFING COMPOUND TO SEAL ANY END CUT FIBRES AS A RESULT OF DRILLING, CUTTING OR DAMAGE TO THE COMPOSITE FIBRE PROFILES. COMPOUND SHALL BE APPROVED FOR POTABLE WATER AND SHALL BE APPROVED BY THE MANUFACTURER.
5. CONTRACTORS SHALL REFER TO MANUFACTURER FOR ALL INSTALLATION AND ASSEMBLY INSTRUCTIONS AND SPECIFICATIONS PRIOR TO BEGINNING WORK, AND SHALL ENSURE THAT ALL INSTRUCTIONS ARE UNDERSTOOD.



SUBJECT SITE

LOCALITY PLAN

SCALE - NTS



Approved:

 Chris Witham
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11651

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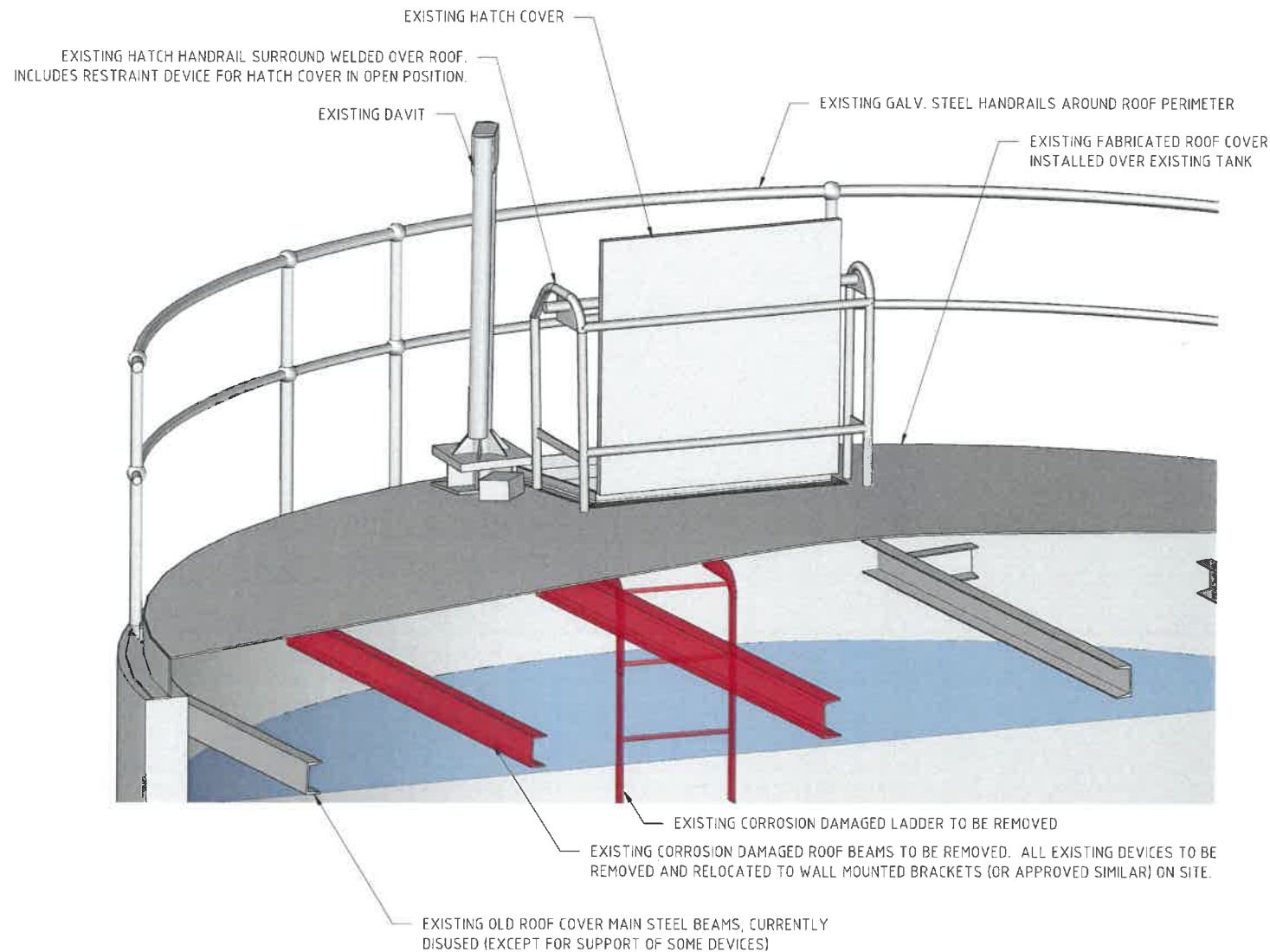
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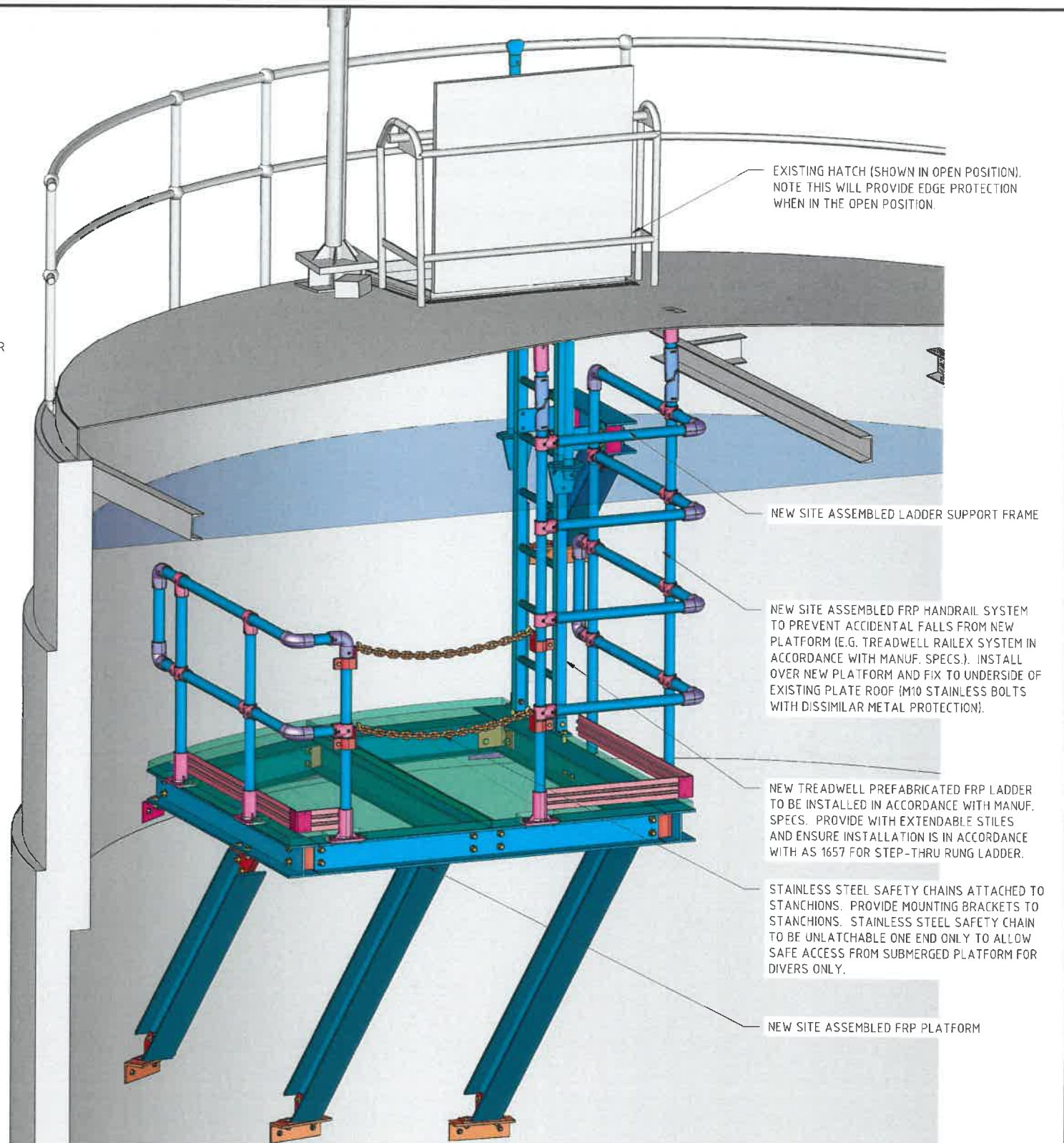
Designed by	Date
A.BUENEN	-
Drawn by	Date
J.WALKER	05.04.23
Checked by	Date
A.BUENEN	28.06.23
Engineer RPEQ 11631	Date
C.WITHAM	11.07.23

Title	Scale
BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BARALABA WATER STANDPIPE DESIGN NOTES	AS SHOWN (AT A3)
	Job No.
	GD2188
	Drawing No. Rev.
	GD2188-400 0



DEMOLITION PLAN (ISOMETRIC)

SCALE - NTS
EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY



GENERAL ARRANGEMENT (ISOMETRIC)

SCALE - NTS
EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

Approved:
C.L. Witham
Chris Witham
Member No: 697529
Residential & Commercial Building Design - QBCC 1191231
RPEQ - 11631

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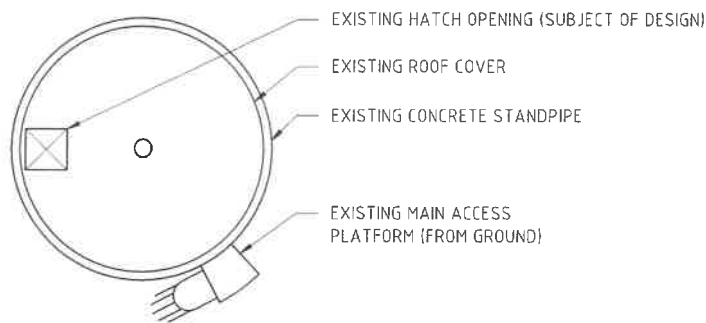
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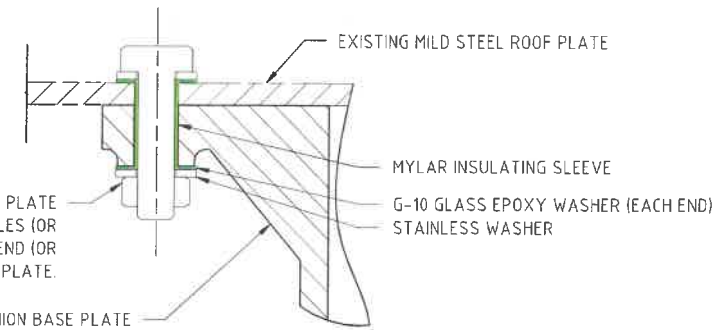
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Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BARALABA WATER STANDPIPE GENERAL ARRANGEMENT 1
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Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-401
Rev.	0



M10 ISO 3506-1 A4-70L STAINLESS BOLTS THRU STANCHION BASE PLATE AND ROOF PLATE. PROVIDE MYLAR INSULATING SLEEVE THRU ALL HOLES (OR APPROVED EQUIV.) AND G-10 GLASS EPOXY WASHERS EACH END (OR APPROVED EQUIV.) TO FULLY ISOLATE BOLT FROM MILD STEEL ROOF PLATE.

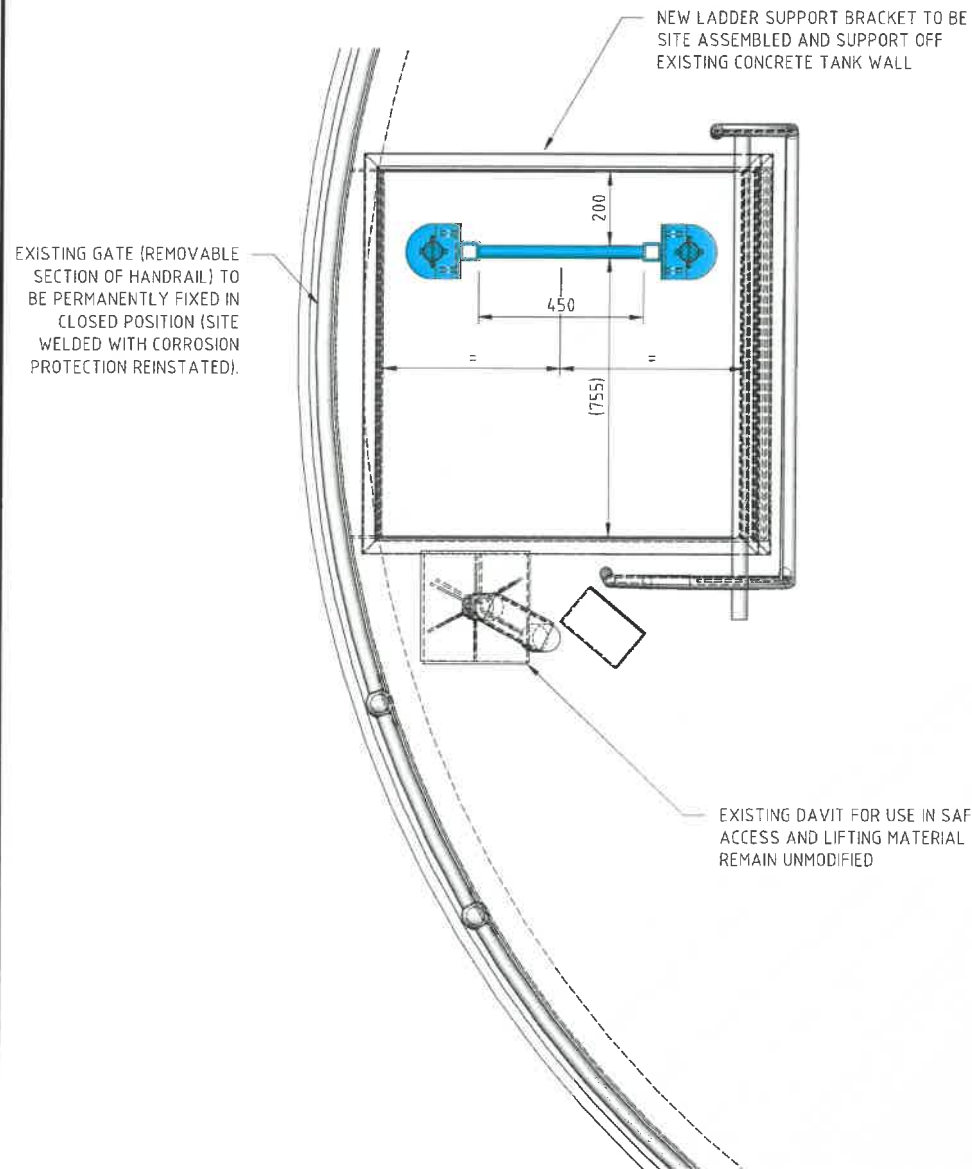


ROOF ARRANGEMENT PLAN

SCALE - NTS

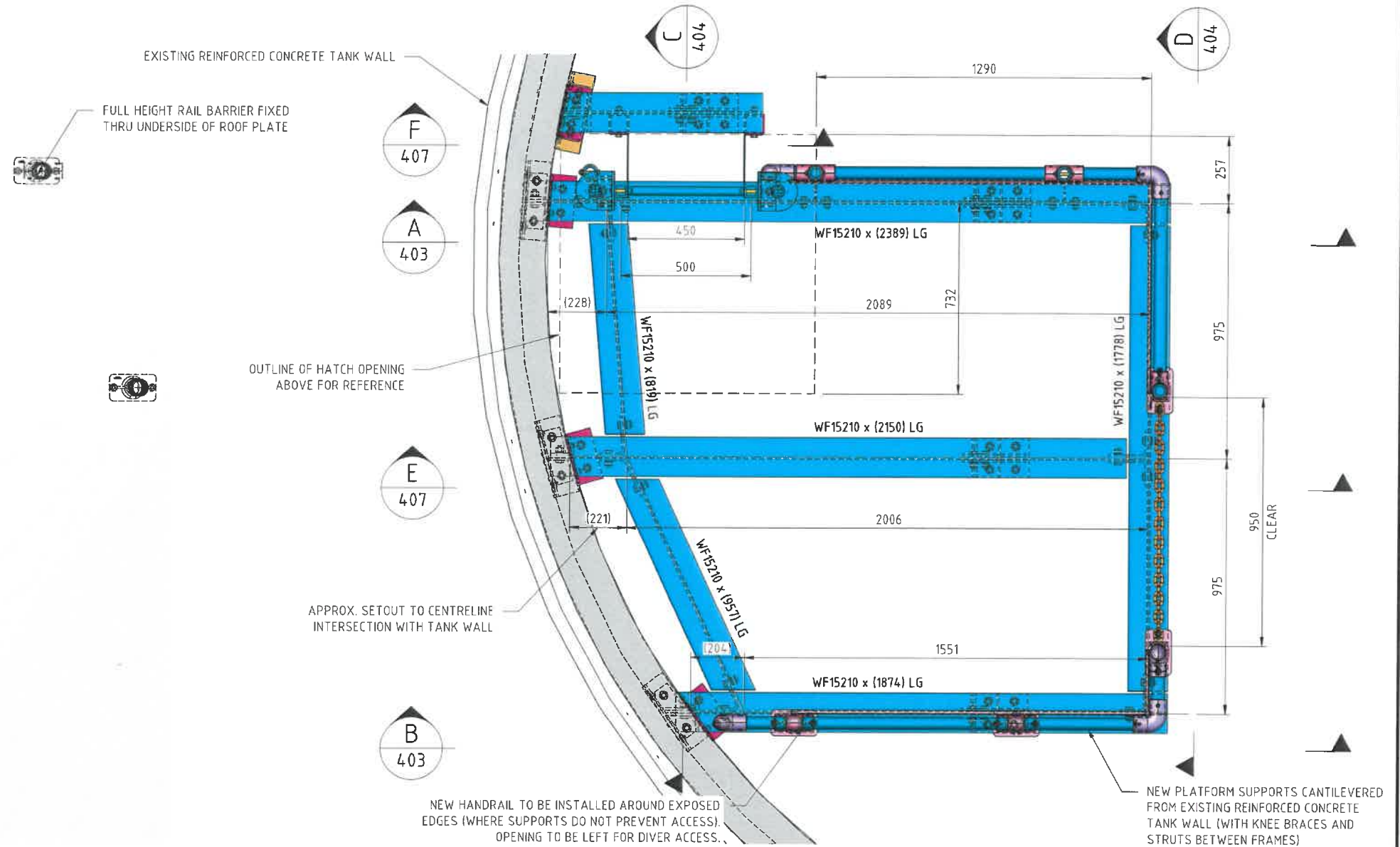
DISSIMILAR METAL PROTECTION DETAIL

SCALE - 1:2



GENERAL ARRANGEMENT (PLAN AT ROOF LEVEL)

SCALE - 1:20



GENERAL ARRANGEMENT (PLAN AT PLATFORM LEVEL)

SCALE - 1:20
 GRATING NOT SHOWN FOR CLARITY

ISSUED FOR CONSTRUCTION

Approved:
 Chris Witham
 Member No: 697629
 RPEQ - 11631

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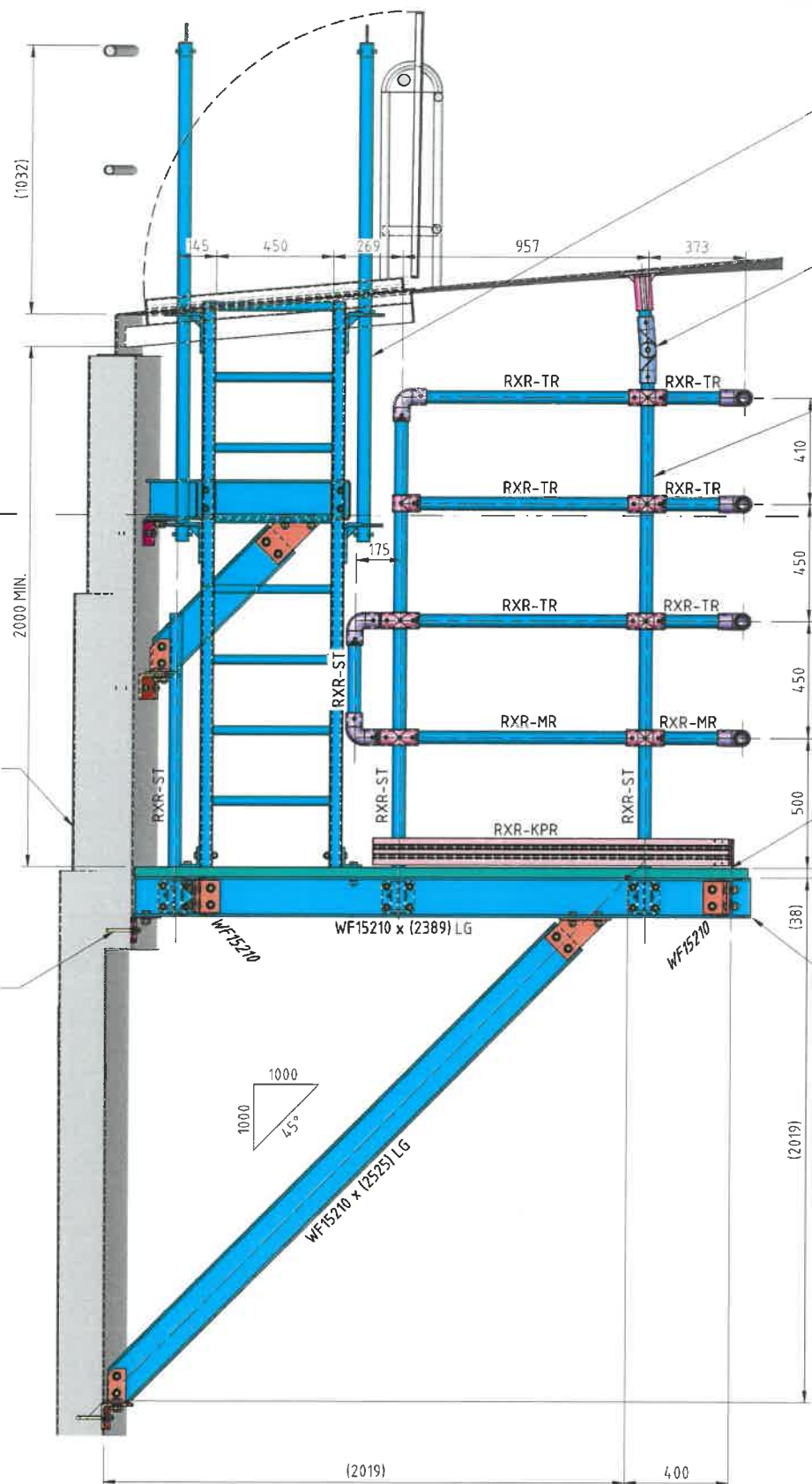
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Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BARALABA WATER STANDPIPE
 GENERAL ARRANGEMENT 2

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-402
Rev.	0



SECTION A
SCALE - 1:25
402

NEW TREADWELL PREFABRICATED FRP LADDER SYSTEM INSTALLED TO SUIT NEW SUPPORT POSITIONS. PROVIDE NEW EXTENDABLE STILES AND ENSURE INSTALLATION IS IN ACCORDANCE WITH AS 1657 FOR STEP-THRU RUNG LADDER.

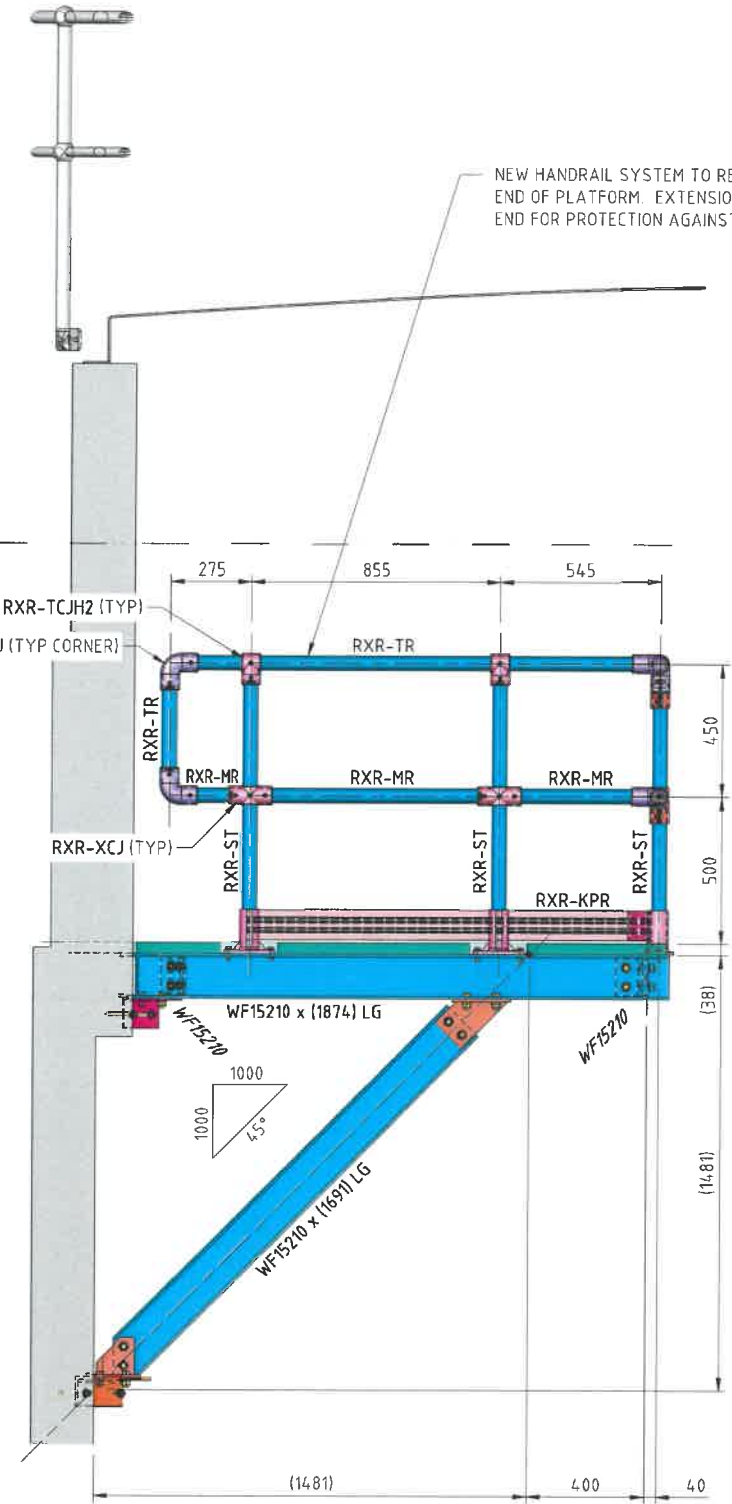
ADJUSTABLE FRP JOINTS PROVIDED TO SQUARE-UP UPPER BASE PLATES WITH THE UNDERSIDE OF THE ROOF SHEETING BEST AS POSSIBLE. INSTALL 1 mm / 2 mm PLASTIC SHIMS WHERE REQUIRED TO ENSURE FULL-FACE FIT BETWEEN UNDERSIDE OF BASE PLATE AND SUPPORTING SURFACE.

NEW TREADWELL RAILEX SYSTEM INSTALLED OVER NEW PLATFORM AND FIX TO UNDERSIDE OF EXISTING PLATE ROOF (M10 STAINLESS BOLTS WITH DISSIMILAR METAL PROTECTION)

TOP WATER LEVEL

NEW TREADWELL GTX-383838SS FRP GRATING OVER SUPPORTS FIXED IN ACCORDANCE WITH MANUF. SPECS.

BOTTOM OF LADDER / TOP OF PLATFORM



SECTION B
SCALE - 1:25
402

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Approved:
C.L. Witham
Chris Witham
Member No: 097629
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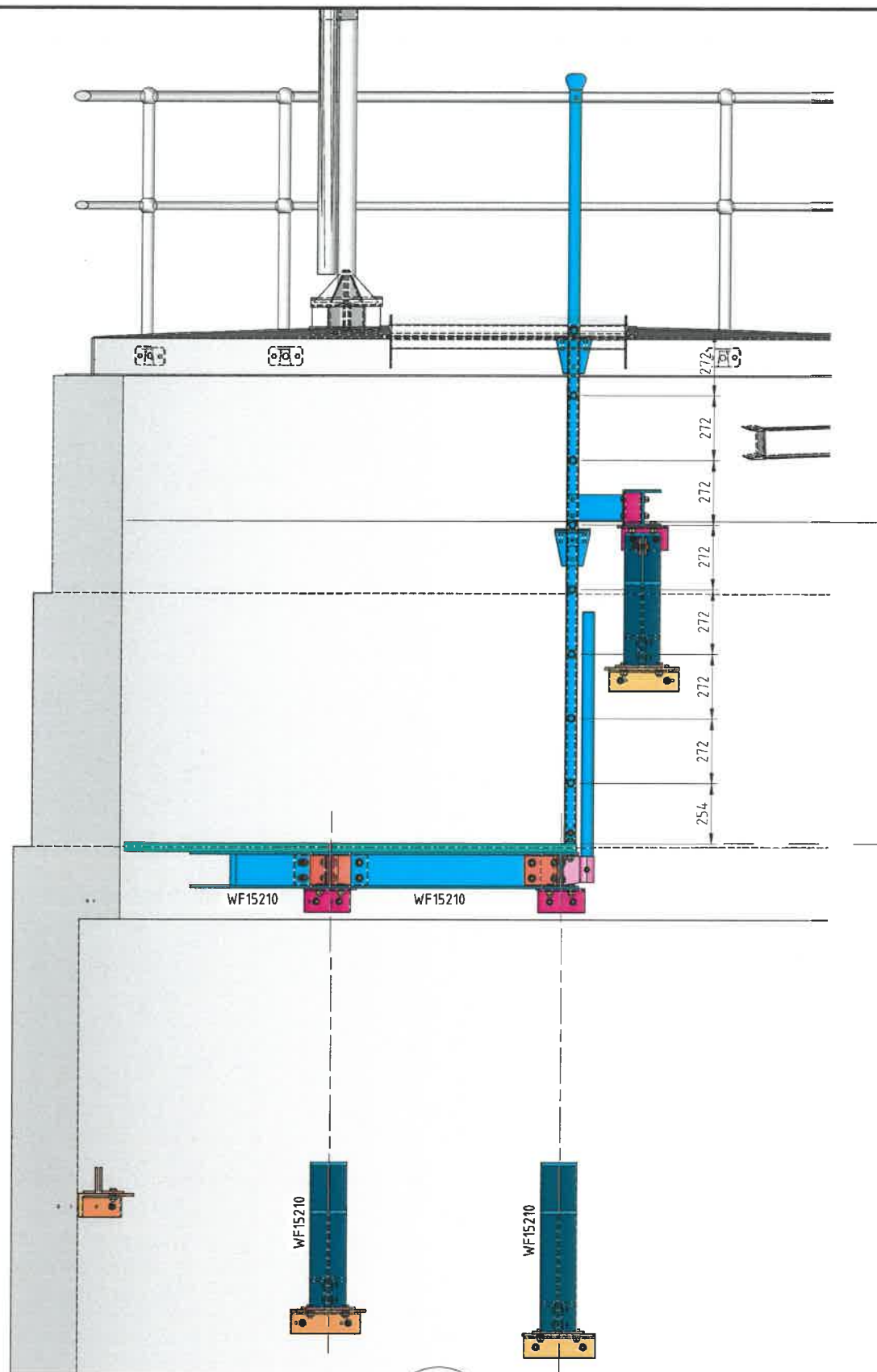
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	C. WITHAM		

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BARALABA WATER STANDPIPE
ELEVATIONS 1

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	Rev
GD2188-403	0

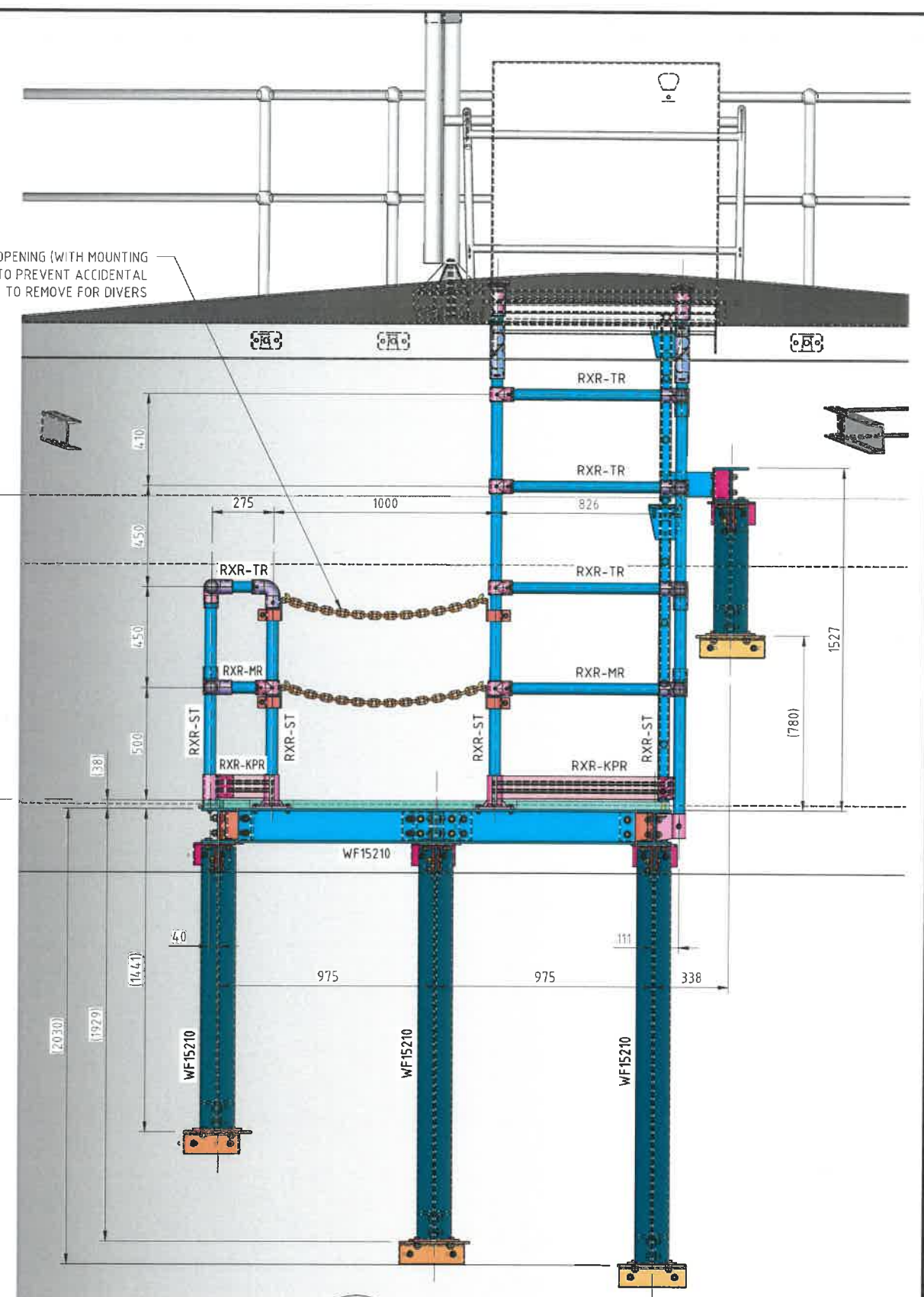


INSTALL CHAINS ACROSS PLATFORM OPENING (WITH MOUNTING BRACKETS ONTO STANCHIONS) TO PREVENT ACCIDENTAL FALLS WHILE REMAINING EASY TO REMOVE FOR DIVERS

TOP WATER LEVEL

1354

BOTTOM OF LADDER / TOP OF PLATFORM



SECTION C
SCALE - 1:25
402

SECTION D
SCALE - 1:25
402

ISSUED FOR CONSTRUCTION

Approved:
C.L. Witham
Chris Witham
BE(Hon) MIE(Aust) CP(Eng) NER APEC IntPE(Aus)
Atrial Group Australasia Pty Ltd
RPEQ - 11631

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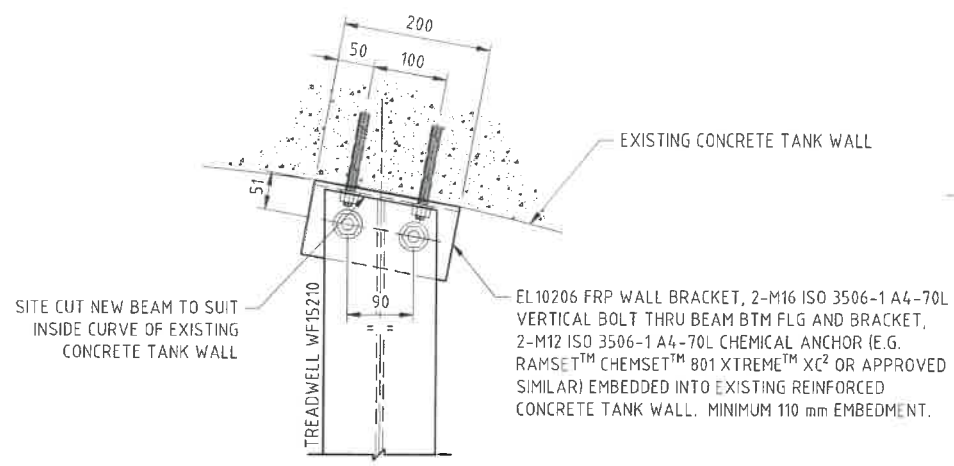
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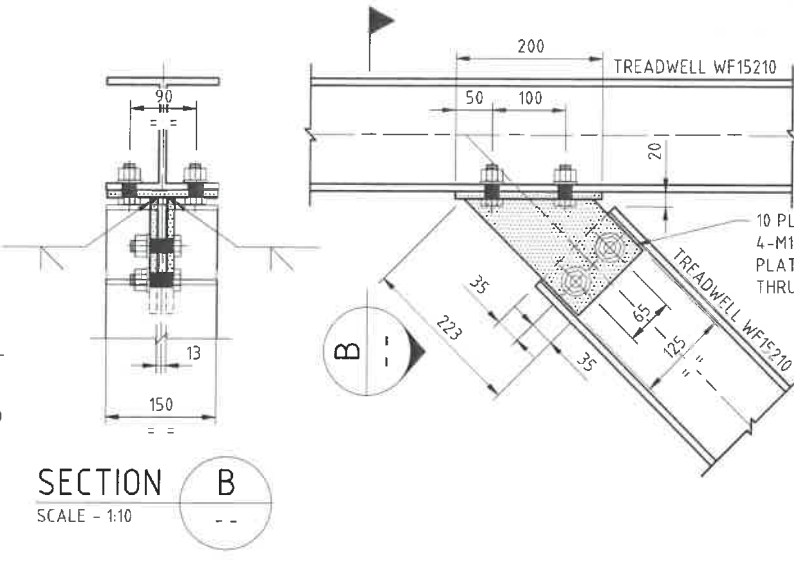
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	C. WITHAM	Date	11.07.23

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BARALABA WATER STANDPIPE ELEVATIONS 2
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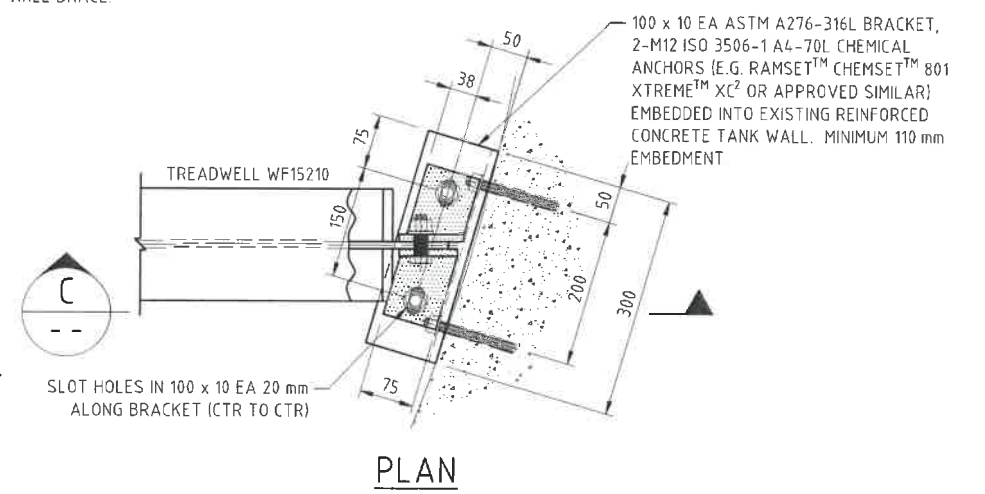
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Job No.	GD2188
Drawing No.	GD2188-404
Rev.	0



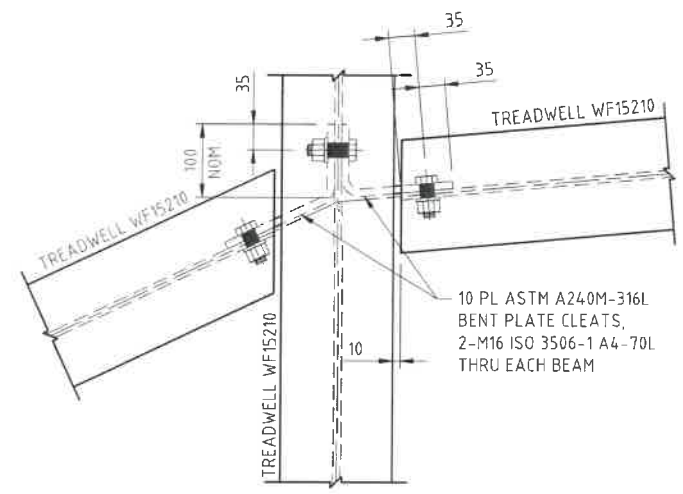
TYPICAL BEAM TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL KNEE BRACE TO BEAM CONNECTION DETAIL
SCALE - 1:10

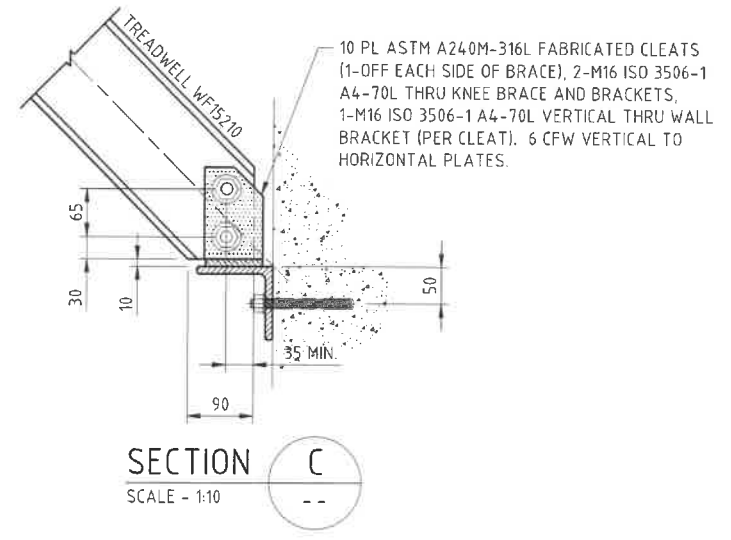


PLAN



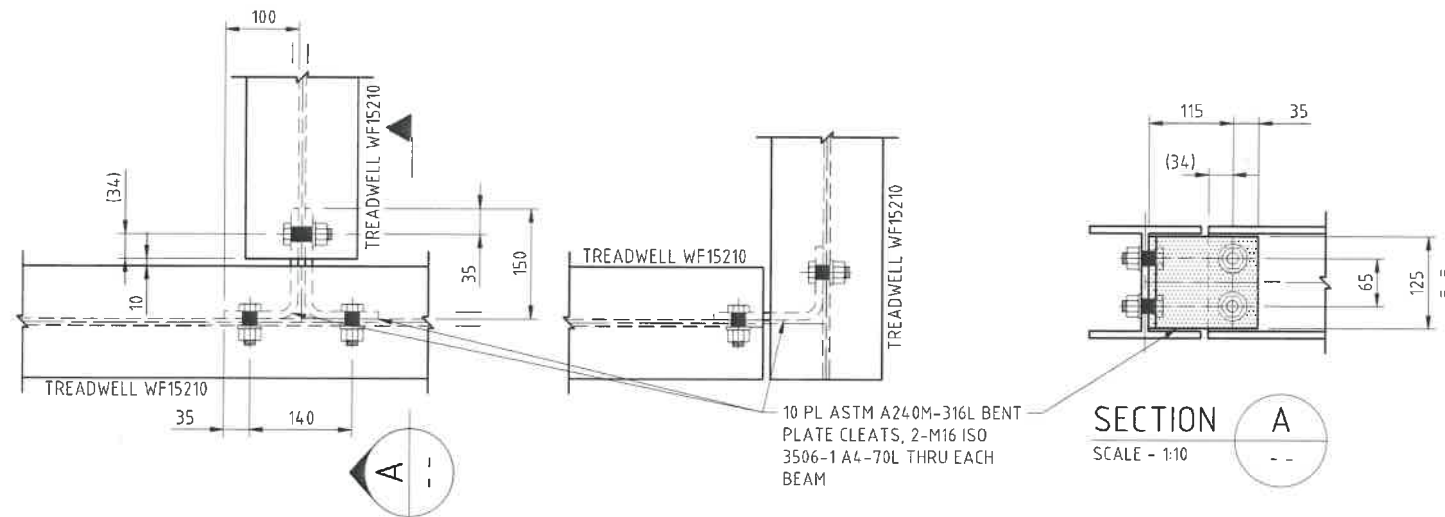
TYPICAL INTERNAL BEAM CONNECTION DETAIL
SCALE - 1:10

CHEMICAL ANCHOR NOTE
WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT.



SECTION C
SCALE - 1:10

TYPICAL KNEE BRACE TO WALL CONNECTION DETAIL
SCALE - 1:10



SECTION A
SCALE - 1:10

TYPICAL EDGE BEAM CONNECTION DETAILS
SCALE - 1:10

Approved:
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Atkins Group Australia Pty Ltd
RPEQ - 11631

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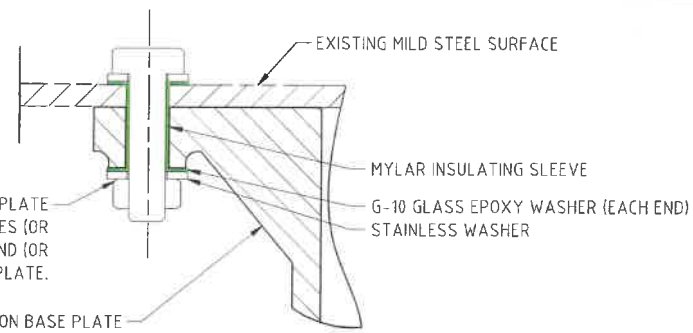
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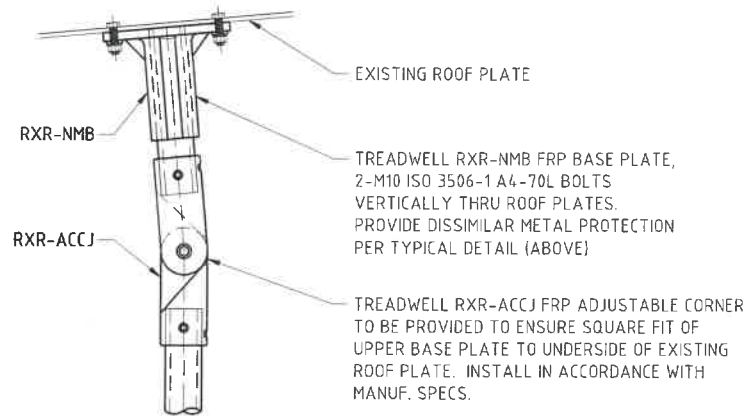
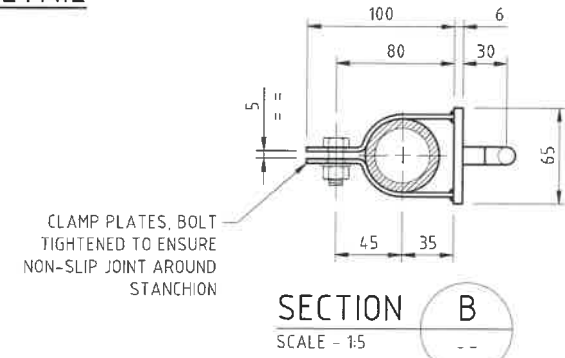
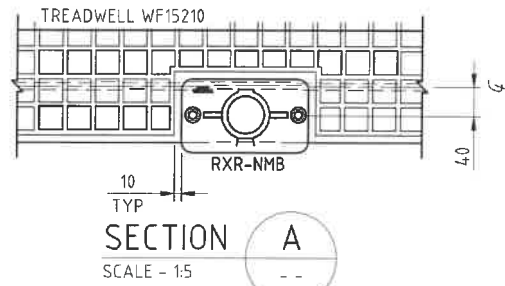
Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BARALABA WATER STANDPIPE TYPICAL DETAILS 1
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Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	Rev GD2188-405 0

M10 ISO 3506-1 A4-70L STAINLESS BOLTS THRU STANCHION BASE PLATE AND ROOF PLATE. PROVIDE MYLAR INSULATING SLEEVE THRU ALL HOLES (OR APPROVED EQUIV.) AND G-10 GLASS EPOXY WASHERS EACH END (OR APPROVED EQUIV.) TO FULLY ISOLATED BOLT FROM MILD STEEL ROOF PLATE.



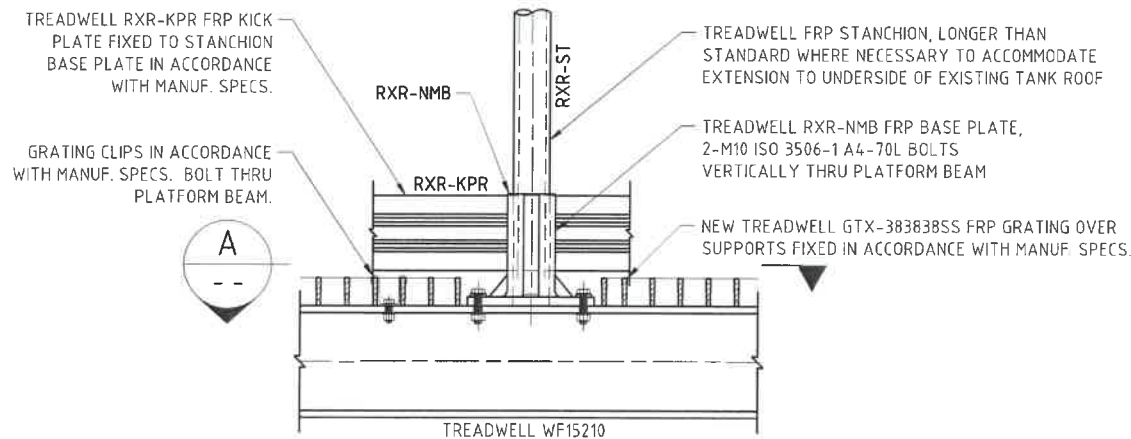
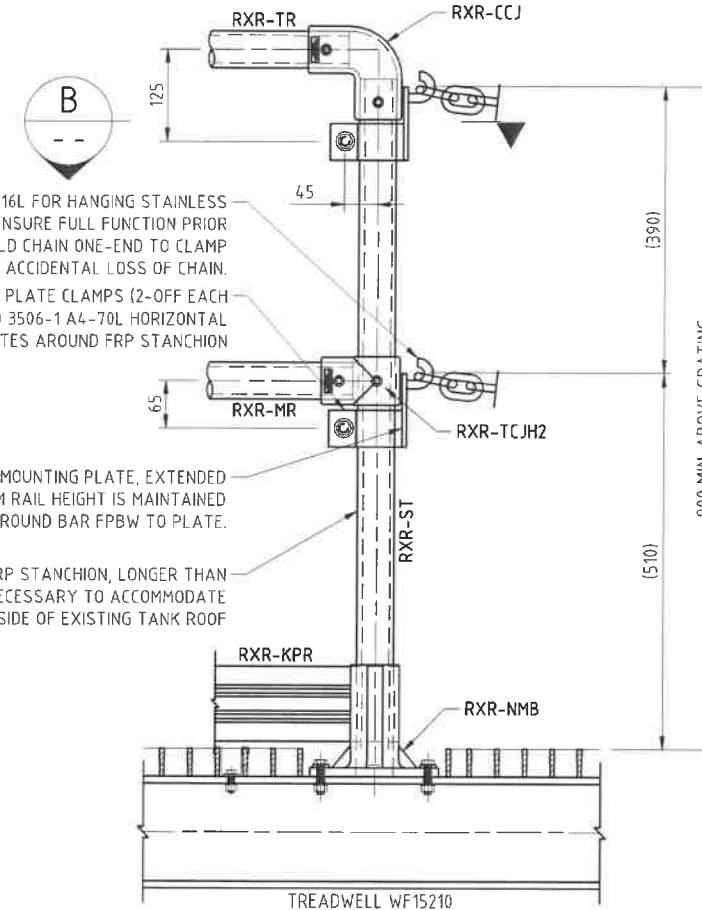
DISSIMILAR METAL PROTECTION DETAIL
SCALE - 1:2



Ø12 ROUND BAR ASTM A276-316L FOR HANGING STAINLESS CHAIN ONTO. TEST FIT TO ENSURE FULL FUNCTION PRIOR TO FINAL INSTALLATION. WELD CHAIN ONE-END TO CLAMP TO PREVENT ACCIDENTAL LOSS OF CHAIN.
3 PL ASTM A240-316L BENT PLATE CLAMPS (2-OFF EACH BRACKET) WITH 1-M10 ISO 3506-1 A4-70L HORIZONTAL BOLT THRU CLAMP PLATES AROUND FRP STANCHION

6 PL ASTM A240-316L MOUNTING PLATE, EXTENDED VERTICALLY TO ENSURE MINIMUM RAIL HEIGHT IS MAINTAINED IN ACCORDANCE WITH AS 1657. ROUND BAR FPBW TO PLATE.

TREADWELL FRP STANCHION, LONGER THAN STANDARD WHERE NECESSARY TO ACCOMMODATE EXTENSION TO UNDERSIDE OF EXISTING TANK ROOF



TYPICAL STANCHION CONNECTION DETAIL
SCALE - 1:10

NOTE: ALTERNATIVE TO USE OF RXR-NMB BASE FIXING A RXR-SMB-SS316 SIDE OFFSET MOUNT MAY BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.

STANCHION CHAIN MOUNTING DETAIL
SCALE - 1:10

ISSUED FOR CONSTRUCTION

Approved:
Chris Witham
MEMBER No: 897629
REGISTERED MECHANICAL ENGINEER (AUST)
Allied Group Australia Pty Ltd
RPEQ-11631

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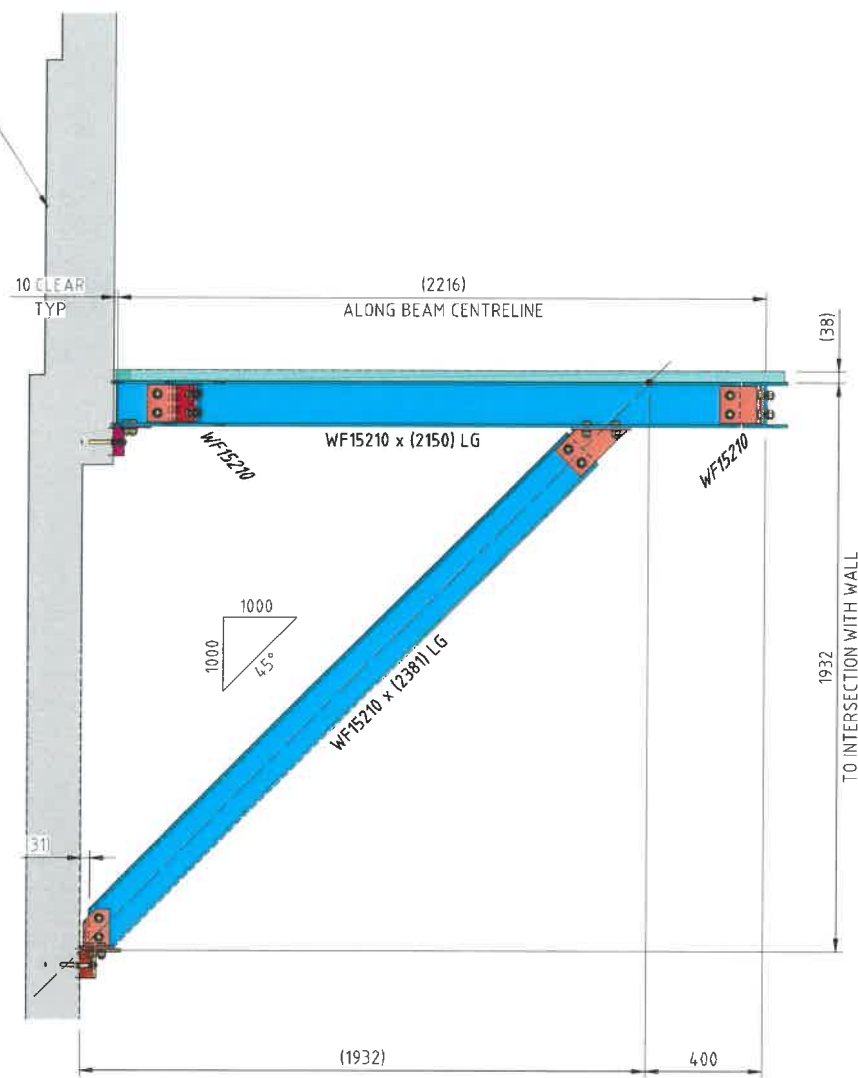


Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	11.07.23
	C.WITHAM		

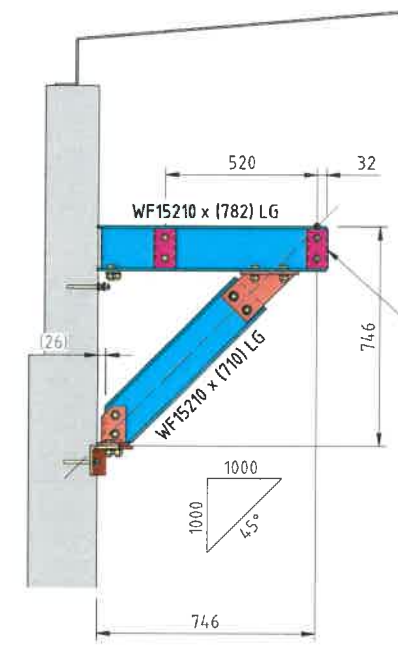
Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BARALABA WATER STANDPIPE
TYPICAL DETAILS 2

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-406
Rev.	0

INDICATIVE SECTION THRU EXISTING TANK WALL ALONG CENTRELINE OF SUPPORT BEAM



SECTION E
SCALE - 1:25
402



SECTION F
SCALE - 1:25
402

Approved:
C. Witham
Chris Witham
Member No: 697629
BEng (Hons) MIEAust CPEng NER APCC IntPE (Aus)
Affiliated Group Australasia Pty Ltd
RPEQ - 11631

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Designed by	A. BUENEN	Date	-
Drawn by	J. WALKER	Date	05.04.23
Checked by	A. BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C. WITHAM	Date	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BARALABA WATER STANDPIPE
SETOUT SECTIONS

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	Rev.
GD2188-407	0

DESIGN LIMITATIONS:

1. MAJORITY REQUIREMENTS OF AS 1657 CAN BE MET BY EXISTING HATCH ARRANGEMENT.
2. MINOR MODIFICATION PROPOSED WILL PROVIDE 200 mm CLEARANCE BEHIND RUNGS AS REQUIRED BY CLAUSE 7.4.5.
3. NON-COMPLIANCE WITH CLAUSE 7.4.8.4. REGARDING EXTENSION OF LANDING TO TOP RUNG (IS WITHIN 50 - 100 mm AS REQUIRED, BUT EXCEEDS MAXIMUM 50 mm THICK). CLIENT TO PERFORM A HAZOP TO DETERMINE SUITABILITY OF DESIGN VERSUS COST OF FURTHER MODIFICATION.
4. TOP RUNG WILL NOT BE EXACTLY LINED UP WITH TOP OF SURROUND FRAME DUE TO ANGLE, AND REQUIREMENT FOR HATCH TO CLOSE. ADDITIONALLY, HEIGHT WILL BE INCREASED BY INSTALLATION OF NEW ALUMINIUM DECKING. CLIENT TO PREPARE SAFE WORK METHOD FOR ACCESS TO ENSURE ALL PERSONNEL ENTERING TANK ARE AWARE OF WHERE THE TOP STEP IS.
5. INTERNAL AREAS OF THE CONCRETE TANK ARE CONSIDERED CONFINED SPACES, AND SHALL REQUIRE A FULL HAZOP PRIOR TO ENTRY BY ANY PERSONNEL. A SAFETY DAVIT HAS BEEN PROVIDED AS PART OF THIS DESIGN.
6. ANY WORK CONDUCTED ON THE PLATFORM PRIOR TO FULL INSTALLATION OF HANDRAILS AND LADDER WILL REQUIRE ATTACHMENT TO A SAFETY LINE AND OTHER SAFETY EQUIPMENT AS THIS WILL BE WORKING AT HEIGHTS. PERSONNEL SHALL BE FULLY TRAINED AND CERTIFIED FOR WORKING AT HEIGHTS AND ACCESS SHALL BE ASSESSED (I.E. HAZOP) PRIOR TO ENTRY INTO THE AREA.
7. WORK CARRIED OUT IN THE CONCRETE TANK WILL REPRESENT A POTENTIAL HAZARD FROM ITEMS FALLING FROM ABOVE. CONTRACTORS SHALL TAKE STEPS TO PREVENT ACCIDENTAL DROPPING OF ELEMENTS INTO THE CHAMBER, AND HAZOPS SHALL BE UNDERTAKEN TO DETERMINE THE BEST APPROACH FOR LOWERING OF EQUIPMENT SAFELY. HARDHATS AND OTHER PPE WILL BE REQUIRED.
8. LIKEWISE THE LIFTING OF ELEMENTS ONTO THE TANK ROOF WILL PRESENT A HAZARD TO ALL WORKERS ON THE OUTSIDE OF THE TANK, AND ADDITIONALLY MEMBERS OF THE PUBLIC. THE WORKSITE SHALL BE FULLY FENCED AS REQUIRED TO ALLOW FOR THE MOVEMENT OF MATERIALS SAFELY AND WITHOUT RISK TO THE PUBLIC (WHERE POSSIBLE). HAZOP SHALL CONSIDER CRANE OPERATION, POSITIONING AND ACCESS.
9. PLATFORM DESIGN ASSUMES STANDARD ENTRY TO TANK WILL BE CONDUCTED BY DIVERS WITH WATER LEVEL ABOVE THE LEVEL OF THE PLATFORM DECK. WHERE THIS IS NOT THE CASE A HAZOP SHALL BE CONDUCTED TO IDENTIFY ANY ADDITIONAL SAFETY ISSUES THAT MAY BE PRESENT AND DETERMINE SUITABLE CONTROLS / METHODS.
10. CLIENT TO PRODUCE A PROCEDURE FOR SAFETY ACCESS FOR DIVERS FOR INDIVIDUAL TANKS. ALL DESIGN CONSTRAINTS AND SAFETY ISSUES RAISED ABOVE SHALL BE INCLUDED, IN ADDITION TO ANY OTHER ISSUES IDENTIFIED BY BSC PERSONNEL AND CONTRACTORS.

CONSTRUCTION METHODOLOGY:

1. BANANA SHIRE COUNCIL TO ARRANGE AND DRAIN EXISTING RESERVOIR. TIME TO BE ALLOWED FOR DRYING OF CONCRETE SURFACES PRIOR TO INSTALLING NEW ELEMENTS.
2. PRIOR TO INSTALLING ANY NEW EQUIPMENT PROCEED WITH DEMOLITION WORKS AS INDICATED / REQUIRED. ALL EXISTING ELEMENTS TO BE REMOVED AND DISPOSED OF SAFELY AND IN ACCORDANCE WITH BSC SUPERINTENDENTS INSTRUCTION. WHERE EXISTING ITEMS ARE REMOVED FROM EXISTING CONCRETE SURFACES, ENSURE ALL EXPOSED SURFACES (I.E. CUT ANCHORS ETC.) ARE FULLY SEALED WITH POTABLE WATER APPROVED SEALANT. ANY CONCRETE DAMAGE SHALL BE REMEDIATED TO THE SPECIFICATION OF THE BSC SUPERINTENDENT.
3. SITE ASSEMBLE NEW ALUMINIUM ACCESS PLATFORM OVER EXISTING ROOF. ENSURE DISSIMILAR SEPARATION IS INSTALLED IN ACCORDANCE WITH MANUF. SPECS. MODIFY NEW EXPANDED MESH SURFACE AS REQUIRED TO SUIT EXISTING ELEMENTS ON SITE AND INSTALLATION OF NEW DAVITS.
4. LOWER NEW FRP AND STAINLESS STEEL MEMBERS, CLEATS, FIXINGS ETC. FOR NEW PLATFORM INTO THE EXISTING RESERVOIR CHAMBER. ELEMENTS TO BE PLACED ONTO TANK FLOOR.
5. POSITIVELY LOCATE POSITIONS FOR INSTALLATION OF NEW WALL MOUNTING BRACKETS. START WITH LAYOUT OF PLATFORM MEMBERS ON THE TANK FLOOR TO ASSIST IN ENSURING MEMBERS ALIGN WITH BRACKET POSITIONS, THEN TRACE UP THE WALL (I.E. USE OF PLUMB-BOB FROM ABOVE TO ALIGN POSITIONS).
6. ONCE WALL MOUNT POSITIONS ARE PREPARED, FULLY ASSEMBLE MAIN PLATFORM LEVEL, COMPLETE WITH HANDRAIL, GRATING AND KICK PLATE SECTIONS.
7. PREPARE TO LIFT PLATFORM ASSEMBLY. BEFORE LIFTING INTO PLACE (BUT WHILE SUSPENDED) INSTALL KNEE BRACE ELEMENTS TO PLATFORM BEAMS. ONCE FULLY ASSEMBLED, ELEVATE PLATFORM ASSEMBLY UP AND ONTO WALL BRACKETS. FIX ALL MEMBERS TO WALL BRACKETS IN ACCORDANCE WITH ENGINEERING DETAILS. WHERE APPLICABLE, FIX UPPER HANDRAIL BASE PLATES TO UNDERSIDE OF EXISTING TANK ROOF.
8. LOWER ELEMENTS FOR LADDER SUPPORT ONTO PLATFORM BELOW AND ASSEMBLE FRAME. INSTALL ONTO WALL BRACKETS AND FASTEN AS PER ENGINEERING DETAILS.
9. LOWER NEW LADDER ASSEMBLY ONTO NEW PLATFORM. LOCATE AND FIX TO NEW PLATFORM AND EXISTING STRUCTURE IN ACCORDANCE WITH ENGINEERING DETAILS.
10. LOWER NEW WALL MOUNTING BRACKETS FOR PERSONNEL ACCESS DAVIT AND EQUIPMENT LIFTING DAVIT. LOCATE NEW DAVIT MOUNTING POINTS AND INSTALL AGAINST EXISTING CONCRETE WALLS. CHEMICAL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER SPECIFICATIONS AND REQUIREMENTS TO ACHIEVE MINIMUM EMBEDMENT SPECIFIED IN DRAWINGS. INSTALL NEW DAVIT BASES AND ARMS IN ACCORDANCE WITH MANUF. SPECS. TEST ALL NEW DAVITS TO ENSURE FULL COMPLIANCE AND FUNCTION PRIOR TO FINALISING THE INSTALLATION.

DESIGN INCORPORATES REQUIREMENTS OF AS 2299.1-2015 WHERE APPLICABLE:

- 3.10 DIVE REQUIREMENTS:
 - 3.10.1 GENERAL

DIVING OPERATIONS SHALL BE CONDUCTED ONLY FROM A SAFE AND SUITABLE SITE OR VESSEL, WHICH AT TIMES PROVIDES:

 - (a) SUITABLE ACCESS & EXIT FOR THE DIVERS;
 - (b) MEANS TO RECOVER AN INJURED DIVER FROM THE WATER; AND
 - (c) MEANS OF COMMUNICATION TO EMERGENCY SUPPORTED SERVICES (SEE CLAUSE 3.6.4)
 - 3.13.3 HARNESSES

PROVIDES REQUIREMENT SHOULD A HARNESS BE REQUIRED
 - 3.13.6 LIFELINE

A HARNESS AND LIFELINE WOULD BE A HINDRANCE IN THESE OPERATIONS, PREVENTING SAFE MOVEMENT THROUGHOUT THE TANK. BANANA SHIRE COUNCIL SHALL HAZOP WITH COMMERCIAL DIVER.
- 7.3.4 DIVER DEPTHS TO 30 m (SCUBA)

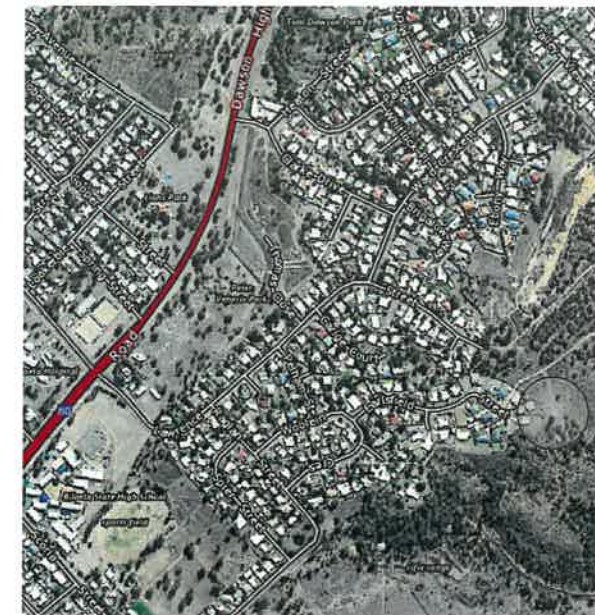
THE TEAM SHALL INCLUDE 1 SUPERVISOR, 1 DIVER, 1 DIVERS ATTENDANT AND 1 STANDBY DIVER (4 IN TOTAL). ROOFTOP PLATFORM SHOULD BE DESIGNED TO ALLOW FOR 4 PEOPLE.

STAINLESS STEEL:

1. ALL STAINLESS STEEL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF:
 - 1.1. AS 4100 - SAA STEEL STRUCTURES CODES
 - 1.2. AS 1554.6 - STRUCTURAL STEEL WELDING - WELDING STAINLESS STEELS FOR STRUCTURAL PURPOSES
2. STAINLESS STEEL GRADES AS FOLLOWS:
 - 2.1. PLATE, SHEET AND STRIP SHALL BE TO ASTM A240M GRADE 316L
 - 2.2. BARS SHALL BE TO ASTM A276M GRADE 316L
3. STAINLESS STEEL FINISHING DETAILS:
 - 3.1. ALL SHARP EDGES AND BURRS TO BE REMOVED
 - 3.2. STAINLESS STEELWORK SHALL BE CLEANED, PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 "STANDARD PRACTICE FOR CLEANING, DESCALING AND PASSIVATION OF STAINLESS STEEL PARTS, EQUIPMENT AND SYSTEMS".
4. WELD DETAILS:
 - 4.1. ALL WELDS SHALL BE 6 CFW UNO.
 - 4.2. BUTT WELDS SHALL BE PRE-QUALIFIED FULL PENETRATION UNO.
 - 4.3. ALL WELDING SHALL CONFORM WITH AS 1554.6, CATEGORY 1A.
 - 4.4. ALL WELDING CONSUMABLES SHALL BE TO AS/NZS 1167.2 AND/OR AS/NZS 4854.
 - 4.5. ALL WELDS SHALL BE VISUALLY INSPECTED.
 - 4.6. ALL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS AND GROSS POROSITY.

FIBRE REINFORCED PLASTIC (FRP) / COMPOSITE FIBRE:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. ENSURE COMPLIANCE WITH MANUFACTURER QUALITY ASSURANCE STANDARDS.
2. UNLESS NOTED OTHERWISE OR APPROVED COMPOSITE MATERIALS FOR USE IN THIS PROJECT SHALL BE MANUFACTURED BY TREADWELL. SUBSTITUTIONS IN MATERIALS SHALL NOT BE UNDERTAKEN WITHOUT PRIOR APPROVED OF BSC SUPERINTENDENT AND STRUCTURAL ENGINEER.
3. ALL MEMBERS SHALL BE IN SOUND CONDITION FREE FROM PITTING, DE-LAMINATIONS AND OTHER DEFECTS WHICH ARE LIKELY TO IMPAIR THE STRUCTURAL CAPACITY OF THE MEMBERS.
4. APPLY A WATERPROOFING COMPOUND TO SEAL ANY END CUT FIBRES AS A RESULT OF DRILLING, CUTTING OR DAMAGE TO THE COMPOSITE FIBRE PROFILES. COMPOUND SHALL BE APPROVED FOR POTABLE WATER AND SHALL BE APPROVED BY THE MANUFACTURER.
5. CONTRACTORS SHALL REFER TO MANUFACTURER FOR ALL INSTALLATION AND ASSEMBLY INSTRUCTIONS AND SPECIFICATIONS PRIOR TO BEGINNING WORK, AND SHALL ENSURE THAT ALL INSTRUCTIONS ARE UNDERSTOOD.



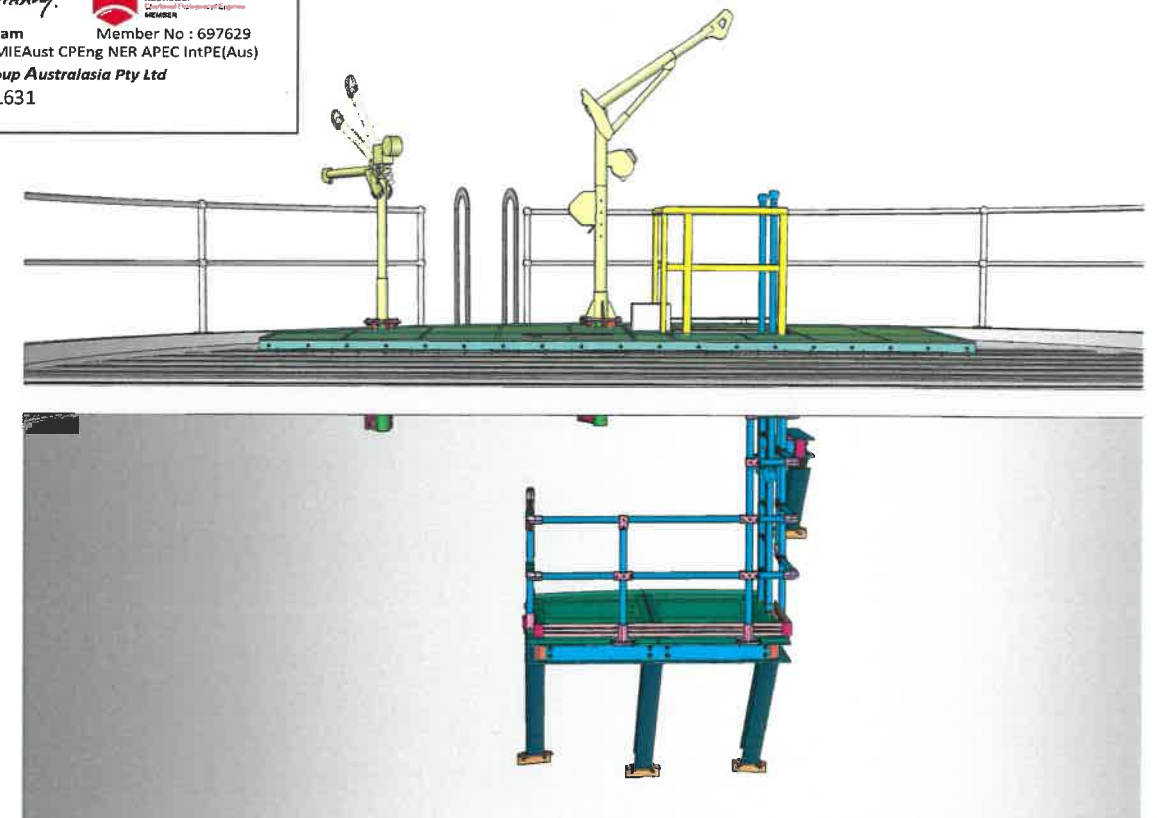
SUBJECT SITE

LOCALITY PLAN

SCALE - NTS

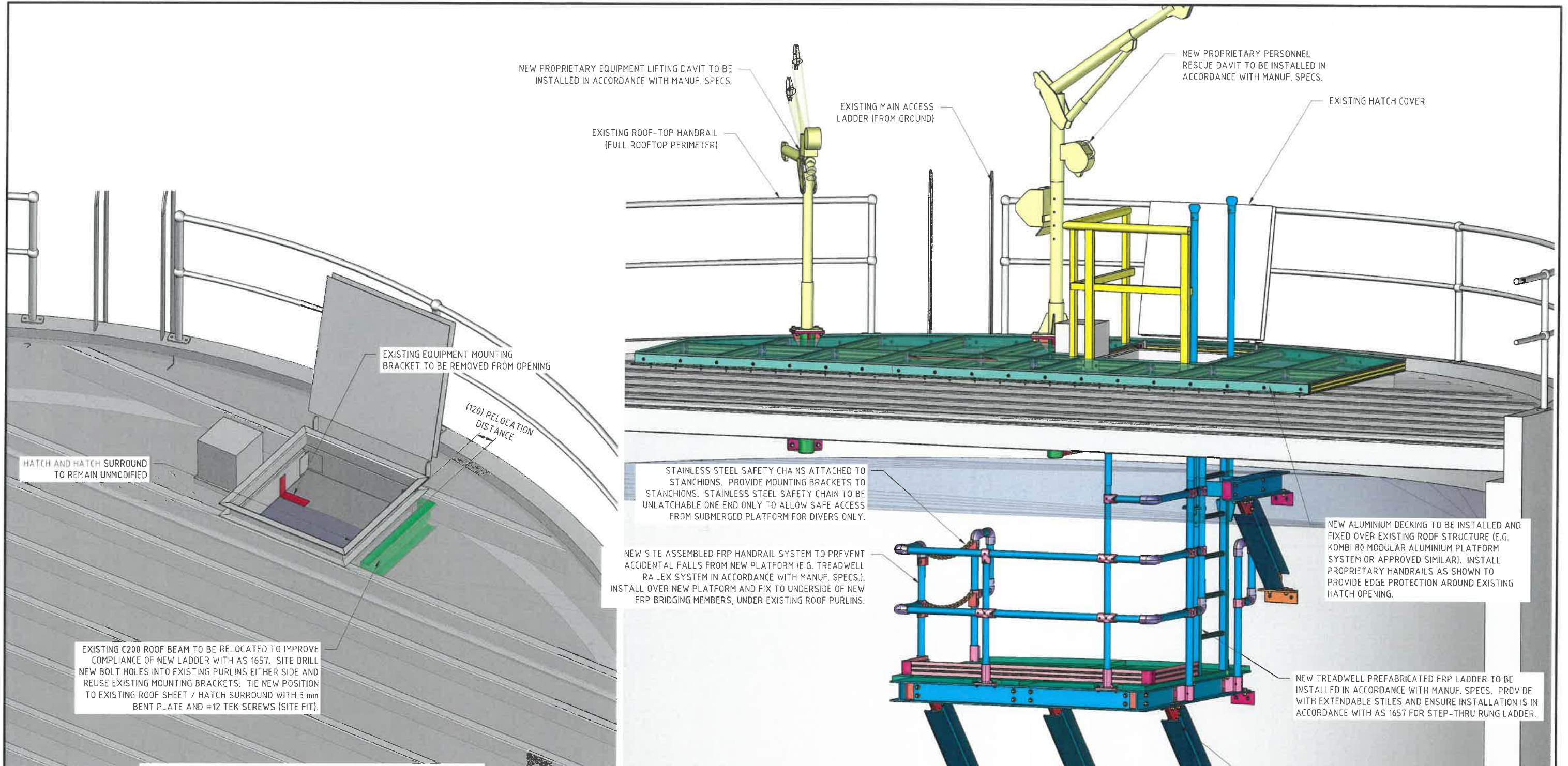
Approved :

Chris Witham
Chris Witham Member No : 697629
 BE(Hons) MIEAust CPENG NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
 RPEQ - 11631



ISSUED FOR CONSTRUCTION

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No.	Date	Revision	By	Appr									
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DEMOLITION PLAN (ISOMETRIC)

SCALE - NTS
EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

GENERAL ARRANGEMENT (ISOMETRIC)

SCALE - NTS
EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

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Approved :

Chris Witham Member No : 697629
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
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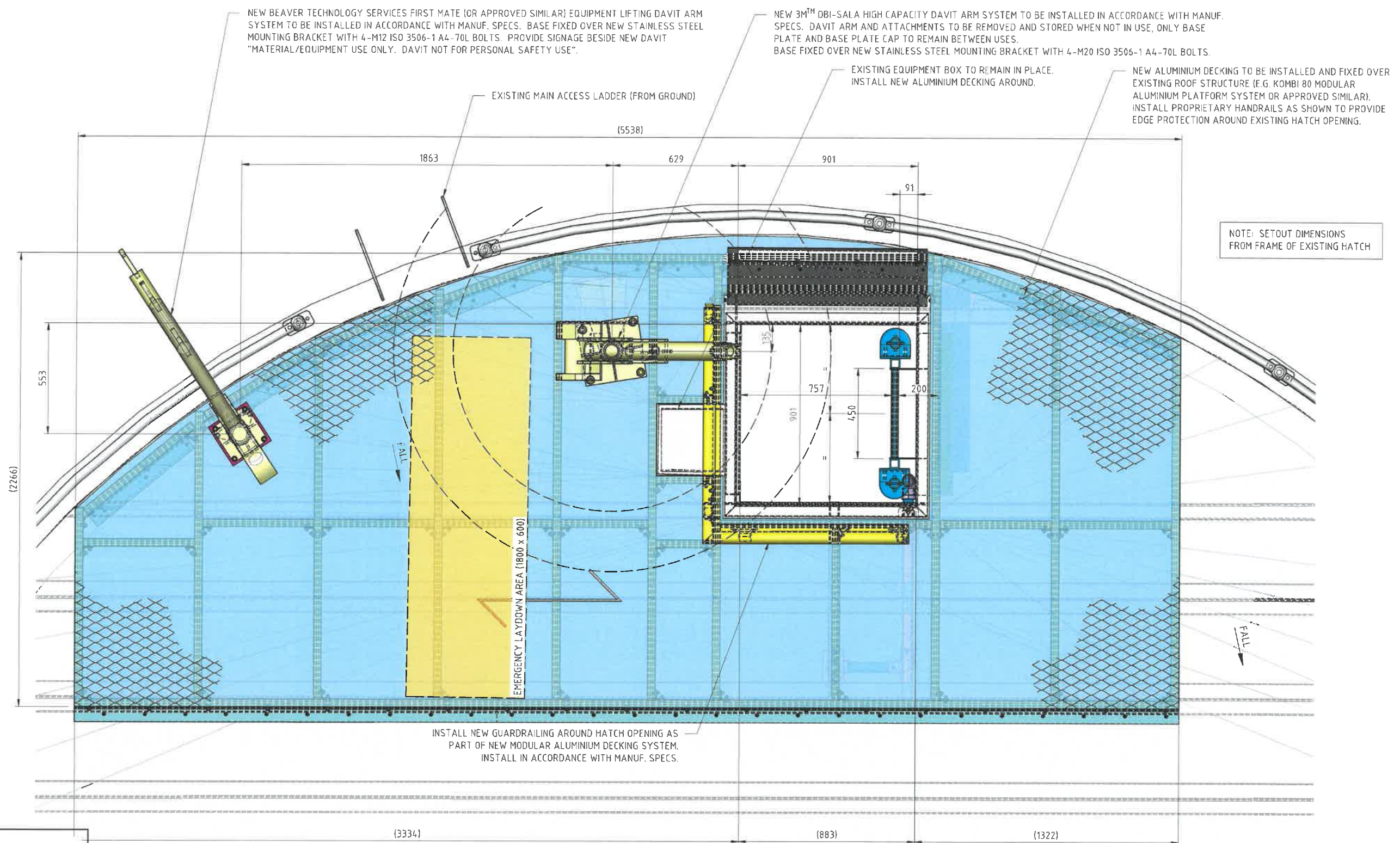
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA EARLSFIELD ST STANDPIPE GENERAL ARRANGEMENT 1
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Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-101
Rev.	0



NOTE: SETOUT DIMENSIONS FROM FRAME OF EXISTING HATCH

GENERAL ARRANGEMENT (PLAN AT ROOF LEVEL)

SCALE - 1:20

ISSUED FOR CONSTRUCTION

Approved :

Chris Witham
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
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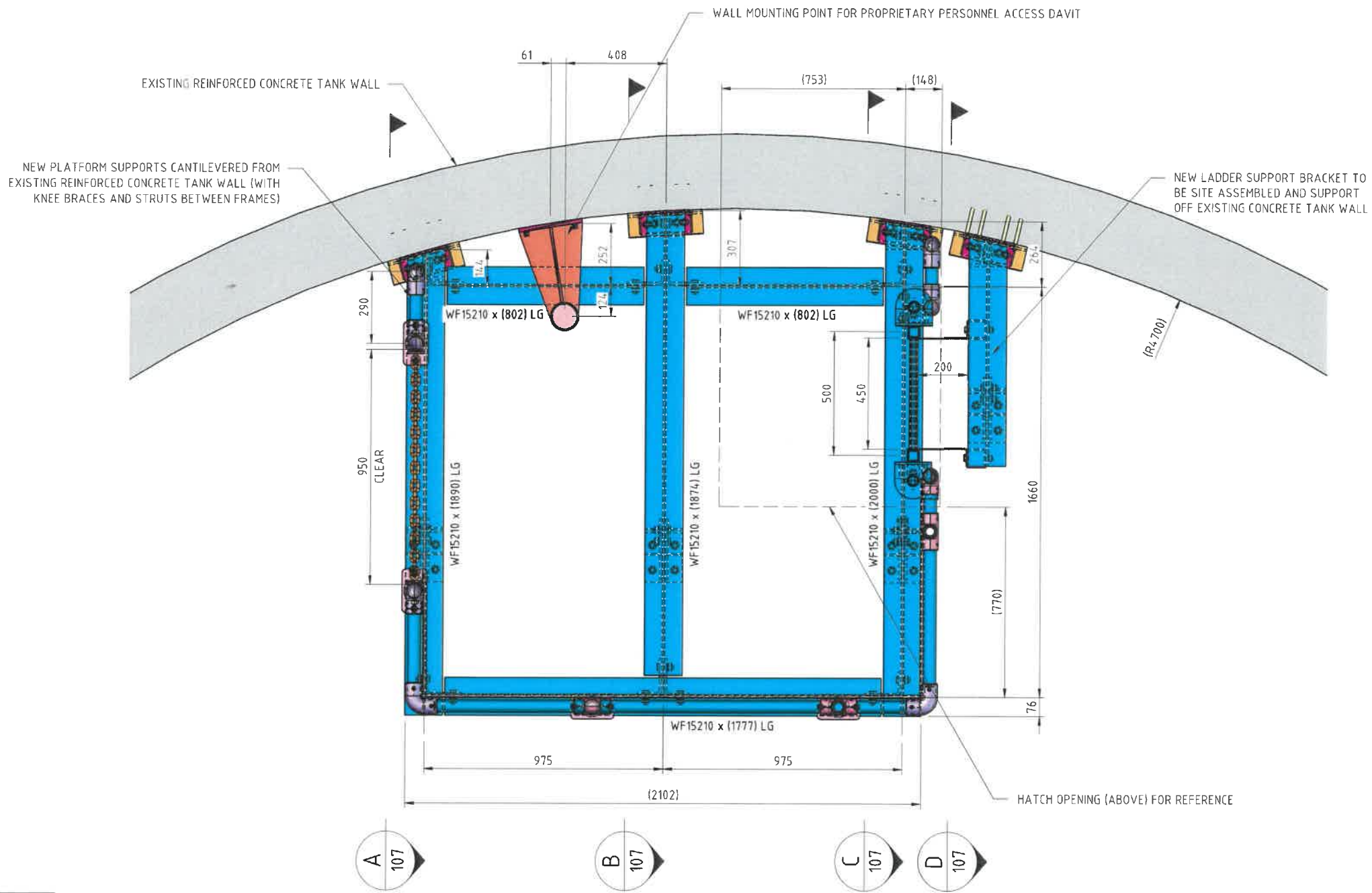
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA EARLSFIELD ST STANDPIPE
 GENERAL ARRANGEMENT 2

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-102
Rev.	0



GENERAL ARRANGEMENT (PLAN AT PLATFORM LEVEL)

SCALE - 1:20
GRATING NOT SHOWN FOR CLARITY

ISSUED FOR CONSTRUCTION

Approved :
Chris Witham
Chris Witham
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
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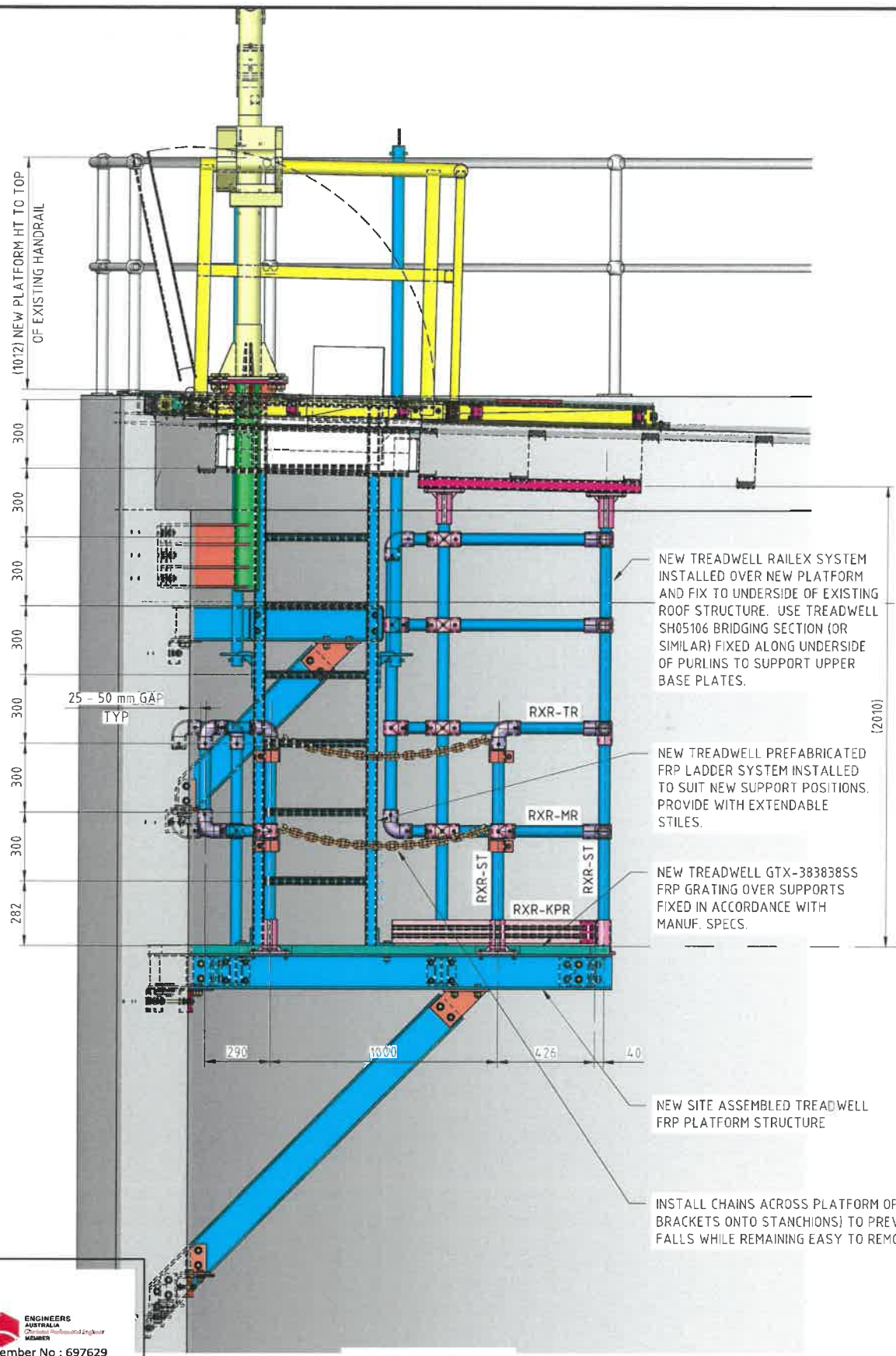
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Drawn by	J.WALKER	Date	05.04.23
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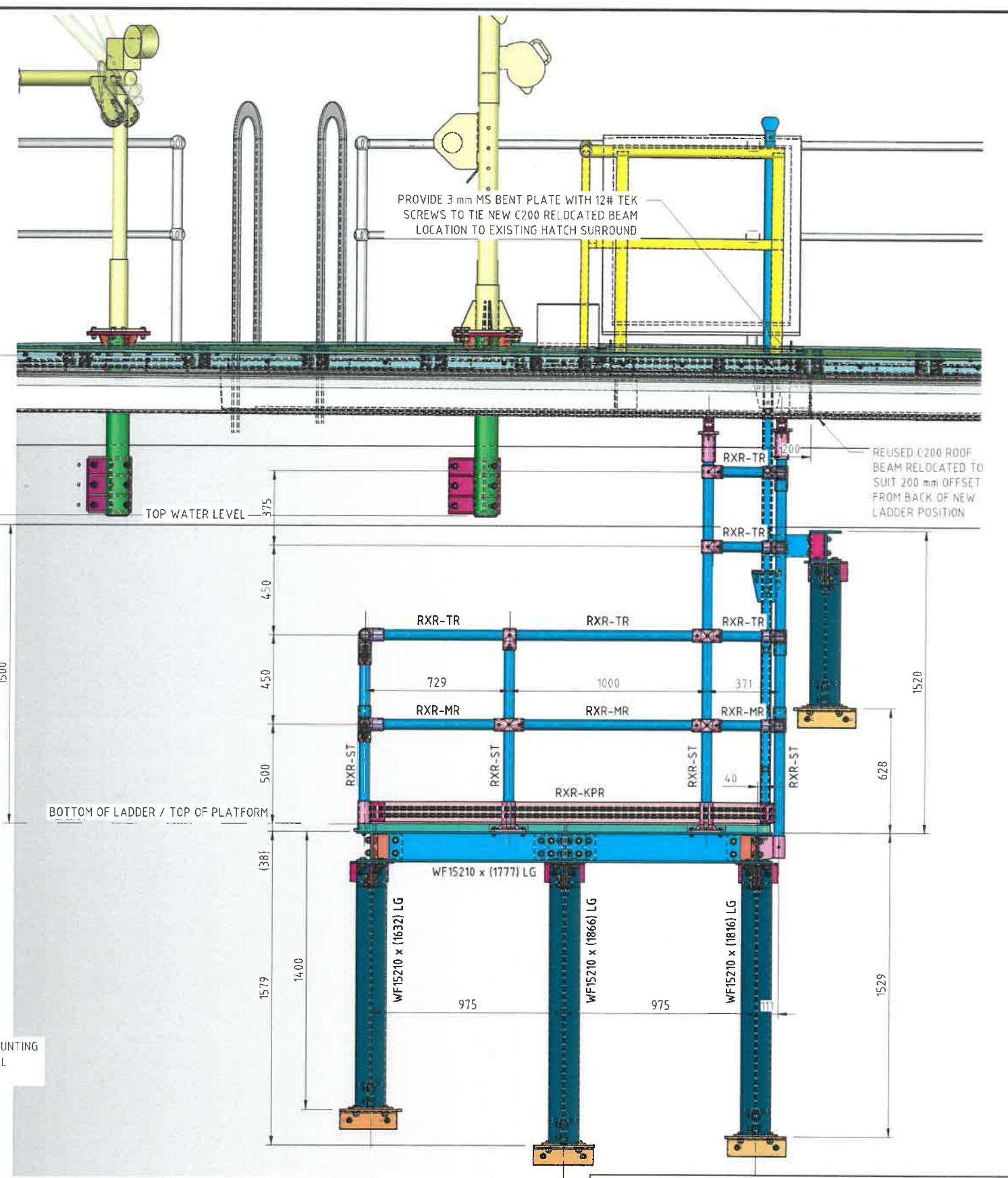
Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA EARLSFIELD ST STANDPIPE
GENERAL ARRANGEMENT 3

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-103
Rev.	0



END VIEW

SCALE - 1:25



ELEVATION

SCALE - 1:25

ISSUED FOR CONSTRUCTION

Approved :

 Chris Witham
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

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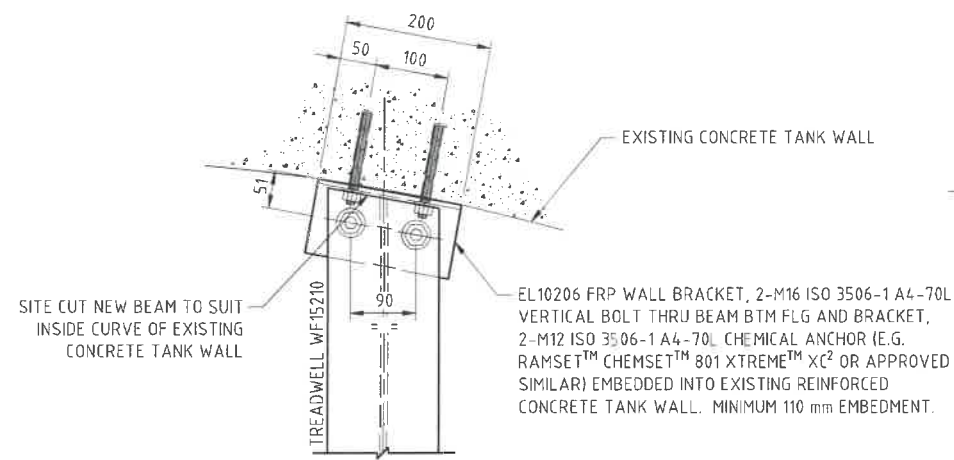
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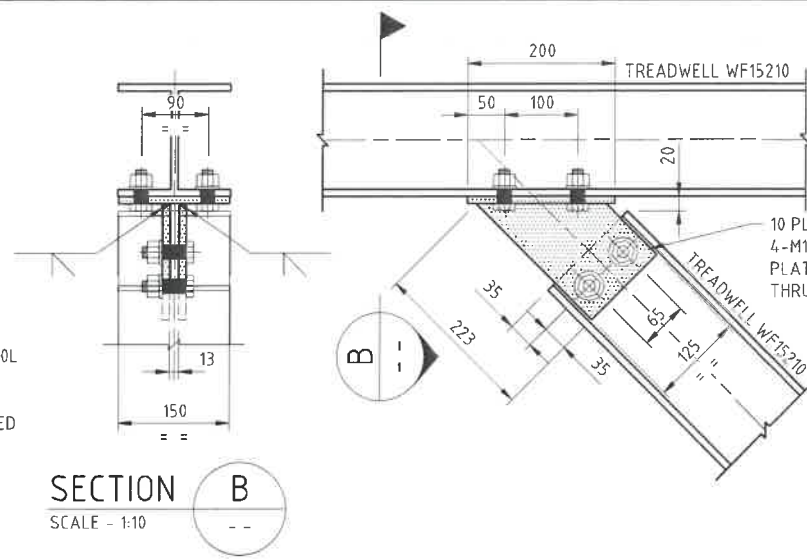
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Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA EARLSFIELD ST STANDPIPE
 ELEVATIONS

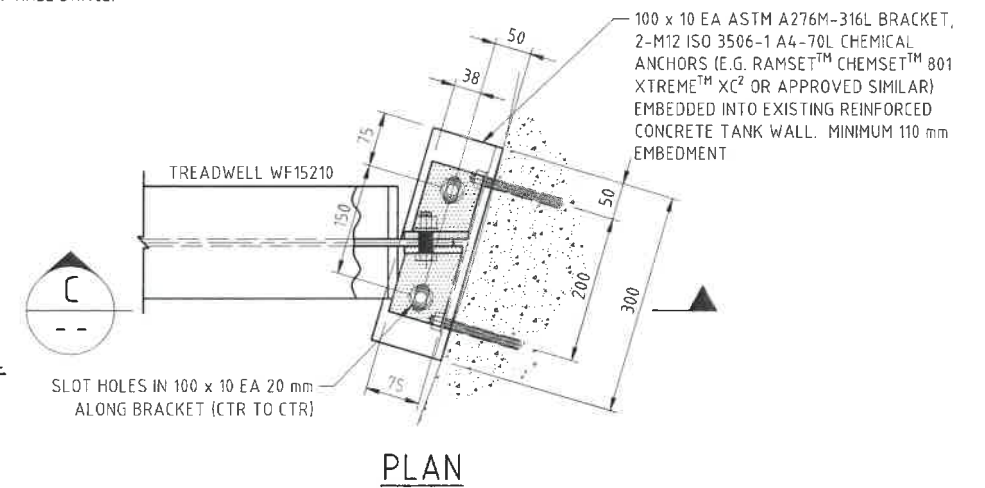
Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-104
Rev.	0



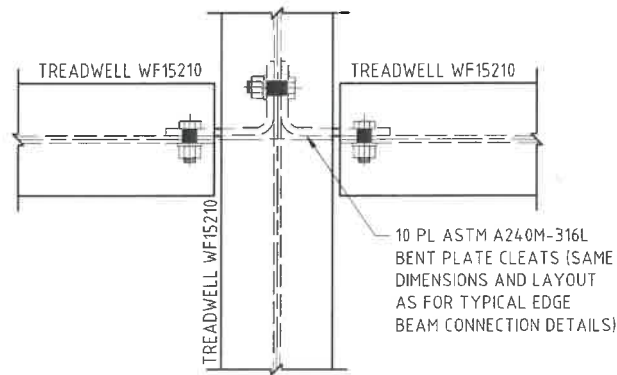
TYPICAL BEAM TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL KNEE BRACE TO BEAM CONNECTION DETAIL
SCALE - 1:10

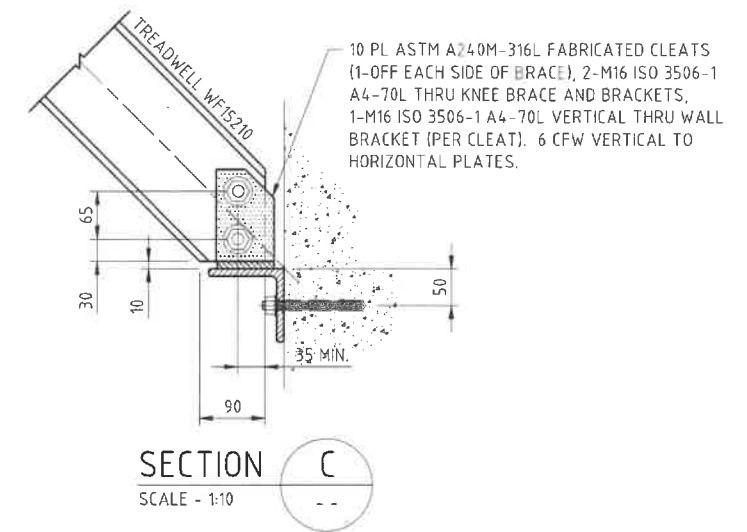


PLAN



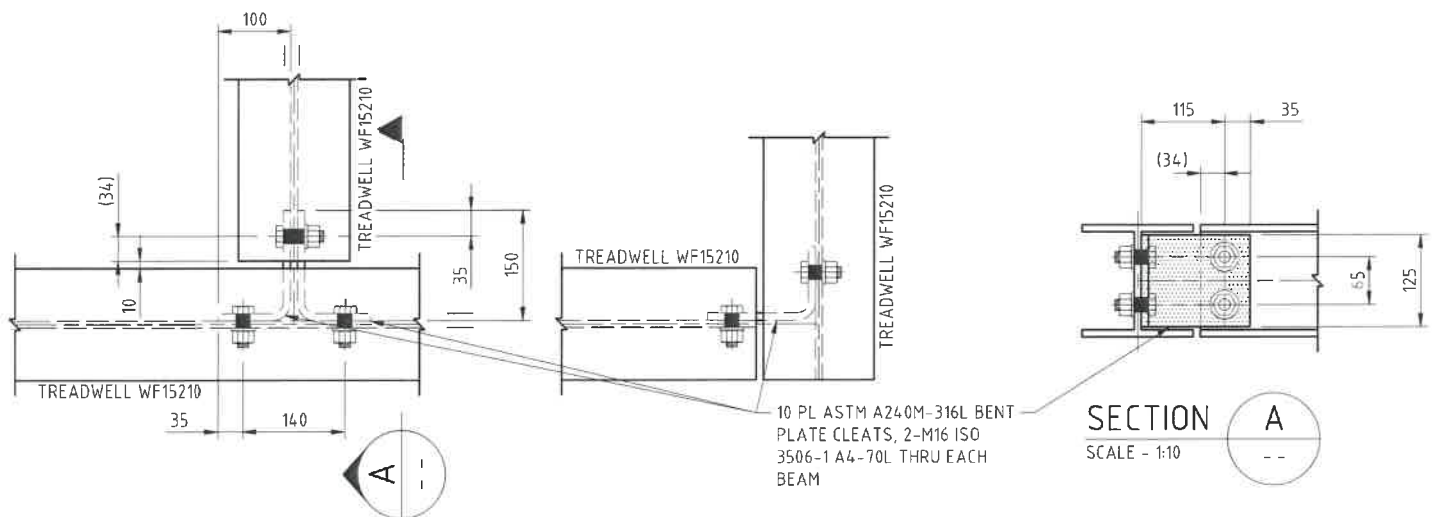
TYPICAL INTERNAL BEAM CONNECTION DETAIL
SCALE - 1:10

CHEMICAL ANCHOR NOTE
WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT.



SECTION C
SCALE - 1:10

TYPICAL KNEE BRACE TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL EDGE BEAM CONNECTION DETAILS
SCALE - 1:10

Approved:
C.L. Witham
Chris Witham
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631

ISSUED FOR CONSTRUCTION

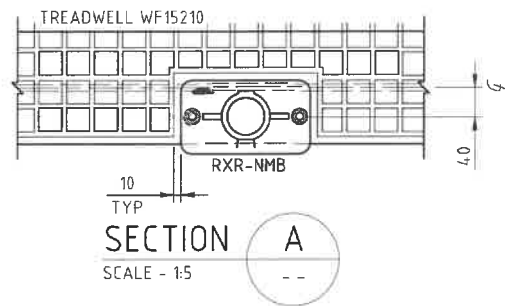
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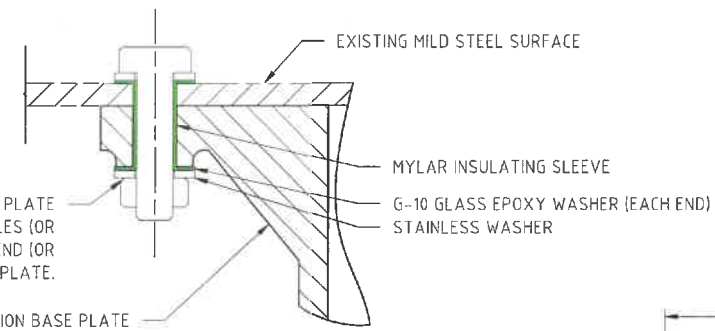
Designed by	Date
A.BUENEN	-
Drawn by	Date
J.WALKER	05.04.23
Checked by	Date
A.BUENEN	28.06.23
Engineer	Date
C.WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA EARLSFIELD ST STANDPIPE TYPICAL DETAILS 1

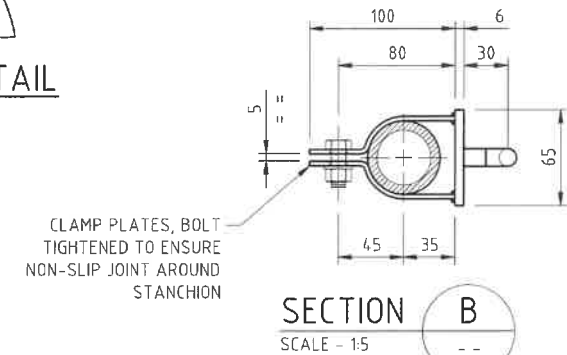
Scale	
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Job No.	
GD2188	
Drawing No.	Rev.
GD2188-105	0



M10 ISO 3506-1 A4-70L STAINLESS BOLTS THRU STANCHION BASE PLATE AND ROOF PLATE. PROVIDE MYLAR INSULATING SLEEVE THRU ALL HOLES (OR APPROVED EQUIV.) AND G-10 GLASS EPOXY WASHERS EACH END (OR APPROVED EQUIV.) TO FULLY ISOLATED BOLT FROM MILD STEEL ROOF PLATE.

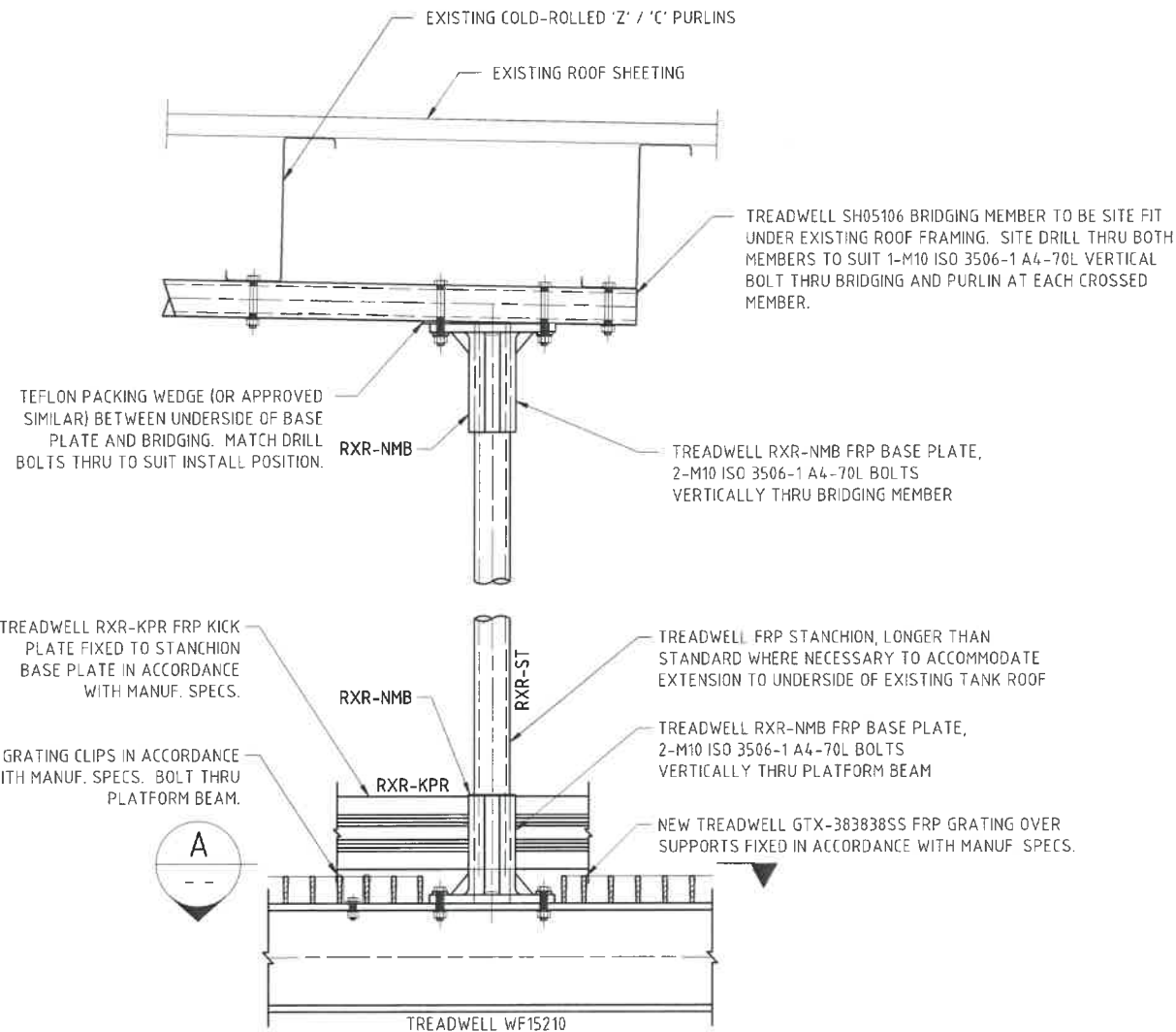


DISSIMILAR METAL PROTECTION DETAIL
SCALE - 1:2



CLAMP PLATES, BOLT TIGHTENED TO ENSURE NON-SLIP JOINT AROUND STANCHION

SECTION B
SCALE - 1:5



TYPICAL STANCHION CONNECTION DETAIL

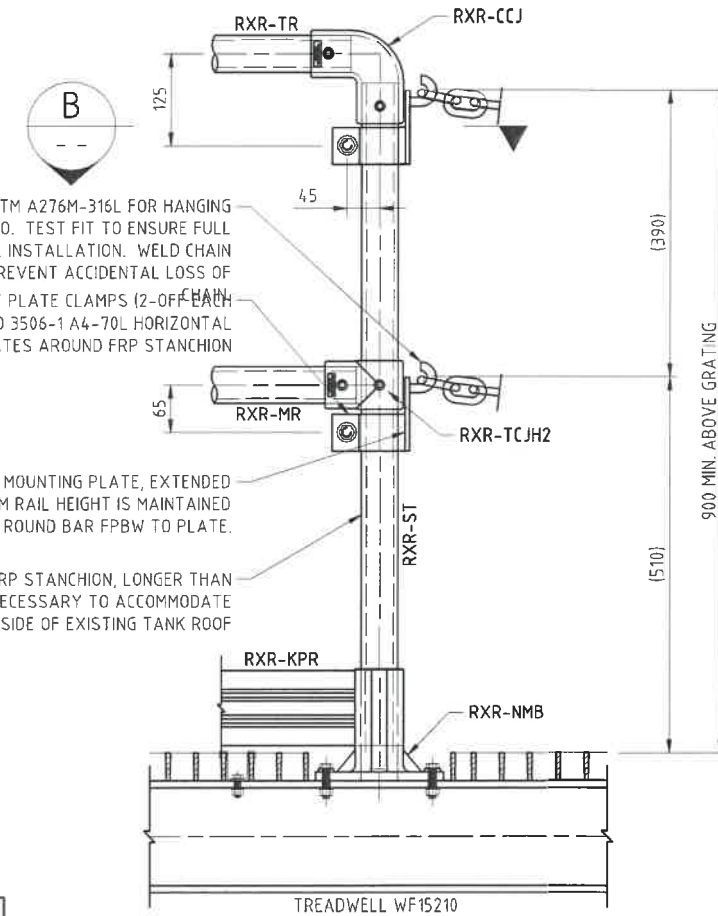
SCALE - 1:10

NOTE: ALTERNATIVE TO USE OF RXR-NMB BASE FIXING A RXR-SMB-SS316 SIDE OFFSET MOUNT MAY BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.

Ø12 ROUND BAR ASTM A276M-316L FOR HANGING STAINLESS CHAIN ONTO. TEST FIT TO ENSURE FULL FUNCTION PRIOR TO FINAL INSTALLATION. WELD CHAIN ONE-END TO CLAMP TO PREVENT ACCIDENTAL LOSS OF 3 PL ASTM A240-316L BENT PLATE CLAMPS (2-OFF EACH BRACKET) WITH 1-M10 ISO 3506-1 A4-70L HORIZONTAL BOLT THRU CLAMP PLATES AROUND FRP STANCHION

6 PL ASTM A240-316L MOUNTING PLATE, EXTENDED VERTICALLY TO ENSURE MINIMUM RAIL HEIGHT IS MAINTAINED IN ACCORDANCE WITH AS 1657. ROUND BAR FPBW TO PLATE.

TREADWELL FRP STANCHION, LONGER THAN STANDARD WHERE NECESSARY TO ACCOMMODATE EXTENSION TO UNDERSIDE OF EXISTING TANK ROOF



STANCHION CHAIN MOUNTING DETAIL

SCALE - 1:10

Approved :

Chris Witham
Chris Witham
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Allied Group Australasia Pty Ltd
RPEQ - 11631



Member No : 697629

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Drawn by	Date
J. WALKER	05.04.23
Checked by	Date
A. BUENEN	28.06.23
Engineer	Date
C. WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA EARLSFIELD ST STANDPIPE
TYPICAL DETAILS 2

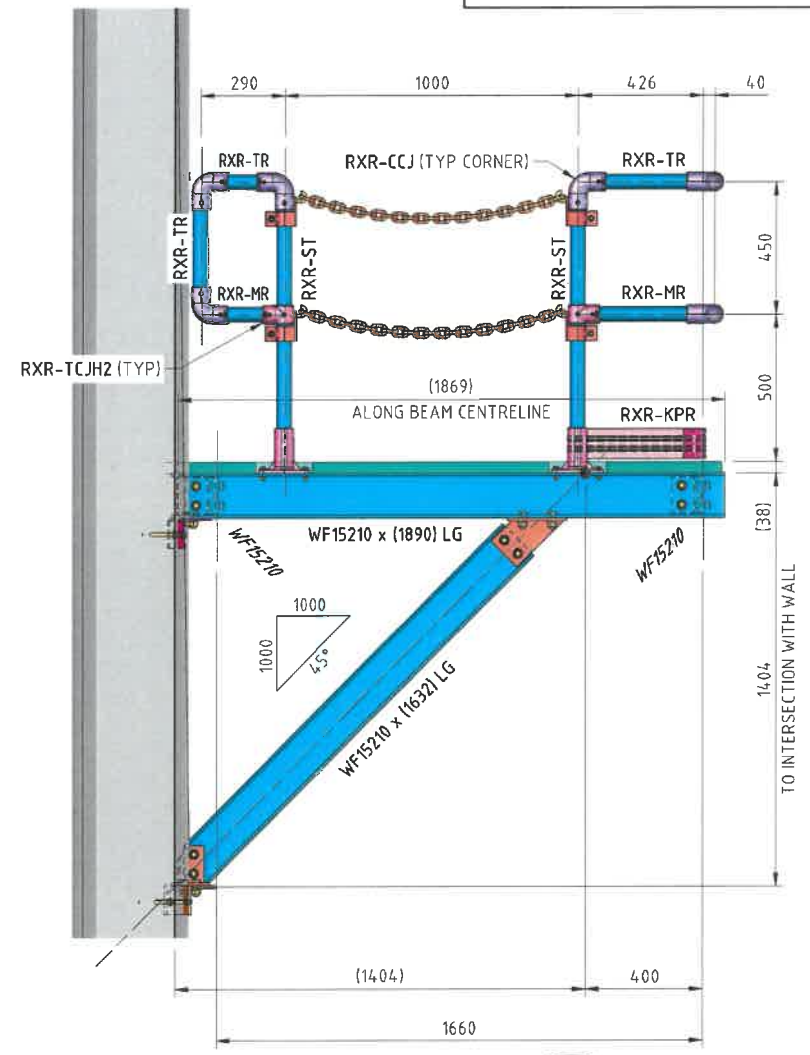
Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev.
GD2188-106	0

Approved:

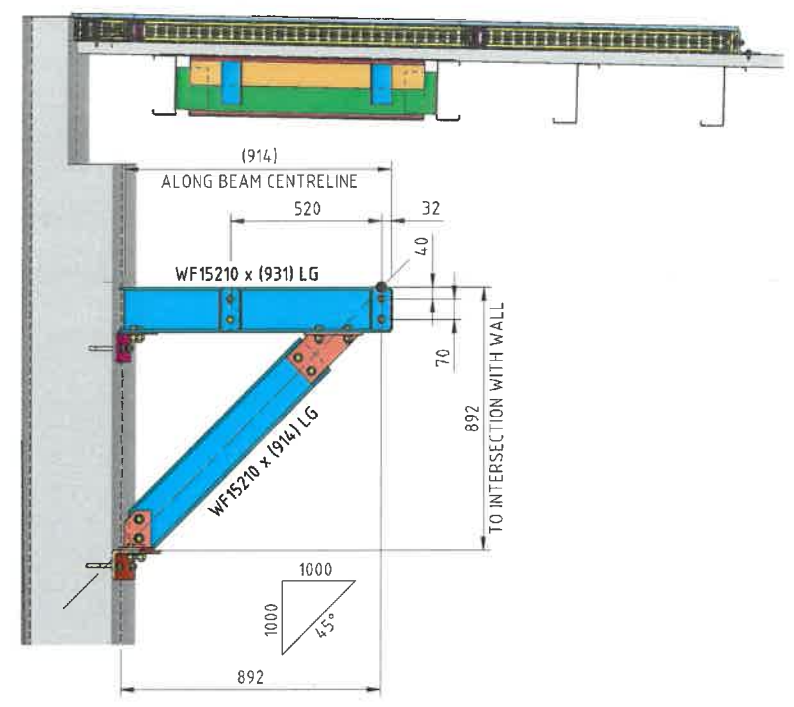
C. Witham

Chris Witham Member No : 697629
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 RPEQ - 11631

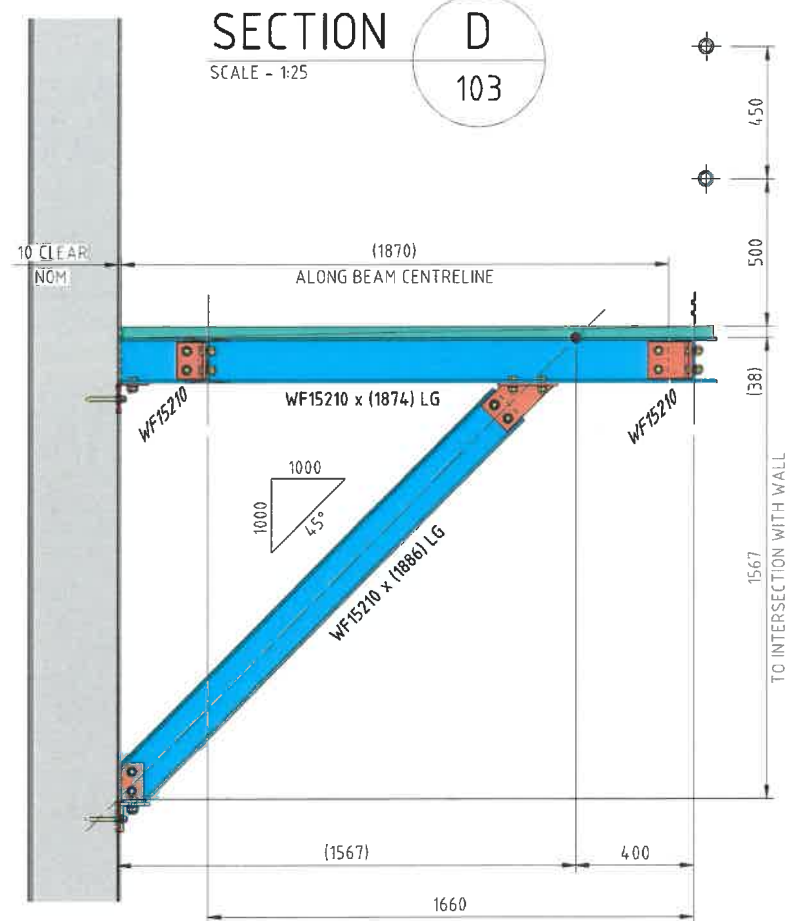
ENGINEERS AUSTRALIA
 Chartered Professional Engineer
 MEMBER



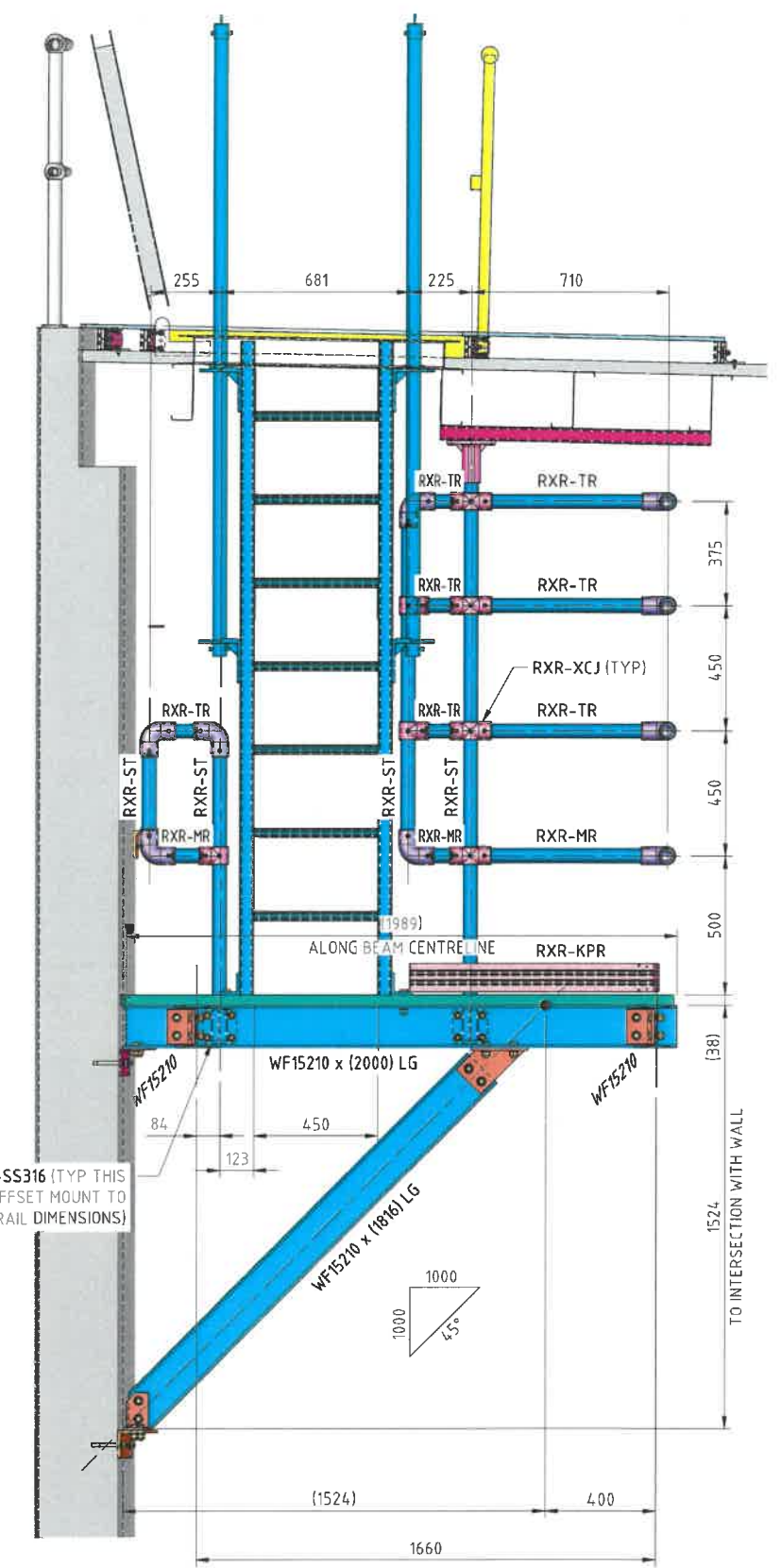
SECTION A
 SCALE - 1:25
 103



SECTION D
 SCALE - 1:25
 103



SECTION B
 SCALE - 1:25
 103



SECTION C
 SCALE - 1:25
 103

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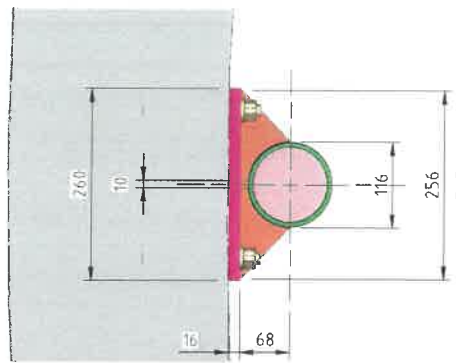
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	11.07.23
	C.WITHAM		

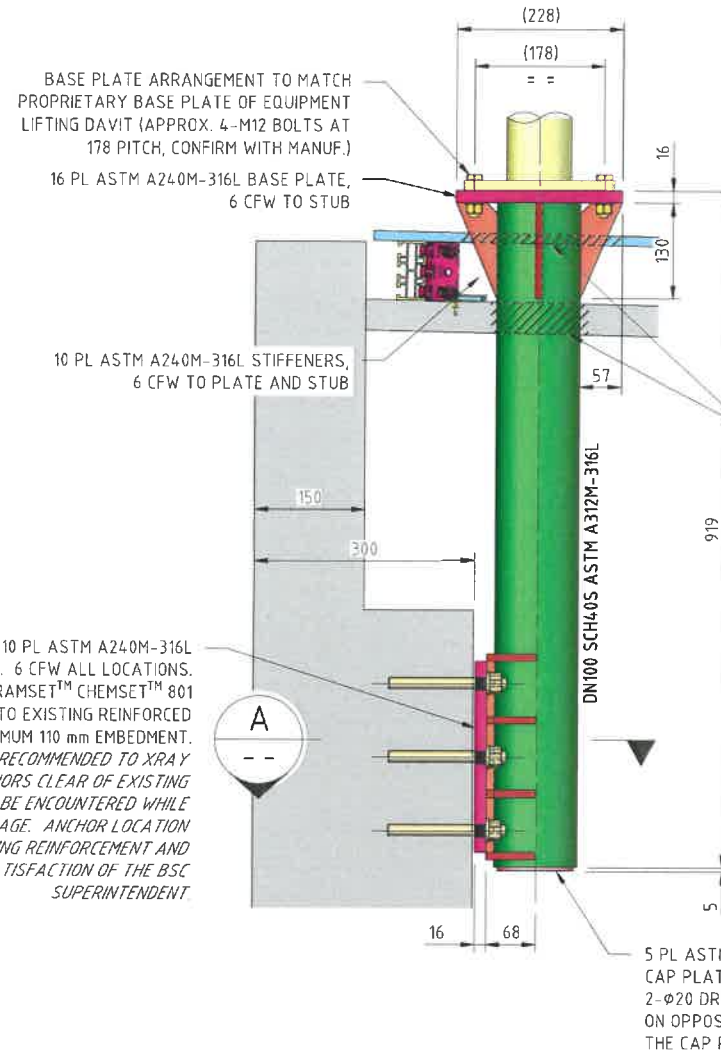
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BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA EARLSFIELD ST STANDPIPE
 SETOUT SECTIONS

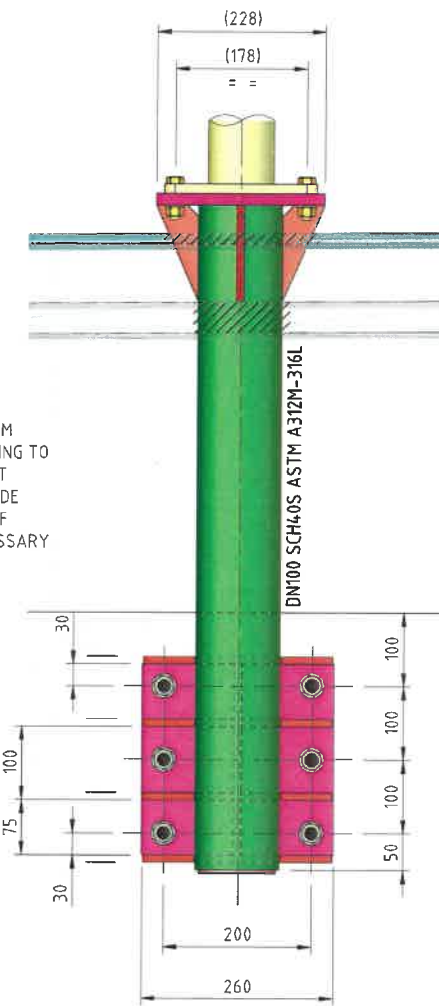
Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-107
Rev.	0



SECTION A
SCALE - 1:10



ELEVATION



END VIEW

BASE PLATE ARRANGEMENT TO MATCH PROPRIETARY BASE PLATE OF EQUIPMENT LIFTING DAVIT (APPROX. 4-M12 BOLTS AT 178 PITCH, CONFIRM WITH MANUF.)

16 PL ASTM A240M-316L BASE PLATE, 6 CFW TO STUB

10 PL ASTM A240M-316L STIFFENERS, 6 CFW TO PLATE AND STUB

16 PL ASTM A240M-316L WALL MOUNTING PLATE WITH 10 PL ASTM A240M-316L STIFFENERS AND PACKER BACK TO STUB. 6 CFW ALL LOCATIONS. 6-M16 ISO 3506-1 A4-70L CHEMICAL ANCHORS (E.G. RAMSET™ CHEMSET™ 801 XTREME™ XC² OR APPROVED SIMILAR) EMBEDDED INTO EXISTING REINFORCED TANK WALL. MINIMUM 110 mm EMBEDMENT. WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT

LOCALLY CUT PLATFORM MESH AND ROOF SHEETING TO SUIT POSITION OF DAVIT SUPPORT STUB. PROVIDE FLASHING AROUND ROOF PENETRATION AS NECESSARY

5 PL ASTM A240M-316L CAP PLATE, PROVIDE 2-Ø20 DRAINAGE HOLES ON OPPOSITE EDGES OF THE CAP PLATE

EQUIPMENT LIFTING DAVIT MOUNTING BRACKET DETAIL

SCALE - 1:10

ISSUED FOR CONSTRUCTION

Approved :
Chris Witham
Chris Witham
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631

No.	Date	Revision	By	Appr
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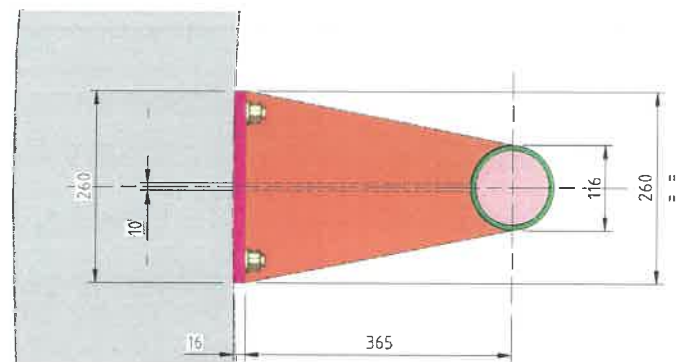
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	05.04.23
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Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

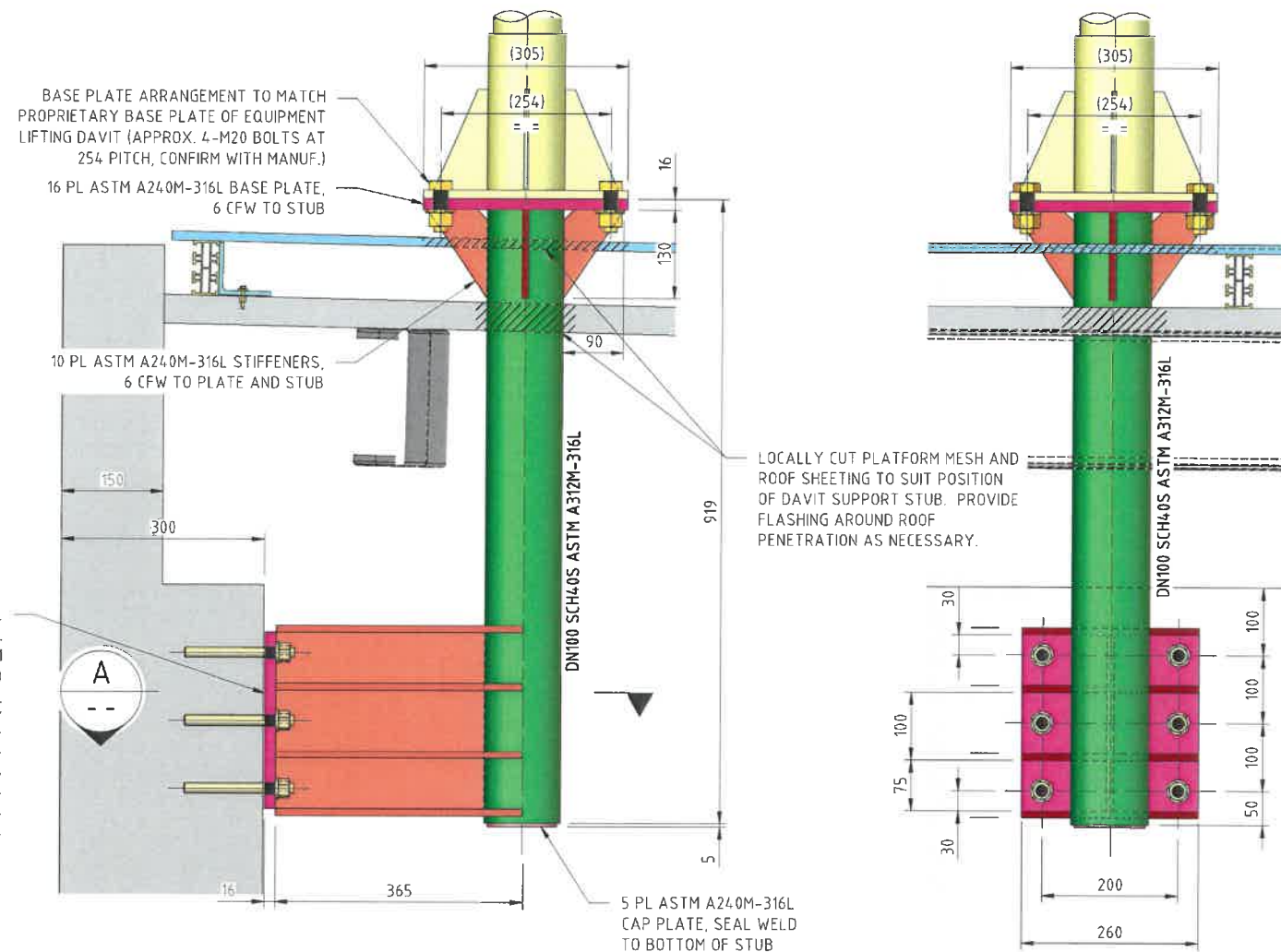
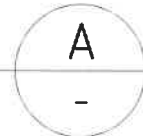
Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA EARLSFIELD ST STANDPIPE
EQUIPMENT LIFTING DAVIT BRACKET DETAIL

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-108
Rev.	0



SECTION A

SCALE - 1:10



ELEVATION

END VIEW

PERSONNEL ACCESS DAVIT MOUNTING BRACKET DETAIL

SCALE - 1:10

16 PL ASTM A240M-316L WALL MOUNTING PLATE WITH 10 PL ASTM A240M-316L STIFFENERS AND PACKER BACK TO STUB. 6 CFW ALL LOCATIONS. 6-M16 ISO 3506-1 A4-70L CHEMICAL ANCHORS (E.G. RAMSET™ CHEMSET™ 801 XTREME™ XC² OR APPROVED SIMILAR) EMBEDDED INTO EXISTING REINFORCED TANK WALL. MINIMUM 110 mm EMBEDMENT. WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT.



BASE PLATE ARRANGEMENT TO MATCH PROPRIETARY BASE PLATE OF EQUIPMENT LIFTING DAVIT (APPROX. 4-M20 BOLTS AT 254 PITCH, CONFIRM WITH MANUF.)
16 PL ASTM A240M-316L BASE PLATE, 6 CFW TO STUB

10 PL ASTM A240M-316L STIFFENERS, 6 CFW TO PLATE AND STUB

LOCALLY CUT PLATFORM MESH AND ROOF SHEETING TO SUIT POSITION OF DAVIT SUPPORT STUB. PROVIDE FLASHING AROUND ROOF PENETRATION AS NECESSARY.

5 PL ASTM A240M-316L CAP PLATE, SEAL WELD TO BOTTOM OF STUB

Approved :
C.L. Witham
Chris Witham Member No : 697629
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631

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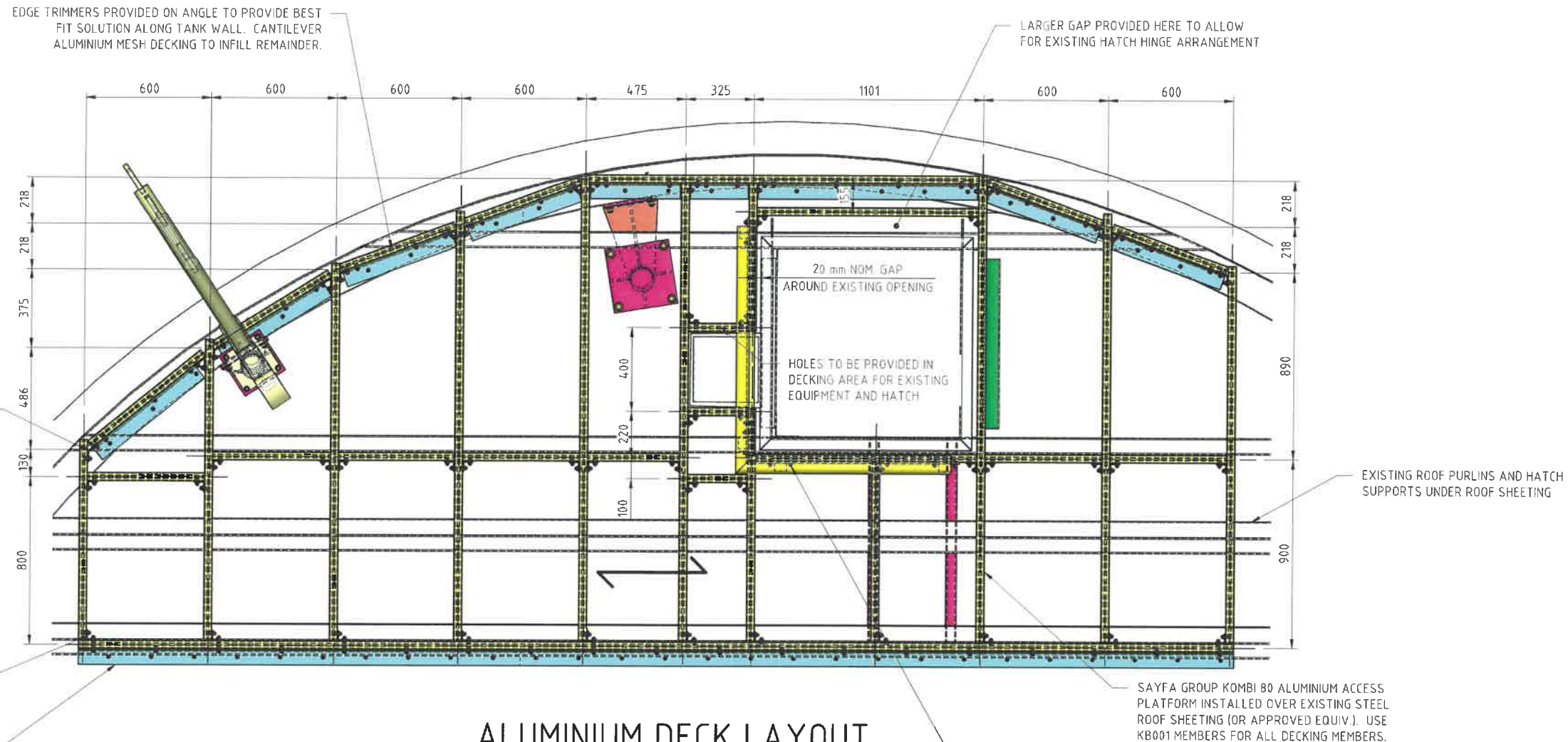
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Drawn by	J.WALKER	Date	05.04.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	11.07.23
	C.WITHAM		

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA EARLSFIELD ST STANDPIPE PERSONNEL ACCESS DAVIT BRACKET DETAIL
-------	--

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-109
Rev.	0



ALUMINIUM DECK LAYOUT

SCALE - 1:25
EXPANDED MESH NOT SHOWN FOR CLARITY

PROVIDE 1-OFF FIXING SIMILAR TO KB013.80 FIXING BRACKETS (OR APPROVED PROPRIETARY FIXINGS) AT ANGLED LOCATIONS BETWEEN MAIN DECKING MEMBERS.

PROVIDE 1-OFF KB013.80 FIXING BRACKET AT EACH CONNECTION POINT, INSTALL IN ACCORDANCE WITH MANUF. SPECS.

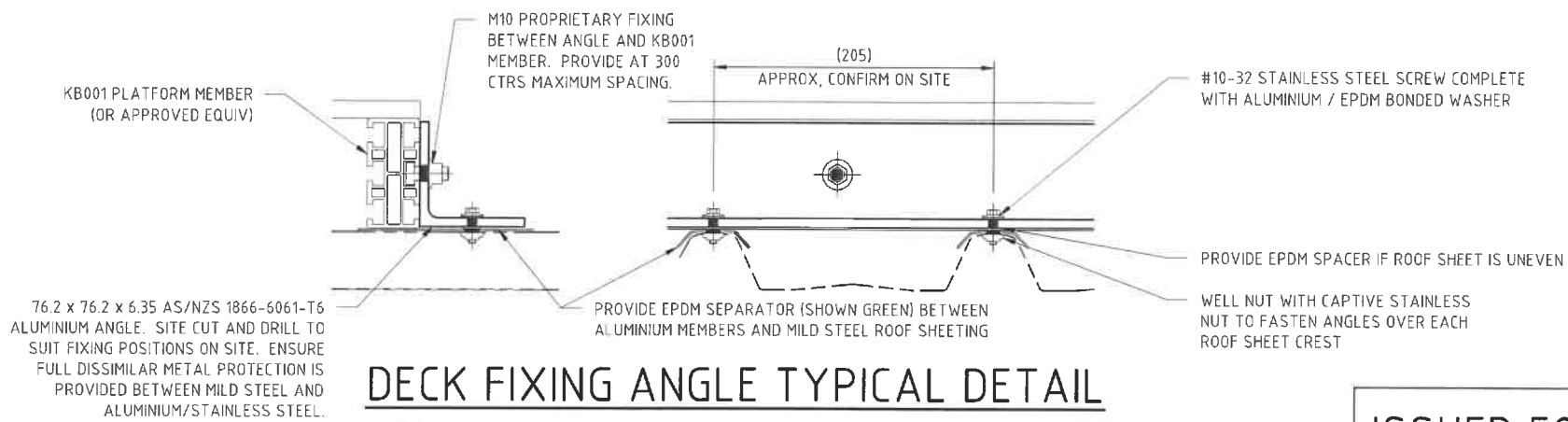
76.2 x 76.2 x 6.35 AS/NZS 1866-6061-T6 ALUMINIUM ANGLE (OR APPROVED SIMILAR) BRACKET FULL LENGTH OF PERIMETER MEMBERS RUNNING ALONG CRESTS OF EXISTING ROOF.

PROVIDE 1-M10 STAINLESS PROPRIETARY ANCHOR INTO DECKING MEMBER IN ACCORDANCE WITH DECK MANUF. SPECS AT 300 CTRS ALONG BRACKET.

INSTALL 1-#10-32 STAINLESS STEEL SCREW INTO EACH CREST OF EXISTING ROOF SHEETING IN ACCORDANCE WITH TYPICAL DETAIL ON THIS DRAWING.

ALUMINIUM DECKING NOTES:

1. DIMENSIONS ARE PROVIDED TO CENTRELINE OF DECKING MEMBERS UNO. DECKING MEMBERS BASED ON SUPPLIED INFORMATION FROM PROPRIETARY SYSTEM MANUFACTURER, ALL DIMENSIONS SHALL BE CONFIRMED WITH MANUF.
2. ALL PROPRIETARY DECKING ITEMS CALLED UP (MAIN SECTION, CONNECTIONS ETC.) ARE SUBJECT TO REVIEW AND APPROVAL/REVISION BY PROPRIETARY SYSTEM MANUFACTURER.
3. ALL CONNECTIONS SHALL BE REVIEWED BY AND APPROVED BY SYSTEM MANUFACTURER. WHERE ISSUES EXIST SYSTEM MANUFACTURER SHALL PROVIDE SUITABLE GUIDANCE AND DETAILS.
4. DISSIMILAR METAL PROTECTION SHALL BE PROVIDED BETWEEN ALUMINIUM ELEMENTS AND ALL OTHER SURFACES IN ACCORDANCE WITH MANUF. SPECS. AND, WHERE NOT SPECIFIED BY MANUF. SPECS, INDUSTRY BEST PRACTICES TO ENSURE NO CONTACT BETWEEN DISSIMILAR METALS (E.G. PROVISION OF EPDM WASHERS).



DECK FIXING ANGLE TYPICAL DETAIL

SCALE - 1:5

Approved :
C.L. Witham
Chris Witham
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Allied Group Australasia Pty Ltd
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Engineer	C.WITHAM	Date	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA EARLSFIELD ST STANDPIPE
ALUMINIUM DECK LAYOUT

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-110
Rev.	0

DESIGN LIMITATIONS:

1. MAJORITY REQUIREMENTS OF AS 1657 CAN BE MET BY EXISTING HATCH ARRANGEMENT.
2. NON-COMPLIANCE WITH CLAUSE 7.4.8.4. REGARDING EXTENSION OF LANDING TO TOP RUNG (DUE TO THICKNESS HAVE PROVIDED 200 mm OFFSET AT TOP RUNG). CLIENT TO PERFORM A HAZOP TO DETERMINE SUITABILITY OF DESIGN VERSUS COST OF MODIFICATION.
3. FIRST (TOP) RUNG POSITIONED ONE RUNG DISTANCE FROM TOP SETOUT POINT TO ALLOW FOR HATCH TO CLOSE. CLIENT TO PERFORM A HAZOP TO DETERMINE WHETHER THIS IS ACCEPTABLE FOR USE. ALUMINIUM DECKING. CLIENT TO PREPARE SAFE WORK METHOD FOR ACCESS TO ENSURE ALL PERSONNEL ENTERING TANK ARE AWARE OF WHERE THE TOP STEP IS.
5. INTERNAL AREAS OF THE CONCRETE TANK ARE CONSIDERED CONFINED SPACES, AND SHALL REQUIRE A FULL HAZOP PRIOR TO ENTRY BY ANY PERSONNEL. A SAFETY DAVIT HAS BEEN PROVIDED AS PART OF THIS DESIGN.
6. WORK CARRIED OUT IN THE CONCRETE TANK WILL REPRESENT A POTENTIAL HAZARD FROM ITEMS FALLING FROM ABOVE. CONTRACTORS SHALL TAKE STEPS TO PREVENT ACCIDENTAL DROPPING OF ELEMENTS INTO THE CHAMBER, AND HAZOPS SHALL BE UNDERTAKEN TO DETERMINE THE BEST APPROACH FOR LOWERING OF EQUIPMENT SAFELY. HARDHATS AND OTHER PPE WILL BE REQUIRED.
7. LIKewise THE LIFTING OF ELEMENTS ONTO THE TANK ROOF WILL PRESENT A HAZARD TO ALL WORKERS ON THE OUTSIDE OF THE TANK, AND ADDITIONALLY MEMBERS OF THE PUBLIC. THE WORKSITE SHALL BE FULLY FENCED AS REQUIRED TO ALLOW FOR THE MOVEMENT OF MATERIALS SAFELY AND WITHOUT RISK TO THE PUBLIC (WHERE POSSIBLE). HAZOP SHALL CONSIDER CRANE OPERATION, POSITIONING AND ACCESS.
8. CLIENT TO PRODUCE A PROCEDURE FOR SAFETY ACCESS FOR DIVERS FOR INDIVIDUAL TANKS. ISSUES RAISED ABOVE TO BE INCLUDED.

CONSTRUCTION METHODOLOGY:

1. BANANA SHIRE COUNCIL TO ARRANGE AND DRAIN EXISTING RESERVOIR. TIME TO BE ALLOWED FOR DRYING OF CONCRETE SURFACES PRIOR TO INSTALLING NEW ELEMENTS.
2. PRIOR TO INSTALLING ANY NEW EQUIPMENT PROCEED WITH DEMOLITION WORKS AS INDICATED / REQUIRED. ALL EXISTING ELEMENTS TO BE REMOVED AND DISPOSED OF SAFELY AND IN ACCORDANCE WITH BSC SUPERINTENDENTS INSTRUCTION. WHERE EXISTING ITEMS ARE REMOVED FROM EXISTING CONCRETE SURFACES, ENSURE ALL EXPOSED SURFACES (I.E. CUT ANCHORS ETC.) ARE FULLY SEALED WITH POTABLE WATER APPROVED SEALANT. ANY CONCRETE DAMAGE SHALL BE REMEDIED TO THE SPECIFICATION OF THE BSC SUPERINTENDENT.
3. FABRICATE AND INSTALL NEW UPPER HANDRAIL SECTION AND SAFETY DAVIT BASE PLATE. PRIOR TO CHEMICALLY ANCHORING IN PLACE, POSITIVELY LOCATE BOTH ELEMENTS AND ENSURE ALL SETOUT DIMENSIONS WILL RESULT IN FULL FUNCTIONING DAVIT. ONCE CONFIRMED SITE DRILL AND INSTALL NEW CHEMICAL ANCHORS AND FASTEN NEW ITEMS IN PLACE IN ACCORDANCE WITH ENGINEERING AND MANUFACTURERS SPECIFICATIONS. PROVIDE DAVIT MOUNTING PLATE OVER CONCRETE SURFACE WITH GROUT LEVELLING PAD AS REQUIRED TO ENSURE A LEVEL INSTALLATION AND OPERATION OF THE DAVIT.
4. POSITIVELY LOCATE POSITIONS FOR INSTALLATION OF NEW WALL MOUNTING BRACKETS. START WITH LAYOUT OF PLATFORM MEMBERS ON THE TANK FLOOR TO ASSIST IN ENSURING MEMBERS ALIGN WITH BRACKET POSITIONS, THEN TRACE UP THE WALL (I.E. USE OF PLUMB-BOB FROM ABOVE TO ALIGN POSITIONS).
5. ONCE WALL MOUNT POSITIONS ARE PREPARED, FULLY ASSEMBLE NEW LADDER AND LOWER INTO POSITION OVER NEW SUPPORT BRACKETS. WITH LADDER IN POSITION INSTALL ALL STRUCTURAL ELEMENTS BETWEEN WALL AND LADDER TO SECURE INTO PLACE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION. CHEMICALLY ANCHOR LADDER TO BASE OF REINFORCED CONCRETE TANK IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
6. LOWER ELEMENTS FOR LADDER SUPPORT ONTO PLATFORM BELOW AND ASSEMBLE FRAME. INSTALL ONTO WALL BRACKETS AND FASTEN AS PER ENGINEERING DETAILS.
7. LOWER NEW LADDER ASSEMBLY ONTO NEW PLATFORM. LOCATE AND FIX TO NEW PLATFORM AND EXISTING STRUCTURE IN ACCORDANCE WITH ENGINEERING DETAILS.

STAINLESS STEEL:

1. ALL STAINLESS STEEL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF:
 - 1.1. AS 4100 - SAA STEEL STRUCTURES CODES
 - 1.2. AS 1554.6 - STRUCTURAL STEEL WELDING - WELDING STAINLESS STEELS FOR STRUCTURAL PURPOSES
2. STAINLESS STEEL GRADES AS FOLLOWS:
 - 2.1. PLATE, SHEET AND STRIP SHALL BE TO ASTM A240M GRADE 316L
 - 2.2. BARS SHALL BE TO ASTM A276M GRADE 316L
3. STAINLESS STEEL FINISHING DETAILS:
 - 3.1. ALL SHARP EDGES AND BURRS TO BE REMOVED
 - 3.2. STAINLESS STEELWORK SHALL BE CLEANED, PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 "STANDARD PRACTICE FOR CLEANING, DESCALING AND PASSIVATION OF STAINLESS STEEL PARTS, EQUIPMENT AND SYSTEMS".
4. WELD DETAILS:
 - 4.1. ALL WELDS SHALL BE 6 CFW UNO.
 - 4.2. BUTT WELDS SHALL BE PRE-QUALIFIED FULL PENETRATION UNO.
 - 4.3. ALL WELDING SHALL CONFORM WITH AS 1554.6, CATEGORY 1A.
 - 4.4. ALL WELDING CONSUMABLES SHALL BE TO AS/NZS 1167.2 AND/OR AS/NZS 4854.
 - 4.5. ALL WELDS SHALL BE VISUALLY INSPECTED.
 - 4.6. ALL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS AND GROSS POROSITY.

FIBRE REINFORCED PLASTIC (FRP) / COMPOSITE FIBRE:

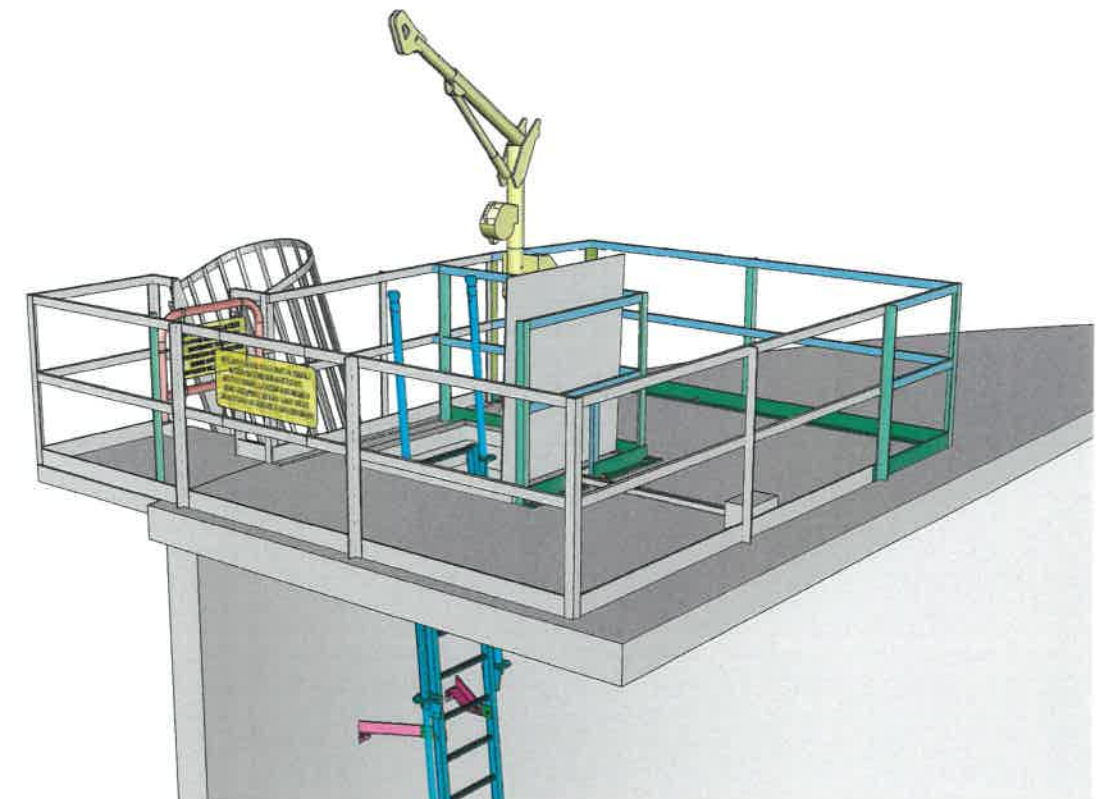
1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. ENSURE COMPLIANCE WITH MANUFACTURER QUALITY ASSURANCE STANDARDS.
2. UNLESS NOTED OTHERWISE OR APPROVED COMPOSITE MATERIALS FOR USE IN THIS PROJECT SHALL BE MANUFACTURED BY TREADWELL. SUBSTITUTIONS IN MATERIALS SHALL NOT BE UNDERTAKEN WITHOUT PRIOR APPROVED OF BSC SUPERINTENDENT AND STRUCTURAL ENGINEER.
3. ALL MEMBERS SHALL BE IN SOUND CONDITION FREE FROM PITTING, DE-LAMINATIONS AND OTHER DEFECTS WHICH ARE LIKELY TO IMPAIR THE STRUCTURAL CAPACITY OF THE MEMBERS.
4. APPLY A WATERPROOFING COMPOUND TO SEAL ANY END CUT FIBRES AS A RESULT OF DRILLING, CUTTING OR DAMAGE TO THE COMPOSITE FIBRE PROFILES. COMPOUND SHALL BE APPROVED FOR POTABLE WATER AND SHALL BE APPROVED BY THE MANUFACTURER.
5. CONTRACTORS SHALL REFER TO MANUFACTURER FOR ALL INSTALLATION AND ASSEMBLY INSTRUCTIONS AND SPECIFICATIONS PRIOR TO BEGINNING WORK, AND SHALL ENSURE THAT ALL INSTRUCTIONS ARE UNDERSTOOD.



SUBJECT SITE

LOCALITY PLAN

SCALE - NTS



ISSUED FOR CONSTRUCTION

Approved :

Chris Witham Member No : 697629
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

No.	Date	Revision	By	Appr
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA TPS 1.5 ML RESERVOIR DESIGN NOTES
-------	--

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-200
Rev.	0

NEW SIGN TO BE ATTACHED TO SELF-CLOSING GATE:
 "NO UNAUTHORISED ACCESS; PLATFORM ACCESS FOR DIVING /
 MAINTENANCE TEAMS WITH AUTHORISATION AND PERMITS FROM
 BANANA SHIRE COUNCIL; TRESPASSERS WILL BE PROSECUTED"
 25 - 30 mm HIGH BLACK TEXT ON SAFETY YELLOW BACKGROUND

NEW MONOWILLS ALUMINIUM
 SELF-CLOSING GATE TO BE SITE
 FIT BETWEEN EXISTING
 ALUMINIUM ANGLE STANCHION
 AND NEW SITE FIT STANCHION.

NEW PROPRIETARY PERSONNEL RESCUE DAVIT TO
 BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.

NEW ALUMINIUM HANDRAIL EXTENSION
 SITE FIT TO EXISTING HANDRAIL

EXISTING PRIMARY ACCESS LADDER (FROM GROUND)

EXISTING INNER SAFETY GRATE TO BE REMOVED,
 INCLUDING SUPPORTS. REPAIR CONCRETE AS NECESSARY.

EXISTING PLATE HATCH COVER TO REMAIN UNMODIFIED

EXISTING HANDRAILS
 PARTIALLY DEMOLISHED. WORK
 AREA TO BE EXPANDED AS
 DETAILED AND NEW ALUMINIUM
 HANDRAILS INSTALLED AS
 SHOWN (SIMILAR TO EXISTING).

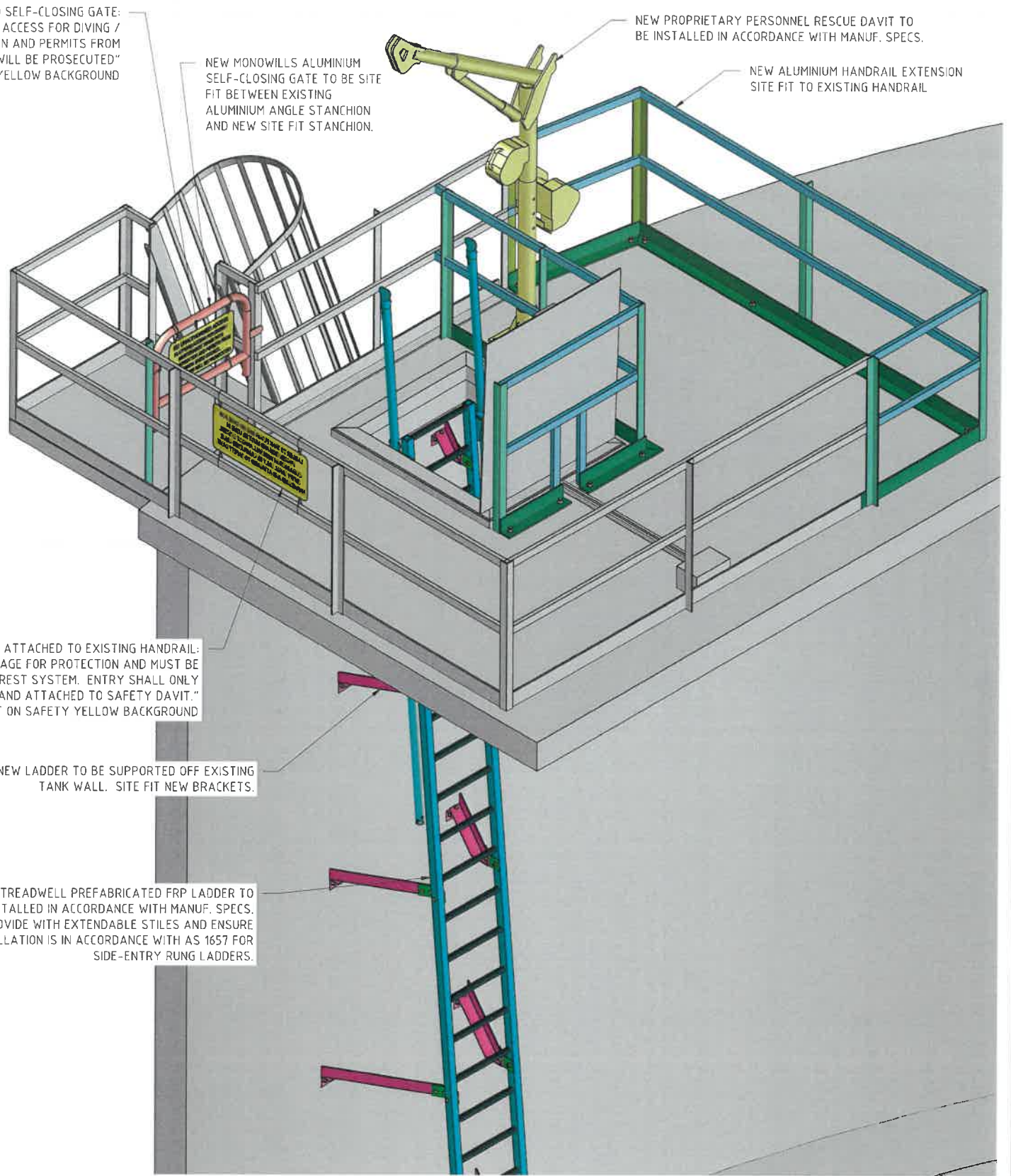
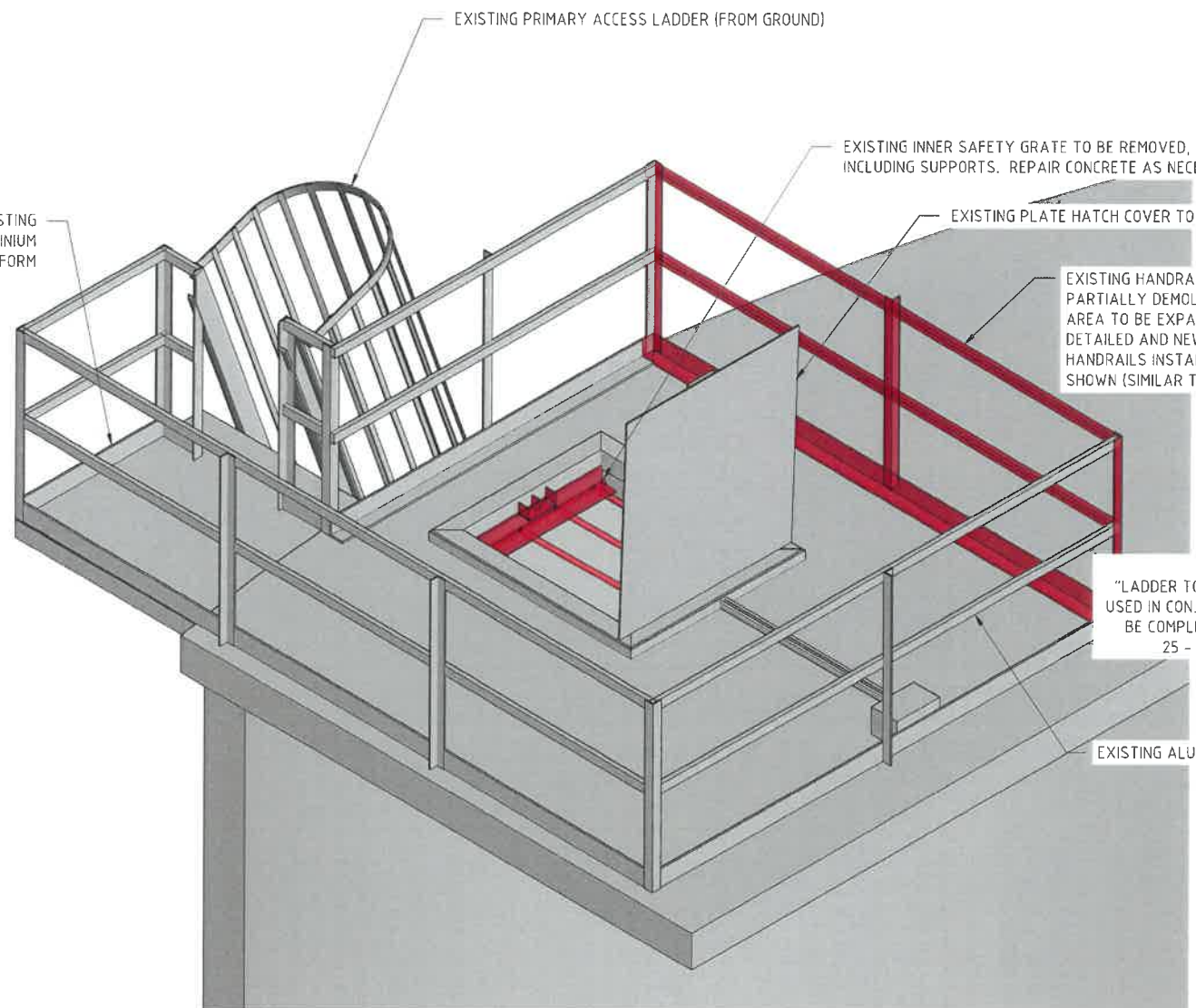
NEW SIGN TO BE ATTACHED TO EXISTING HANDRAIL:
 "LADDER TO TANK FLOOR HAS NO CAGE FOR PROTECTION AND MUST BE
 USED IN CONJUNCTION WITH FALL ARREST SYSTEM. ENTRY SHALL ONLY
 BE COMPLETED ONCE HARNESSSED AND ATTACHED TO SAFETY DAVIT."
 25 - 30 mm HIGH BLACK TEXT ON SAFETY YELLOW BACKGROUND

NEW LADDER TO BE SUPPORTED OFF EXISTING
 TANK WALL. SITE FIT NEW BRACKETS.

NEW TREADWELL PREFABRICATED FRP LADDER TO
 BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.
 PROVIDE WITH EXTENDABLE STILES AND ENSURE
 INSTALLATION IS IN ACCORDANCE WITH AS 1657 FOR
 SIDE-ENTRY RUNG LADDERS.

EXISTING
 ALUMINIUM
 PLATFORM

EXISTING ALUMINIUM HANDRAIL



DEMOLITION PLAN (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

GENERAL ARRANGEMENT (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

ISSUED FOR CONSTRUCTION

Approved :

 Chris Witham
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA TPS 1.5 ML RESERVOIR
 GENERAL ARRANGEMENT 1

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-201
Rev.	0

- NOTE: PLATFORM AND DAVIT BASE TO BE PERMANENTLY MOUNTED. DAVIT POST AND DAVIT TO BE A PORTABLE UNIT TRANSPORTED TO SITE WHEN REQUIRED. DAVIT CONSISTS OF:
- 8000114 3M™ DBI-SALA DAVIT MAST EXTENSION HIGH CAPACITY (1143 mm)
 - 8000131 3M™ DBI-SALA LONG REACH DAVIT ARM HIGH CAPACITY (27" - 44")
 - 3400955 3M™ DBI-SALA EMERGENCY RETRIEVAL SEALED-BLOCK SRL 15 m GAL CABLE
 - 3401065 3M™ DBI-SALA RETRIEVAL SRL MOUNTING BRACKET
 - 8518558 3M™ DBI-SALA ADVANCED™ WINCH
 - 8000121 3M™ DBI-SALA CONFINED SPACE, HC DAVIT BASE SEALED CAP
 - 8000095 3M™ DBI-SALA FLOOR MOUNT BASE HIGH CAPACITY (GALVANISED STEEL)

NEW 3M™ DBI-SALA HIGH CAPACITY DAVIT ARM SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS. DAVIT ARM AND ATTACHMENTS TO BE REMOVED AND STORED WHEN NOT IN USE, ONLY BASE PLATE AND BASE PLATE CAP TO REMAIN BETWEEN USES.

OBLIQUE ANGLE STANCHIONS FABRICATED FROM 50 x 6 FL 6060-T5 ALUMINIUM SECTIONS

EXISTING MAIN ACCESS LADDER (FROM GROUND)

EXISTING ALUMINIUM ACCESS PLATFORM TO REMAIN UNMODIFIED

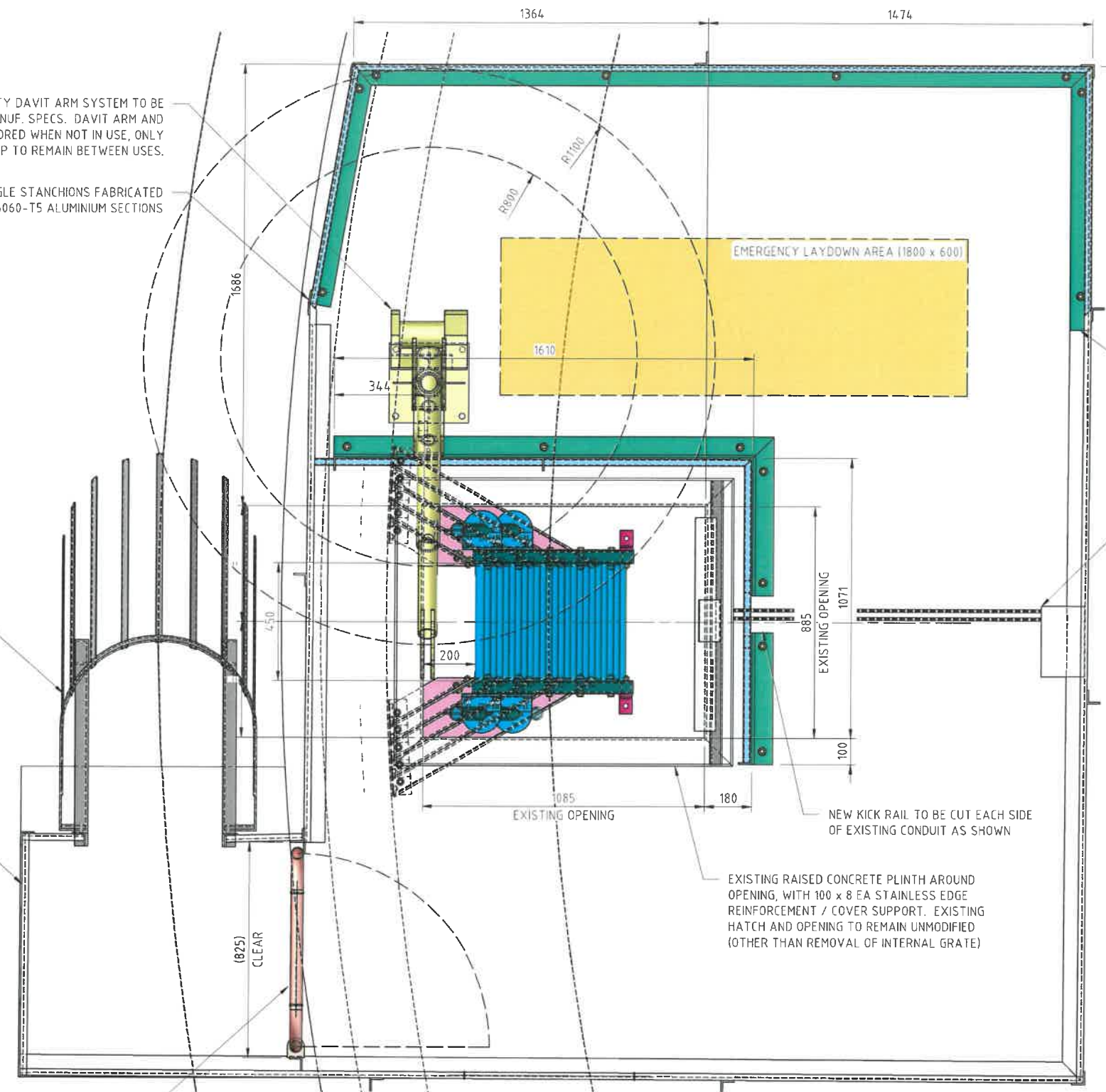
SITE WELD NEW ALUMINIUM HANDRAILS TO EXISTING (2-OFF PLACES)

EXISTING EQUIPMENT BOX AND CONDUIT TO REMAIN UNMODIFIED

NEW KICK RAIL TO BE CUT EACH SIDE OF EXISTING CONDUIT AS SHOWN

EXISTING RAISED CONCRETE PLINTH AROUND OPENING, WITH 100 x 8 EA STAINLESS EDGE REINFORCEMENT / COVER SUPPORT. EXISTING HATCH AND OPENING TO REMAIN UNMODIFIED (OTHER THAN REMOVAL OF INTERNAL GRATE)

NEW MONOWILLS ALUMINIUM SELF-CLOSING GATE TO BE SITE FIT BETWEEN EXISTING STANCHION AND NEW VERTICAL SUPPORT. APPROX. 825 CLEAR BETWEEN FACES OF ANGLE STANCHIONS.



GENERAL ARRANGEMENT (PLAN AT ROOF LEVEL)

SCALE - 1:20

ISSUED FOR CONSTRUCTION

Approved :

 Chris Witham
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

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Checked by	A. BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C. WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA TPS 1.5 ML RESERVOIR
 GENERAL ARRANGEMENT 2

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-202
Rev.	0

TIE NEW HANDRAIL INTO EXISTING AT EXISTING ANGLE SUPPORT. CUT ONE LEG OF EXISTING ANGLE AND WELD 50 x 6 FL 6060-T5 VERTICALLY TO SUIT NEW ANGLE. FABRICATE NEW CORNER OPPOSITE (NOT PICTURED) FROM 2/50 x 6 FL 6060-T5 IN A SIMILAR FASHION TO ENSURE CORRECT FIT.

TREADWELL EL7606 FRP ANGLE WALL BRACKET, 2-M12 ISO 3506-1 A4-70L CHEMICAL ANCHORS (E.G. RAMSET™ CHEMSET™ 801 XTREME™ XC² OR APPROVED SIMILAR) EMBEDDED INTO EXISTING REINFORCED CONCRETE TANK WALL, MINIMUM 110 mm EMBEDMENT. 1-M12 ISO 3506-1 A4-70L BOLT VERTICALLY THRU BRACKET AND ANGLE.

TREADWELL EL7606 FRP ANGLE SUPPORT BACK TO EXISTING CONCRETE TANK WALL. 2-M12 ISO 3506-1 A4-70L BOLTS TO ASTM A240M-316L BRACKET.

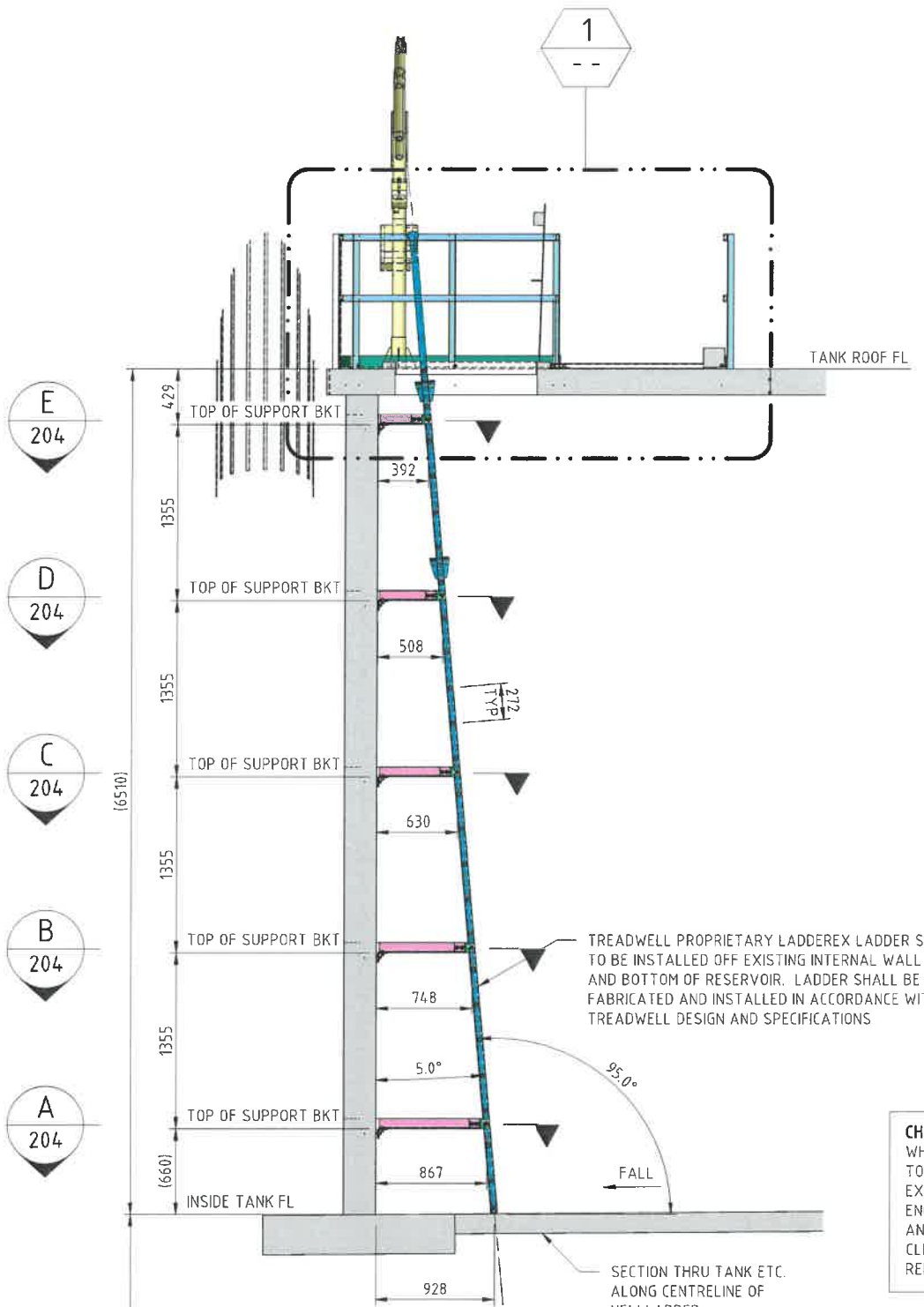
6 PL ASTM A240M-316L BRACKET WITH 1-M12 ISO 3506-1 A4-70L BOLT THRU STILE

CHEMICAL ANCHOR NOTE
WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT

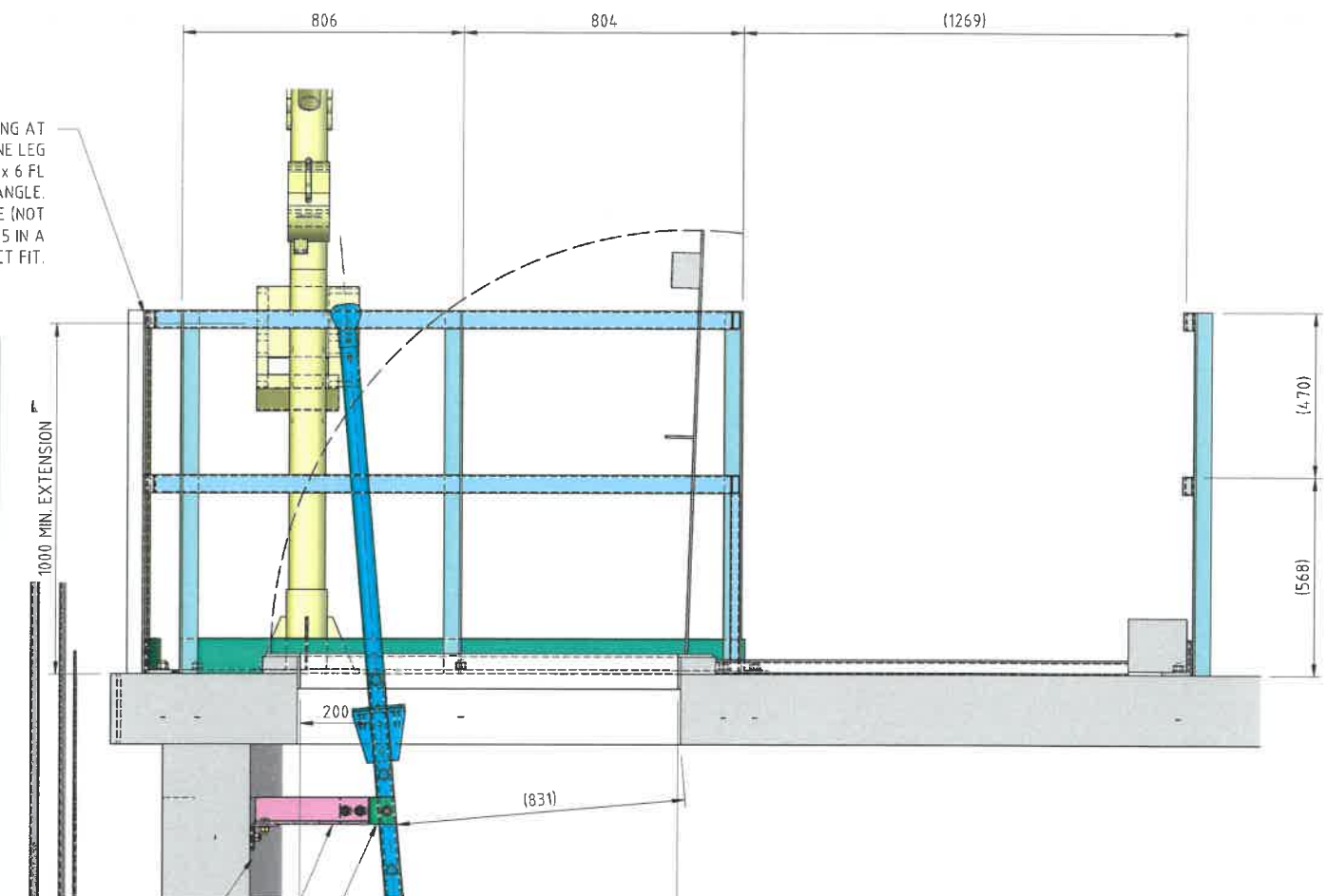
PROPRIETARY DAVIT BASE PLATE (PART No. 8000095, 3M™ DBI-SALA FLOOR MOUNT BASE HIGH CAPACITY (GALVANISED STEEL)) FIXED OVER EXISTING CONCRETE ROOF WITH 4-M20 8.8/S HDG CHEMICAL ANCHORS (E.G. RAMSET™ CHEMSET™ 801 XTREME™ XC² OR APPROVED SIMILAR) WITH 150 mm EMBEDMENT. WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT.

Approved :
C.L. Witham
Chris Witham
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631

ENGINEERS AUSTRALIA
MEMBER
Member No : 697629



ELEVATION
SCALE - 1:50



TYPICAL DAVIT BASE CONNECTION DETAIL
SCALE - 1:10

ISSUED FOR CONSTRUCTION

No.	Date	Revision	By	Appr
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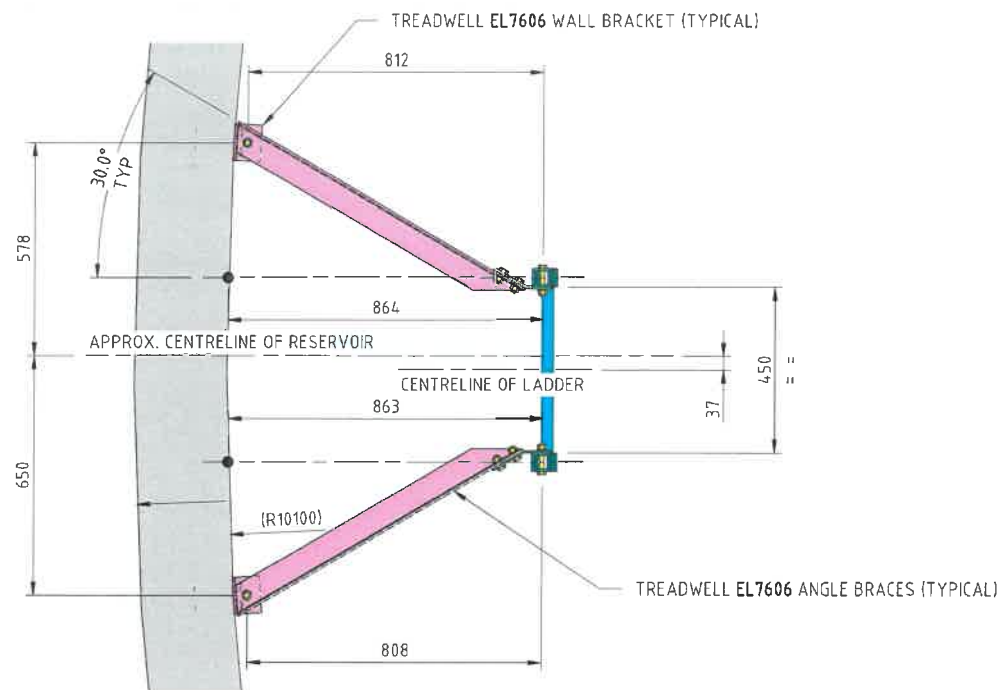
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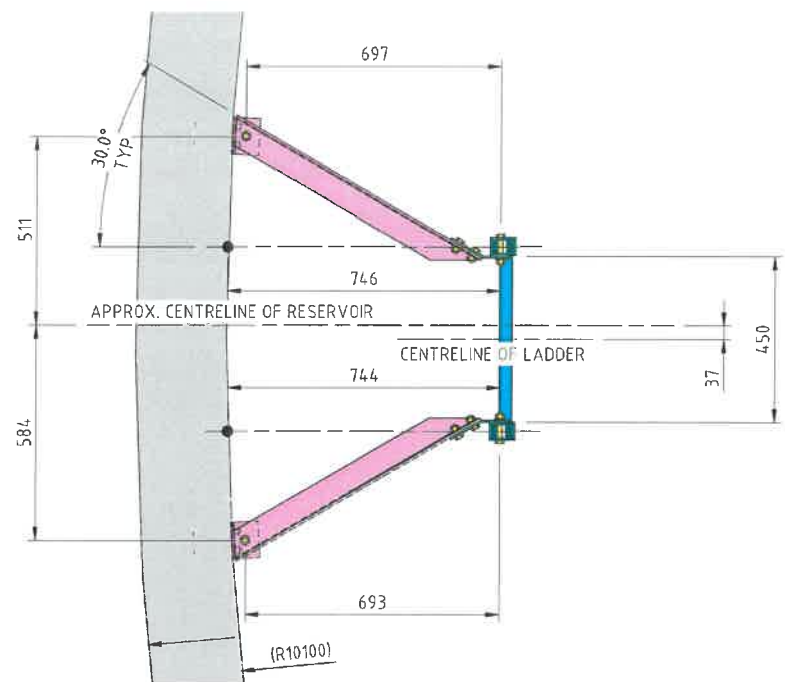
Designed by	Date
A.BUENEN	-
Drawn by	Date
J.WALKER	20.03.23
Checked by	Date
A.BUENEN	28.06.23
Engineer	Date
RPEQ 11631 C.WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA TPS 1.5 ML RESERVOIR
DETAILS

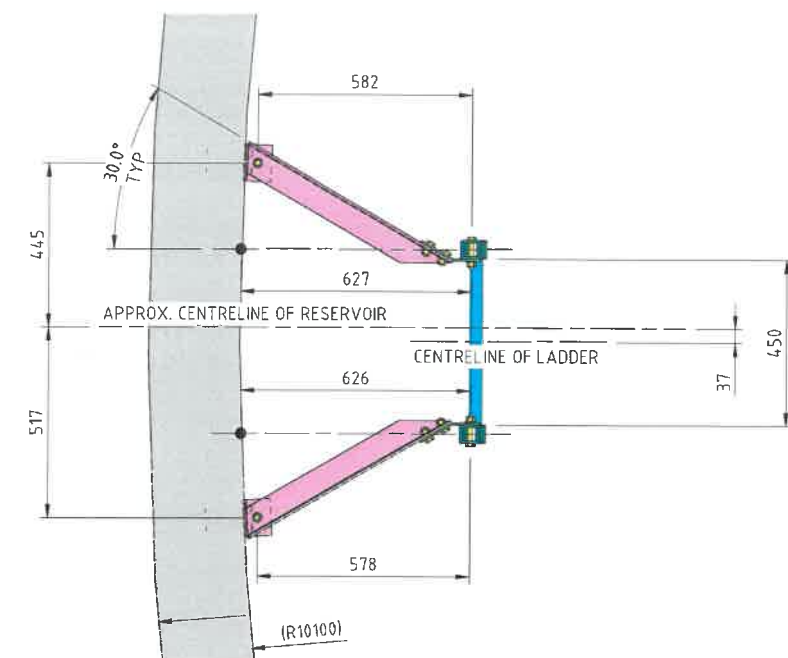
Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev.
GD2188-203	0



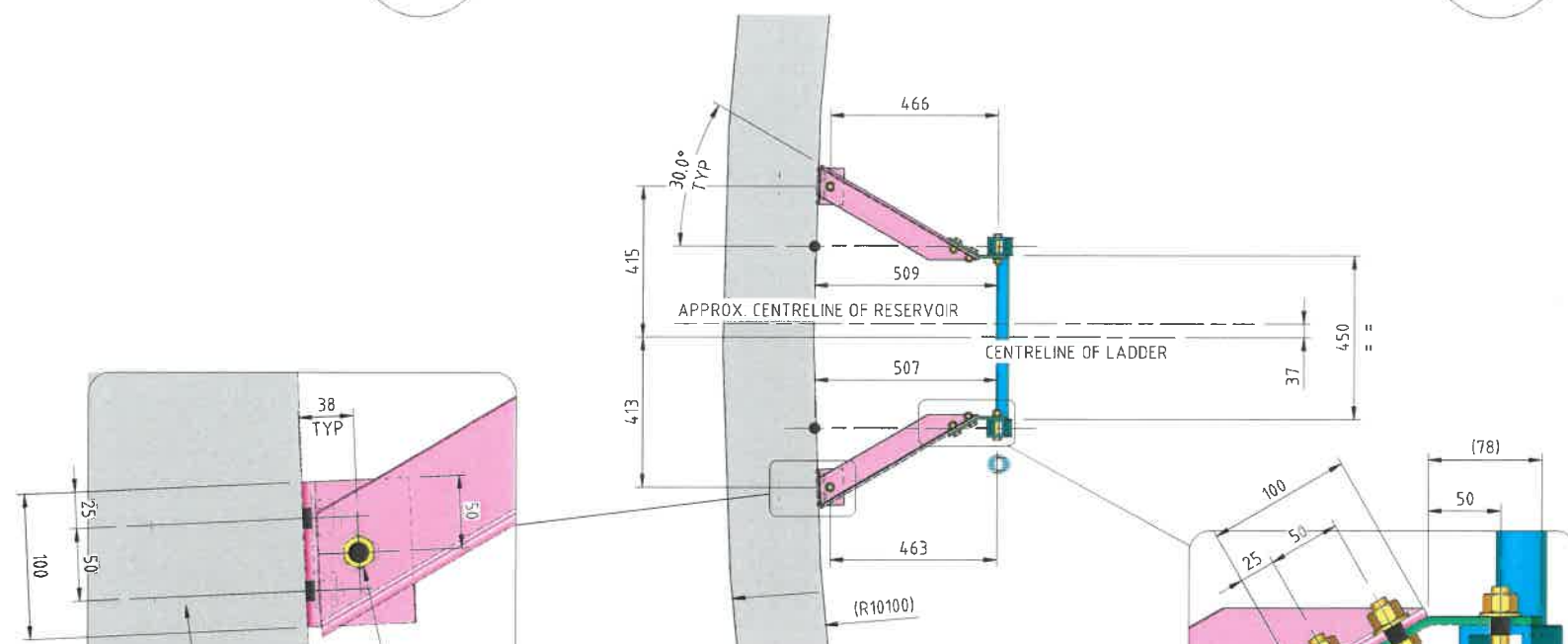
SECTION A
SCALE - 1:20
203



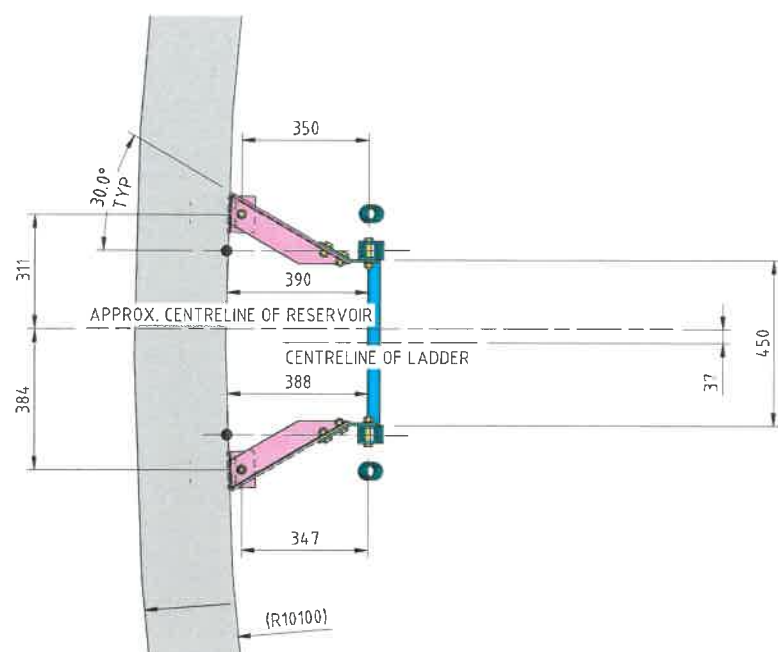
SECTION B
SCALE - 1:20
203



SECTION C
SCALE - 1:20
203



SECTION D
SCALE - 1:20
203



SECTION E
SCALE - 1:20
203

2-M12 ISO 3506-1 A4-70L CHEMICAL ANCHORS (E.G. RAMSETTM CHEMSETTM 801 XTREMTEM XC2 OR APPROVED SIMILAR) EMBEDDED INTO EXISTING REINFORCED CONCRETE TANK WALL. MINIMUM 110 mm EMBEDMENT

2-M12 ISO 3506-1 A4-70L BOLTS THRU ANGLE BRACE AND SUPPORT CLEAT

1-M12 ISO 3506-1 A4-70L BOLT THRU STILE AND SUPPORT CLEAT
76 W x 6 PL ASTM A240M-316L SUPPORT CLEAT BENT TO SUIT BRACE ANGLE. ENSURE STILE END OF CLEAT IS CUT FLUSH WITH FACE OF THE STILE (AS SHOWN)

Approved:
C.L. Witham
Chris Witham
Member No : 697629
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631

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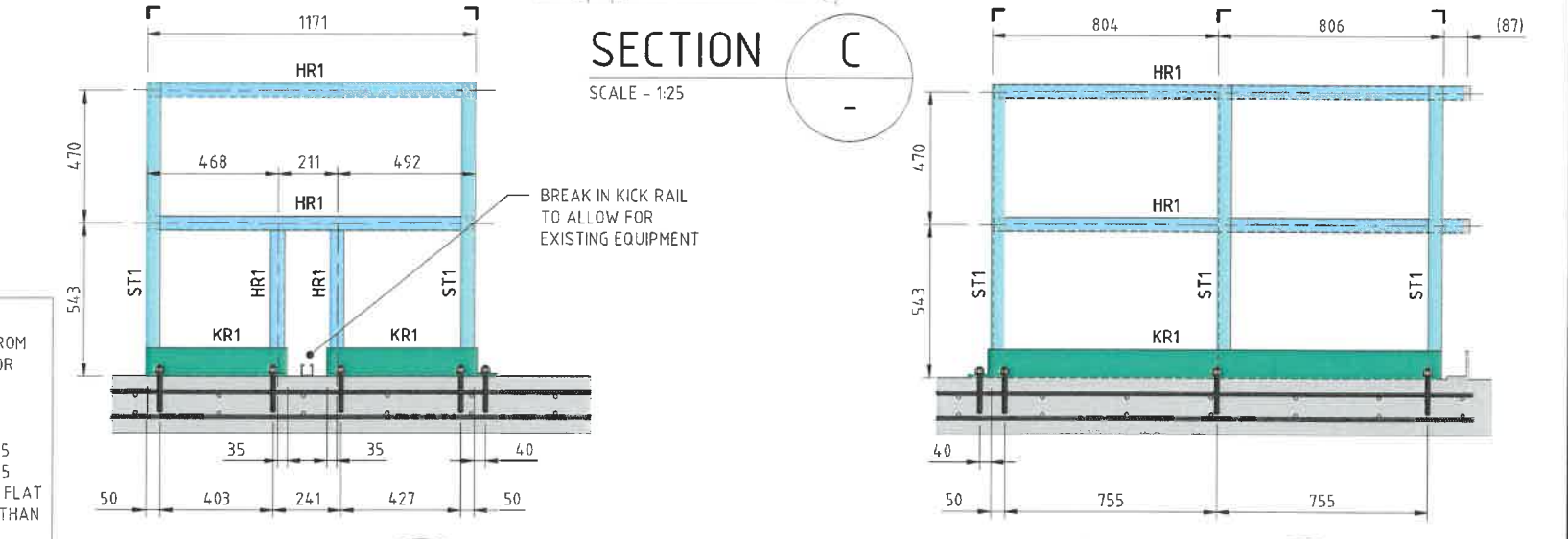
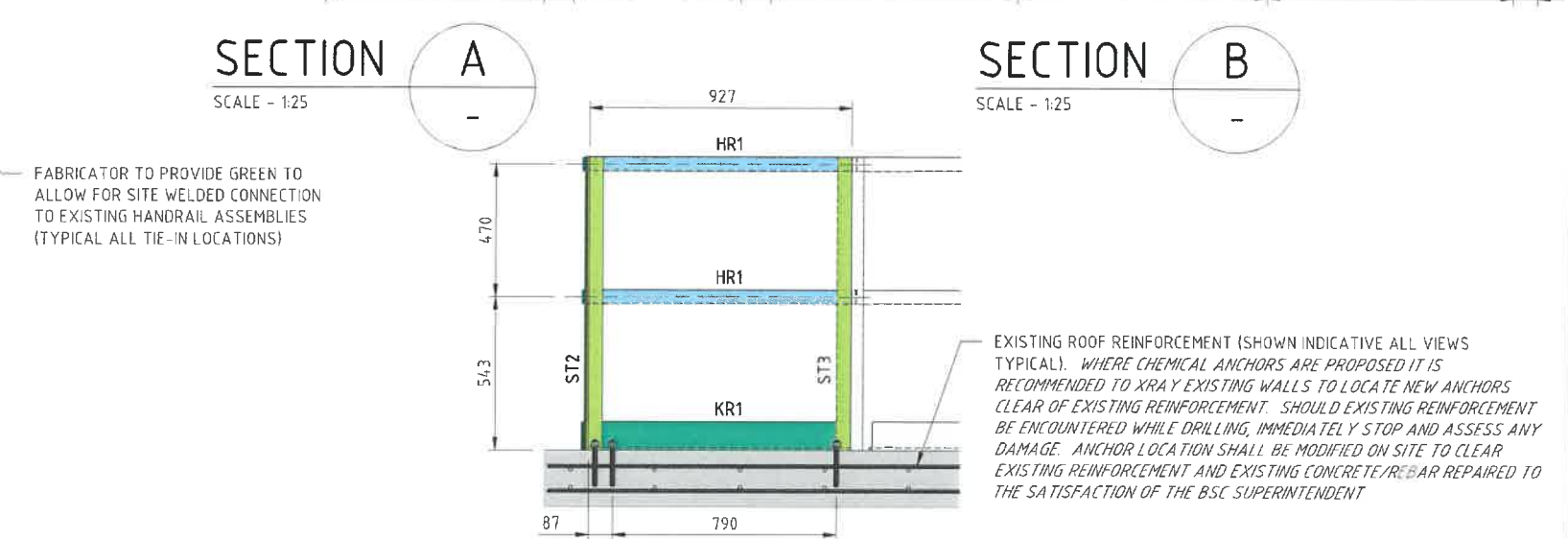
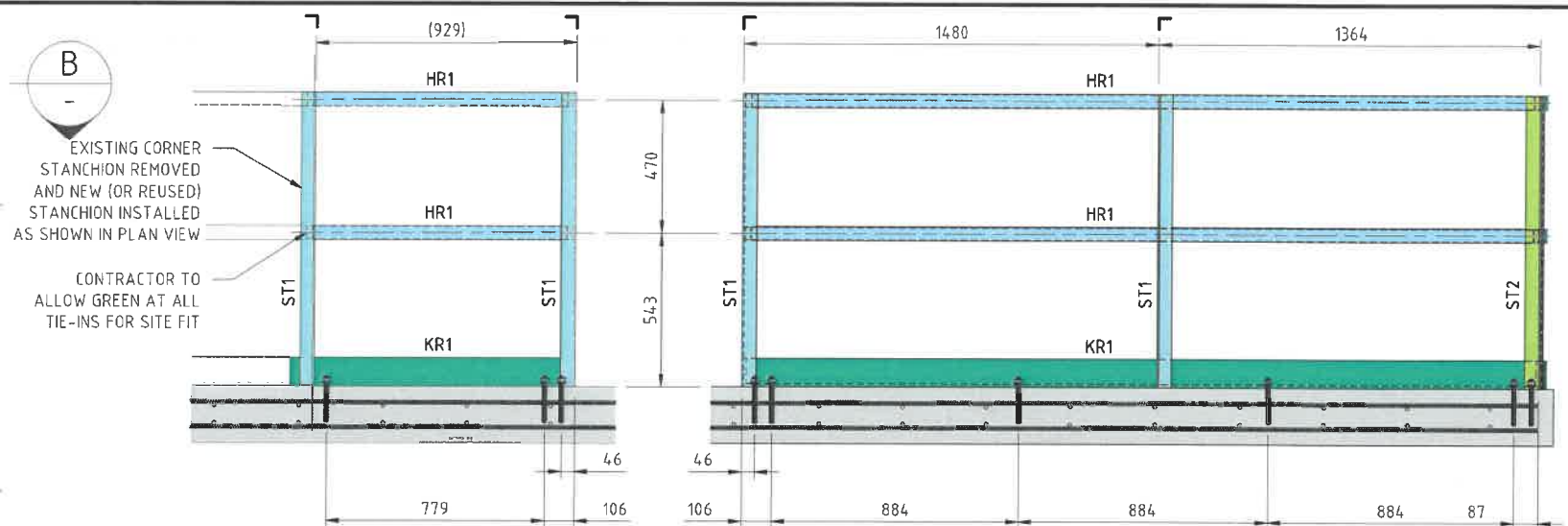
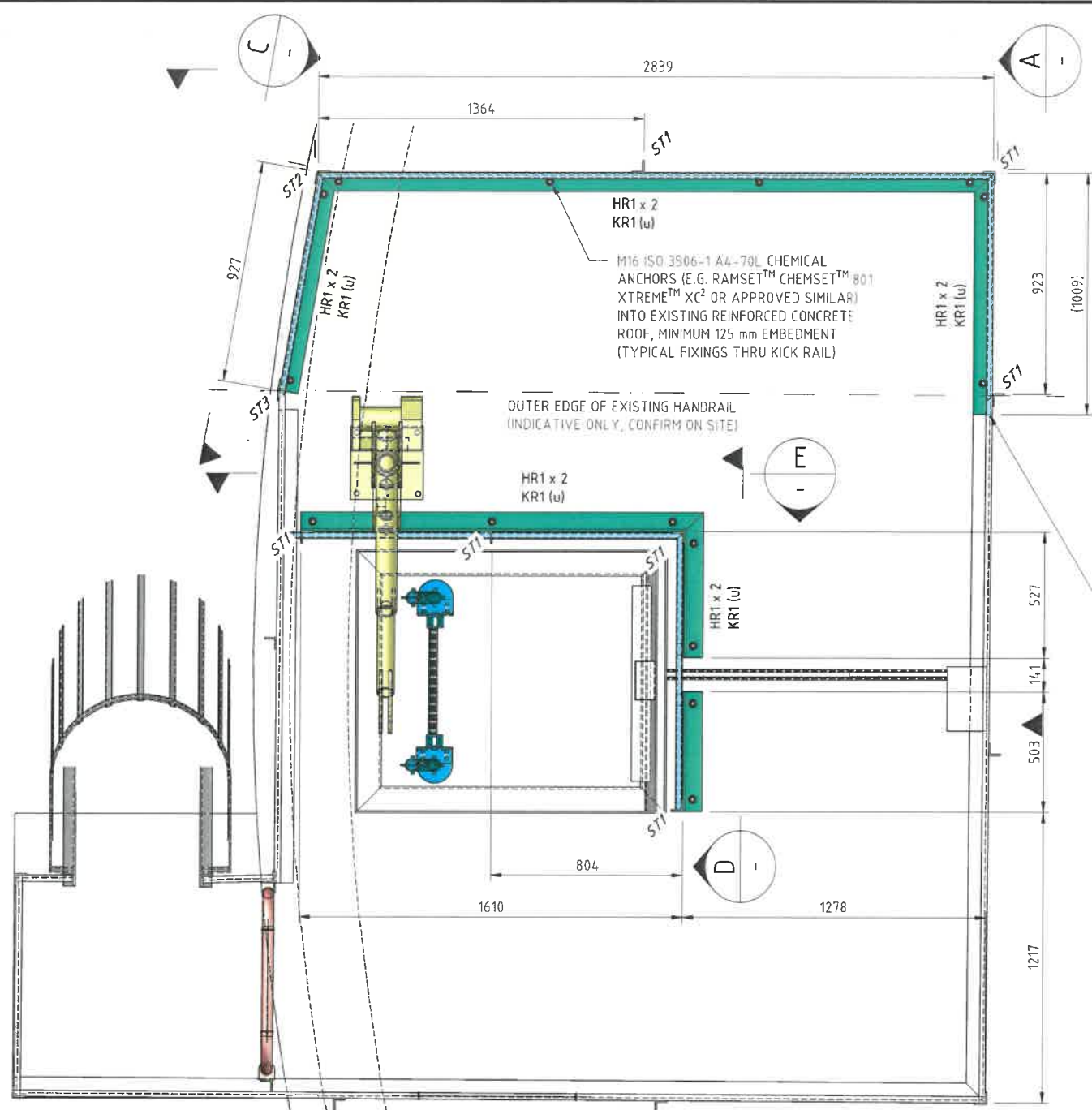
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	C.WITHAM	Date	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA TPS 1.5 ML RESERVOIR
SETOUT SECTIONS

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-204
Rev.	0



HANDRAIL RAIL ASSEMBLIES TO BE FABRICATED (FULLY WELDED) FROM ALUMINIUM SECTIONS. SIZES AND GRADES SUBJECT TO AVAILABILITY FROM MANUF. SPECS. SECTIONS AND GRADES SPECIFIED SHALL BE SOURCED (OR EQUIVALENT OR GREATER).

HR1 HANDRAIL 50 x 25 x 2.5 HOLLOW SECTION AS/NZS 1866-6060-T5

KR1 KICK RAIL 100 x 80 x 10 ANGLE AS/NZS 1866-6082-T5

ST1 STANCHION 50 x 50 x 6 ANGLE AS/NZS 1866-6060-T5

ST2 STANCHION FABRICATED FROM 2 LENGTHS OF 50 x 6 FLAT BAR AS/NZS 1866-6060-T5 TO SUIT ANGLE (OTHER THAN 90° BEND)

ST3 EXISTING STANCHION TO BE CUT AND PARTIALLY REMOVED, AND NEW LENGTH OF 50 x 6 FL AS/NZS 1866-6060-T5 TO BE WELDED TO SUIT ANGLE OF NEW HANDRAIL EXTENSION (SIMILAR TO FINAL FORM OF ST2). IF EXISTING HANDRAIL IS UNSUITABLE, CUT STANCHION AWAY FULLY AND FIT NEW ST2 HANDRAIL IN PLACE.

Approved:
Chris Witham
Chris Witham
Member No : 697629
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
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RESERVOIR ACCESS UPGRADE
BILOELA TPS 1.5 ML RESERVOIR
PROPOSED ROOF HANDRAIL PLAN

Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev.
GD2188-205	0

DESIGN LIMITATIONS:

1. MAJORITY REQUIREMENTS OF AS 1657 CAN BE MET BY EXISTING HATCH ARRANGEMENT.
2. NON-COMPLIANCE WITH CLAUSE 7.4.8.4. REGARDING EXTENSION OF LANDING TO TOP RUNG (DUE TO THICKNESS HAVE PROVIDED 200 mm OFFSET AT TOP RUNG). CLIENT TO PERFORM A HAZOP TO DETERMINE SUITABILITY OF DESIGN VERSUS COST OF MODIFICATION.
3. TOP RUNG ALIGNED WITH TOP OF ROOF PLATE AT CENTRELINE OF LADDER (IN ACCORDANCE WITH AS 1657) WHICH IS ALLOWABLE BY THE RAISED HATCH SURROUND. CROSS-SLOPE AT TOP OF LADDER VARIES DUE TO CURVATURE OF ROOF, BUT IS APPROXIMATELY 5°.
4. OPEN SPACE BETWEEN LADDER STILE AND INSIDE OF TANK WALL IS LARGER THAN 25 - 50 mm (ALLOWED BY AS 1657). THE SPACE IS NOT LARGE ENOUGH FOR A STANCHION C/W CLOSURE BEND. IT IS PROPOSED TO INSTALL A VERTICAL STANCHION WITHOUT ADDITIONAL COMPONENTS TO REDUCE OPEN GAP, BUT CLIENT SHALL REVIEW THIS TO CONFIRM SUITABILITY (CONSIDERING LIMITED ACCESS REQUIREMENTS, PLATFORM USAGE ETC.).
4. REFER CONSTRUCTION METHODOLOGY NOTE FOR PROPOSED INSTALLATION SEQUENCE. PROPOSED SEQUENCE IS SUBJECT TO REVIEW AND MODIFICATIONS BY CONSTRUCTION AND FABRICATION CONTRACTORS. INSTALLATION CONTRACTOR TO PROVIDE THEIR OWN METHODOLOGY TO BANANA SHIRE COUNCIL FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
5. SITE MODIFICATION OF EQUIPMENT AND HANDRAILS ON SITE WILL BE REQUIRED DUE TO THE LIMITED EXISTING DOCUMENTATION AND EXTENT OF MODIFICATIONS REQUIRED BY THE PROPOSED DESIGN. CONTRACTOR TO ALLOW FOR ALL MODIFICATION WORKS INCLUDING MATERIALS AND SITE INSPECTIONS, AND WORK IN CONJUNCTION WITH BSC SUPERINTENDENT.
6. INTERNAL AREAS OF THE CONCRETE TANK ARE CONSIDERED CONFINED SPACES, AND SHALL REQUIRE A FULL HAZOP PRIOR TO ENTRY BY ANY PERSONNEL. A SAFETY DAVIT HAS BEEN PROVIDED AS PART OF THIS DESIGN.
7. ANY WORK CONDUCTED ON THE PLATFORM PRIOR TO FULL INSTALLATION OF HANDRAILS AND LADDER WILL REQUIRE ATTACHMENT TO A SAFETY LINES AND OTHER SAFETY EQUIPMENT AS THIS WILL BE WORKING AT HEIGHTS. PERSONNEL SHALL BE FULLY TRAINED AND CERTIFIED FOR WORKING AT HEIGHTS AND ACCESS SHALL BE ASSESSED (I.E. HAZOP) PRIOR TO ENTRY INTO THE AREA.
8. WORK CARRIED OUT IN THE CONCRETE TANK WILL REPRESENT A POTENTIAL HAZARD FROM ITEMS FALLING FROM ABOVE. CONTRACTORS SHALL TAKE STEPS TO PREVENT ACCIDENTAL DROPPING OF ELEMENTS INTO THE CHAMBER, AND HAZOPS SHALL BE UNDERTAKEN TO DETERMINE THE BEST APPROACH FOR LOWERING OF EQUIPMENT SAFELY. HARDHATS AND OTHER PPE WILL BE REQUIRED.
9. LIKEWISE THE LIFTING OF ELEMENTS ONTO THE TANK ROOF WILL PRESENT A HAZARD TO ALL WORKERS ON THE OUTSIDE OF THE TANK, AND ADDITIONALLY MEMBERS OF THE PUBLIC. THE WORKSITE SHALL BE FULLY FENCED AS REQUIRED TO ALLOW FOR THE MOVEMENT OF MATERIALS SAFELY AND WITHOUT RISK TO THE PUBLIC (WHERE POSSIBLE). HAZOP SHALL CONSIDER CRANE OPERATION, POSITIONING AND ACCESS.
10. PLATFORM DESIGN ASSUMES STANDARD ENTRY TO TANK WILL BE CONDUCTED BY DIVERS WITH WATER LEVEL ABOVE THE LEVEL OF THE PLATFORM DECK. WHERE THIS IS NOT THE CASE A HAZOP SHALL BE CONDUCTED TO IDENTIFY ANY ADDITIONAL SAFETY ISSUES THAT MAY BE PRESENT AND DETERMINE SUITABLE CONTROLS / METHODS.
11. CLIENT TO PRODUCE A PROCEDURE FOR SAFETY ACCESS FOR DIVERS FOR INDIVIDUAL TANKS. ALL DESIGN CONSTRAINTS AND SAFETY ISSUES RAISED ABOVE SHALL BE INCLUDED, IN ADDITION TO ANY OTHER ISSUES IDENTIFIED BY BSC PERSONNEL AND CONTRACTORS

CONSTRUCTION METHODOLOGY:

1. BANANA SHIRE COUNCIL TO ARRANGE AND DRAIN EXISTING RESERVOIR. TIME TO BE ALLOWED FOR DRYING OF CONCRETE SURFACES PRIOR TO INSTALLING NEW ELEMENTS.
2. PROCEED WITH DEMOLITION WORKS AS INDICATED. ALL EXISTING ELEMENTS TO BE REMOVED AND DISPOSED OF SAFELY AND IN ACCORDANCE WITH BSC SUPERINTENDENTS INSTRUCTION. WHERE EXISTING ITEMS ARE REMOVED FROM EXISTING CONCRETE SURFACES, ENSURE ALL EXPOSED SURFACES (I.E. CUT ANCHORS ETC.) ARE FULLY SEALED WITH POTABLE WATER APPROVED SEALANT. ANY CONCRETE DAMAGE SHALL BE REMEDIATED TO THE SPECIFICATION OF THE BSC SUPERINTENDENT.
3. LOWER NEW FRP AND STAINLESS STEEL MEMBERS, CLEATS, FIXINGS ETC. FOR NEW PLATFORM INTO THE EXISTING RESERVOIR CHAMBER. ELEMENTS TO BE PLACED ONTO TANK FLOOR.
4. POSITIVELY LOCATE POSITIONS FOR INSTALLATION OF NEW WALL MOUNTING BRACKETS. START WITH LAYOUT OF PLATFORM MEMBERS ON THE TANK FLOOR TO ASSIST IN ENSURING MEMBERS ALIGN WITH BRACKET POSITIONS, THEN TRACE UP THE WALL (I.E. USE OF PLUMB-BOB FROM ABOVE TO ALIGN POSITIONS).
5. ONCE WALL MOUNT POSITIONS ARE PREPARED, FULLY ASSEMBLE MAIN PLATFORM LEVEL, COMPLETE WITH HANDRAIL, GRATING AND KICK PLATE SECTIONS.
6. PREPARE TO LIFT PLATFORM ASSEMBLY. BEFORE LIFTING INTO PLACE (BUT WHILE SUSPENDED) INSTALL KNEE BRACE ELEMENTS TO PLATFORM BEAMS. ONCE FULLY ASSEMBLED, ELEVATE PLATFORM ASSEMBLY UP AND ONTO WALL BRACKETS. FIX ALL MEMBERS TO WALL BRACKETS IN ACCORDANCE WITH ENGINEERING DETAILS. WHERE APPLICABLE, FIX UPPER HANDRAIL BASE PLATES TO UNDERSIDE OF EXISTING TANK ROOF.
7. LOWER ELEMENTS FOR LADDER SUPPORT ONTO PLATFORM BELOW AND ASSEMBLE FRAME. INSTALL ONTO WALL BRACKETS AND FASTEN AS PER ENGINEERING DETAILS.
8. LOWER NEW LADDER ASSEMBLY ONTO NEW PLATFORM. LOCATE AND FIX TO NEW PLATFORM AND EXISTING STRUCTURE IN ACCORDANCE WITH ENGINEERING DETAILS.

DESIGN INCORPORATES REQUIREMENTS OF AS 2299.1-2015 WHERE APPLICABLE:

- 3.10 DIVE REQUIREMENTS:
 - 3.10.1 GENERAL

DIVING OPERATIONS SHALL BE CONDUCTED ONLY FROM A SAFE AND SUITABLE SITE OR VESSEL, WHICH AT TIMES PROVIDES:

 - (a) SUITABLE ACCESS & EXIT FOR THE DIVERS;
 - (b) MEANS TO RECOVER AN INJURED DIVER FROM THE WATER; AND
 - (c) MEANS OF COMMUNICATION TO EMERGENCY SUPPORTED SERVICES (SEE CLAUSE 3.6.4)
 - 3.13.3 HARNESSES

PROVIDES REQUIREMENT SHOULD A HARNESS BE REQUIRED
 - 3.13.6 LIFELINE

A HARNESS AND LIFELINE WOULD BE A HINDRANCE IN THESE OPERATIONS, PREVENTING SAFE MOVEMENT THROUGHOUT THE TANK. BANANA SHIRE COUNCIL SHALL HAZOP WITH COMMERCIAL DIVER.
 - 7.3.4 DIVER DEPTHS TO 30 m (SCUBA)

THE TEAM SHALL INCLUDE 1 SUPERVISOR, 1 DIVER, 1 DIVERS ATTENDANT AND 1 STANDBY DIVER (4 IN TOTAL). ROOFTOP PLATFORM SHOULD BE DESIGNED TO ALLOW FOR 4 PEOPLE.

STAINLESS STEEL:

1. ALL STAINLESS STEEL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF:
 - 1.1. AS 4100 - SAA STEEL STRUCTURES CODES
 - 1.2. AS 1554.6 - STRUCTURAL STEEL WELDING - WELDING STAINLESS STEELS FOR STRUCTURAL PURPOSES
2. STAINLESS STEEL GRADES AS FOLLOWS:
 - 2.1. PLATE, SHEET AND STRIP SHALL BE TO ASTM A240M GRADE 316L
 - 2.2. BARS SHALL BE TO ASTM A276M GRADE 316L
3. STAINLESS STEEL FINISHING DETAILS:
 - 3.1. ALL SHARP EDGES AND BURRS TO BE REMOVED
 - 3.2. STAINLESS STEELWORK SHALL BE CLEANED, PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 "STANDARD PRACTICE FOR CLEANING, DESCALING AND PASSIVATION OF STAINLESS STEEL PARTS, EQUIPMENT AND SYSTEMS".
4. WELD DETAILS:
 - 4.1. ALL WELDS SHALL BE 6 CFW UNO.
 - 4.2. BUTT WELDS SHALL BE PRE-QUALIFIED FULL PENETRATION UNO.
 - 4.3. ALL WELDING SHALL CONFORM WITH AS 1554.6, CATEGORY 1A.
 - 4.4. ALL WELDING CONSUMABLES SHALL BE TO AS/NZS 1167.2 AND/OR AS/NZS 4854.
 - 4.5. ALL WELDS SHALL BE VISUALLY INSPECTED.
 - 4.6. ALL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS AND GROSS POROSITY.

FIBRE REINFORCED PLASTIC (FRP) / COMPOSITE FIBRE:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. ENSURE COMPLIANCE WITH MANUFACTURER QUALITY ASSURANCE STANDARDS.
2. UNLESS NOTED OTHERWISE OR APPROVED COMPOSITE MATERIALS FOR USE IN THIS PROJECT SHALL BE MANUFACTURED BY TREADWELL. SUBSTITUTIONS IN MATERIALS SHALL NOT BE UNDERTAKEN WITHOUT PRIOR APPROVED OF BSC SUPERINTENDENT AND STRUCTURAL ENGINEER.
3. ALL MEMBERS SHALL BE IN SOUND CONDITION FREE FROM PITTING, DE-LAMINATIONS AND OTHER DEFECTS WHICH ARE LIKELY TO IMPAIR THE STRUCTURAL CAPACITY OF THE MEMBERS.
4. APPLY A WATERPROOFING COMPOUND TO SEAL ANY END CUT FIBRES AS A RESULT OF DRILLING, CUTTING OR DAMAGE TO THE COMPOSITE FIBRE PROFILES. COMPOUND SHALL BE APPROVED FOR POTABLE WATER AND SHALL BE APPROVED BY THE MANUFACTURER.
5. CONTRACTORS SHALL REFER TO MANUFACTURER FOR ALL INSTALLATION AND ASSEMBLY INSTRUCTIONS AND SPECIFICATIONS PRIOR TO BEGINNING WORK, AND SHALL ENSURE THAT ALL INSTRUCTIONS ARE UNDERSTOOD.



SUBJECT SITE

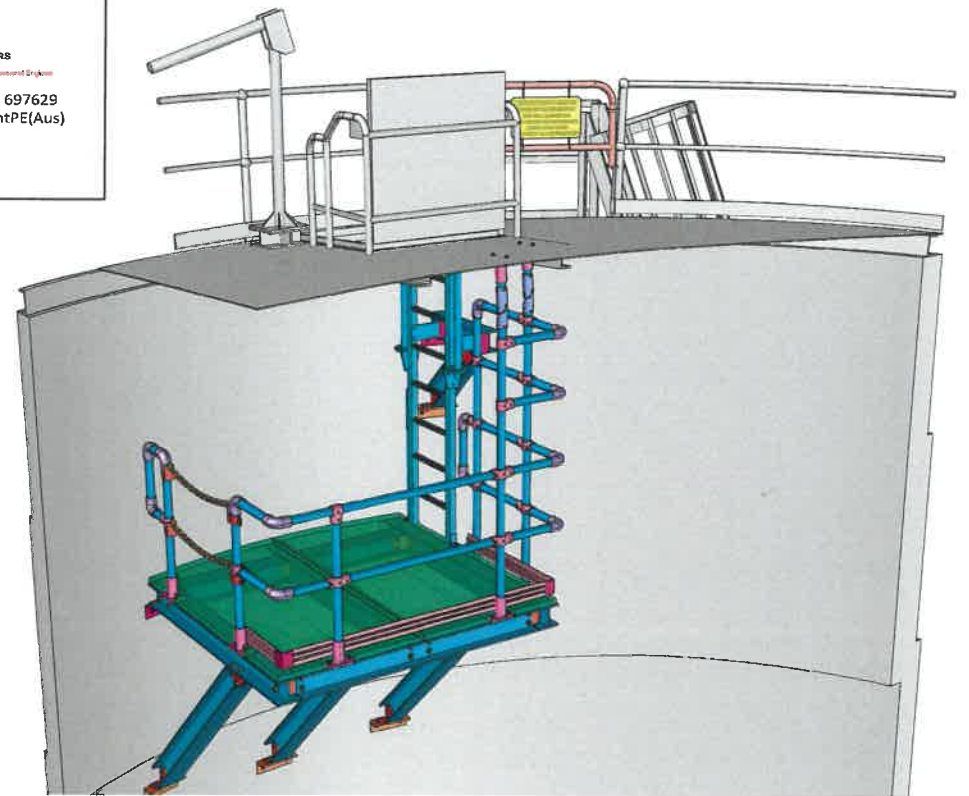
LOCALITY PLAN

SCALE - NTS


Approved:



Chris Witham Member No: 697629
 BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

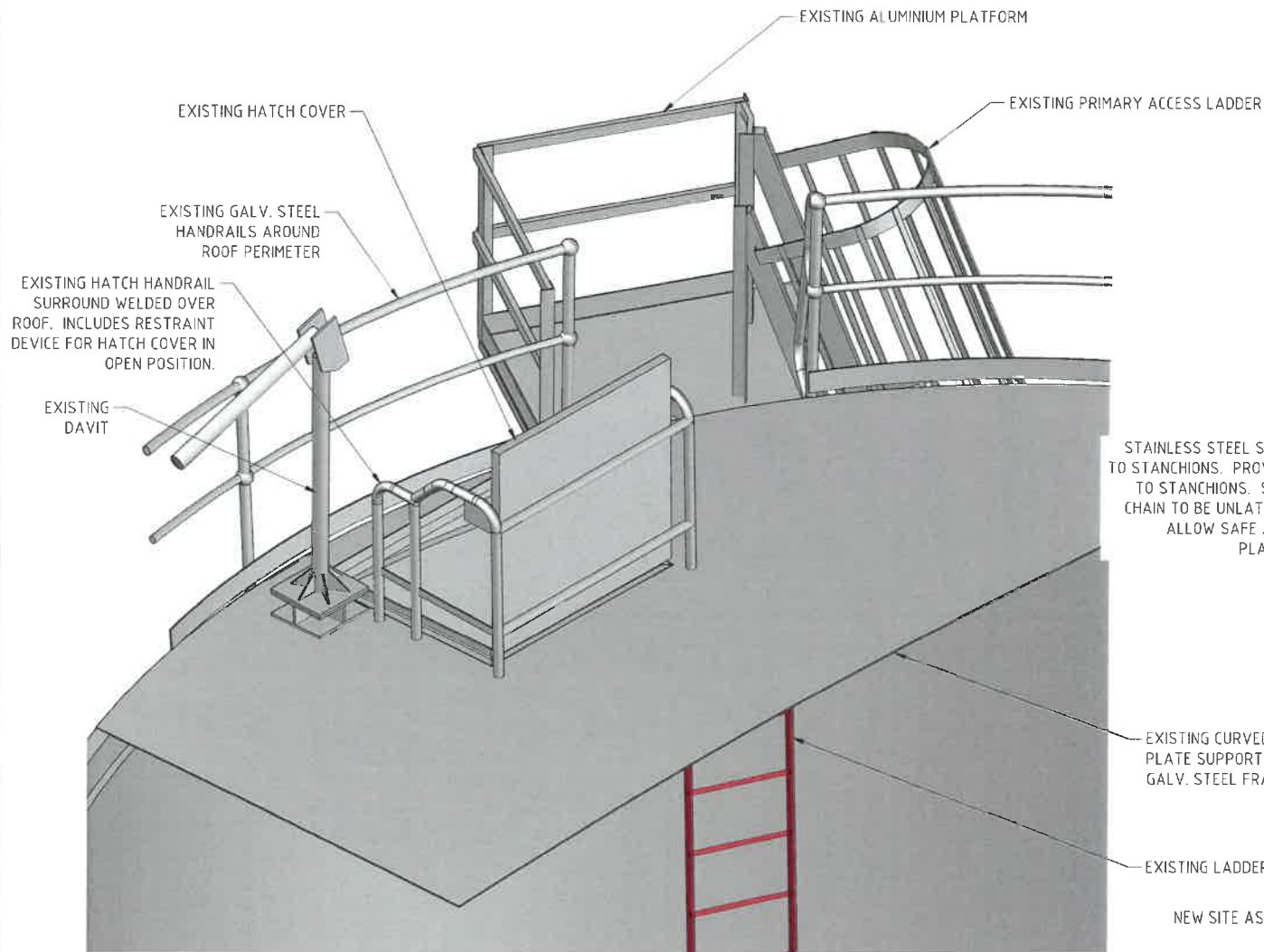


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				 QUALITY DESIGN. CONCEPT TO COMPLETION. A.S. BUENEN Pty. Ltd. Trading as: INDUSTRIAL - MECHANICAL - CIVIL - STRUCTURAL DESIGN STEELWORK & CONCRETE PANEL SHOP DETAILING RESIDENTIAL & COMMERCIAL BUILDING DESIGN - QBCC 1191231 1/48 GOONDOON STREET GLADSTONE QUEENSLAND PH: 07 49726 066 ABN 96 081 040 600 EMAIL: design@gladstonedrafting.com.au WEB: www.gladstonedrafting.com.au		Designed by	Date	Title BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA TPS LOW ZONE STANDPIPE DESIGN NOTES	Scale
						A.BUENEN	-		AS SHOWN (AT A3)
				Drawn by	Date	Job No.			
				J.WALKER	20.03.23	GD2188			
				Checked by	Date	Drawing No. Rev.			
				A.BUENEN	28.06.23	GD2188-300 0			
				Engineer	RPEQ 11631				
				C.WITHAM	11.07.23				
No.	Date	Revision	By	Appr					
0	20/06/23	ISSUED FOR CONSTRUCTION	JW	AB					

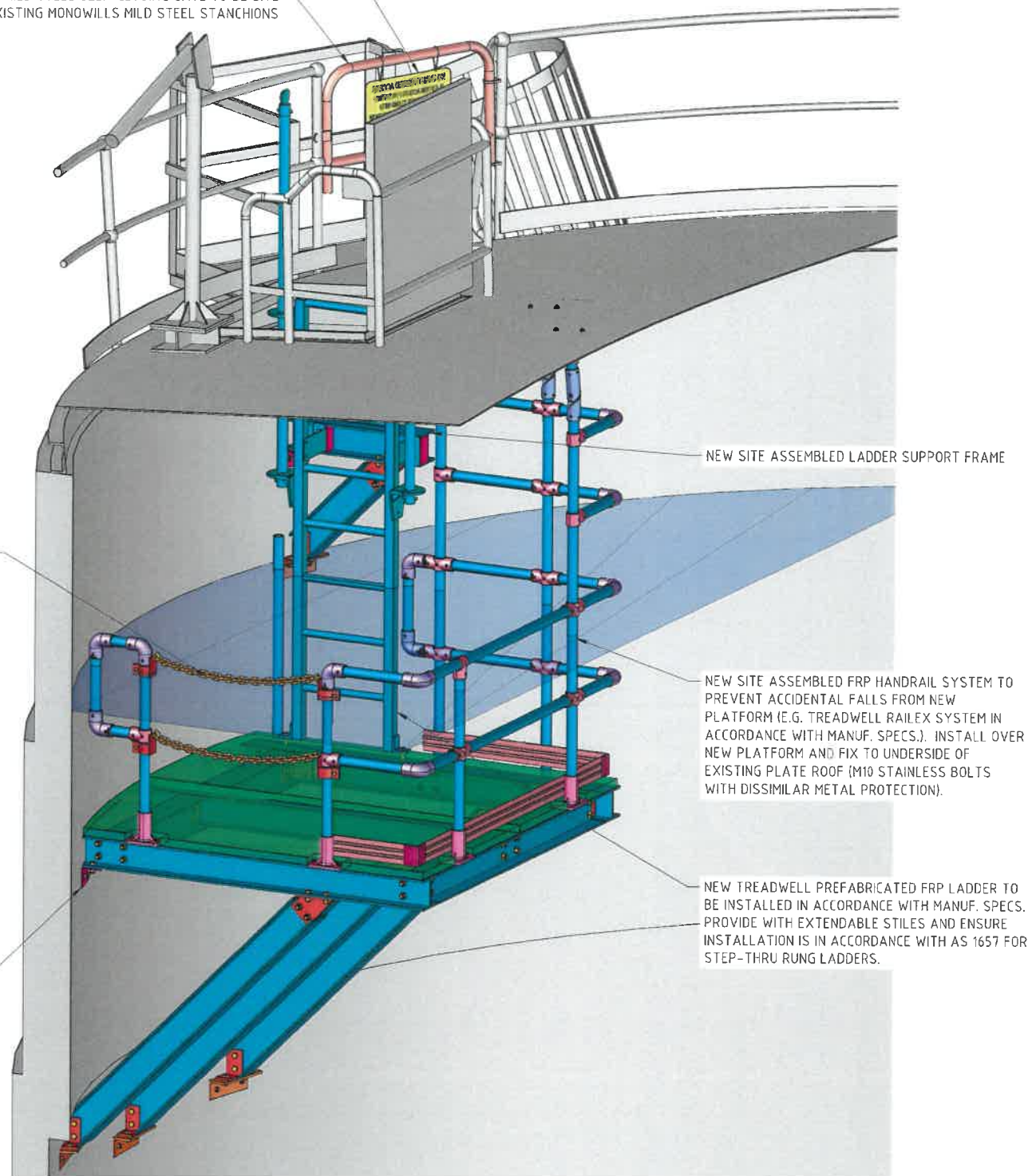
SIGN TO BE ATTACHED TO SELF-CLOSING GATE:
 "NO UNAUTHORISED ACCESS; PLATFORM ACCESS FOR DIVING /
 MAINTENANCE TEAMS WITH AUTHORISATION AND PERMITS FROM BANANA
 SHIRE COUNCIL; TRESPASSERS WILL BE PROSECUTED"
 25 - 30 mm HIGH BLACK TEXT ON SAFETY YELLOW BACKGROUND.

NEW MONOWILLS MILD STEEL SELF-CLOSING GATE TO BE SITE
 FIT BETWEEN EXISTING MONOWILLS MILD STEEL STANCHIONS



DEMOLITION PLAN (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY



GENERAL ARRANGEMENT (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

Approved :

Chris Witham
Chris Witham Member No : 697629
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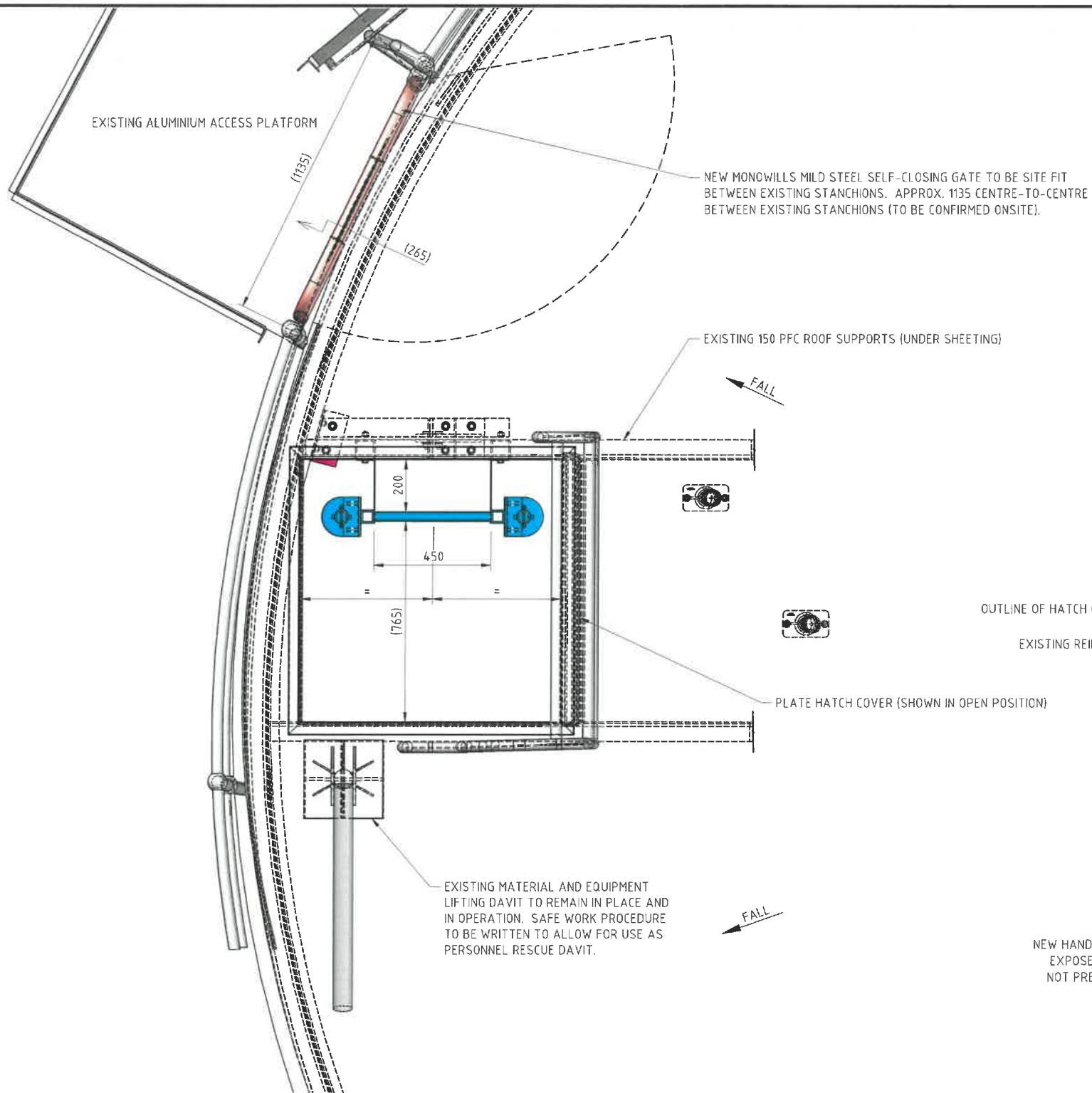
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA TPS LOW ZONE STANDPIPE
 GENERAL ARRANGEMENT 1

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-301
Rev.	0



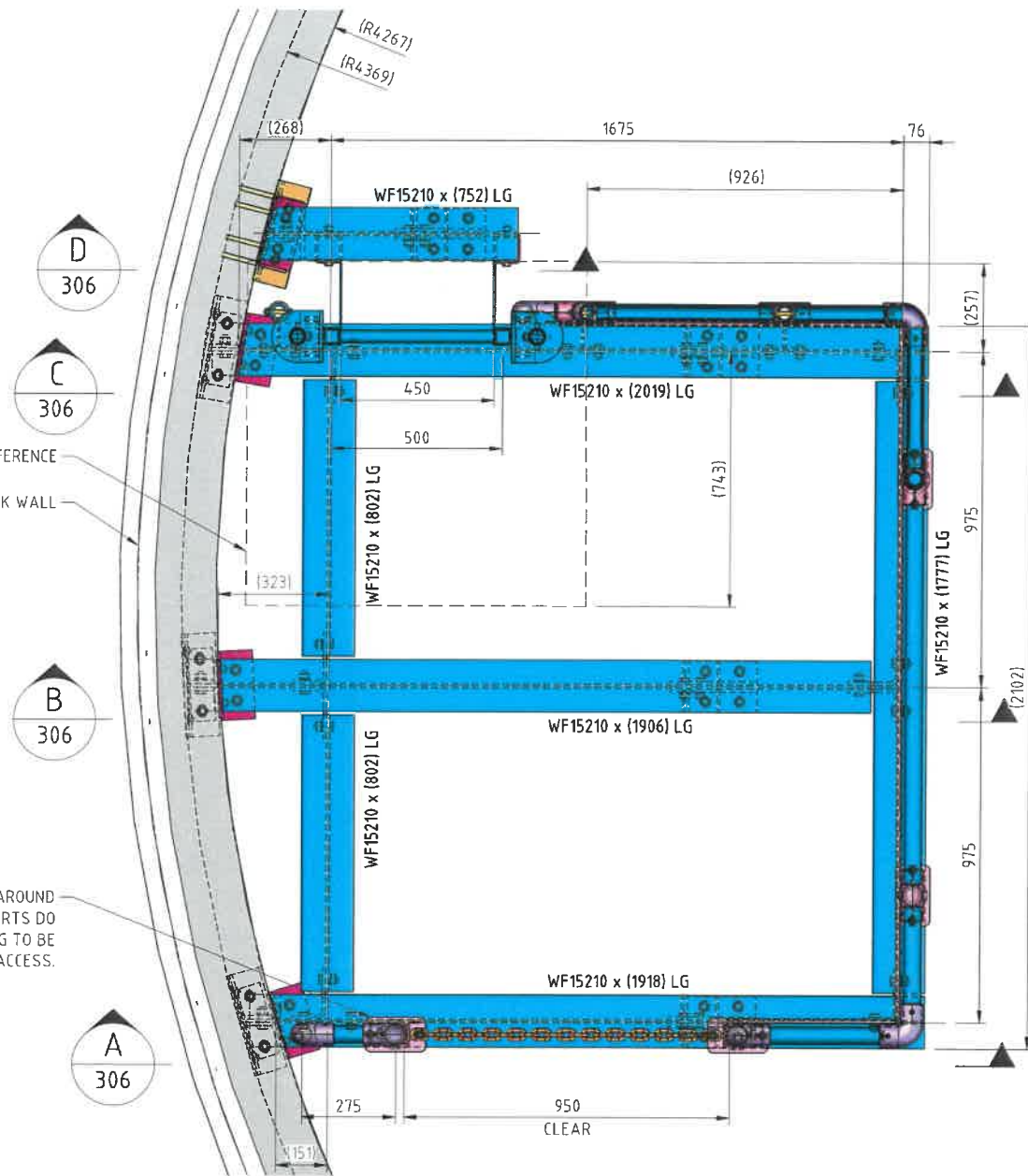
GENERAL ARRANGEMENT (PLAN AT ROOF LEVEL)

SCALE - 1:20

Approved :

Chris Witham
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 Allied Group Australasia Pty Ltd
 RPEQ - 11631

 **ENGINEERS AUSTRALIA**
 Member No : 697629



GENERAL ARRANGEMENT (PLAN AT PLATFORM LEVEL)

SCALE - 1:20
 GRATING NOT SHOWN FOR CLARITY

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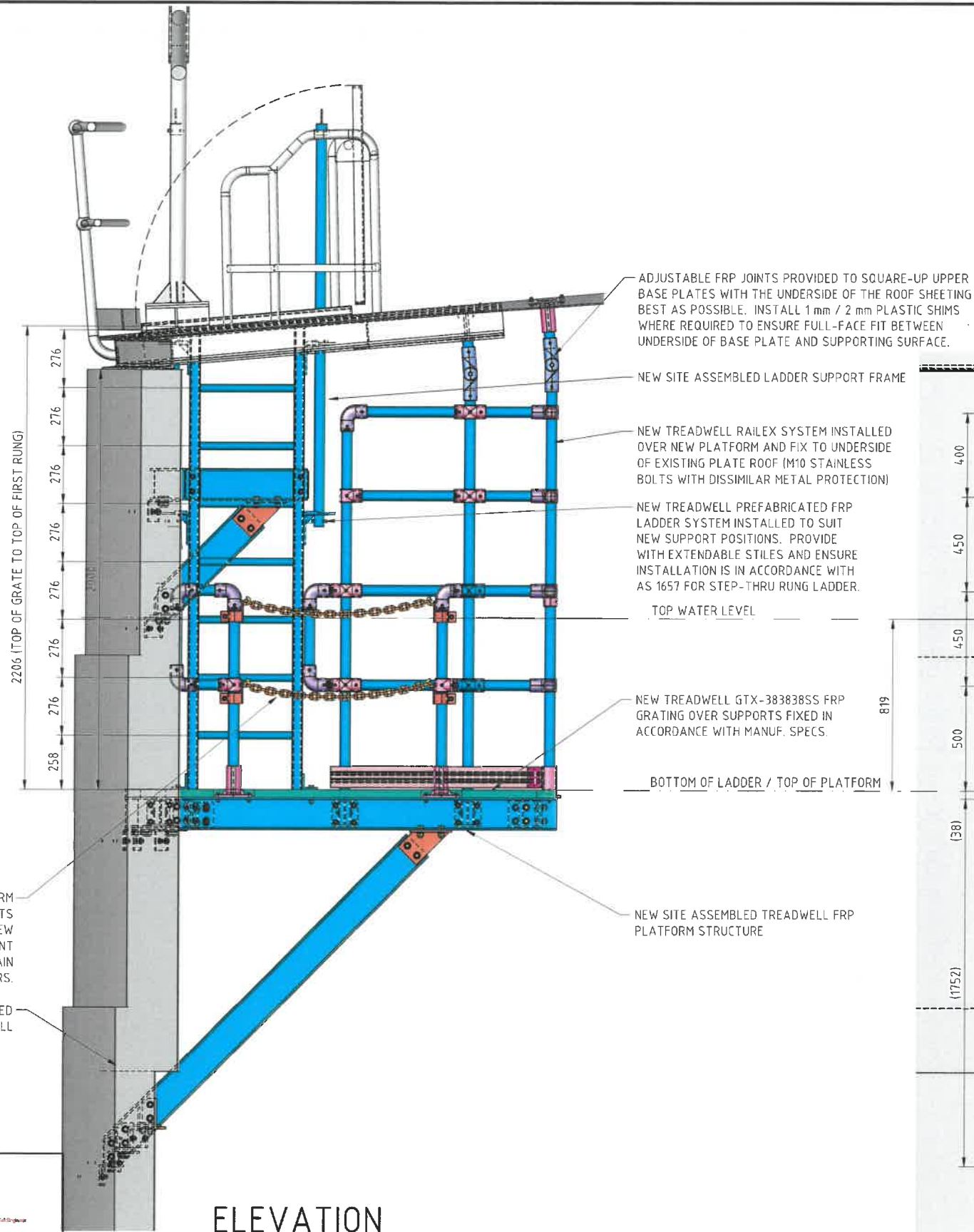
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Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 BILOELA TPS LOW ZONE STANDPIPE
 GENERAL ARRANGEMENT 2

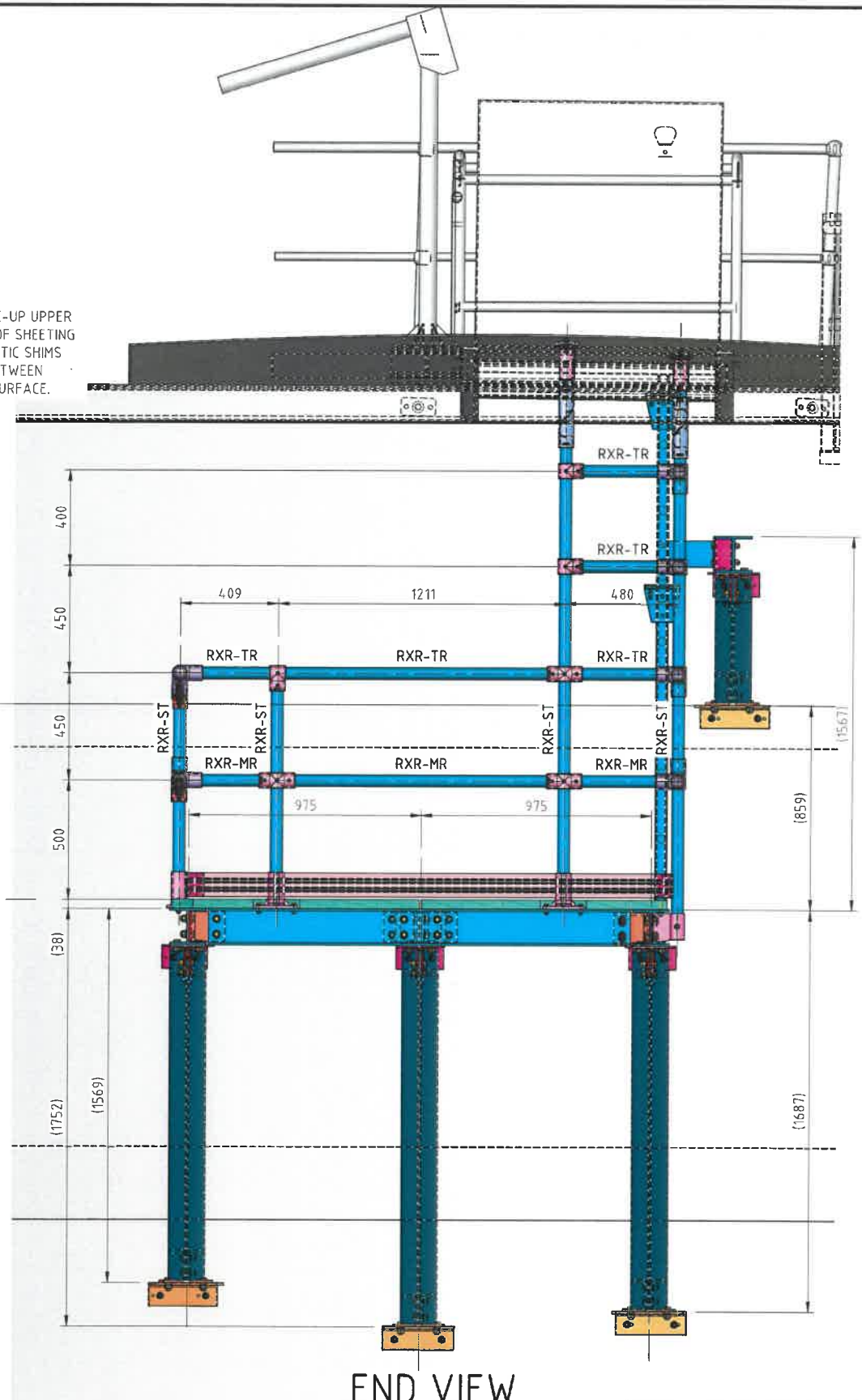
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Job No.	GD2188
Drawing No.	GD2188-302
Rev.	0



INSTALL CHAINS ACROSS PLATFORM OPENING (WITH MOUNTING BRACKETS ON EXISTING WALL AND NEW STANCHION) TO PREVENT ACCIDENTAL FALLS WHILE REMAIN EASY TO REMAIN FOR DIVERS.

EXISTING REINFORCED CONCRETE TANK WALL

ELEVATION
SCALE - 1:25



END VIEW
SCALE - 1:25

ISSUED FOR CONSTRUCTION

Approved :
C.L. Witham
Chris Witham Member No : 697629
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Allied Group Australasia Pty Ltd
RPEQ - 11631

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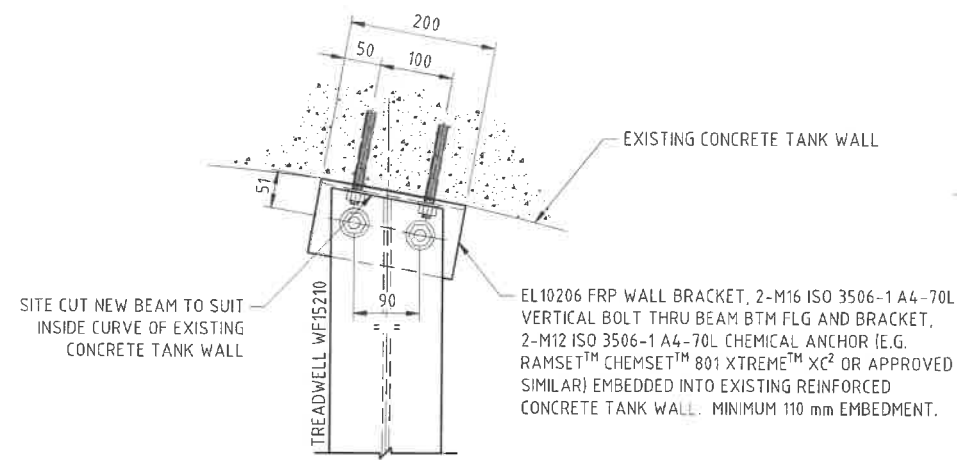
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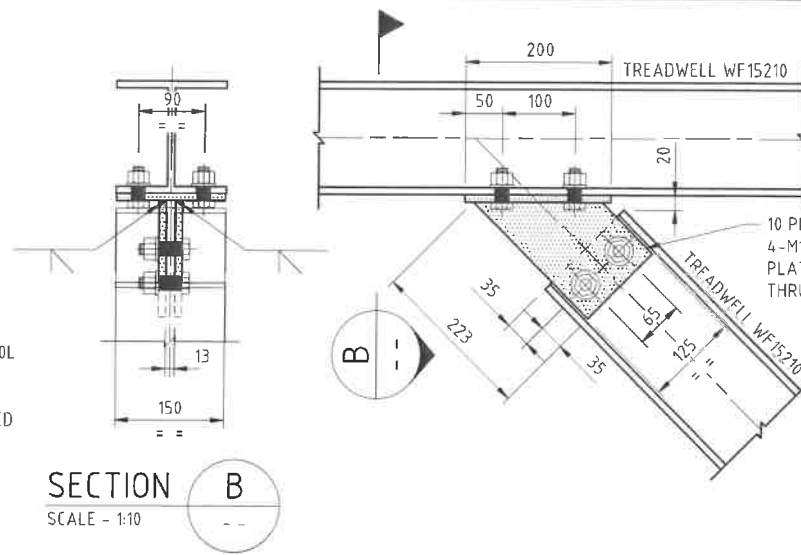
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BILOELA TPS LOW ZONE STANDPIPE
ELEVATIONS

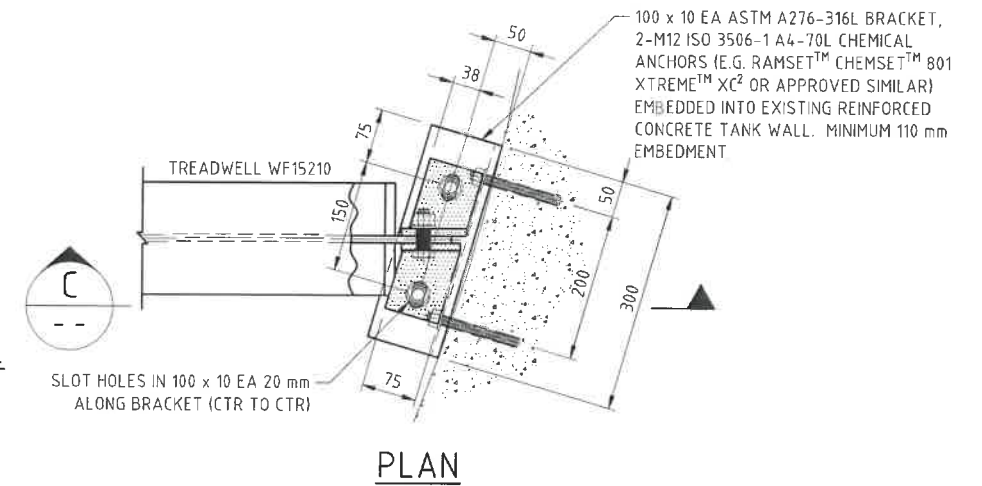
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Rev.	0



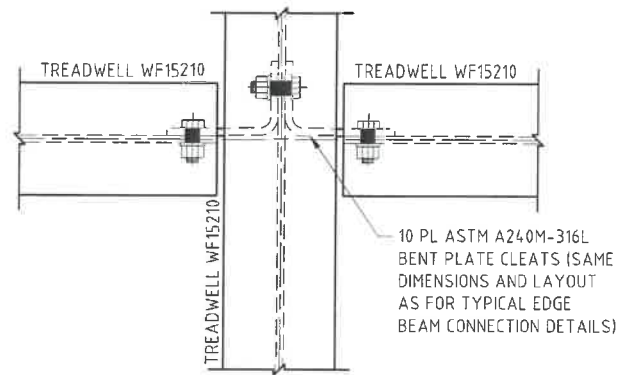
TYPICAL BEAM TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL KNEE BRACE TO BEAM CONNECTION DETAIL
SCALE - 1:10

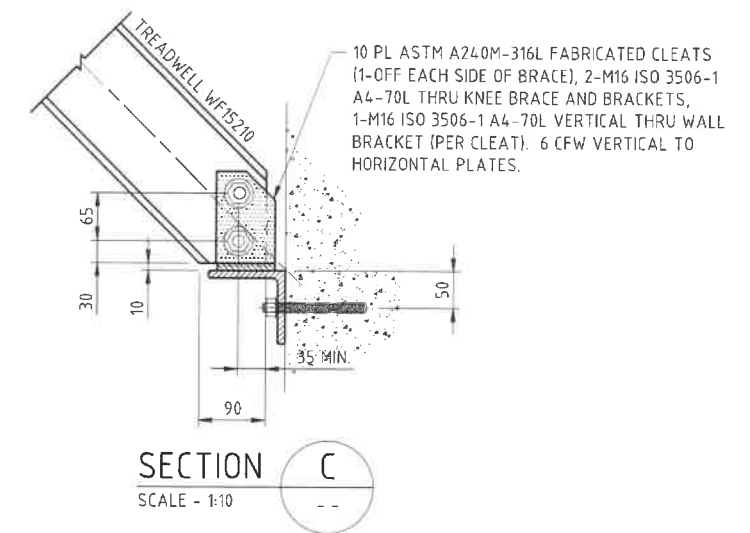


PLAN



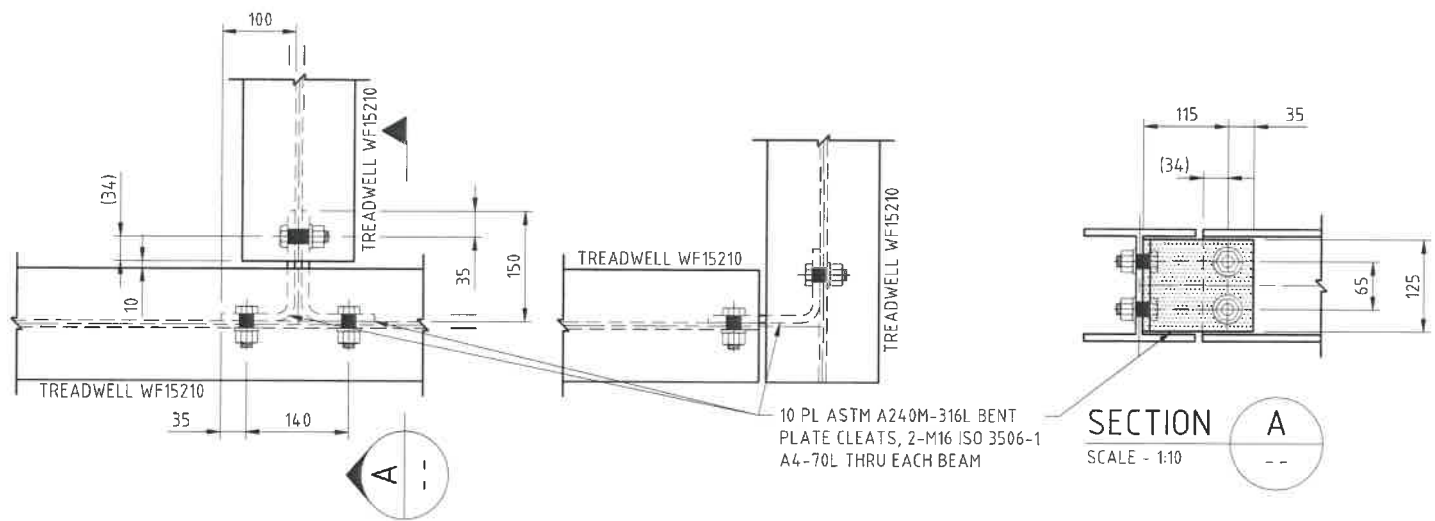
TYPICAL INTERNAL BEAM CONNECTION DETAIL
SCALE - 1:10

CHEMICAL ANCHOR NOTE
WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT



SECTION C
SCALE - 1:10

TYPICAL KNEE BRACE TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL EDGE BEAM CONNECTION DETAILS
SCALE - 1:10

Approved:
Chris Witham
Chris Witham
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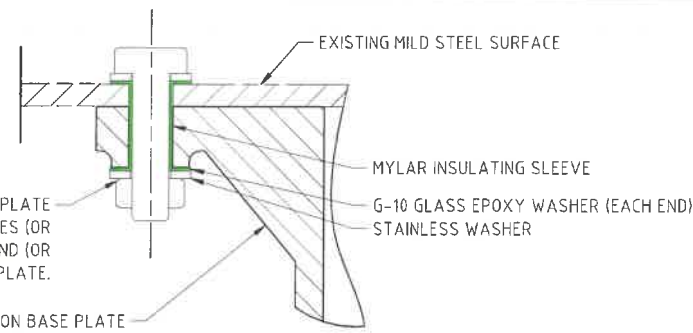
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Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA TPS LOW ZONE STANDPIPE
TYPICAL DETAILS 1

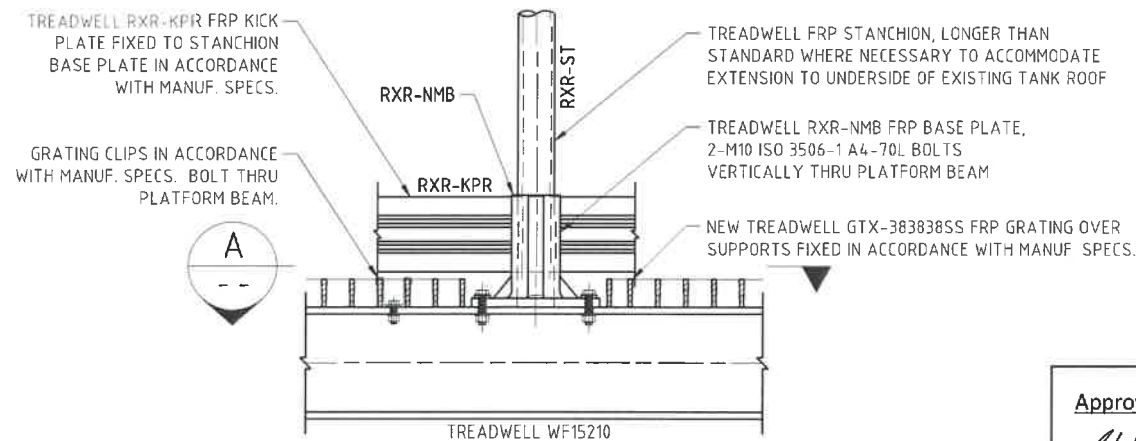
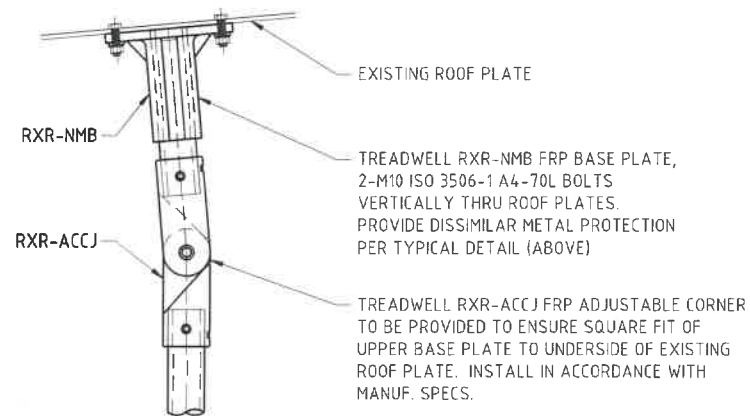
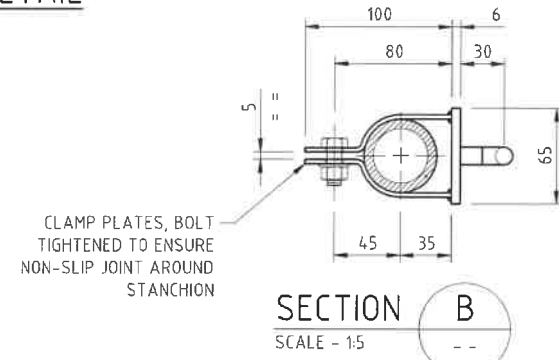
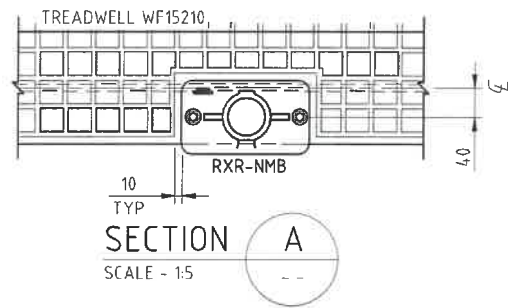
Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	Rev.
GD2188-304	0

M10 ISO 3506-1 A4-70L STAINLESS BOLTS THRU STANCHION BASE PLATE AND ROOF PLATE. PROVIDE MYLAR INSULATING SLEEVE THRU ALL HOLES (OR APPROVED EQUIV.) AND G-10 GLASS EPOXY WASHERS EACH END (OR APPROVED EQUIV.) TO FULLY ISOLATED BOLT FROM MILD STEEL ROOF PLATE.



DISSIMILAR METAL PROTECTION DETAIL

SCALE - 1:2



TYPICAL STANCHION CONNECTION DETAIL

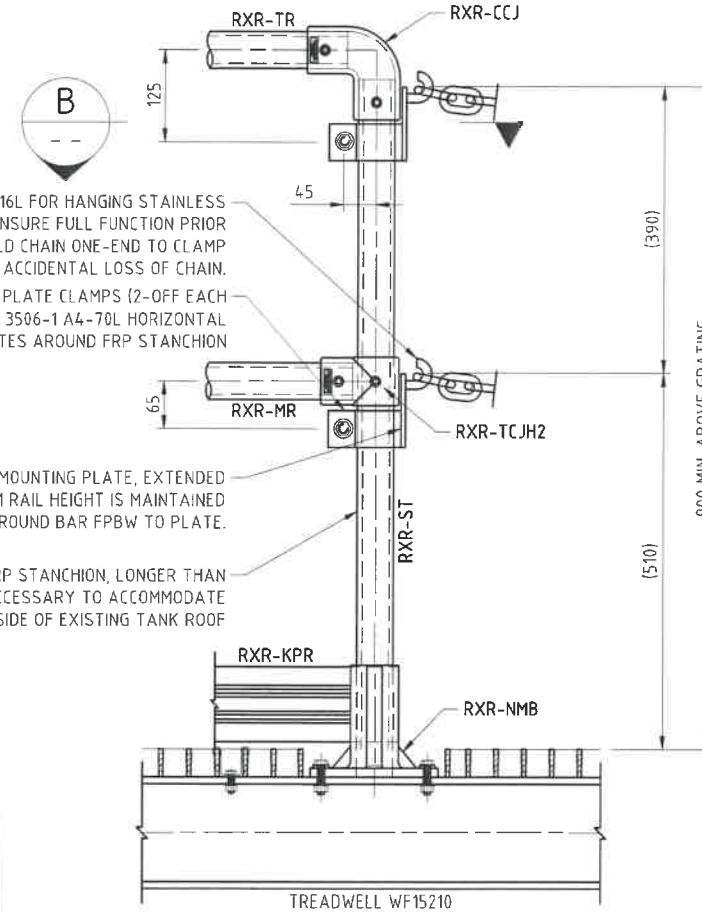
SCALE - 1:10

NOTE: ALTERNATIVE TO USE OF RXR-NMB BASE FIXING A RXR-SMB-SS316 SIDE OFFSET MOUNT MAY BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.

Ø12 ROUND BAR ASTM A276-316L FOR HANGING STAINLESS CHAIN ONTO. TEST FIT TO ENSURE FULL FUNCTION PRIOR TO FINAL INSTALLATION. WELD CHAIN ONE-END TO CLAMP TO PREVENT ACCIDENTAL LOSS OF CHAIN.
3 PL ASTM A240-316L BENT PLATE CLAMPS (2-OFF EACH BRACKET) WITH 1-M10 ISO 3506-1 A4-70L HORIZONTAL BOLT THRU CLAMP PLATES AROUND FRP STANCHION

6 PL ASTM A240-316L MOUNTING PLATE, EXTENDED VERTICALLY TO ENSURE MINIMUM RAIL HEIGHT IS MAINTAINED IN ACCORDANCE WITH AS 1657. ROUND BAR FPBW TO PLATE.

TREADWELL FRP STANCHION, LONGER THAN STANDARD WHERE NECESSARY TO ACCOMMODATE EXTENSION TO UNDERSIDE OF EXISTING TANK ROOF



STANCHION CHAIN MOUNTING DETAIL

SCALE - 1:10

Approved :

Chris Witham
Chris Witham Member No : 697629
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Allied Group Australasia Pty Ltd
RPEQ - 11631



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QUALITY DESIGN. CONCEPT TO COMPLETION.

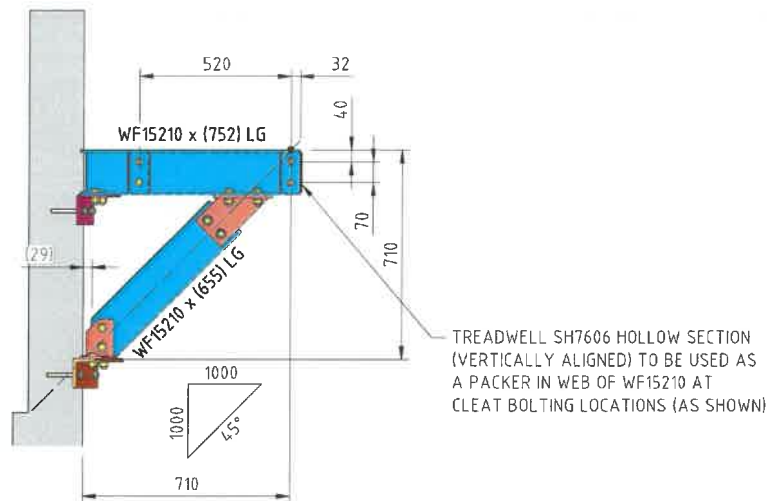
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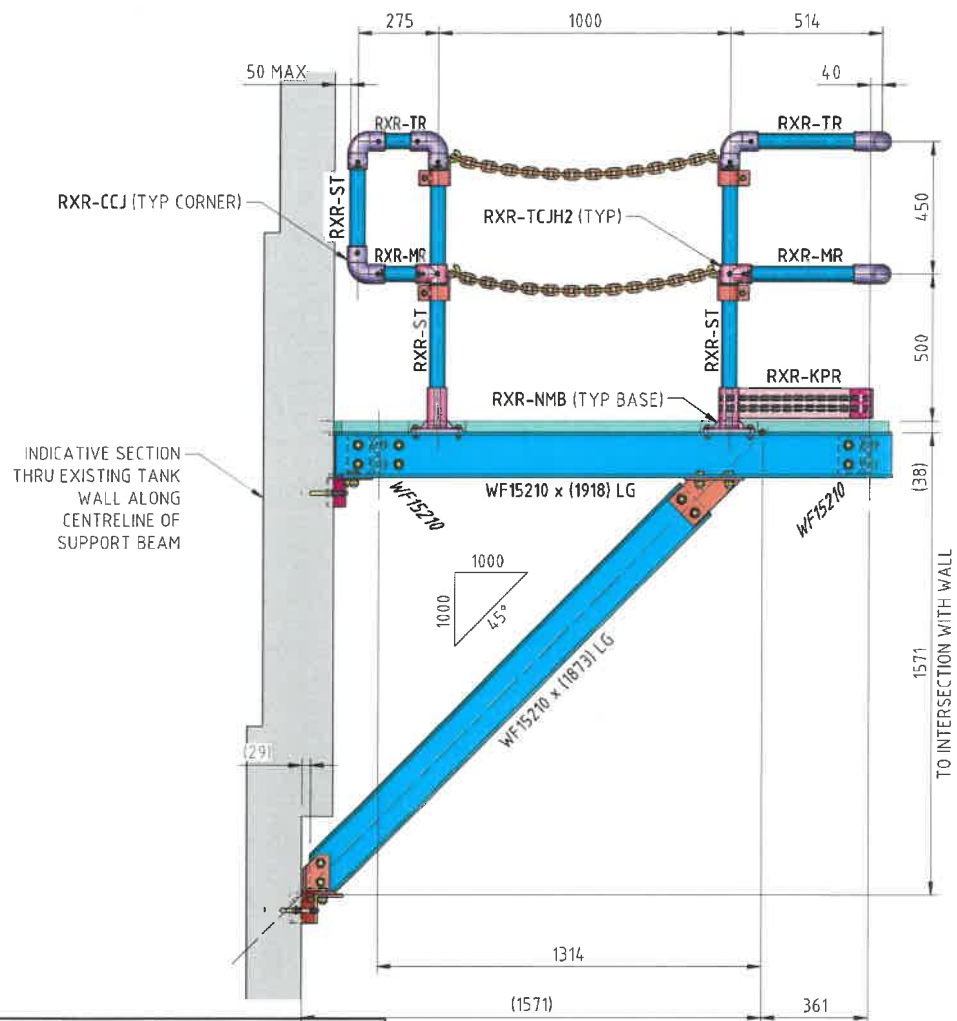
Designed by	Date
A.BUENEN	-
Drawn by	Date
J.WALKER	20.03.23
Checked by	Date
A.BUENEN	28.06.23
Engineer	Date
C.WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE BILOELA TPS LOW ZONE STANDPIPE TYPICAL DETAILS 2

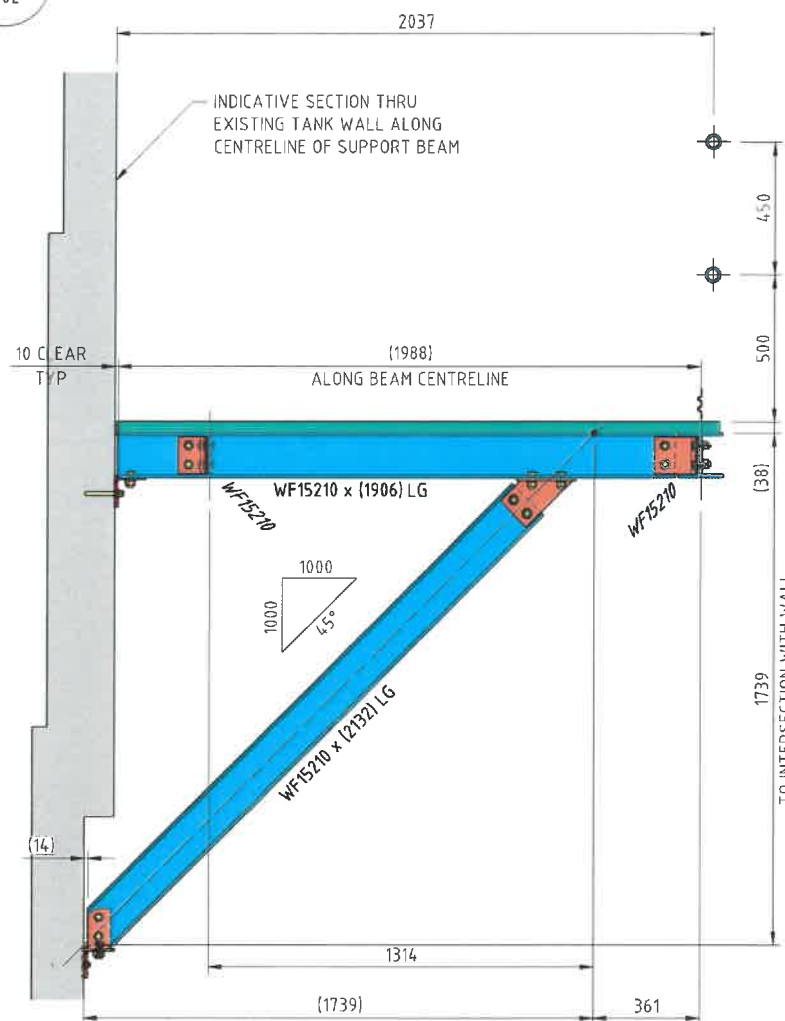
Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev
GD2188-305	0



SECTION D
SCALE - 1:25
302

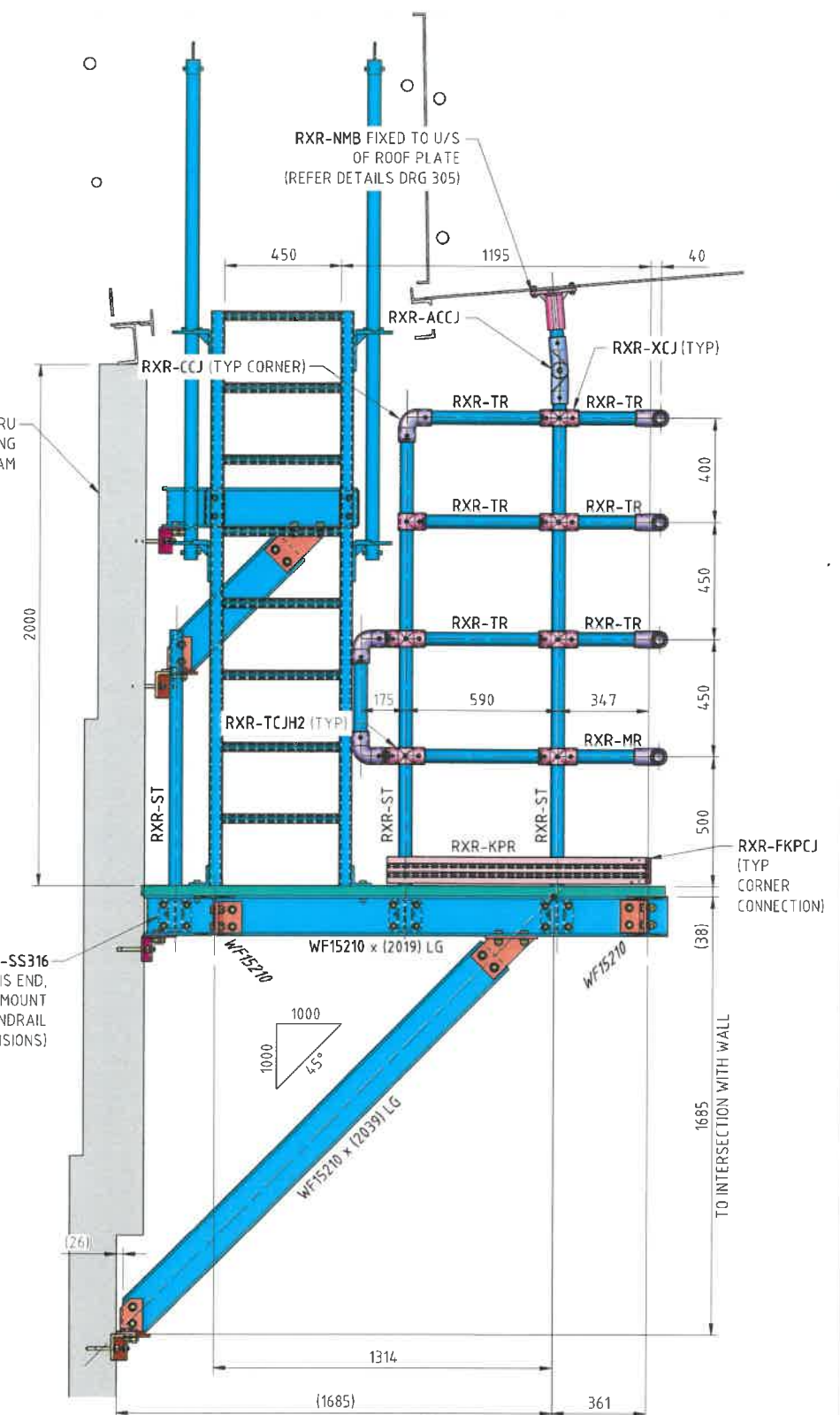


SECTION A
SCALE - 1:25
302



SECTION B
SCALE - 1:25
302

INDICATIVE SECTION THRU EXISTING TANK WALL ALONG CENTRELINE OF SUPPORT BEAM



SECTION C
SCALE - 1:25
302

SECTIONS FOR STRUCTURAL SETOUT
SCALE - 1:25

ISSUED FOR CONSTRUCTION

Approved:
C.L. Witham
Chris Witham
BE(Hons) MIEAust CPEng NER APEC IntPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11631



Member No : 697629

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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	11.07.23
	C.WITHAM		

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
BILOELA TPS LOW ZONE STANDPIPE
SETOUT SECTIONS

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-306
Rev.	0

No.	Date	Revision	By	Appr
0	20/06/23	ISSUED FOR CONSTRUCTION	JW	AB

DESIGN LIMITATIONS:

1. MAJORITY REQUIREMENTS OF AS 1657 CAN BE MET BY EXISTING HATCH ARRANGEMENT.
2. NON-COMPLIANCE WITH CLAUSE 7.4.8.4. REGARDING EXTENSION OF LANDING TO TOP RUNG (DUE TO THICKNESS HAVE PROVIDED 200 mm OFFSET AT TOP RUNG). CLIENT TO PERFORM A HAZOP TO DETERMINE SUITABILITY OF DESIGN VERSUS COST OF MODIFICATION.
3. TOP RUNG WILL NOT BE EXACTLY LINED UP WITH TOP OF SURROUND FRAME DUE TO REQUIREMENT FOR HATCH TO CLOSE. CLIENT TO PERFORM A HAZOP TO DETERMINE WHETHER THIS IS ACCEPTABLE FOR USE.
4. REFER CONSTRUCTION METHODOLOGY NOTE FOR PROPOSED INSTALLATION SEQUENCE. PROPOSED SEQUENCE IS SUBJECT TO REVIEW AND MODIFICATIONS BY CONSTRUCTION AND FABRICATION CONTRACTORS. INSTALLATION CONTRACTOR TO PROVIDE THEIR OWN METHODOLOGY TO BANANA SHIRE COUNCIL FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
5. SITE MODIFICATION OF EQUIPMENT AND HANDRAILS ON SITE WILL BE REQUIRED DUE TO THE LIMITED EXISTING DOCUMENTATION AND EXTENT OF MODIFICATIONS REQUIRED BY THE PROPOSED DESIGN. CONTRACTOR TO ALLOW FOR ALL MODIFICATION WORKS INCLUDING MATERIALS AND SITE INSPECTIONS, AND WORK IN CONJUNCTION WITH BSC SUPERINTENDENT.
6. INTERNAL AREAS OF THE CONCRETE TANK ARE CONSIDERED CONFINED SPACES, AND SHALL REQUIRE A FULL HAZOP PRIOR TO ENTRY BY ANY PERSONNEL. A SAFETY DAVIT HAS BEEN PROVIDED AS PART OF THIS DESIGN.
7. ANY WORK CONDUCTED ON THE PLATFORM PRIOR TO FULL INSTALLATION OF HANDRAILS AND LADDER WILL REQUIRE ATTACHMENT TO A SAFETY LINES AND OTHER SAFETY EQUIPMENT AS THIS WILL BE WORKING AT HEIGHTS. PERSONNEL SHALL BE FULLY TRAINED AND CERTIFIED FOR WORKING AT HEIGHTS AND ACCESS SHALL BE ASSESSED (I.E. HAZOP) PRIOR TO ENTRY INTO THE AREA.
8. WORK CARRIED OUT IN THE CONCRETE TANK WILL REPRESENT A POTENTIAL HAZARD FROM ITEMS FALLING FROM ABOVE. CONTRACTORS SHALL TAKE STEPS TO PREVENT ACCIDENTAL DROPPING OF ELEMENTS INTO THE CHAMBER, AND HAZOPS SHALL BE UNDERTAKEN TO DETERMINE THE BEST APPROACH FOR LOWERING OF EQUIPMENT SAFELY. HARDHATS AND OTHER PPE WILL BE REQUIRED.
9. LIKEWISE THE LIFTING OF ELEMENTS ONTO THE TANK ROOF WILL PRESENT A HAZARD TO ALL WORKERS ON THE OUTSIDE OF THE TANK, AND ADDITIONALLY MEMBERS OF THE PUBLIC. THE WORKSITE SHALL BE FULLY FENCED AS REQUIRED TO ALLOW FOR THE MOVEMENT OF MATERIALS SAFELY AND WITHOUT RISK TO THE PUBLIC (WHERE POSSIBLE). HAZOP SHALL CONSIDER CRANE OPERATION, POSITIONING AND ACCESS.
10. PLATFORM DESIGN ASSUMES STANDARD ENTRY TO TANK WILL BE CONDUCTED BY DIVERS WITH WATER LEVEL ABOVE THE LEVEL OF THE PLATFORM DECK. WHERE THIS IS NOT THE CASE A HAZOP SHALL BE CONDUCTED TO IDENTIFY ANY ADDITIONAL SAFETY ISSUES THAT MAY BE PRESENT AND DETERMINE SUITABLE CONTROLS / METHODS.
11. CLIENT TO PRODUCE A PROCEDURE FOR SAFETY ACCESS FOR DIVERS FOR INDIVIDUAL TANKS. ALL DESIGN CONSTRAINTS AND SAFETY ISSUES RAISED ABOVE SHALL BE INCLUDED, IN ADDITION TO ANY OTHER ISSUES IDENTIFIED BY BSC PERSONNEL AND CONTRACTORS

CONSTRUCTION METHODOLOGY:

1. BANANA SHIRE COUNCIL TO ARRANGE AND DRAIN EXISTING RESERVOIR. TIME TO BE ALLOWED FOR DRYING OF CONCRETE SURFACES PRIOR TO INSTALLING NEW ELEMENTS.
2. FABRICATE AND INSTALL NEW UPPER HANDRAIL SECTION AND SAFETY DAVIT BASE PLATE. PRIOR TO CHEMICALLY ANCHORING IN PLACE, POSITIVELY LOCATE BOTH ELEMENTS AND ENSURE ALL SETOUT DIMENSIONS WILL RESULT IN FULL FUNCTIONING DAVIT. ONCE CONFIRMED SITE DRILL AND INSTALL NEW CHEMICAL ANCHORS AND FASTEN NEW ITEMS IN PLACE IN ACCORDANCE WITH ENGINEERING AND MANUFACTURERS SPECIFICATIONS. PROVIDE DAVIT MOUNTING PLATE OVER CONCRETE SURFACE WITH GROUT LEVELLING PAD AS REQUIRED TO ENSURE A LEVEL INSTALLATION AND OPERATION OF THE DAVIT. WITH THE DAVIT INSTALLED, PROCEED WITH DEMOLITION WORKS AS INDICATED. ALL EXISTING ELEMENTS TO BE REMOVED AND DISPOSED OF SAFELY AND IN ACCORDANCE WITH BSC SUPERINTENDENTS INSTRUCTION. WHERE EXISTING ITEMS ARE REMOVED FROM EXISTING CONCRETE SURFACES, ENSURE ALL EXPOSED SURFACES (I.E. CUT ANCHORS ETC.) ARE FULLY SEALED WITH POTABLE WATER APPROVED SEALANT. ANY CONCRETE DAMAGE SHALL BE REMEDIATED TO THE SPECIFICATION OF THE BSC SUPERINTENDENT.
3. LOWER NEW FRP AND STAINLESS STEEL MEMBERS, CLEATS, FIXINGS ETC. FOR NEW PLATFORM INTO THE EXISTING RESERVOIR CHAMBER. ELEMENTS TO BE PLACED ONTO TANK FLOOR.
4. POSITIVELY LOCATE POSITIONS FOR INSTALLATION OF NEW WALL MOUNTING BRACKETS. START WITH LAYOUT OF PLATFORM MEMBERS ON THE TANK FLOOR TO ASSIST IN ENSURING MEMBERS ALIGN WITH BRACKET POSITIONS, THEN TRACE UP THE WALL (I.E. USE OF PLUMB-BOB FROM ABOVE TO ALIGN POSITIONS).
5. ONCE WALL MOUNT POSITIONS ARE PREPARED, FULLY ASSEMBLE MAIN PLATFORM LEVEL, COMPLETE WITH HANDRAIL, GRATING AND KICK PLATE SECTIONS.
6. PREPARE TO LIFT PLATFORM ASSEMBLY. BEFORE LIFTING INTO PLACE (BUT WHILE SUSPENDED) INSTALL KNEE BRACE ELEMENTS TO PLATFORM BEAMS. ONCE FULLY ASSEMBLED, ELEVATE PLATFORM ASSEMBLY UP AND ONTO WALL BRACKETS. FIX ALL MEMBERS TO WALL BRACKETS IN ACCORDANCE WITH ENGINEERING DETAILS. WHERE APPLICABLE, FIX UPPER HANDRAIL BASE PLATES TO UNDERSIDE OF EXISTING TANK ROOF.
7. LOWER ELEMENTS FOR LADDER SUPPORT ONTO PLATFORM BELOW AND ASSEMBLE FRAME. INSTALL ONTO WALL BRACKETS AND FASTEN AS PER ENGINEERING DETAILS.
8. LOWER NEW LADDER ASSEMBLY ONTO NEW PLATFORM. LOCATE AND FIX TO NEW PLATFORM AND EXISTING STRUCTURE IN ACCORDANCE WITH ENGINEERING DETAILS.

DESIGN INCORPORATES REQUIREMENTS OF AS 2299.1-2015 WHERE APPLICABLE:

- 3.10 DIVE REQUIREMENTS:
 - 3.10.1 GENERAL

DIVING OPERATIONS SHALL BE CONDUCTED ONLY FROM A SAFE AND SUITABLE SITE OR VESSEL, WHICH AT TIMES PROVIDES:

 - (a) SUITABLE ACCESS & EXIT FOR THE DIVERS;
 - (b) MEANS TO RECOVER AN INJURED DIVER FROM THE WATER; AND
 - (c) MEANS OF COMMUNICATION TO EMERGENCY SUPPORTED SERVICES (SEE CLAUSE 3.6.4)
 - 3.13.3 HARNESSES

PROVIDES REQUIREMENT SHOULD A HARNESS BE REQUIRED
 - 3.13.6 LIFELINE

A HARNESS AND LIFELINE WOULD BE A HINDRANCE IN THESE OPERATIONS, PREVENTING SAFE MOVEMENT THROUGHOUT THE TANK. BANANA SHIRE COUNCIL SHALL HAZOP WITH COMMERCIAL DIVER.
 - 7.3.4 DIVER DEPTHS TO 30 m (SCUBA)

THE TEAM SHALL INCLUDE 1 SUPERVISOR, 1 DIVER, 1 DIVERS ATTENDANT AND 1 STANDBY DIVER (4 IN TOTAL). ROOFTOP PLATFORM SHOULD BE DESIGNED TO ALLOW FOR 4 PEOPLE.

STAINLESS STEEL:

1. ALL STAINLESS STEEL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF:
 - 1.1 AS 4100 - SAA STEEL STRUCTURES CODES
 - 1.2 AS 1554.6 - STRUCTURAL STEEL WELDING - WELDING STAINLESS STEELS FOR STRUCTURAL PURPOSES
2. STAINLESS STEEL GRADES AS FOLLOWS:
 - 2.1 PLATE, SHEET AND STRIP SHALL BE TO ASTM A240M GRADE 316L
 - 2.2 BARS SHALL BE TO ASTM A276M GRADE 316L
3. STAINLESS STEEL FINISHING DETAILS:
 - 3.1 ALL SHARP EDGES AND BURRS TO BE REMOVED
 - 3.2 STAINLESS STEELWORK SHALL BE CLEANED, PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 "STANDARD PRACTICE FOR CLEANING, DESCALING AND PASSIVATION OF STAINLESS STEEL PARTS, EQUIPMENT AND SYSTEMS".
4. WELD DETAILS:
 - 4.1 ALL WELDS SHALL BE 6 CFW UNO.
 - 4.2 BUTT WELDS SHALL BE PRE-QUALIFIED FULL PENETRATION UNO.
 - 4.3 ALL WELDING SHALL CONFORM WITH AS 1554.6, CATEGORY 1A.
 - 4.4 ALL WELDING CONSUMABLES SHALL BE TO AS/NZS 1167.2 AND/OR AS/NZS 4854.
 - 4.5 ALL WELDS SHALL BE VISUALLY INSPECTED.
 - 4.6 ALL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS AND GROSS POROSITY.

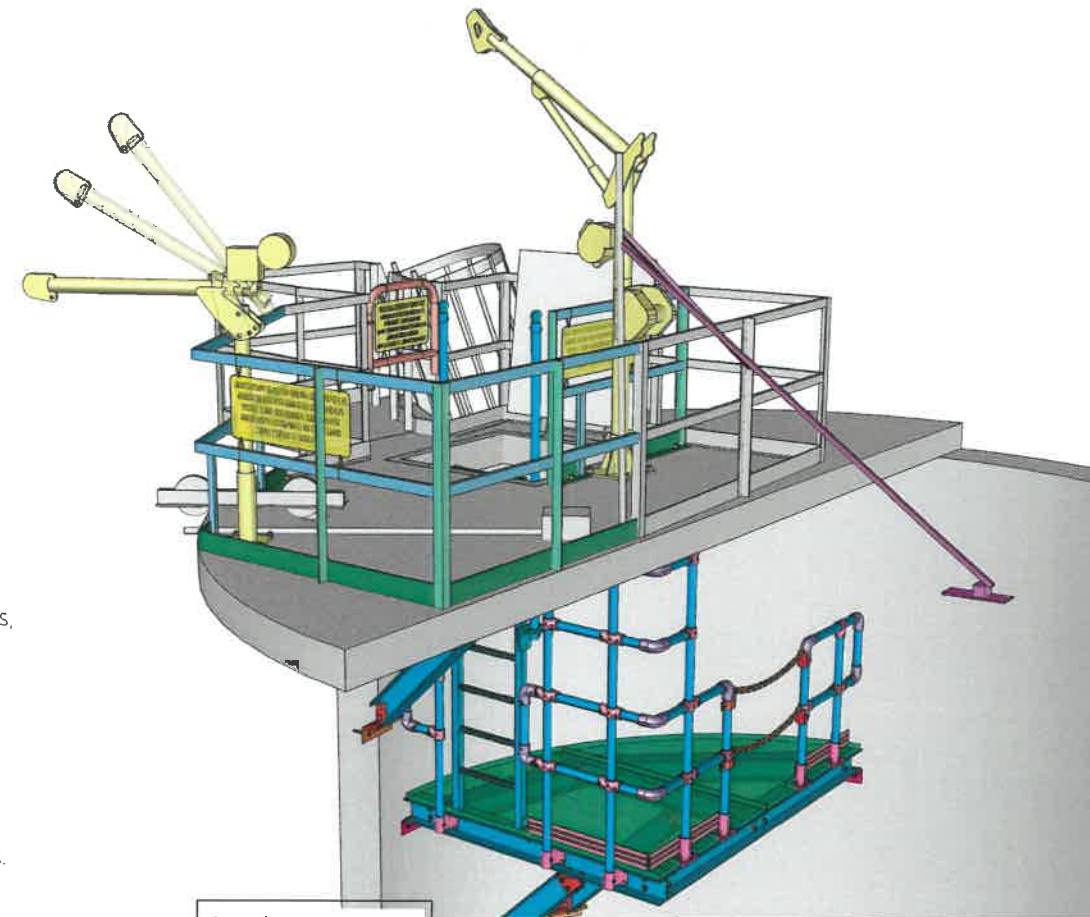
FIBRE REINFORCED PLASTIC (FRP) / COMPOSITE FIBRE:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. ENSURE COMPLIANCE WITH MANUFACTURER QUALITY ASSURANCE STANDARDS.
2. UNLESS NOTED OTHERWISE OR APPROVED COMPOSITE MATERIALS FOR USE IN THIS PROJECT SHALL BE MANUFACTURED BY TREADWELL. SUBSTITUTIONS IN MATERIALS SHALL NOT BE UNDERTAKEN WITHOUT PRIOR APPROVED OF BSC SUPERINTENDENT AND STRUCTURAL ENGINEER.
3. ALL MEMBERS SHALL BE IN SOUND CONDITION FREE FROM PITTING, DE-LAMINATIONS AND OTHER DEFECTS WHICH ARE LIKELY TO IMPAIR THE STRUCTURAL CAPACITY OF THE MEMBERS.
4. APPLY A WATERPROOFING COMPOUND TO SEAL ANY END CUT FIBRES AS A RESULT OF DRILLING, CUTTING OR DAMAGE TO THE COMPOSITE FIBRE PROFILES. COMPOUND SHALL BE APPROVED FOR POTABLE WATER AND SHALL BE APPROVED BY THE MANUFACTURER.
5. CONTRACTORS SHALL REFER TO MANUFACTURER FOR ALL INSTALLATION AND ASSEMBLY INSTRUCTIONS AND SPECIFICATIONS PRIOR TO BEGINNING WORK, AND SHALL ENSURE THAT ALL INSTRUCTIONS ARE UNDERSTOOD.



LOCALITY PLAN

SCALE - NTS



Approved:

 Chris Witham
 BE(Hons) MIEAust CP Eng NER APEC WPE(Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

ISSUED FOR CONSTRUCTION

						 QUALITY DESIGN. CONCEPT TO COMPLETION. A.S. BUENEN Pty. Ltd. Trading as: INDUSTRIAL - MECHANICAL - CIVIL - STRUCTURAL DESIGN STEELWORK & CONCRETE PANEL SHOP DETAILING RESIDENTIAL & COMMERCIAL BUILDING DESIGN - QBCC 1191231 1/48 GOONDOON STREET GLADSTONE QUEENSLAND PH: 07 49726 066 ABN 96 081 040 600 EMAIL: design@gladstonedrafting.com.au WEB: www.gladstonedrafting.com.au		Designed by A.BUENEN Date -	Title BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE MOURA WATER STANDPIPE DESIGN NOTES	Scale AS SHOWN (AT A3)
								Drawn by J.WALKER Date 20.03.23		Job No. GD2188
								Checked by A.BUENEN Date 28.06.23		Drawing No. Rev GD2188-000 0
								Engineer RPEQ 11631 C.WITHAM Date 11.07.23		
No.	Date	Revision	By	Appr						
0	20/06/23	ISSUED FOR CONSTRUCTION	JW	AB						

SIGN TO BE ATTACHED TO SELF-CLOSING GATE:
 "NO UNAUTHORISED ACCESS; PLATFORM ACCESS FOR DIVING /
 MAINTENANCE TEAMS WITH AUTHORISATION AND PERMITS FROM BANANA
 SHIRE COUNCIL; TRESPASSERS WILL BE PROSECUTED"
 25 - 30 mm HIGH BLACK TEXT ON SAFETY YELLOW BACKGROUND.

NEW MONOWILLS ALUMINIUM SELF-CLOSING
 GATE TO BE SITE FIT BETWEEN EXISTING
 ALUMINIUM ANGLE STANCHIONS.

NEW PROPRIETARY PERSONNEL
 RESCUE DAVIT TO BE INSTALLED IN
 ACCORDANCE WITH MANUF. SPECS.

NEW ALUMINIUM HANDRAIL SECTION
 TO PROVIDE PROTECTION ALONG
 EDGE OF EXISTING HATCH.

EXISTING RUSTED / DAMAGED PLATE BRACKET
 TO BE REMOVED AND RELOCATED (OR REPLACED)
 AWAY FROM HATCH OPENING. CURRENT POSITION
 INTRUDES ON LADDER ACCESS SPACE.

NEW PROPRIETARY EQUIPMENT
 DAVIT CRANE TO BE INSTALLED IN
 ACCORDANCE WITH MANUF. SPECS.

EXISTING STAY TO BE MODIFIED TO BE
 FIXED AGAINST EXISTING HANDRAIL
 STANCHION. ARRANGEMENT TO BE
 CONFIRMED ON SITE IN COORDINATION
 WITH BSC SUPERINTENDENT

NEW ALUMINIUM HANDRAIL EXTENSION
 TO ALLOW FOR NEW DAVIT CRANE

EXISTING ALUMINIUM
 HANDRAILS

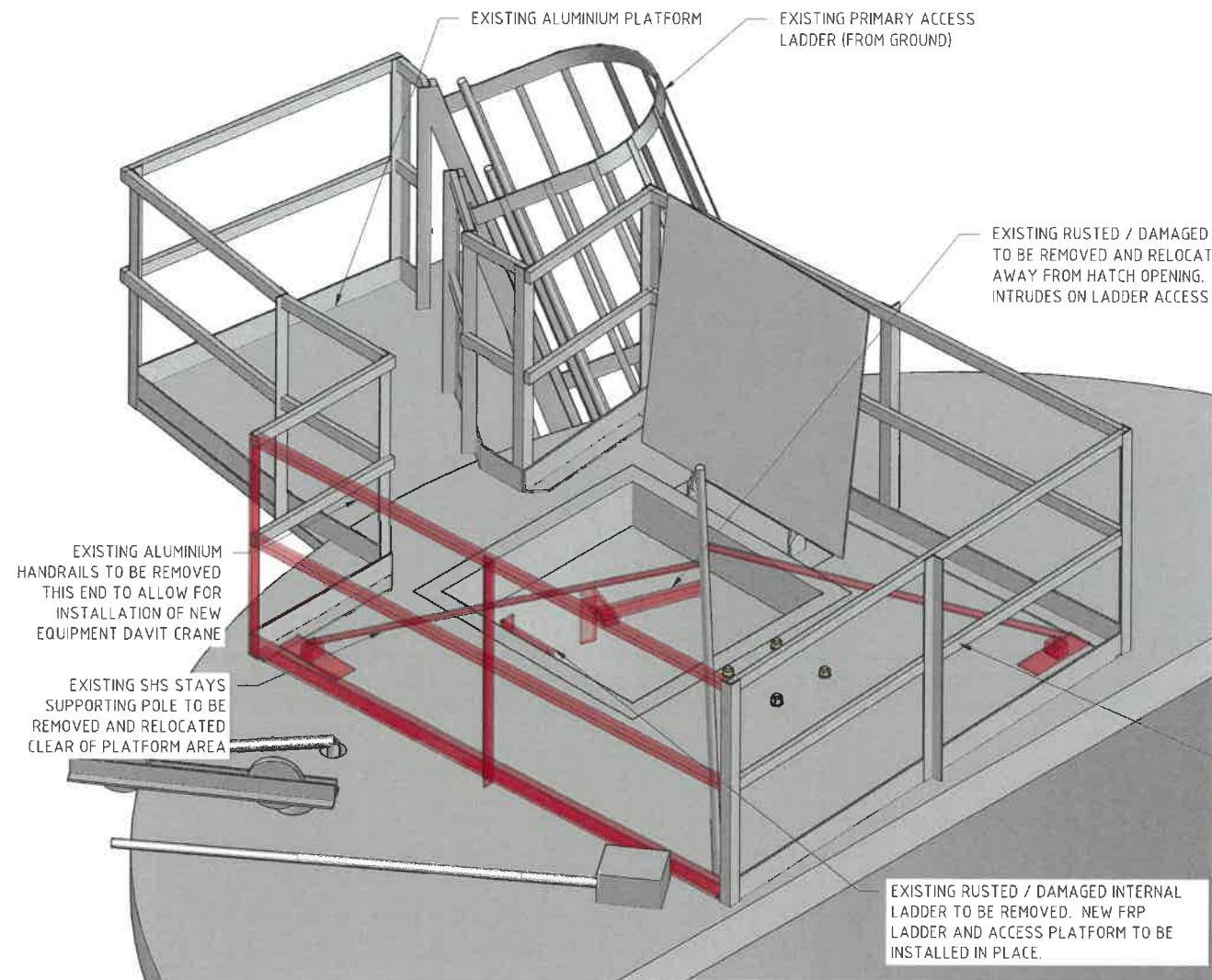
NEW TREADWELL PREFABRICATED FRP LADDER SYSTEM
 INSTALLED TO SUIT NEW SUPPORT POSITIONS. PROVIDE
 WITH EXTENDABLE STILES AND ENSURE INSTALLATION
 IS IN ACCORDANCE WITH AS 1657.

NEW SITE ASSEMBLED
 LADDER SUPPORT FRAME

NEW SITE ASSEMBLED FRP PLATFORM

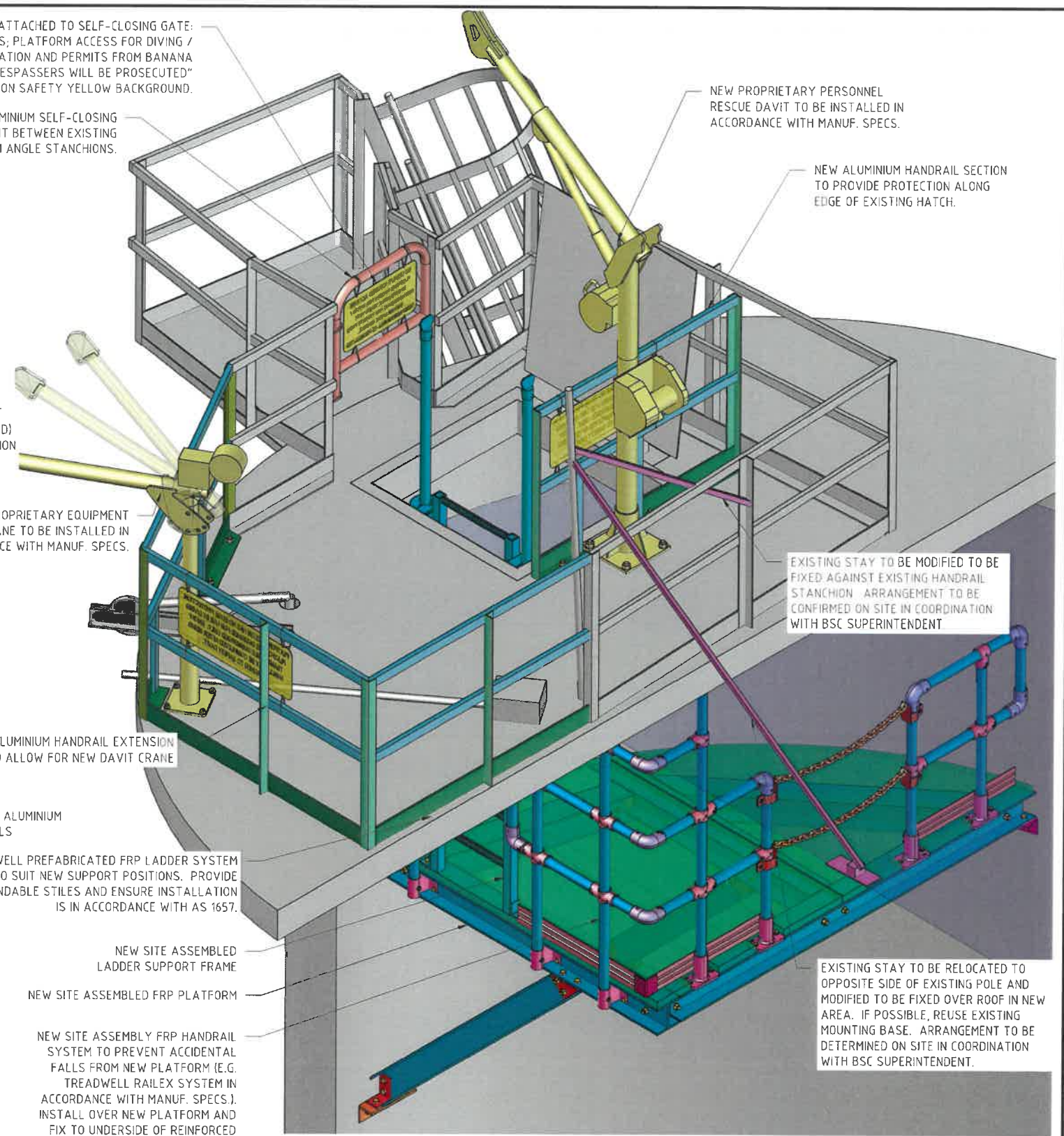
NEW SITE ASSEMBLY FRP HANDRAIL
 SYSTEM TO PREVENT ACCIDENTAL
 FALLS FROM NEW PLATFORM (E.G.
 TREADWELL RAILEX SYSTEM IN
 ACCORDANCE WITH MANUF. SPECS.).
 INSTALL OVER NEW PLATFORM AND
 FIX TO UNDERSIDE OF REINFORCED
 CONCRETE ROOF.

EXISTING STAY TO BE RELOCATED TO
 OPPOSITE SIDE OF EXISTING POLE AND
 MODIFIED TO BE FIXED OVER ROOF IN NEW
 AREA. IF POSSIBLE, REUSE EXISTING
 MOUNTING BASE. ARRANGEMENT TO BE
 DETERMINED ON SITE IN COORDINATION
 WITH BSC SUPERINTENDENT.



DEMOLITION PLAN (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY



GENERAL ARRANGEMENT (ISOMETRIC)

SCALE - NTS
 EXISTING TANK SHOWN PARTIALLY ONLY FOR CLARITY

Approved:

 Chris Witham
 BE (Mech) MIE Aust CP Eng NER APEC Insp (Aus)
 Allied Group Australasia Pty Ltd
 RPEQ - 11631

ISSUED FOR CONSTRUCTION

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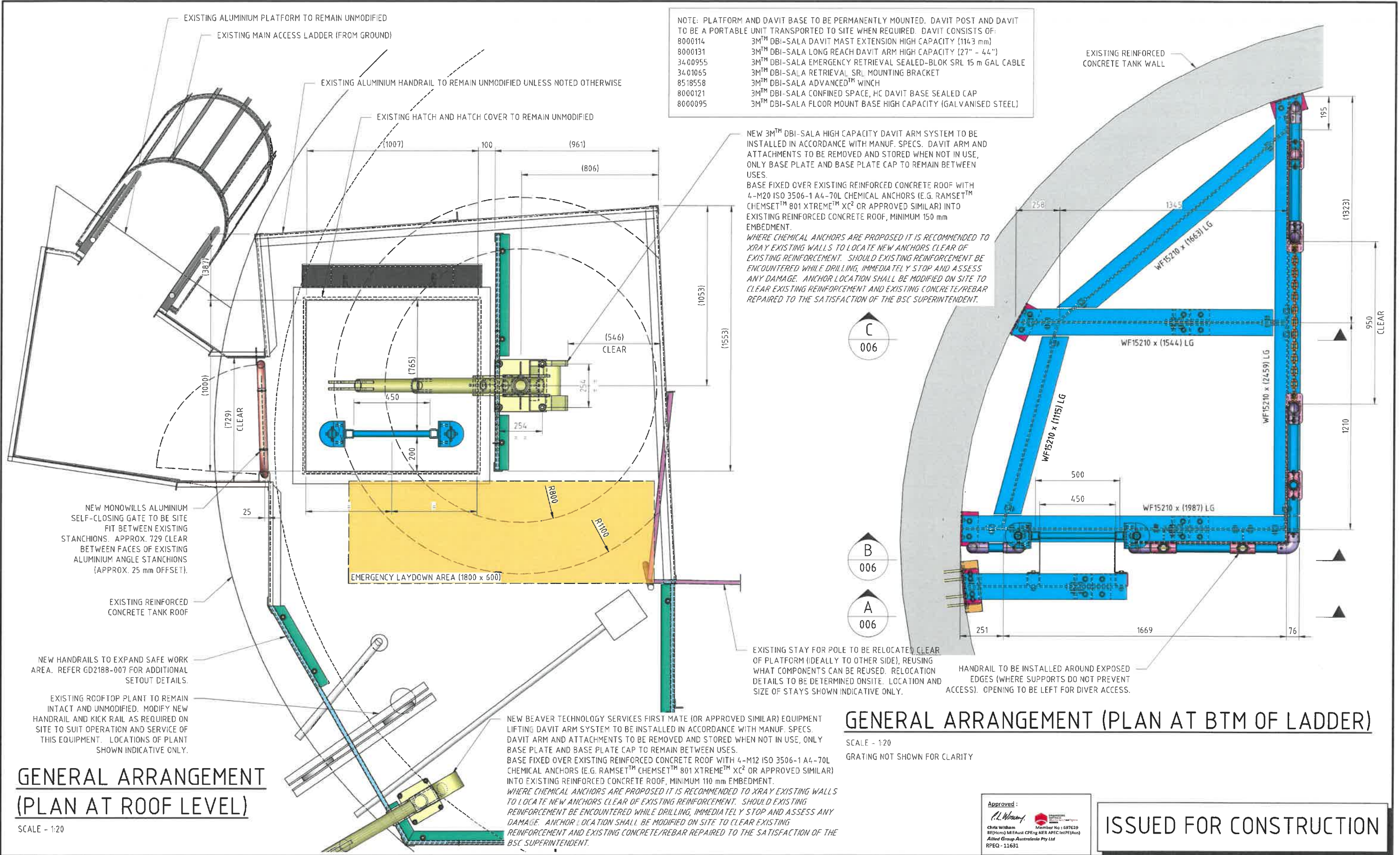
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Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE MOURA WATER STANDPIPE GENERAL ARRANGEMENT 1
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Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-001
Rev.	0



**GENERAL ARRANGEMENT
(PLAN AT ROOF LEVEL)**

SCALE - 1:20

GENERAL ARRANGEMENT (PLAN AT BTM OF LADDER)

SCALE - 1:20
GRATING NOT SHOWN FOR CLARITY

Approved:
C.L. Witham
Chris Witham
BE(Hons) M.Eng. CP.Eng. M.ER. APCC. IntPE(Aus)
Avalon Group Australasia Pty Ltd
RPEQ - 11691

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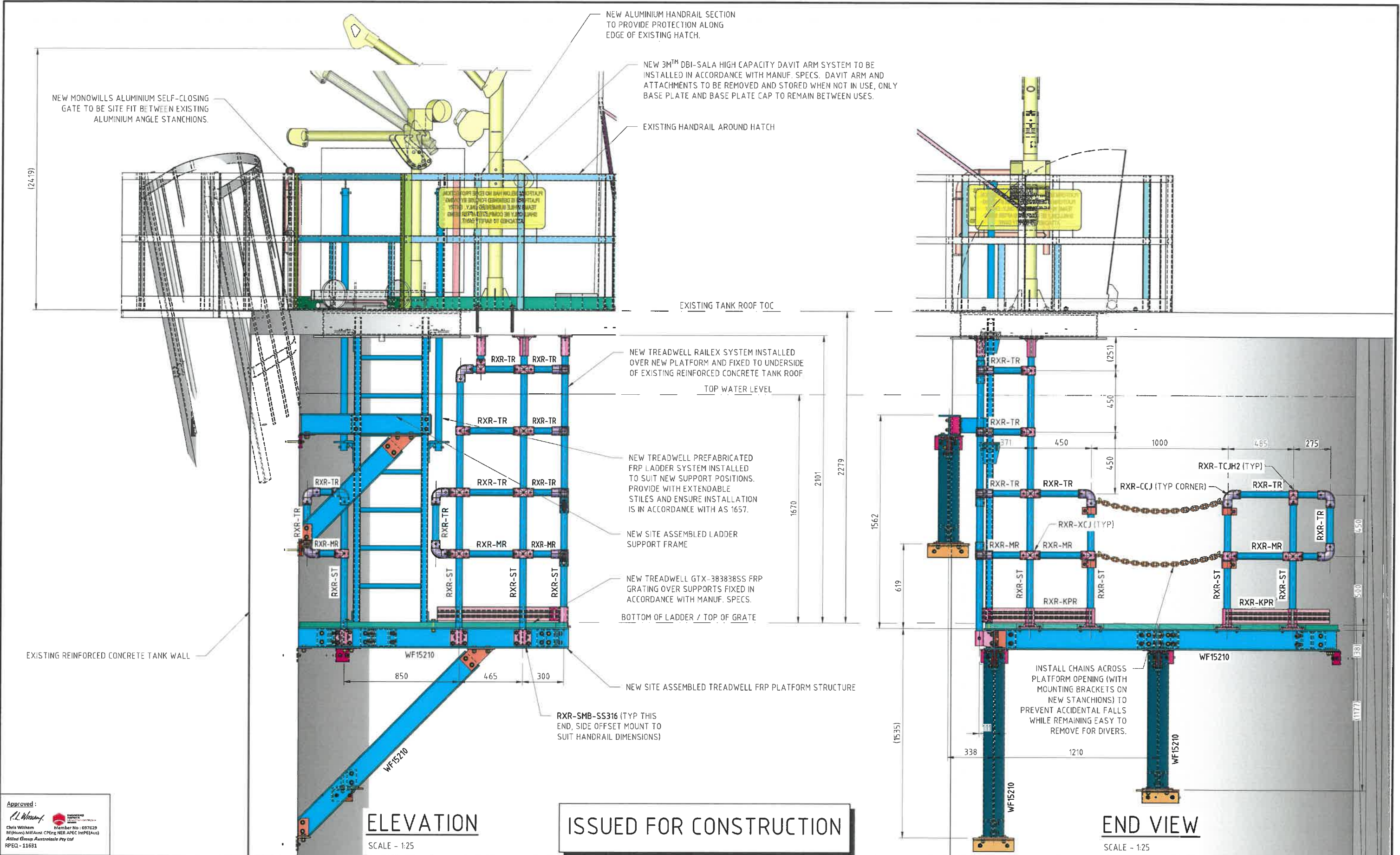
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A. BUENEN	-	BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE MOURA WATER STANDPIPE GENERAL ARRANGEMENT 2
Drawn by	Date	
J. WALKER	20.03.23	
Checked by	Date	
A. BUENEN	28.06.23	
Engineer RPEQ 11631	Date	
C. WITHAM	11.07.23	

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Job No.	
GD2188	
Drawing No.	Rev.
GD2188-002	0



Approved:

 Chris Witham
 BE (Hons) MIEAust CPEng NER APEC IntPE(Aus)
 Allied Group, Australian Pty Ltd
 RPEQ - 11691

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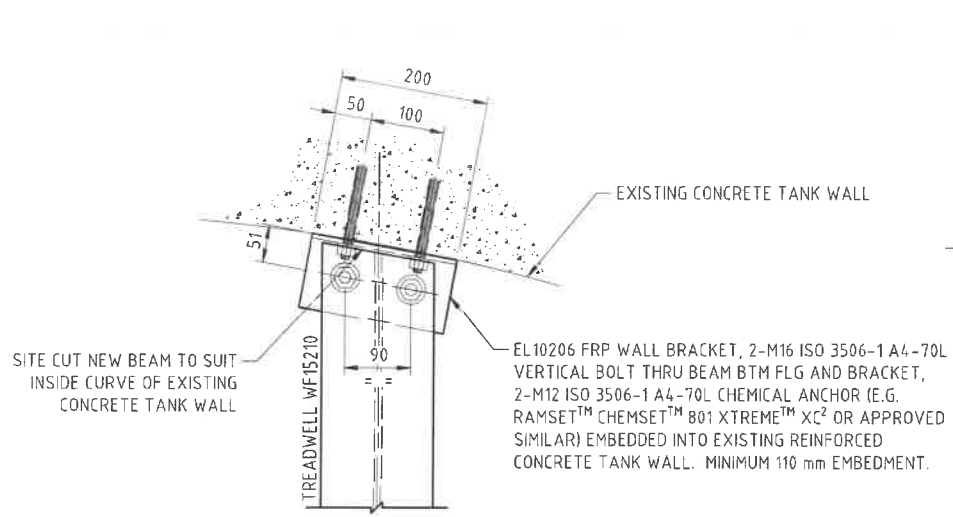
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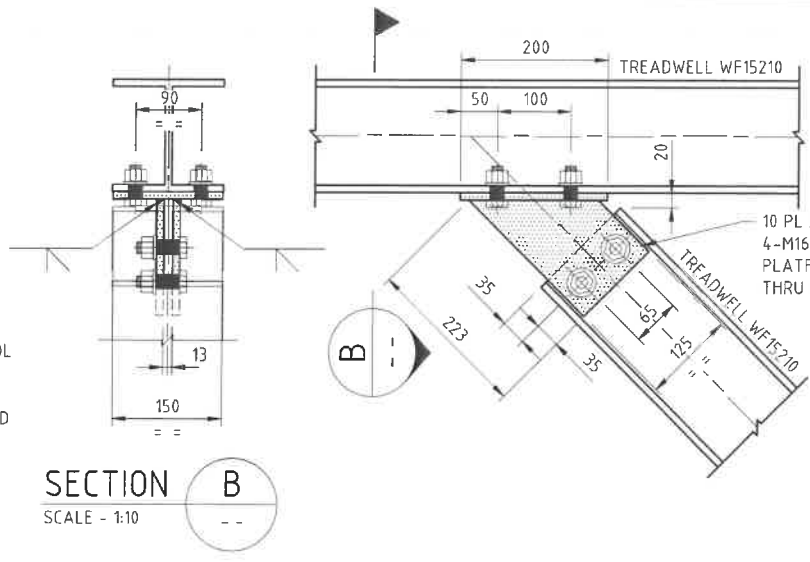
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Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 MOURA WATER STANDPIPE
 ELEVATIONS

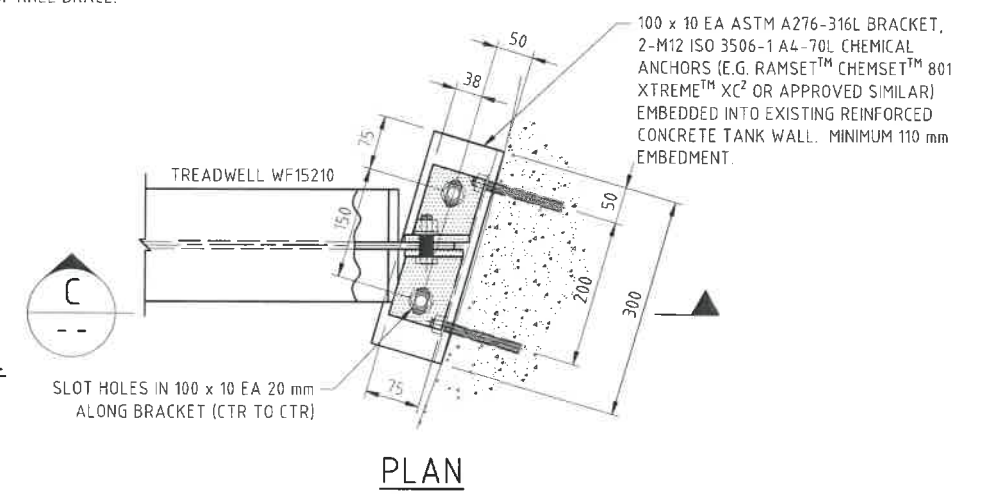
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Job No.	GD2188
Drawing No.	GD2188-003
Rev.	0



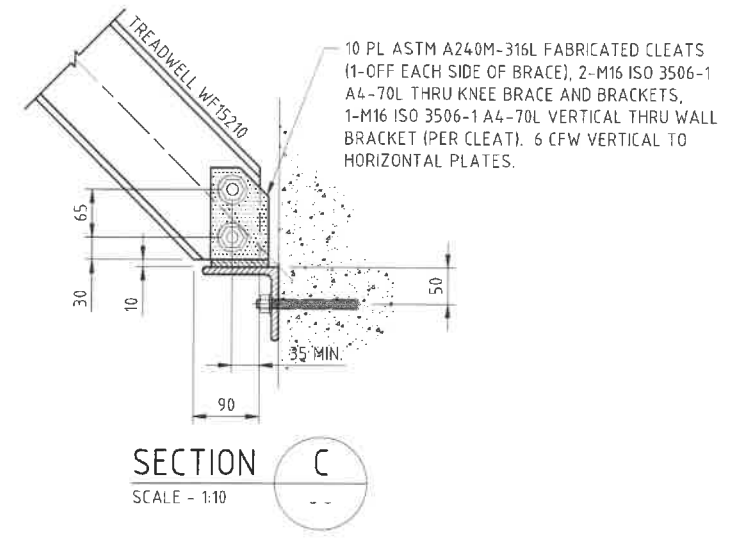
TYPICAL BEAM TO WALL CONNECTION DETAIL
SCALE - 1:10



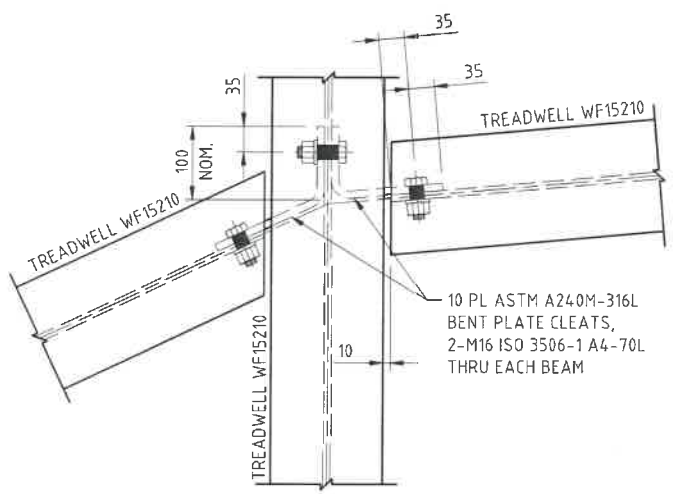
TYPICAL KNEE BRACE TO BEAM CONNECTION DETAIL
SCALE - 1:10



PLAN

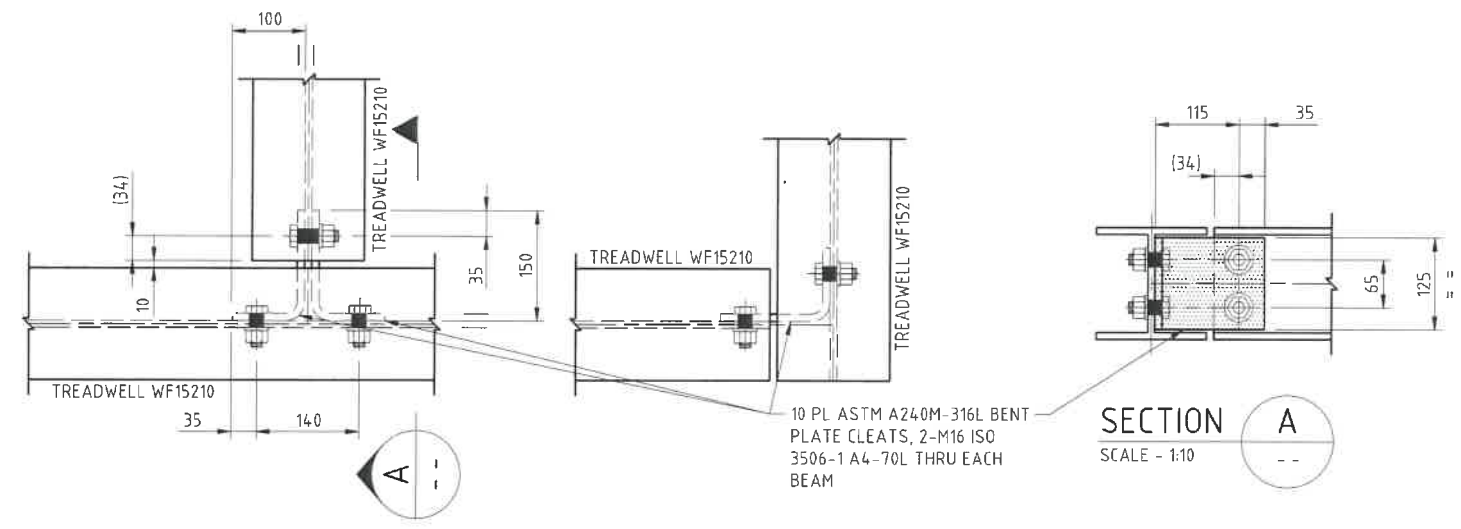


TYPICAL KNEE BRACE TO WALL CONNECTION DETAIL
SCALE - 1:10



TYPICAL INTERNAL BEAM CONNECTION DETAIL
SCALE - 1:10

CHEMICAL ANCHOR NOTE
WHERE CHEMICAL ANCHORS ARE PROPOSED IT IS RECOMMENDED TO XRAY EXISTING WALLS TO LOCATE NEW ANCHORS CLEAR OF EXISTING REINFORCEMENT. SHOULD EXISTING REINFORCEMENT BE ENCOUNTERED WHILE DRILLING, IMMEDIATELY STOP AND ASSESS ANY DAMAGE. ANCHOR LOCATION SHALL BE MODIFIED ON SITE TO CLEAR EXISTING REINFORCEMENT AND EXISTING CONCRETE/REBAR REPAIRED TO THE SATISFACTION OF THE BSC SUPERINTENDENT



TYPICAL EDGE BEAM CONNECTION DETAILS
SCALE - 1:10

Approved:
A.L. Walker
Chris Witham
BE(Hons) MEng (Struct) CPEng NER APEC InPE(Aus)
Allied Group Australasia Pty Ltd
RPEQ - 11651

ISSUED FOR CONSTRUCTION

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0	20/06/23	ISSUED FOR CONSTRUCTION	JW	AB

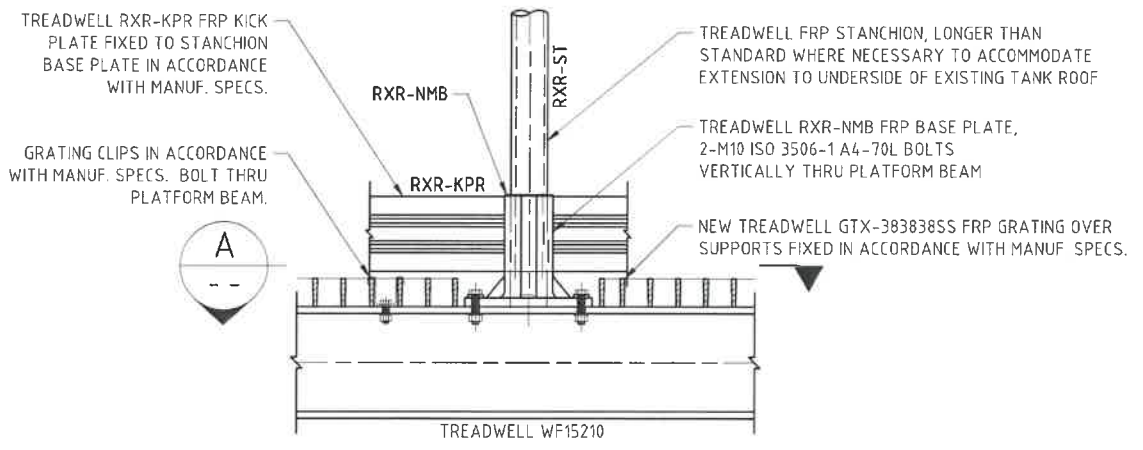
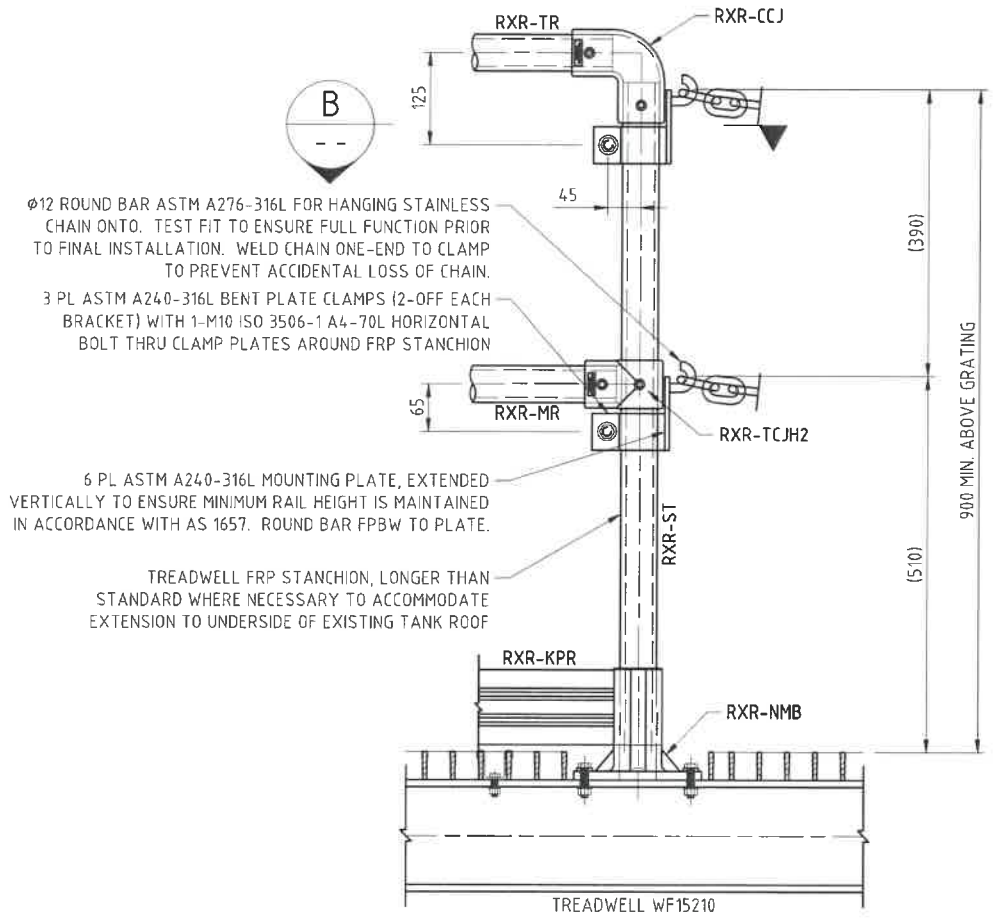
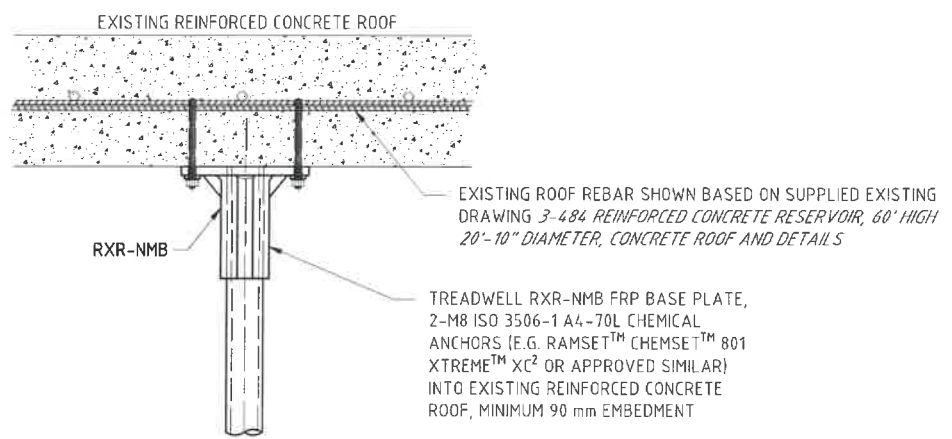
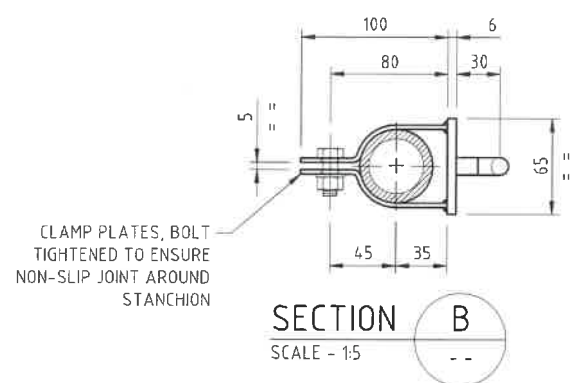
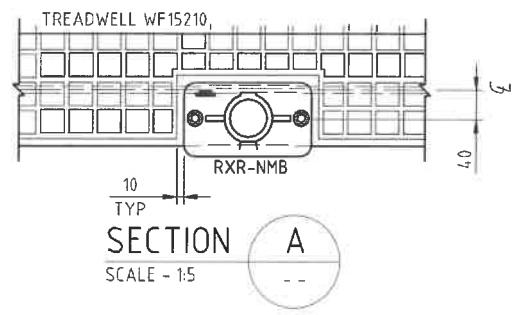
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QUALITY DESIGN CONCEPT TO COMPLETION

A.S. BUENEN Pty. Ltd. Trading as:
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STEELWORK & CONCRETE PANEL SHOP DETAILING
RESIDENTIAL & COMMERCIAL BUILDING DESIGN - QBCC 1191231
1/48 GOONDOON STREET GLADSTONE QUEENSLAND
PH: 07 49726 066 ABN 96 081 040 600
EMAIL: design@gladstonedrafting.com.au
WEB: www.gladstonedrafting.com.au

Designed by	Date
A.BUENEN	-
Drawn by	Date
J.WALKER	20.03.23
Checked by	Date
A.BUENEN	28.06.23
Engineer	Date
C.WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE MOURA WATER STANDPIPE TYPICAL DETAILS 1

Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev.
GD2188-004	0



TYPICAL STANCHION CONNECTION DETAIL
 SCALE - 1:10
 NOTE: ALTERNATIVE TO USE OF RXR-NMB BASE FIXING A RXR-SMB-SS316 SIDE OFFSET MOUNT MAY BE INSTALLED IN ACCORDANCE WITH MANUF. SPECS.

STANCHION CHAIN MOUNTING DETAIL
 SCALE - 1:10

Approved:
 Chris Witham
 Member No: 697629
 RPEQ - 11631

ISSUED FOR CONSTRUCTION

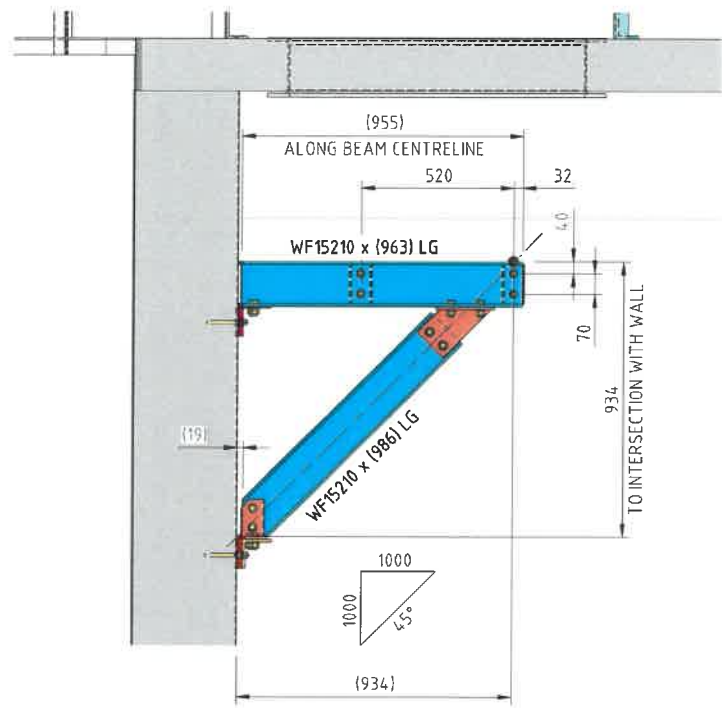
No.	Date	Revision	By	Appr
A	20/06/23	ISSUED FOR CONSTRUCTION	JW	AB

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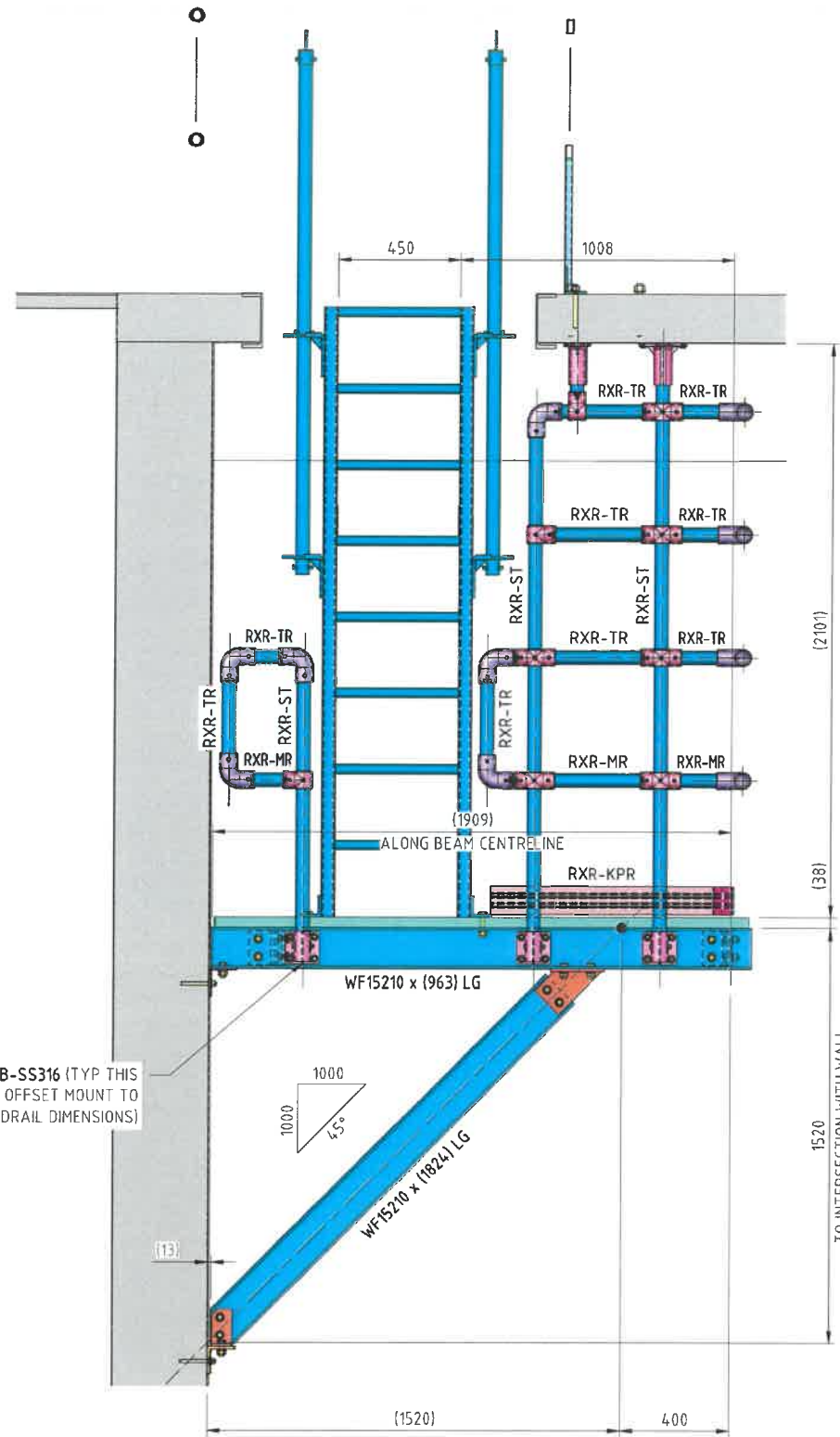
Designed by	A.BUENEN	Date	-
Drawn by	J.WALKER	Date	20.03.23
Checked by	A.BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C.WITHAM	Date	11.07.23

Title
 BANANA SHIRE COUNCIL
 RESERVOIR ACCESS UPGRADE
 MOURA WATER STANDPIPE
 TYPICAL DETAILS 2

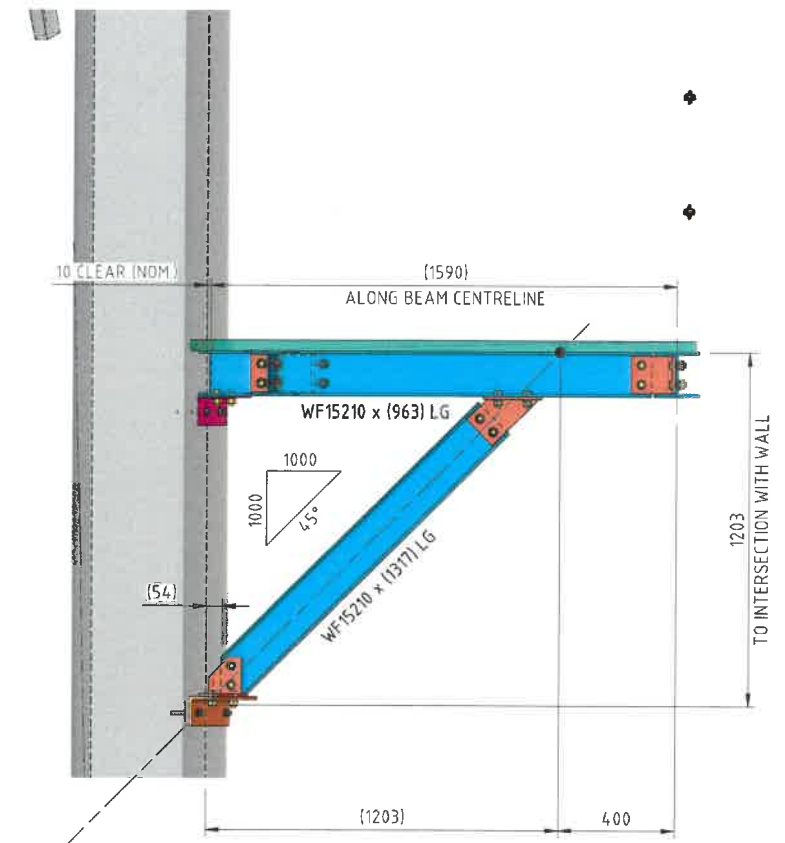
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Job No.	GD2188
Drawing No.	GD2188-005
Rev.	0



SECTION A
SCALE - 1:25



SECTION B
SCALE - 1:25



SECTION C
SCALE - 1:25

RXR-SMB-SS316 (TYP THIS END, SIDE OFFSET MOUNT TO SUIT HANDRAIL DIMENSIONS)

ISSUED FOR CONSTRUCTION

Approved:
Chris Wilham
Member No: 697629
RPEQ - 11631

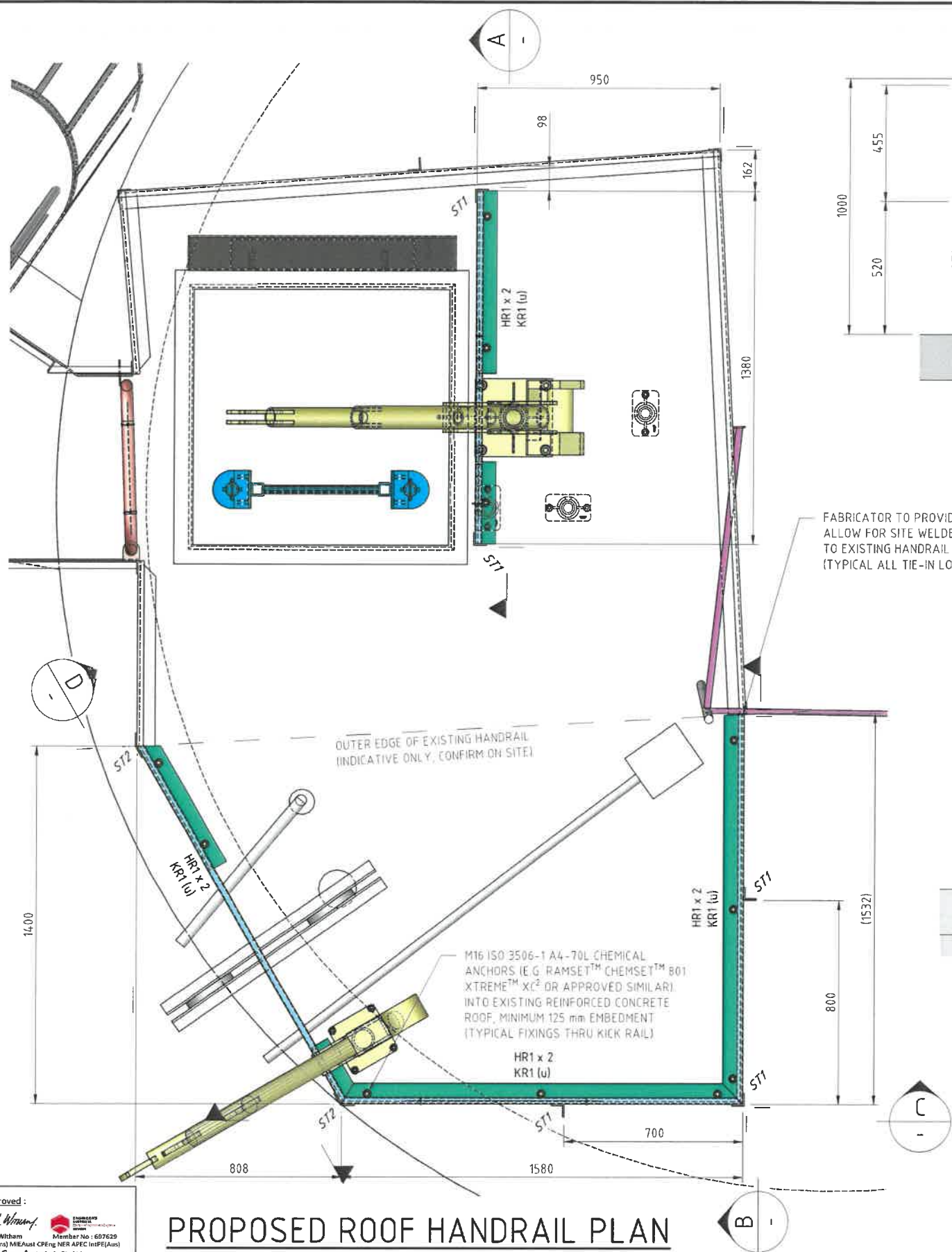
No.	Date	Revision	By	Appr
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Designed by	A. BUENEN	Date	-
Drawn by	J. WALKER	Date	20.03.23
Checked by	A. BUENEN	Date	28.06.23
Engineer	RPEQ 11631	Date	
	C. WITHAM	Date	11.07.23

Title
BANANA SHIRE COUNCIL
RESERVOIR ACCESS UPGRADE
MOURA WATER STANDPIPE
SETOUT SECTIONS

Scale	AS SHOWN (AT A3)
Job No.	GD2188
Drawing No.	GD2188-006
Rev.	0



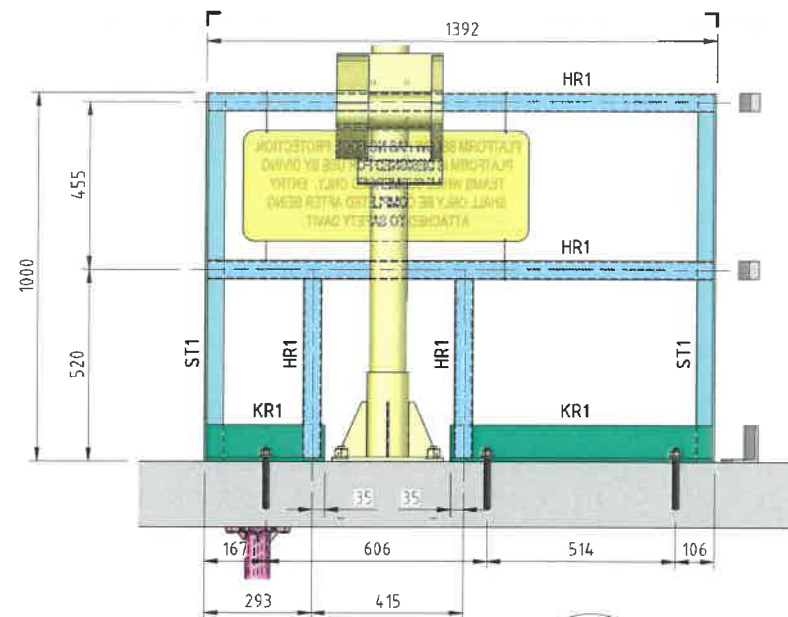
PROPOSED ROOF HANDRAIL PLAN

SCALE - 1:20

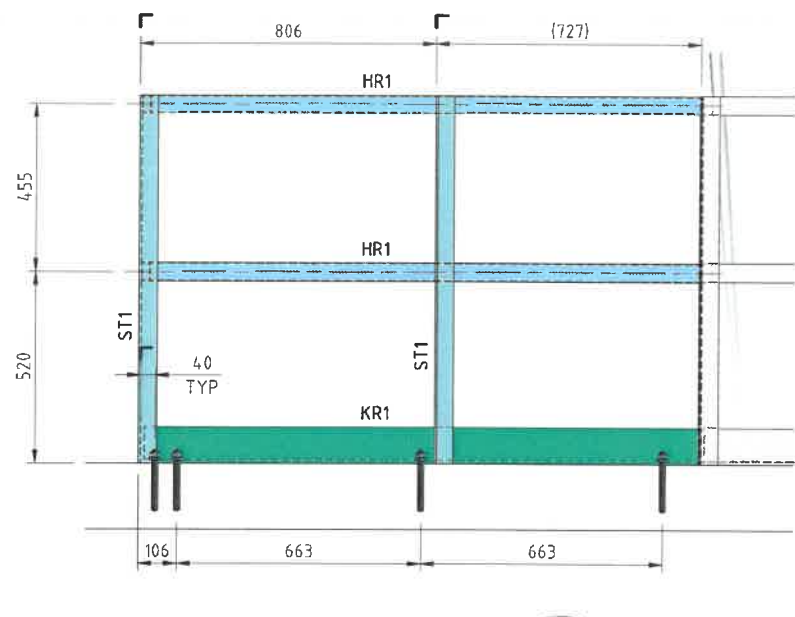
Approved:

 Chris Witham
 BE(Struct) MIE(Aust) CP(Eng) NER APEC Insp(PE)(Aus)
 Allied Group Australia Pty Ltd
 RPEQ - 11631

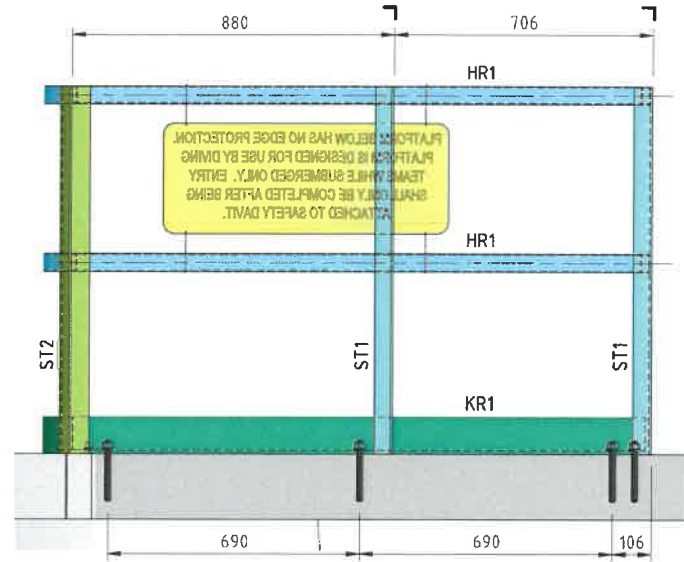
FABRICATOR TO PROVIDE GREEN TO ALLOW FOR SITE WELDED CONNECTION TO EXISTING HANDRAIL ASSEMBLIES (TYPICAL ALL TIE-IN LOCATIONS)



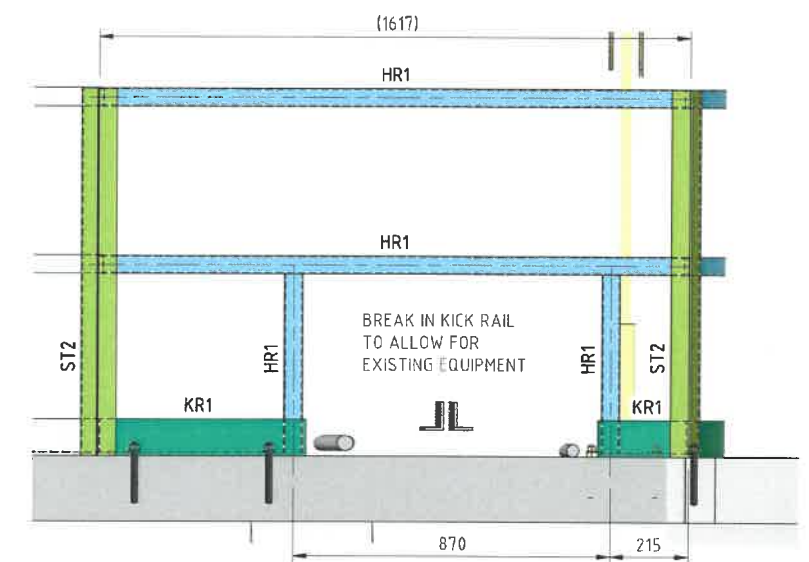
SECTION A
SCALE - 1:20



SECTION B
SCALE - 1:20



SECTION C
SCALE - 1:20



SECTION D
SCALE - 1:20

HANDRAIL RAIL ASSEMBLIES TO BE FABRICATED (FULLY WELDED) FROM ALUMINIUM SECTIONS. SIZES AND GRADES SUBJECT TO AVAILABILITY FROM MANUF. SPECS. SECTIONS AND GRADES SPECIFIED SHALL BE SOURCED (OR EQUIVALENT OR GREATER).
 HR1 HANDRAIL 50 x 25 x 2.5 HOLLOW SECTION AS/NZS 1866-6060-T5
 KR1 KICK RAIL 100 x 80 x 10 ANGLE AS/NZS 1866-6082-T5
 ST1 STANCHION 50 x 50 x 6 ANGLE AS/NZS 1866-6060-T5
 ST2 STANCHION FABRICATED FROM 2 LENGTHS OF 50 x 6 FLAT BAR AS/NZS 1866-6060-T5 TO SUIT ANGLE (OTHER THAN 90° BEND)

ISSUED FOR CONSTRUCTION

No.	Date	Revision	By	Appr
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RPEQ 11631 C. WITHAM	11.07.23

Title
BANANA SHIRE COUNCIL RESERVOIR ACCESS UPGRADE MOURA WATER STANDPIPE PROPOSED ROOF HANDRAIL PLAN

Scale	
AS SHOWN (AT A3)	
Job No.	
GD2188	
Drawing No.	Rev.
GD2188-007	0