GENERAL

G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES.

G3. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEER'S DRAWINGS (INCLUSIVE OF ELECTRONIC COPIES) SHALL NOT BE SCALED.

G4. WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT STANDARDS AUSTRALIA CODES INCLUDING ALL AMENDMENTS, AND LOCAL STATUTORY AUTHORITY REQUIREMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

G5. ALL PROPRIETARY PRODUCTS SHALL BE SUPPLIED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

G6. SUBSTITUTION OF NOMINATED PRODUCTS AND MATERIALS SHALL ONLY OCCUR IF APPROVED BY THIS OFFICE; NO SUBSTITUTIONS SHALL BE MADE OR SIZES OF STRUCTURAL MEMBERS VARIED WITHOUT OBTAINING THE APPROVAL OF THE ENGINEER. THE APPROVAL OF A SUBSTITUTION FROM THE ENGINEER SHALL NOT BE AN AUTHORISATION FOR AN EXTRA. ANY EXTRA INVOLVED SHALL BE TAKEN UP WITH THE SUPERINTENDENT BEFORE THE WORK COMMENCES.

G7. ALL INFORMATION INCLUDED IN THE STRUCTURAL ENGINEERING DOCUMENTATION IS FOR THE FINAL IN PLACE CONDITION OF THE STRUCTURE AND IS EXCLUSIVE OF TEMPORARY WORKS. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND THE ASSOCIATED COSTS. THE PRINCIPAL CONTRACTOR SHALL ENGAGE A SITE SPECIFIC TEMPORARY WORKS ENGINEER WHO SHALL BE RESPONSIBLE FOR THE DESIGN, DOCUMENTATION, CERTIFICATION AND SITE SUPERVISION OF ALL NECESSARY TEMPORARY WORKS. THE PRINCIPAL CONTRACTOR AND SITE SPECIFIC WORKS ENGINEER SHALL ENSURE THAT DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND THAT NO PART SHALL BE OVERSTRESSED. THE PRINCIPAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND PROPPING AS NECESSARY, INCLUDING TEMPORARY SUPPORT FOR EXCAVATIONS.

G8. ALL COSTS INCURRED BY THE ENGINEER FOR ASSESSMENT OR APPROVAL OF SUBSTITUTED MEMBERS, ALTERNATIVE BUILDING SOLUTIONS OR TEMPORARY PROPPING WORKS SHALL BE BORNE BY THE PRINCIPAL CONTRACTOR.

G9. NO HOLES, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE CURRENT DRAWING SET SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

G10. THE FOLLOWING ABBREVIATIONS USED IN THESE DRAWINGS ARE:

TOP	TOP
BTM	BOTTOM
BW	BOTH WAYS
CTS	CENTRES
EF	EACH FACE
EW	EACH WAY
FF	FAR FACE
NF	NEAR FACE
FW	FILLET WELD
PL	PLATE
CFW	CONTINUOUS FILLET WELD
UNO	UNLESS NOTED OTHERWISE ON WATER AUTHORITY STANDARD / DRAWINGS

G11. THE PROJECT SUPERINTENDANT AND/OR SITE ENGINEER IS TO UNDERTAKE ALL SITE INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPROVAL AUTHORITY.

G12. IT IS THE PRINCIPAL CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL SUB-CONTRACTORS HAVE READ THIS DRAWING SHEET IN CONJUNCTION WITH ALL OTHER STRUCTURAL AND PROJECT DOCUMENTATION. THE PRINCIPAL CONTRACTOR SHALL ENSURE THAT SUB-CONTRACTORS ARE ISSUED ALL STRUCTURAL AND ALL OTHER PROJECT CONSULTANTS DRAWINGS.

CONCRETE:

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST STRINGENT REQUIREMENTS OF AS3600, AS3735, AS5100, WSA04 AND WSA114. CONCRETE SHALL HAVE THE FOLLOWING CHARACTERISTIC PROPERTIES:

ELEMENT	SLUMP	MAX. AGGREGATE SIZE (DENSE Wt)	F'c MPa (28 DAYS)
PRECAST ELEMENTS	100	20	50

C2. ALL ELEMENTS WILL HAVE THE FOLLOWING MINIMUM REQUIREMENTS:
- CEMENT TO BE TYPE SR-SULFATE RESISTANT.
- MINIMUM CEMENTITIOUS CONTENT TO BE 450kg/m³.
- MAXIMUM WATER TO CEMENT RATIO TO BE 0.40.
- MINIMUM OF 75% OF 28 DAY F'c TO BE ACHIEVED PRIOR TO STRIPPING. IF AMBIENT CONDITION CURING ADOPTED, CURE AT LEAST 7 DAYS PRIOR TO STRIPPING.
- TESTING AND SAMPLING OF CONCRETE IS TO BE TO THE MOST STRINGENT REQUIREMENTS OF AS3600, AS3735, WSA04 AND VICROADS SPECIFICATION 610. TO BE STRIPPED AND LIFTED AS PER LIFTING DESIGN AND AS 3850
- MAXIMUM TOTAL REACTIVE ALKALI CONTENT AS Na_2O EQUIVALENT TO BE 2.8kg/m³
- COARSE AGGREGATE SHALL BE CALCEREOUS WITH A MINIMUM ACID SOLUBILITY OF 90% WHEN TESTED IN ACCORDANCE WITH AS3735

C3. CONCRETE SIZES DO NOT INCLUDE FINISHES. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS.

C4. NO HOLES, RECESSES, CHASES, EMBEDMENTS OR ADDITIVES OTHER THAN SHOWN ON THE STRUCTURAL DRAWINGS WITHOUT ENGINEER'S APPROVAL.

C6. LOCATIONS OF CONSTRUCTION JOINTS AS PER DRAWINGS OR TO THE ENGINEERS APPROVAL.

C7. ALL FORMWORK CONSTRUCTED AND SUPPORTED AS PER AS3610 AND AS3610.1 EXPOSED CONCRETE POURED AGAINST CLASS 2 FORMWORK AS PER AS3610.1 U.N.O.

C8. SLURRY USED TO LUBRICATE CONCRETE PUMP PIPES SHALL NOT BE PUMPED INTO ANY STRUCTURAL ELEMENTS.

C9. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED AND NO WATER ADDED DURING PLACEMENT. PROTECT ALL SURFACES FROM WIND AND CURE 7 DAYS WITH MOISTURE RETAINING MEMBRANE OR WATER SATURATION. NOTE CODE REQUIREMENTS WHERE AIR TEMPERATURE IS OUTSIDE RANGE 5° TO 32° C.

C10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION AND IS DENOTED BY THE FOLLOWING SYMBOLS:
R - R250N HOT ROLLED PLAIN ROUND BAR TO AS/NZS4671
N - D500N HOT ROLLED DEFORMED BARS TO AS/NZS4671
SL & RL - LOW DUCTILITY CLASS L HARD DRAWN WELDED WIRE REINFORCING FABRIC TO AS/NZS4671. MAIN WIRE NEAREST FACE OF CONCRETE U.N.O. CLASS L DEFORMED BARS MUST NOT BE SUBSTITUTED WITHOUT THE ENGINEERS APPROVAL.

C11. ALL REINFORCEMENT SHALL BE HELD RIGIDLY IN POSITION BEFORE AND DURING CONCRETE PLACEMENT.

C12. CLEAR COVER AS FOLLOWS U.N.O. TO BE MAINTAINED AT ALL TIMES (USING RIGID FORMWORK AND 50MPa CONCRETE AS PER SWC SPECIFICATION:

ELEMENT	INTERNAL COVER	EXTERNAL COVER
COUNTER WEIGHT	55	45
SHAFT	CENTRE PLACED	
VALVE PIT INTEGRAL	CENTRE PLACED	
VALVE PIT EXT.	CENTRE PLACED	
COVER SLAB	55	40

CHECK

CONDUITS SHALL NOT BE PLACED WITHIN CONCRETE COVER.

C15. REFER AS3610 TABLE 5.4.1 RE STRIPPING TIMES FOR BACK PROPPING. MASONRY AND MATERIALS SHALL NOT BE STACKED OR LAID ON SLABS UNTIL ALL PROPS ARE REMOVED AND FULL STRENGTH ATTAINED.

C16. CHEMICAL ADDITIVES INCLUDING CALCIUM CHLORIDE SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

REINFORCEMENT BAR LAPS U.N.O.

BAR SIZE	LAP FOR LESS THAN 300mm CONCRETE BELOW BAR OR VERTICAL BAR	LAP FOR HORIZONTAL BARS WITH MORE THAN 300mm CONCRETE BELOW BAR. (TOP REINFORCEMENT IN BASE AND COVER SLABS ONLY)
N12	400	400
N16	500	500
N20	650	650

DESIGN DATA:

DD1. U.N.O. GEOTECHNICAL DESIGN DATE ADOPTED AS FOLLOWING:
WATER DENSITY = 10 kN/m^3
MAX BACKFILL SOIL DENSITY = 20 kN/m^3
SOIL AT REST EARTH PRESSURE COEFFICIENT K_o= 0.5

DD2. THE STRUCTURE DESIGN LIFE AS PER AS 3735-2001.

DD3. NON-TRAFFICABLE LIVE LOAD - 5kPa
BOLLARDS OR OTHER APPROVED BARRIERS TO PREVENT LOADING OF THE COVER SLAB IN EXCESS OF THE DESIGN LOAD ARE TO BE PROVIDED TO WATER AUTHORITY REQUIREMENTS.

DD4. TRAFFICABLE LIVE LOAD - 20kPa & W80 WHEEL LOAD
SHAFT WALLS ARE DESIGNED TO SUPPORT AXIAL LOADS AND HORIZONTAL GROUND PRESSURES FROM A 20kPa VERTICAL SURCHARGE LOAD APPLIED AT GROUND LEVEL.

DD5. BASE OF SHAFT IS TO BE FOUNDED ON MATERIAL WITH A MINIMUM OF 200kPa ALLOWABLE BEARING CAPACITY, SUBJECT TO FINAL DESIGN AND GEOTECHNICAL ADVICE.

DD6. EXPOSURE CLASSIFICATIONS:
ABOVE GROUND EXTERIOR - B1
IN-GROUND (IN CONTACT WITH THE SOIL) - B1
INTERNAL SURFACES - C

DD7. PROTECTIVE COATING REQUIREMENTS:
REQUIRE INTERNAL PE LINER TO BE CONFIRMED BY CLIENTS.
SITE SPECIFIC PARAMETERS SUCH AS CLIMATIC CONDITIONS, EXTERNAL EXPOSURE CLASSIFICATION AND SOIL AGGRESSIVELY MUST BE CHECKED ON A PROJECT SPECIFIC BASIS.

NOTE:

THIS DESIGN EXCLUDES THE FOLLOWING PROVISIONS , AS APPROPRIATE FOR THE CURRENT CASE.
- CATHODIC PROTECTION
- STRAY CURRENT PROTECTION
- AGGRESSIVE ENVIRONMENTS
- CONTAMINATED GROUND

ALL AS DEFINED IN WSA04: SEWAGE PUMPING STATION CODE.

DESIGN STANDARDS:

DESIGN OF THIS AQUATEC PUMP STATION IS BASED ON THE FOLLOWING STANDARDS:

WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARDS
WSA 04 - 2005 SEWAGE PUMPING STATIONS CODE
WSA 114 - 2002 INDUSTRY STANDARD FOR CONCRETE SPECIAL CLASS

AUSTRALIAN STANDARDS
AS/NZS 1170.0 - 2002 STRUCTURAL DESIGN ACTIONS - PART 0: GENERAL PRINCIPLES. INCORPORATING AMENDMENTS 1 TO 5.
AS/NZS 1170.1 - 2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS. INCORPORATING AMENDMENTS 1 AND 2.
AS 1379 - 2017 SPECIFICATION AND SUPPLY OF CONCRETE
AS1657 - 2018 FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS - DESIGN, CONSTRUCTION AND INSTALLATION
AS 3600 - 2018 CONCRETE STRUCTURES
AS 3735 - 2001 CONCRETE STRUCTURES FOR RETAINING LIQUIDS
AS 3735 - SUPP1 - 2001 CONCRETE STRUCTURES FOR RETAINING LIQUIDS

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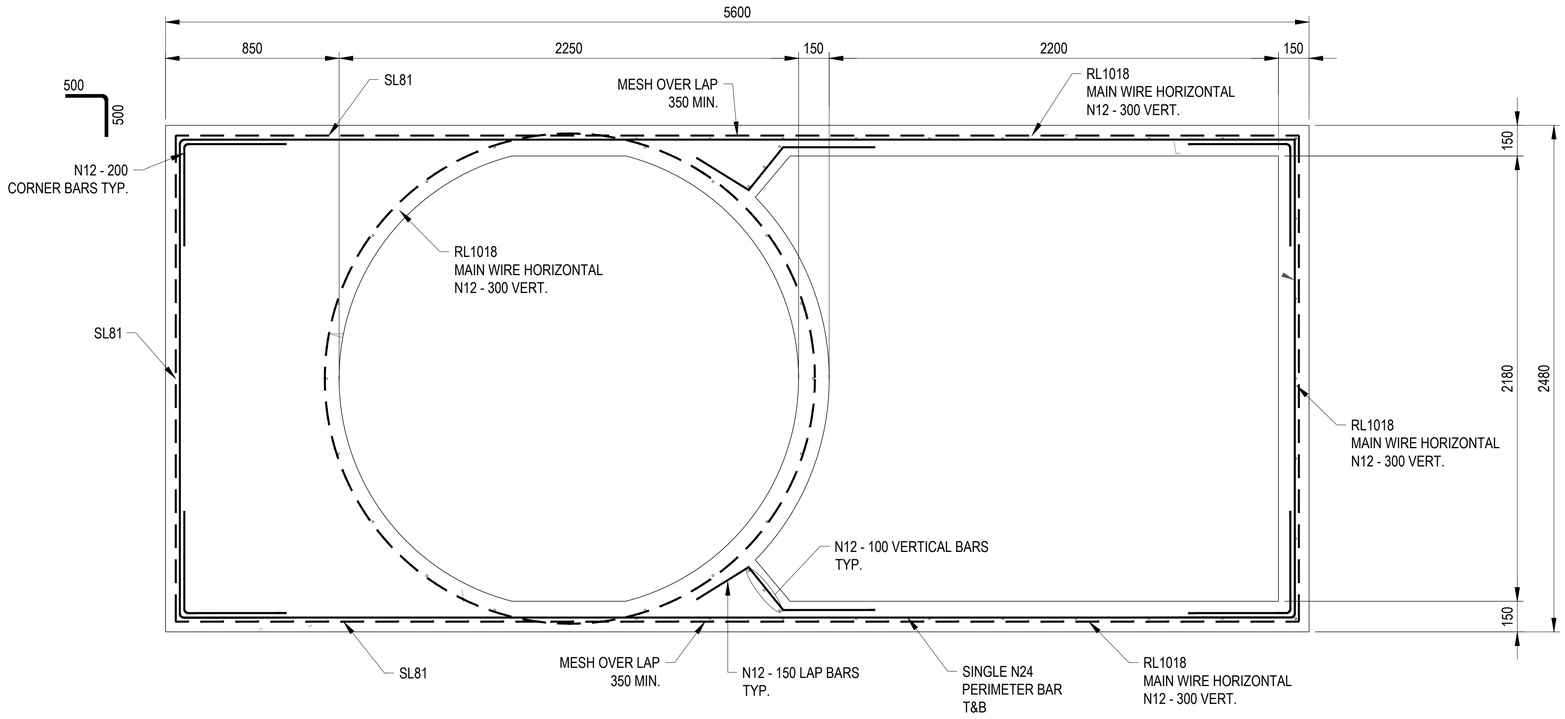
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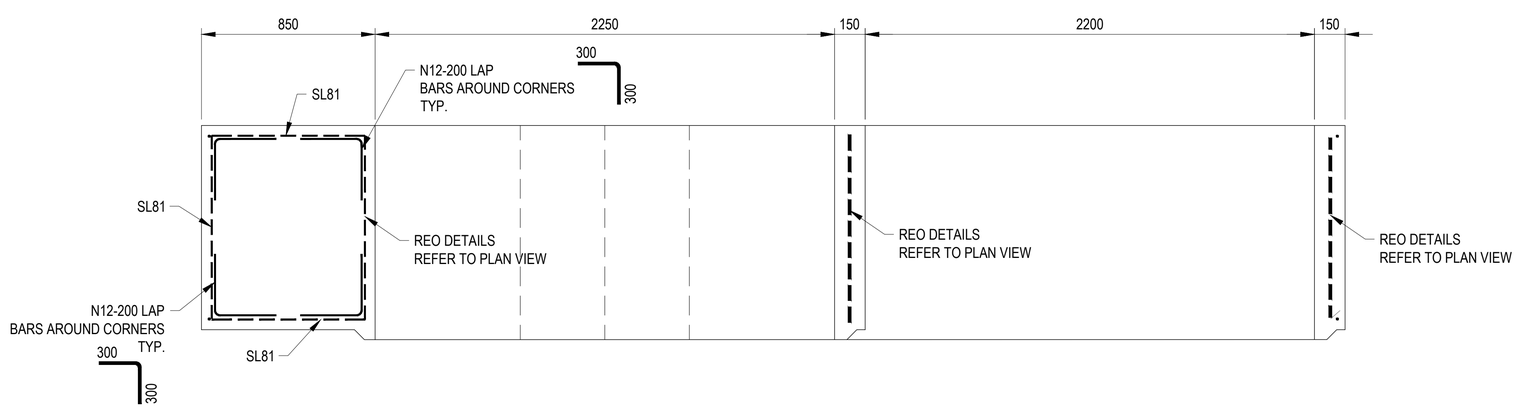
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Client
Project 2250 DIA INTRINSIC VC INCREMENT
Title WET WELL WITH VALVE CHAMBER - STANDARD NOTES TRAFFICABLE AND NON - TRAFFICABLE

OP		AQSTD-0032	B
Project Number	Customer Submission Status	Drawing Number	Revision

Plot Date: 16/11/2023 Plotted by: Bob Chen Cad File No: S:\Design - Projects\1 Drawings\2 AQSTD Dwg Set\AQSTD-00032.dwg





REV	REVISION DETAILS	DRN	CKD	APP	DATE	REF. NUMBER	REFERENCE DOCUMENT
C	ADD PERIMETER BARS	BC	BC	JG	15/03/2014		
B	SECOND ISSUE	BC	BC	JS	30/10/2023		
A	FIRST ISSUE	BC	BC	HH	19/07/2023		

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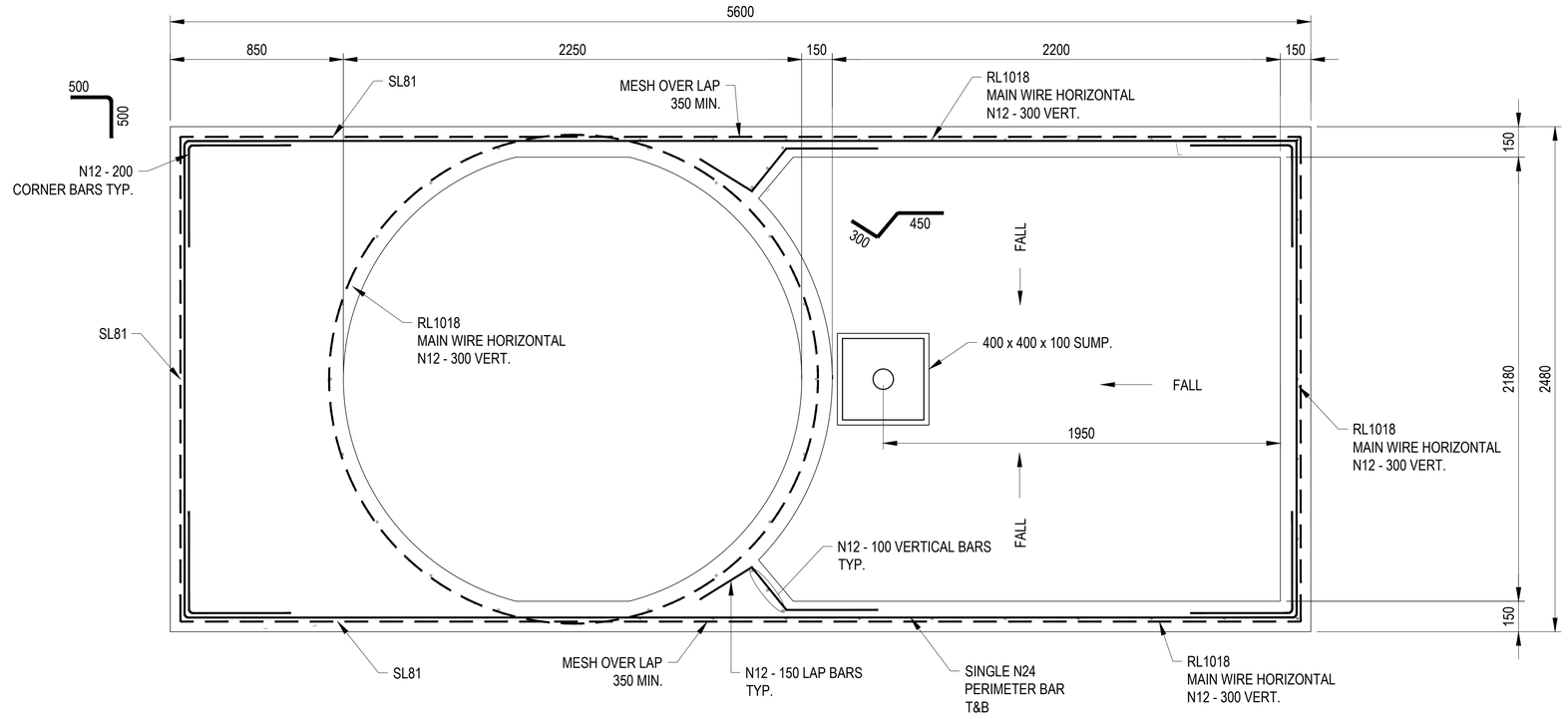
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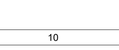
Project 2250 DIA INTRINSIC VC INCREMENT

Title WET WELL WITH VALVE CHAMBER - INTEGRAL SECTION INCREMENT
TRAFFICABLE AND NON - TRAFFICABLE

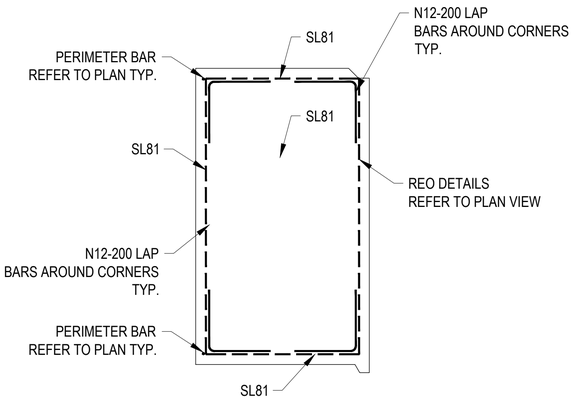
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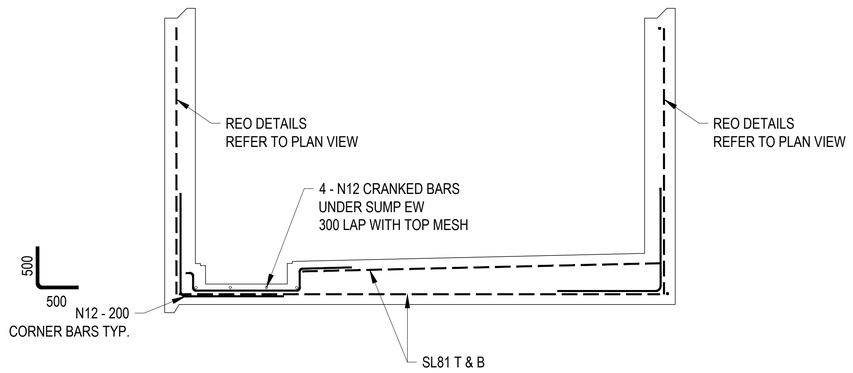
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NOTE (TO DESIGNERS):
LOWER WET WELL WALL INCREMENTS
SHALL USE RL1080 AS MESH





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C	ADD PERIMETER BARS	BC	BC	JG	15/03/2014		
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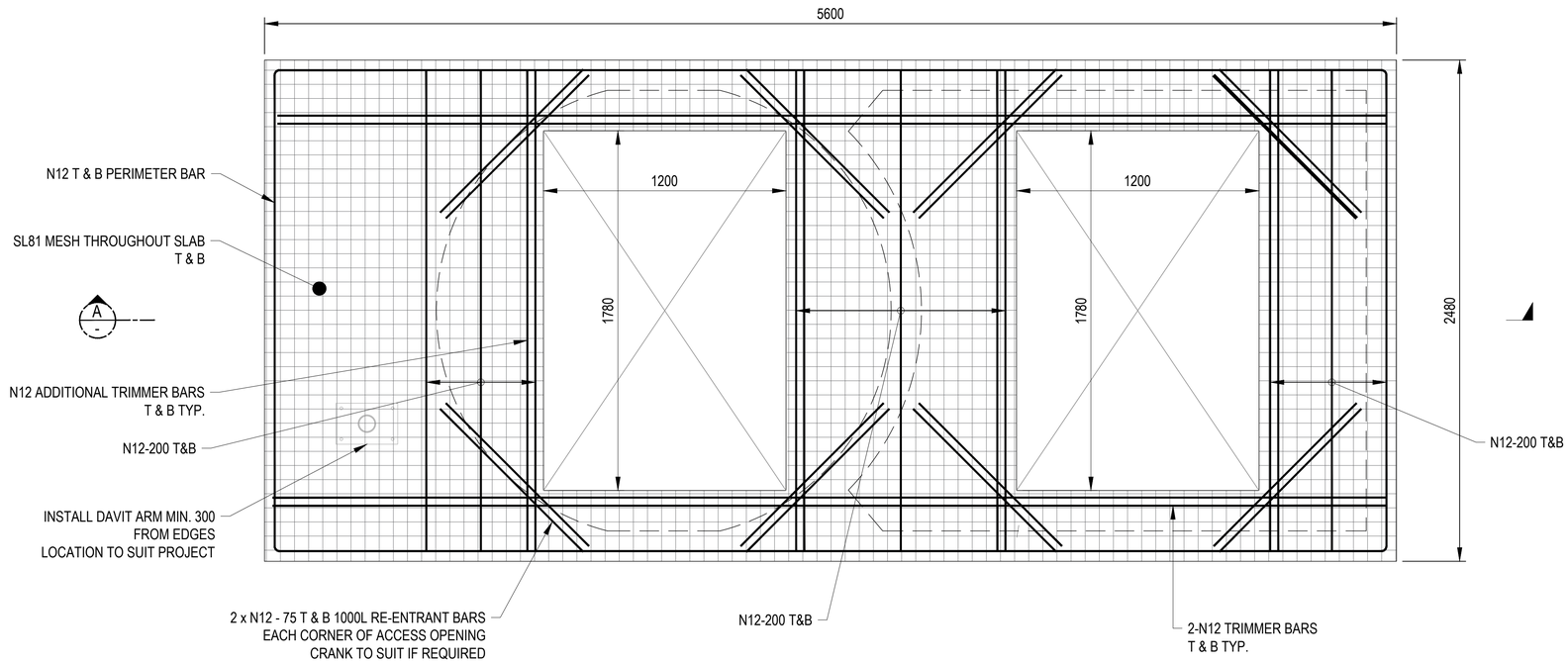
Client

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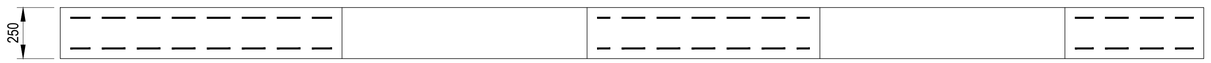
Title WET WELL WITH VALVE CHAMBER - WET WELL INCREMENT VC BASE TRAFFICABLE AND NON - TRAFFICABLE UP TO 15m

OP		AQSTD-0032	C
Project Number	Customer Submission Status	Drawing Number	Revision

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COVER SLAB - PLAN VIEW
SCALE - 1:15



A
-
SECTION
SCALE - 1:15

PRE-CAST COVER SLAB

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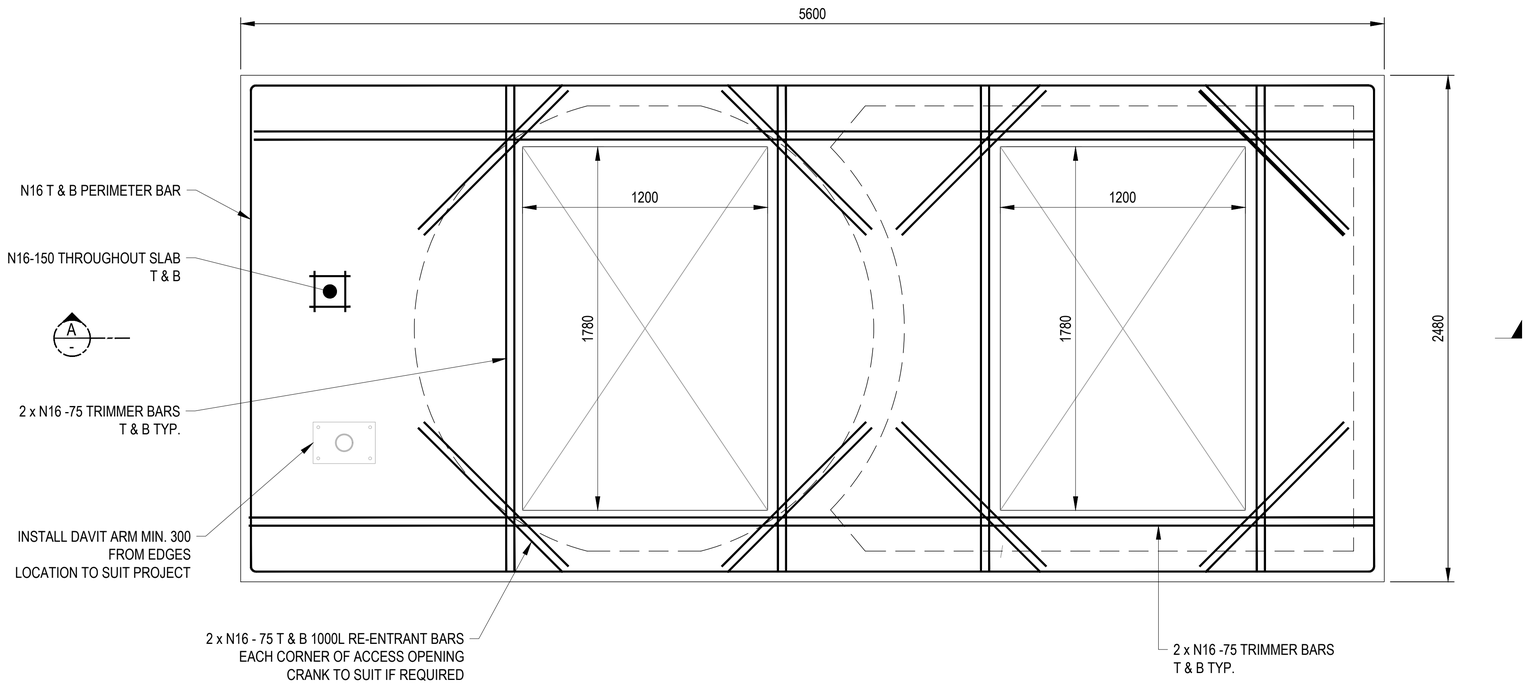
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Project 2250 DIA INTRINSIC VC INCREMENT

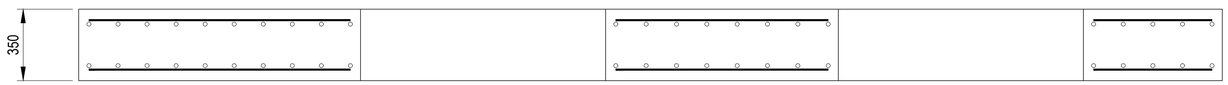
Title WET WELL WITH VALVE CHAMBER - COVER SLAB
NON TRAFFICABLE

OP		AQSTD-0032	B
Project Number	Customer Submission Status	Drawing Number	Revision

Plot Date: 16/11/2023 Plotted by: Bob Chen Cad File No: S:\Design - Projects\1 Drawings\2 AQSTD Dwg Set\AQSTD-00032.dwg



COVER SLAB - PLAN VIEW
SCALE - 1:15



A / - SECTION
SCALE - 1:15

PRE-CAST COVER SLAB

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Client

Project 2250 DIA INTRINSIC VC INCREMENT

Title WET WELL WITH VALVE CHAMBER - COVER SLAB TRAFFICABLE

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Project Number	Customer Submission Status	Drawing Number	Revision

Plot Date: 16/11/2023 Plotted by: Bob Chen Cad File No: S:\Design - Projects\1 Drawings\2 AQSTD Dwg Set\AQSTD-00032.dwg