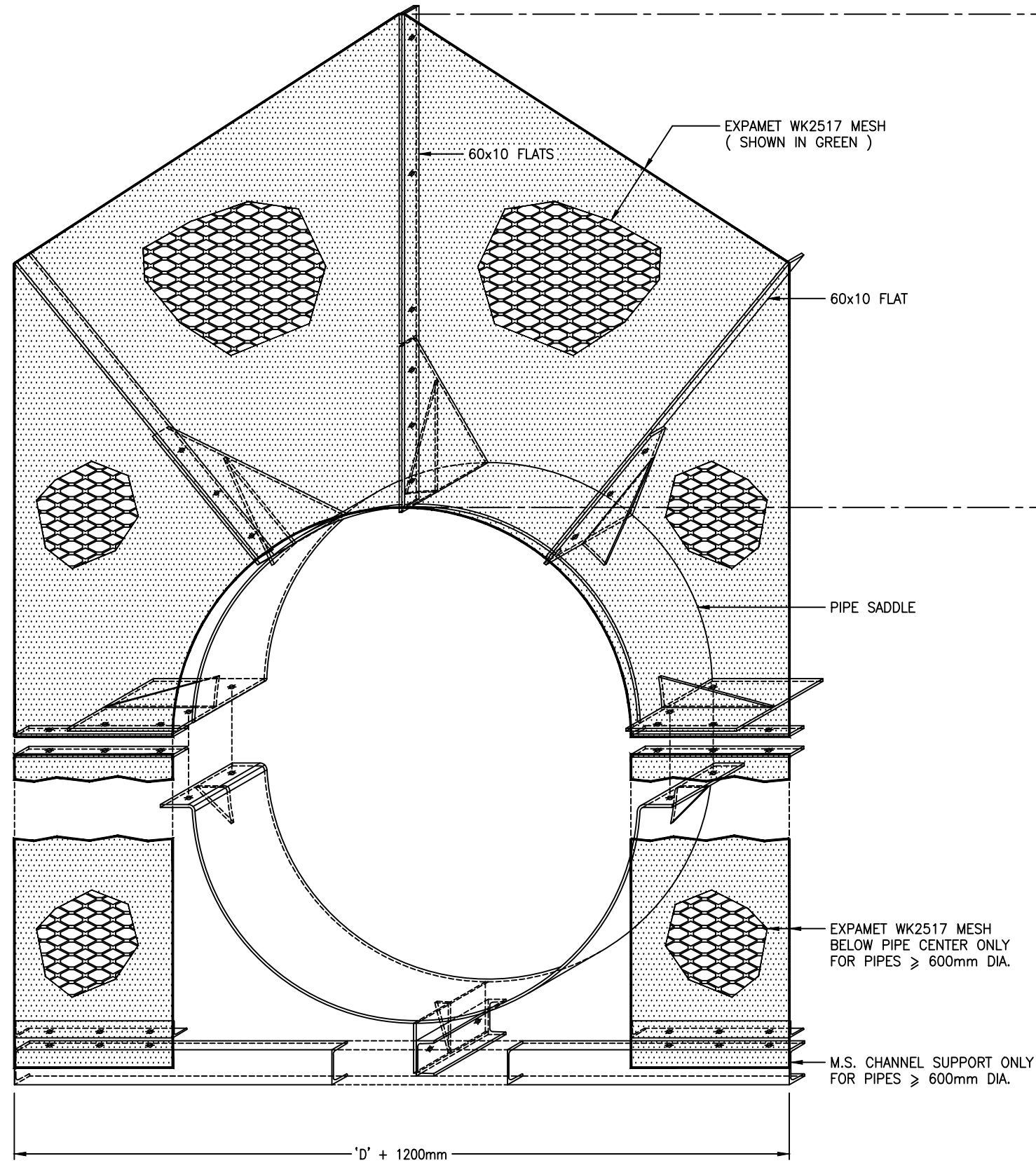


## Drawing Index

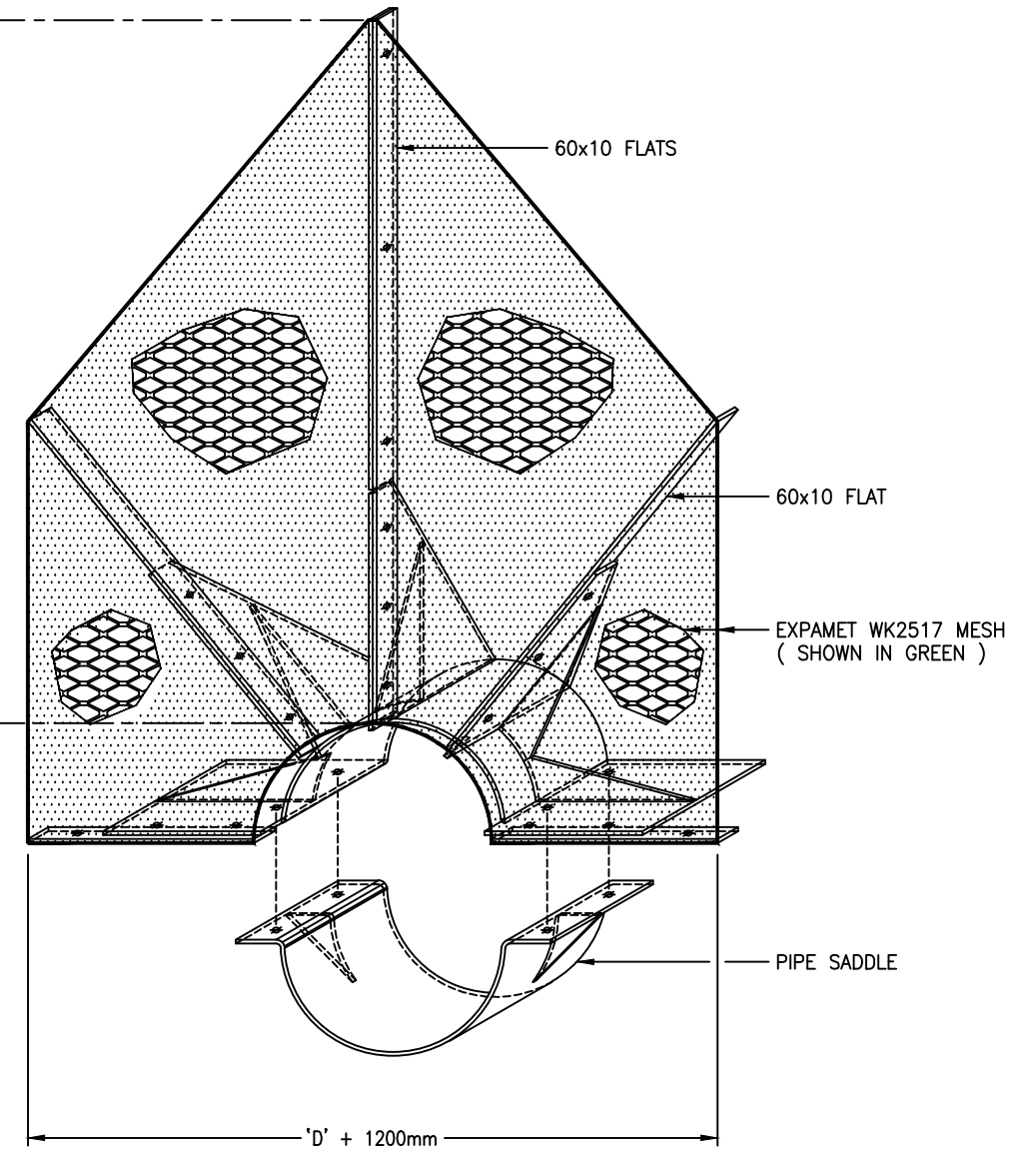
Name	Doc.No	Document Description
<a href="#">2000244.047.pdf</a>	2000244.047	STANDARD PIPE BRIDGE SAFETY BARRIERS DIAGRAMMATIC VIEWS SHEET 1 OF 3
<a href="#">2000244.048.pdf</a>	2000244.048	STANDARD PIPE BRIDGE SAFETY BARRIERS DETAILS SHEET 2 OF 3
<a href="#">2000244.049.pdf</a>	2000244.049	STANDARD PIPE BRIDGE SAFETY BARRIERS DETAILS SHEET 3 OF 3
<a href="#">2001979.001B.pdf</a>	2001979.001	WATER RETICULATION STANDARD SEALED ACCESS HATCH COVER ASSEMBLY AND COMPONENT LIST SHEET 1 OF 2
<a href="#">2001979.003A.pdf</a>	2001979.003	WATER RETICULATION STANDARD SEALED ACCESS HATCH COMPONENT NO1 DETAILS
<a href="#">2001979.004A.pdf</a>	2001979.004	WATER RETICULATION STANDARD SEALED ACCESS HATCH COMPONENT NO2 DETAILS
<a href="#">2001979.005A.pdf</a>	2001979.005	WATER RETICULATION STANDARD SEALED ACCESS HATCH COVER STAY AND PACKER COMPONENTS NO7 NO8 NO9 NO10 NO14 DETAIL
<a href="#">2001979.007.pdf</a>	2001979.007	WATER RETICULATION STANDARD SEALED ACCESS HATCH COVER STAY COMPONENTS
<a href="#">2001979.008.pdf</a>	2001979.008	WATER RETICULATION STANDARD ROADWAY SECURITY GATE GENERAL ARRANGEMENT AND GATE CATCH DETAIL
<a href="#">2001979.009.pdf</a>	2001979.009	WATER RETICULATION STANDARD RESERVOIR LANDING AND LADDER DETAIL OF HINGE SUPPORT AND GATE CATCH

<a href="#">2001979.010.pdf</a>	2001979.010	WATER RESERVOIR STANDARD RESERVOIR LANDING AND LADDERS PLAN AND DETAILS OF LANDING END PLATES AND LOWER STEPS
<a href="#">2001979.011.pdf</a>	2001979.011	WATER RETICULATION STANDARD RESERVOIR LANDING AND LADDERS PLANS AND ELEVATIONS OF ALTERNATIVE LANDINGS
<a href="#">2001979.014.pdf</a>	2001979.014	WATER RETICULATION STANDARD RESERVOIR LATCH CROX LOCK COMPONENTS NO1 AND NO2
<a href="#">2001979.015A.pdf</a>	2001979.015	WATER RETICULATION STANDARD RESERVOIR ACCESS TOWER DETAILS SHEET NO1
<a href="#">2001979.016.pdf</a>	2001979.016	WATER RETICULATION STANDARD RESERVOIR ACCESS TOWER DETAILS SHEET NO2
<a href="#">2001979.017C.pdf</a>	2001979.017	WATER RETICULATION STANDARD RECTANGULAR CHAMBER COVER CONSTRUCTION DETAILS
<a href="#">2001979.039.pdf</a>	2001979.039	WATER RETICULATION STANDARD RESERVOIR SAFETY EQUIPMENT STEEL POST AND BRACKETS FOR HARNESS SAFETY LINES
<a href="#">2001979.053.pdf</a>	2001979.053	WATER RETICULATION STANDARD POSITIONING OF RESERVOIR ROOF HATCHES DETAILS OF ROOF HATCHES OVER EXISTING OPENINGS
<a href="#">2001979.054.pdf</a>	2001979.054	WATER RETICULATION STANDARD RESERVOIR VENT COVERS AND HOLE COVER PLATES DETAILS OF VENT COVERS OVER EXISTING OPENINGS
<a href="#">2001979.080A.pdf</a>	2001979.080	WATER RETICULATION STANDARD EXTENDABLE ALUMINIUM ACCESS LADDER FOR RECTANGULAR CHAMBER PLAN SECTION AND BRACKET DETAIL
<a href="#">2001979.081B.pdf</a>	2001979.081	WATER RETICULATION STANDARD EXTENDABLE ALUMINIUM ACCESS LADDER FOR

		CIRCULAR CHAMBER PLAN SECTION AND BRACKET DETAIL
<a href="#">2001979.083B.pdf</a>	2001979.083	WATER RETICULATION STANDARD ALUMINIUM LADDER BRACKET DETAIL
<a href="#">2001979.085.pdf</a>	2001979.085	WATER RETICULATION STANDARD EXTENDABLE ALUMINIUM ACCESS LADDER DETAILS AT CIRCULAR AND RECTANGULAR CHAMBERS
<a href="#">2001979.102B.pdf</a>	2001979.102	WATER RETICULATION STANDARD FIXED ALUMINIUM ACCESS LADDER AT RECTANGULAR OR CIRCULAR CHAMBER PLAN SECTION AND BRACKET DETAILS
<a href="#">2001979.103.pdf</a>	2001979.103	WATER RETICULATION STANDARD FIXED ALUMINIUM BRACKET FOR ACCESS LADDERS TYPICAL DETAILS
<a href="#">2001979.104A.pdf</a>	2001979.104	WATER RETICULATION STANDARD FIXED ALUMINIUM ACCESS LADDER DETAILS OF ACCESS LADDERS AND HEAVY DUTY MANHOLE LIDS FOR DESIGN USE ONLY
<a href="#">2001979.105.pdf</a>	2001979.105	WATER RETICULATION STANDARD EXTENDABLE ALUMINIUM ACCESS LADDER AND DETAILS OF GALVANISED MILD STEEL ACCESS FRAME FOR DESIGN USE ONLY
<a href="#">2001979.123.pdf</a>	2001979.123	WATER RETICULATION STANDARD HATCH COVER LOCKING BAR ASSEMBLY AND DETAILS



DIAGRAMATIC VIEW OF PIPE SAFETY BARRIER  
FOR WATERCARE PIPES  $\geq$  600mm DIA.  
SCALE. 1:10 (A1) & NOT TO SCALE.



DIAGRAMATIC VIEW OF PIPE SAFETY BARRIER  
FOR WATERCARE PIPES < 600mm DIA.  
SCALE. 1:10 (A1) & NOT TO SCALE.

NOTES:-

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS .002 & .003
2. 'D' = INSIDE DIAMETER OF PIPE SADDLE  
= ( OVERALL DIA. OF PIPE + 5mm )

L:\ --- \ EGCADFI \ 2013 \ WATERCARE SAFETY BARRIER \ 2000244.047 .DWG

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. CHECKED	DRAWN	DWG. CHECKED	PROJECT LEADER	INFRASTR APP'D
-	09-13	SAFETY BARRIERS - SHEET 1 OF 3	L.C.	A.M.						

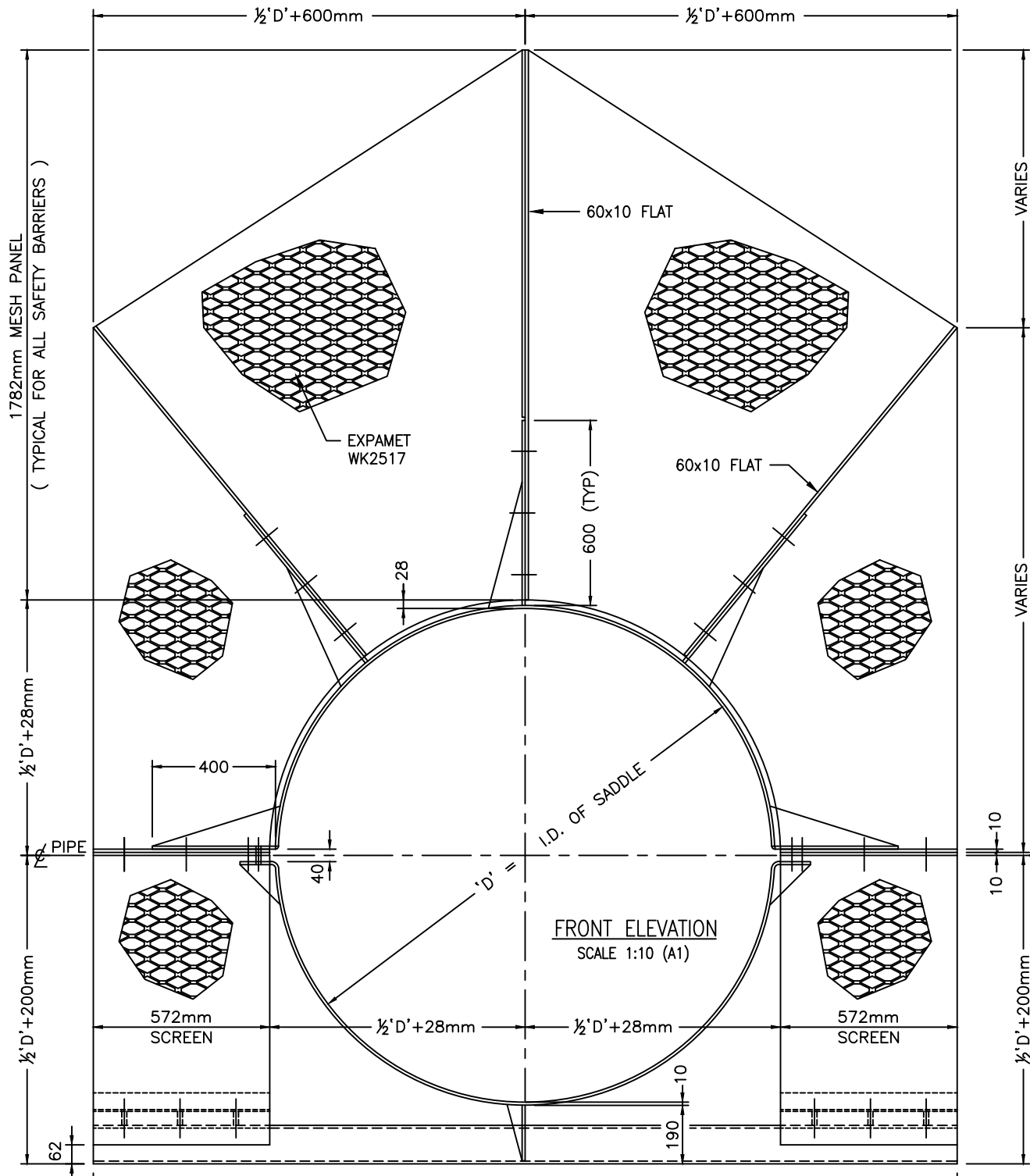
OPERATIONS	INFRASTRUCTURE

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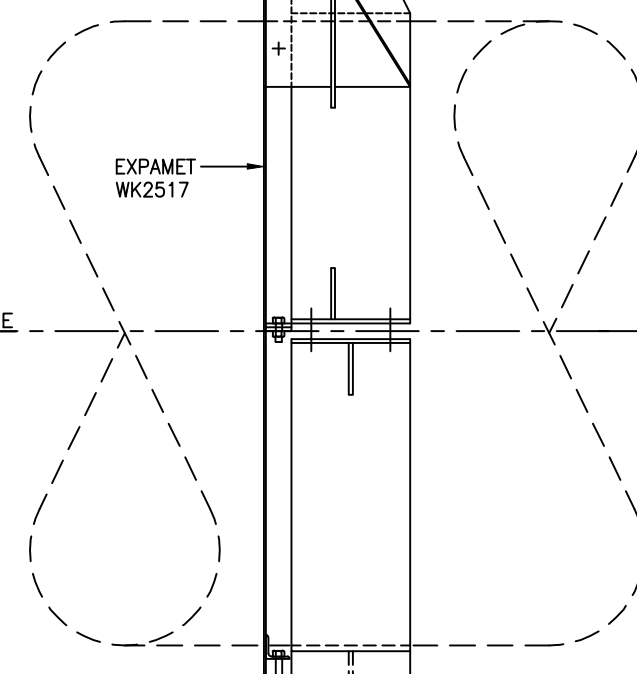
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WATERCARE SERVICES STANDARD  
PIPE BRIDGE SAFETY BARRIERS  
DIAGRAMATIC VIEWS OF SAFETY BARRIERS - SHEET 1 OF 3

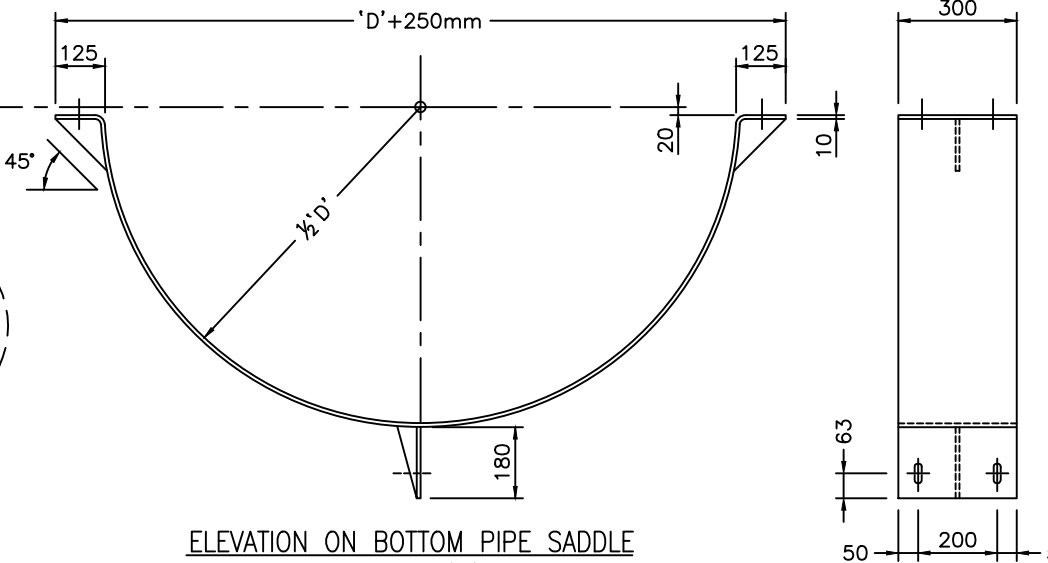
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REF. No.	ISSUE
DWG. No. 2000244.047	-



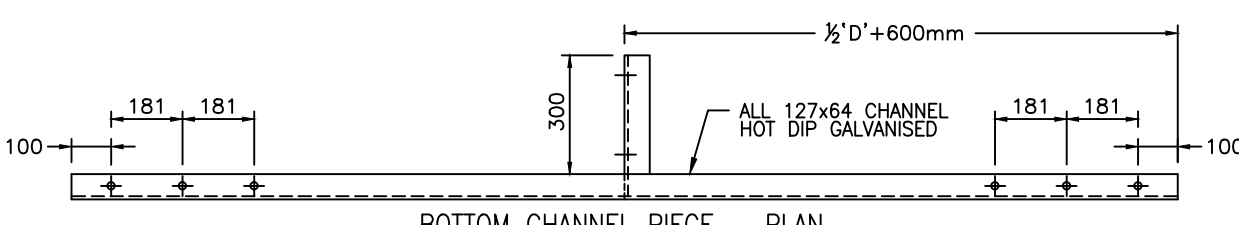
FRONT ELEVATION  
SCALE 1:10 (A1)



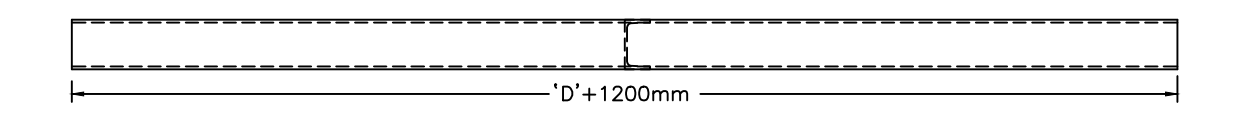
SIDE ELEVATION  
SCALE 1:10 (A1)



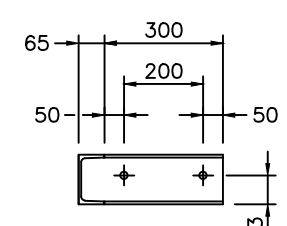
ELEVATION ON BOTTOM PIPE SADDLE  
SCALE 1:10 (A1)



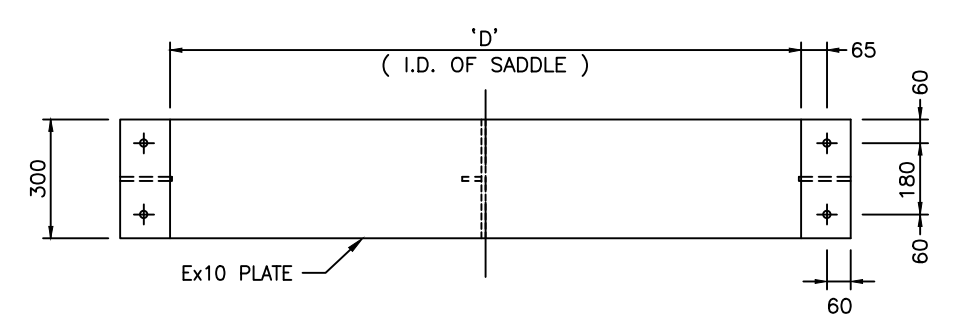
BOTTOM CHANNEL PIECE - PLAN  
SCALE 1:10 (A1)



BOTTOM CHANNEL PIECE - ELEVATION  
SCALE 1:10 (A1)



CHANNEL CLEAT  
SCALE 1:10 (A1)



PLAN ON BOTTOM PIPE SADDLE  
SCALE 1:10 (A1)

NOTES:-

1. ALL 10mm M.S. PLATE, ANGLES & CHANNELS TO BE HOT DIP GALVANISED
2. 'D' = INSIDE DIAMETER OF PIPE SADDLE = ( OVERALL DIA. OF PIPE + 5mm )

NOTES FOR PIPE BRIDGE SAFETY BARRIER

THE PRIMARY FUNCTION OF A PIPE BRIDGE SAFETY BARRIER IS TO PREVENT CHILDREN FROM CLIMBING ONTO THE PIPE AND THEN ACCIDENTLY FALLING OFF. BARRIERS ARE NOT INTENDED AS A SECURITY MEASURE FOR ADJOINING PRIVATE PROPERTY.

THE FOLLOWING IS A SET OF GUIDELINES :

1. RELATIVELY SHORT PIPES ( eg. CROSSING NARROW WATERCOURSES ) MAY ONLY REQUIRE A SINGLE BARRIER AT MID-SPAN.
2. LONGER PIPES ( eg. CROSSING A RIVER , STREAM OR TIDAL AREA ) WILL NORMALLY REQUIRE TWO BARRIERS , ONE AT EACH END.
3. POSITION IS A SIGNIFICANT FACTOR IN THE EFFECTIVENESS OF THE BARRIER. BARRIER LOCATION WILL REQUIRE THE APPROVAL OF THE FACILITY OPERATOR.
4. WHERE TWO BARRIERS ARE REQUIRED , EACH BARRIER SHOULD BE POSITIONED FAR ENOUGH OUT FROM THE END TO ACHIEVE SUCH A HEIGHT ABOVE GROUND FOR IT TO BE DIFFICULT FOR A YOUNG CHILD TO CLIMB ONTO THE PIPE BEHIND THE BARRIER. THEY SHOULD NOT BE POSITIONED TOO FAR OUT AS TO RESULT IN EXCESSIVE HEIGHT ABOVE GROUND , AND THEREFORE POSE A GREATER DANGER TO CHILDREN WHO MAY HAVE VENTURED ONTO THE PIPE IN FRONT OF THE BARRIER.
5. THE BARRIERS ARE TO BE FABRICATED AND INSTALLED SUCH THAT THERE ARE NO FOOTHOLDS ON THE ACCESSIBLE ( FRONT ) SIDE OF THE BARRIER.
6. THE BARRIER FIXTURES SHOULD BE BOTH INACCESSIBLE TO VANDALS , AND TAMPER-RESISTANT.

L:\ --- \ EGCADF1 \ 2013 \ WATERCARE SAFETY BARRIER \ 2000244.048 .DWG

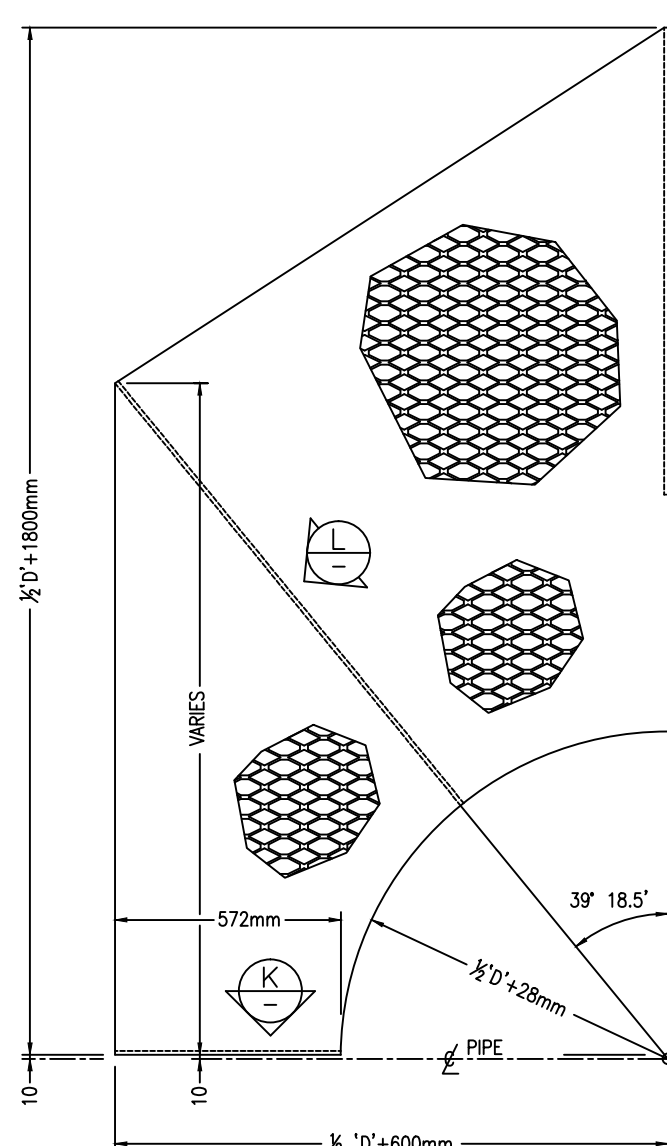
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DES. CHECKED					
DRAWN	L.C.		09-13		
DWG. CHECKED	I.M.		09-13		
PROJ. LEADER	A.M.		09-13		
INFRAS'TR APP'D					
ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
-	09-13	SAFETY BARRIERS - SHEET 2 OF 3	L.C.	A.M.	

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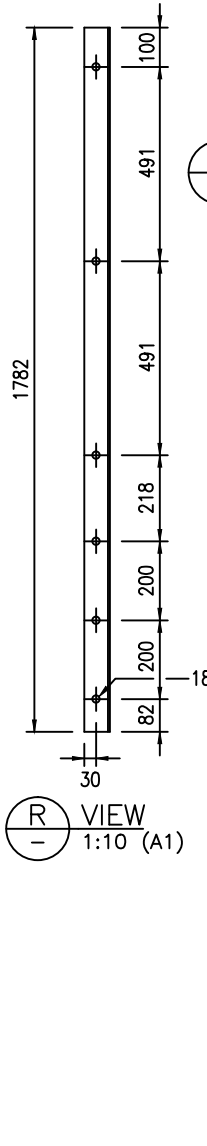
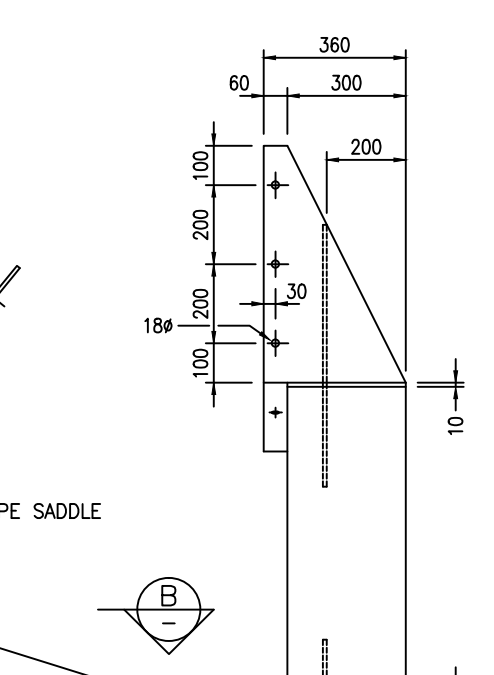
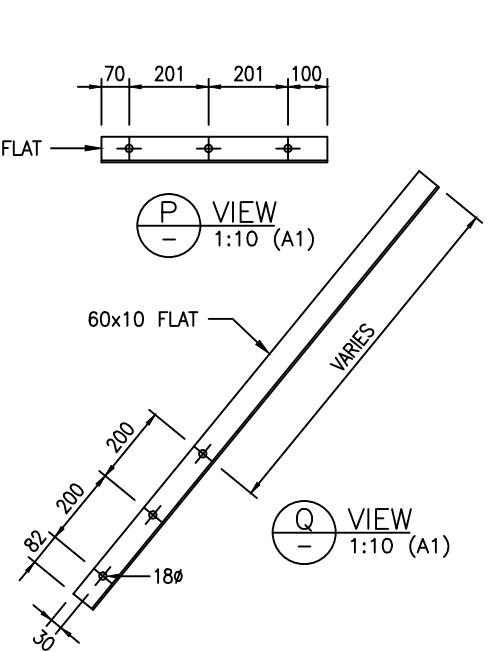
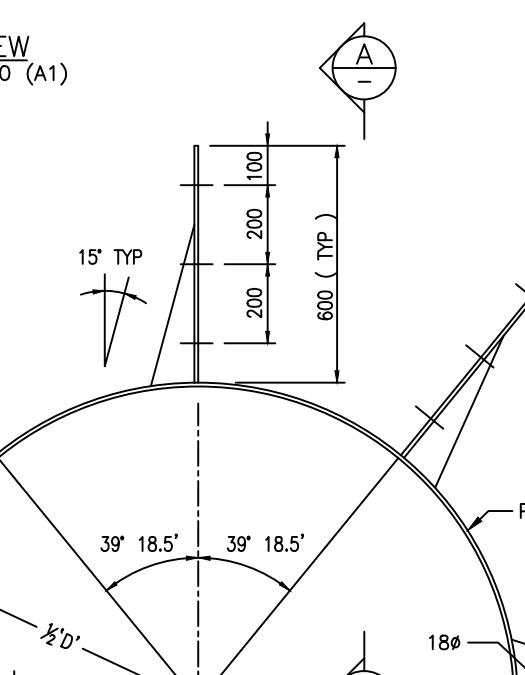
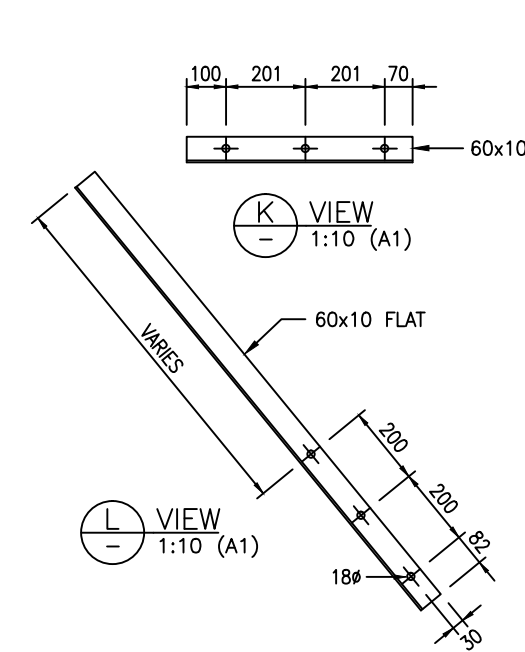
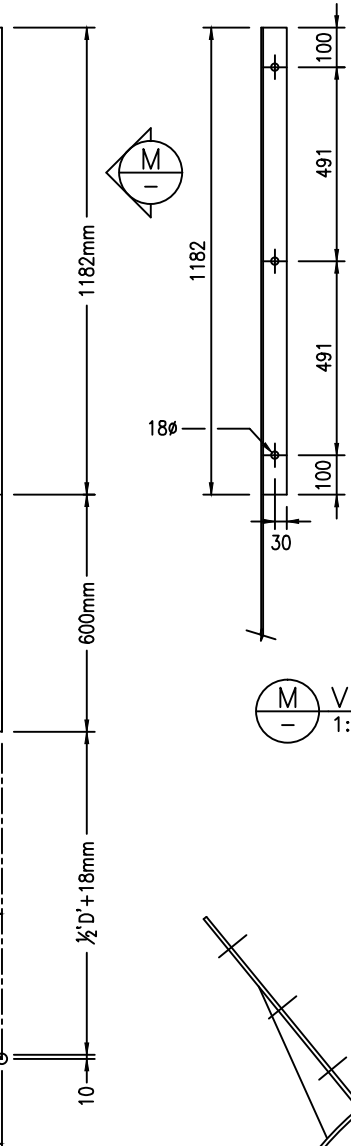
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WATERCARE SERVICES STANARD  
PIPE BRIDGE SAFETY BARRIERS  
SAFETY BARRIER DETAILS - SHEET 2 OF 3

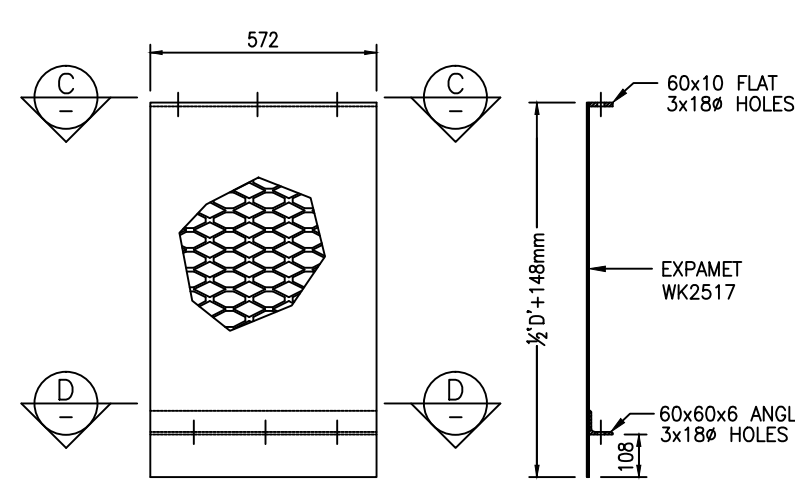
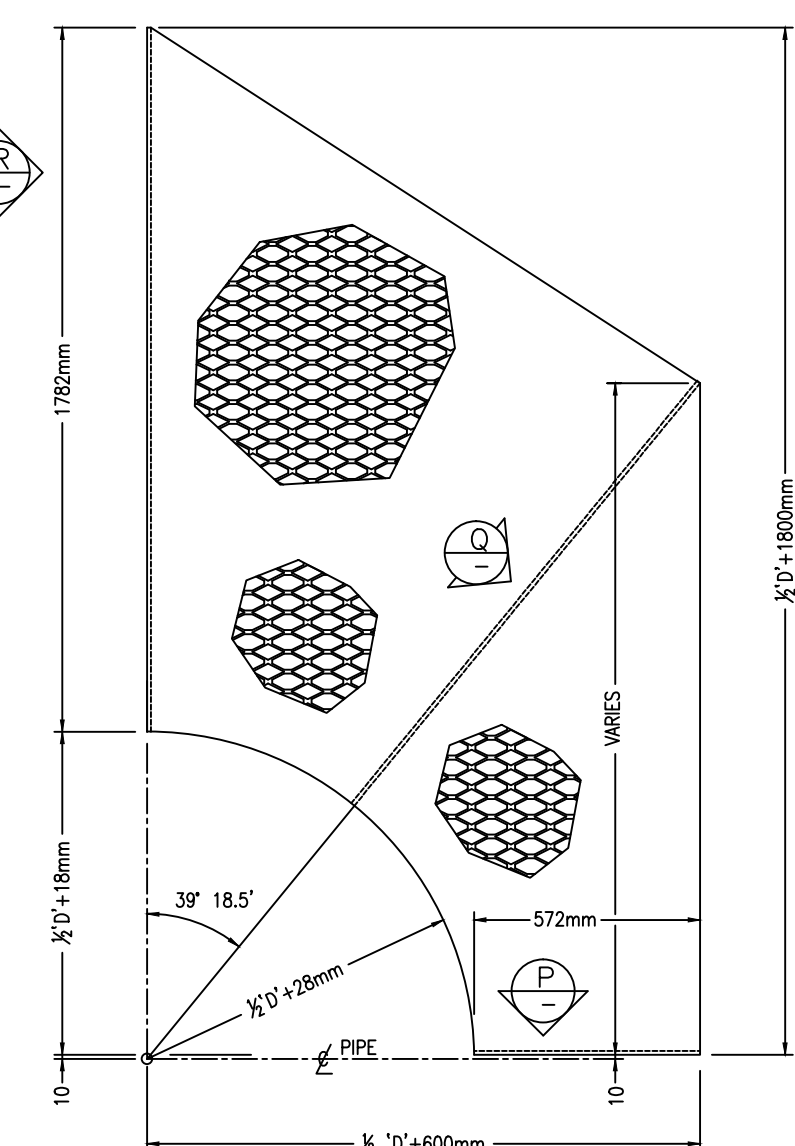
CAD FILE 2000244.048	DATE 16-09-13
ORIGINAL SCALE A1 AS SHOWN	CONTRACT No. -
REF. No.	ISSUE
DWG. No. 2000244.048	-



**LEFT HAND SCREEN SECTION**  
HOT DIP GALVANISED FINISH

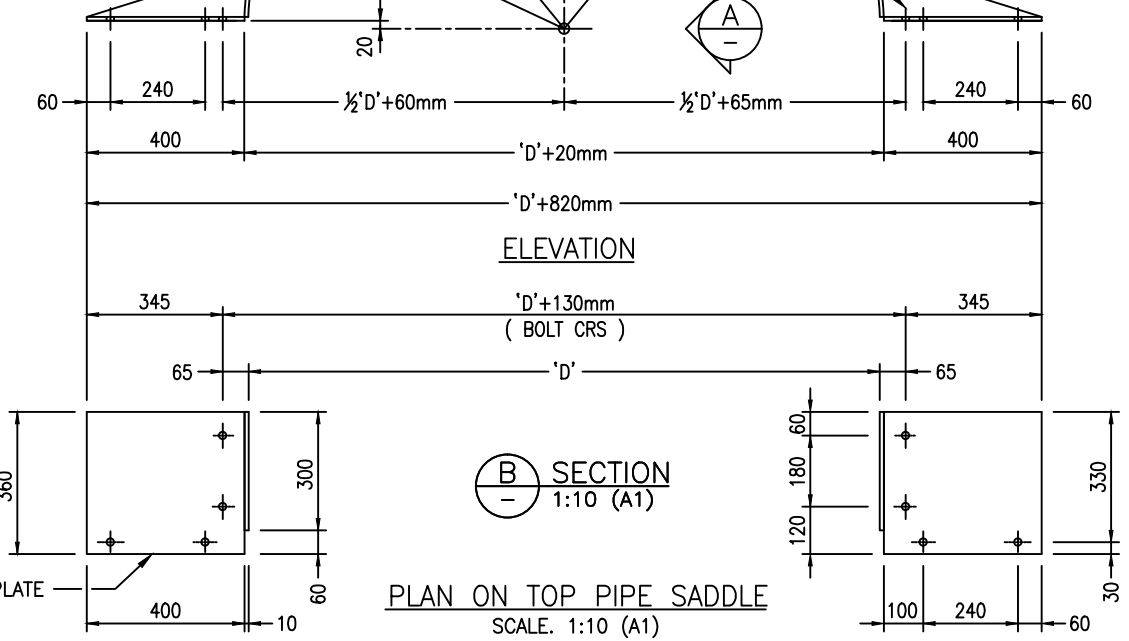


**RIGHT HAND SCREEN SECTION**  
HOT DIP GALVANISED FINISH



**BOTTOM SCREEN SECTIONS**  
1 OFF AS SHOWN - 1 OFF OPP HAND  
HOT DIP GALVANISED FINISH

- NOTES:-**
- ALL 10mm M.S. PLATE, ANGLES & CHANNELS TO BE HOT DIP GALVANISED
  - 'D' = INSIDE DIAMETER OF PIPE SADDLE = ( OVERALL DIA. OF PIPE + 5mm )



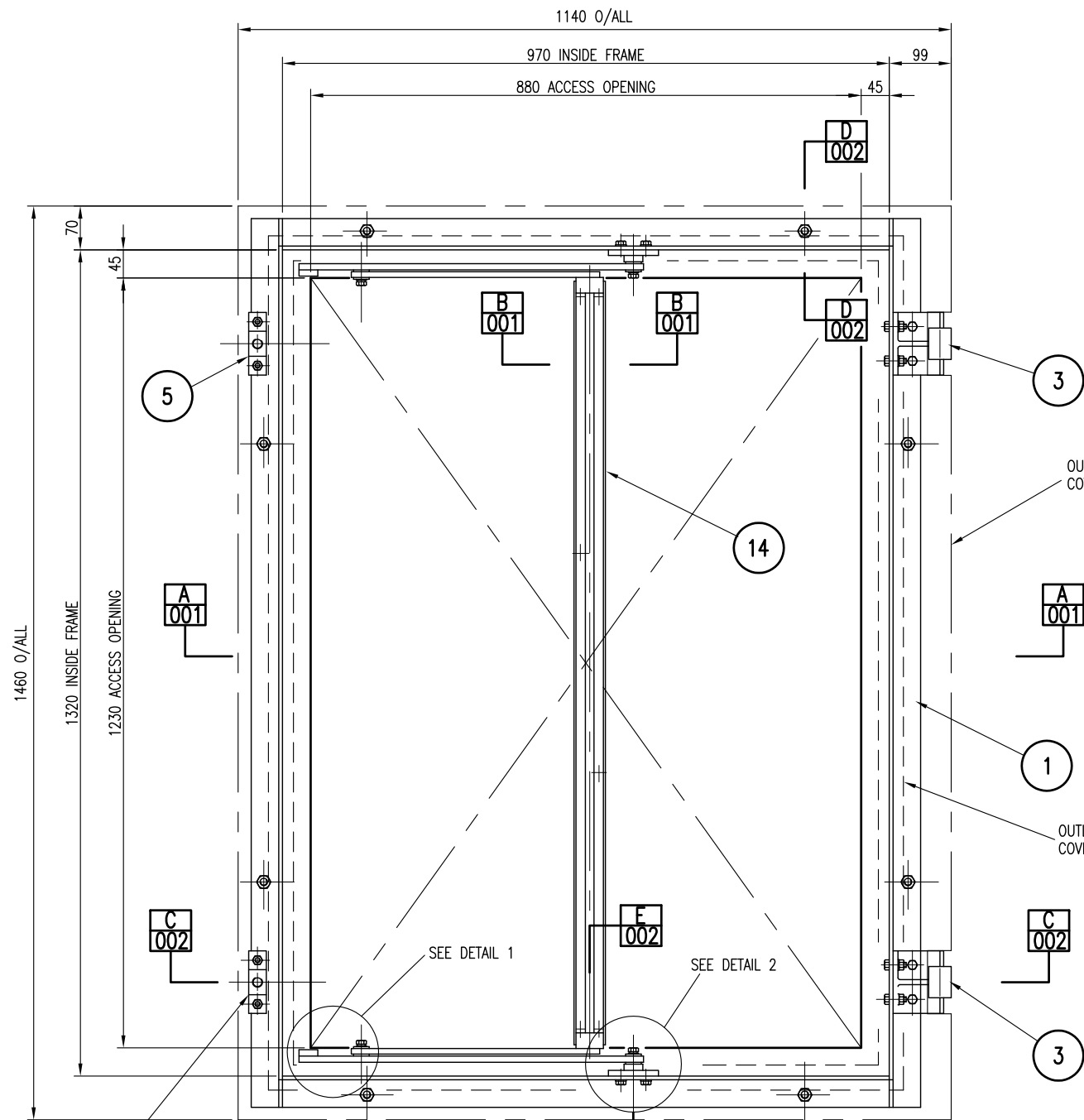
**PLAN ON TOP PIPE SADDLE**  
SCALE: 1:10 (A1)



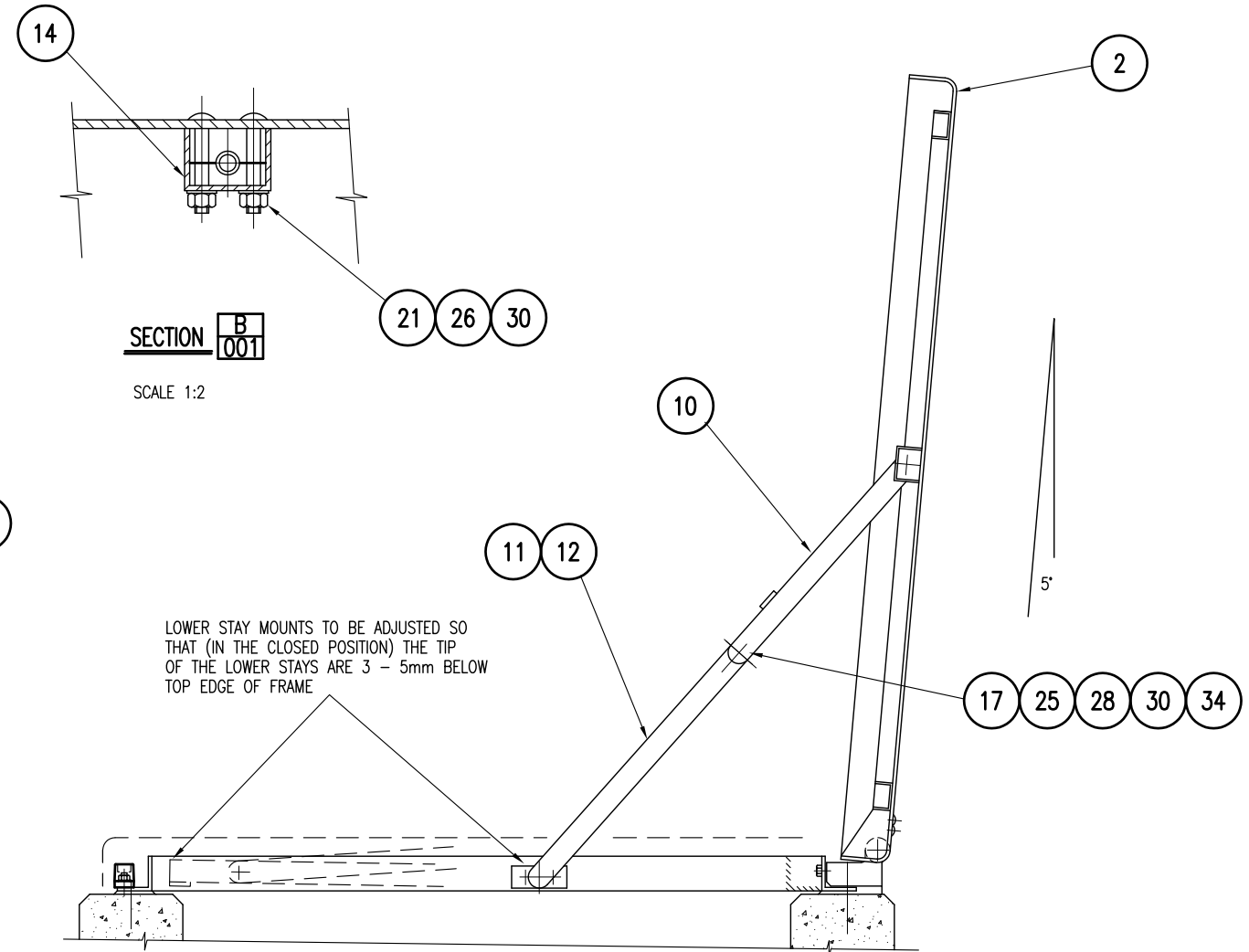
WATERCARE SERVICES STANDARD  
PIPE BRIDGE SAFETY BARRIERS  
SAFETY BARRIER DETAILS - SHEET 3 OF 3

L:\ --- \ EGCADF1 \ 2013 \ WATERCARE SAFETY BARRIER \ 2000244.049 .DWG

DESIGNED										CAD FILE 2000244.049	DATE 16-09-13
DES. CHECKED										ORIGINAL SCALE A1	CONTRACT No.
DRAWN	L.C.	09-13								AS SHOWN	-
DWG. CHECKED	I.M.	09-13								REF. No.	ISSUE
PROJECT LEADER	A.M.	09-13									
INFRAS'TR APP'D										DWG. No.	2000244.049
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	INFRASTRUCTURE				



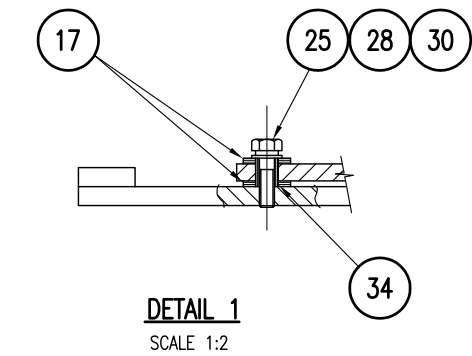
**PLAN VIEW**  
LID SHOWN IN OUTLINE ONLY FOR CLARITY



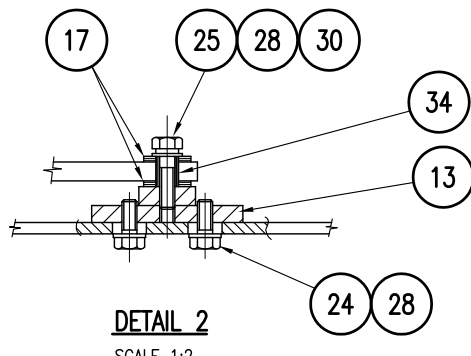
**SECTION B 001**

SCALE 1:2

**SECTION A 001**



**DETAIL 1**  
SCALE 1:2



**DETAIL 2**  
SCALE 1:2

ITEM	MATL	DESCRIPTION	QTY	MICROFILM NO.
35	ST. STL.	M6 x 10 LG. CONE POINT GRUB SCREW	4	
34		(INA) INNER BRG. SLEEVE 9-1/Dx12 O/Dx16 LG.	4	
33	ST. STL.	M10 STANDARD NUT	4	
32	ST. STL.	M8 STANDARD NUT	18	
31	ST. STL.	M6 STANDARD NUT	6	
30	ST. STL.	Ø8 SPRING WASHER	4	
29	ST. STL.	Ø10 FLAT WASHER	4	
28	ST. STL.	Ø8 FLAT WASHER	26	
27	ST. STL.	Ø6 FLAT WASHER	6	
26	ST. STL.	M10 x 30 LG. HEX HD. BOLT	4	
25	ST. STL.	M8 x 30 LG. HEX HD. BOLT	4	
24	ST. STL.	M8 x 20 LG. HEX HD. BOLT	4	
23	ST. STL.	M8 x 30 LG. C'SUNK SCREW	4	
22	ST. STL.	COACH BOLT - M8 x 25 LG.	10	
21	ST. STL.	COACH BOLT - M6 x 50 LG.	6	

20				
19	PTFE	HINGE BEARING	2	2001979 005
18	U.H.W.M.P.E.	TORSION BAR BEARING	2	2001979 007
17	U.H.W.M.P.E.	WASHER	8	2001979 007
16	BRASS	HINGE PIN	2	2001979 007
15	ST.STL.	PUZZLE SCREW (FOR WATER SEE 2001979.014)	2	2001979 006
14	ALUMINIUM	TORSION STAY COVER	1	2001979 005
13	ST.STL.	LOWER STAY MOUNT	2	2001979 007
12	ST.STL.	LOWER STAY R.H. (OPPOSITE HAND)	1	2001979 007
11	ST.STL.	LOWER STAY L.H. (AS DRAWN)	1	2001979 007
10	ST. STL.	TORSION STAY	1	2001979 005
9	NYLON	HINGE PACKER	2	2001979 005
8	NYLON	HINGE PACKER	2	2001979 005
7				
6				
5	PLASTIC	UPPER & LOWER LOCK CLAMP	2	2001979 006
4	ALUMINIUM	HINGE	2	2001979 006
3	ALUMINIUM	HINGE BASE	2	2001979 006
2	ALUMINIUM	COVER	1	2001979 004
1	ST. STL.	FRAME	1	2001979 003

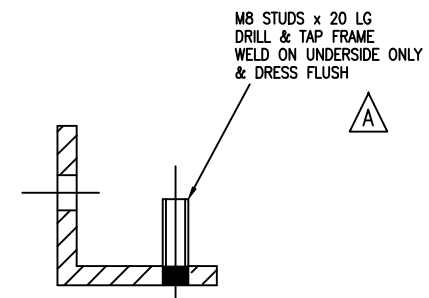
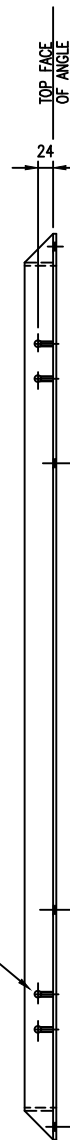
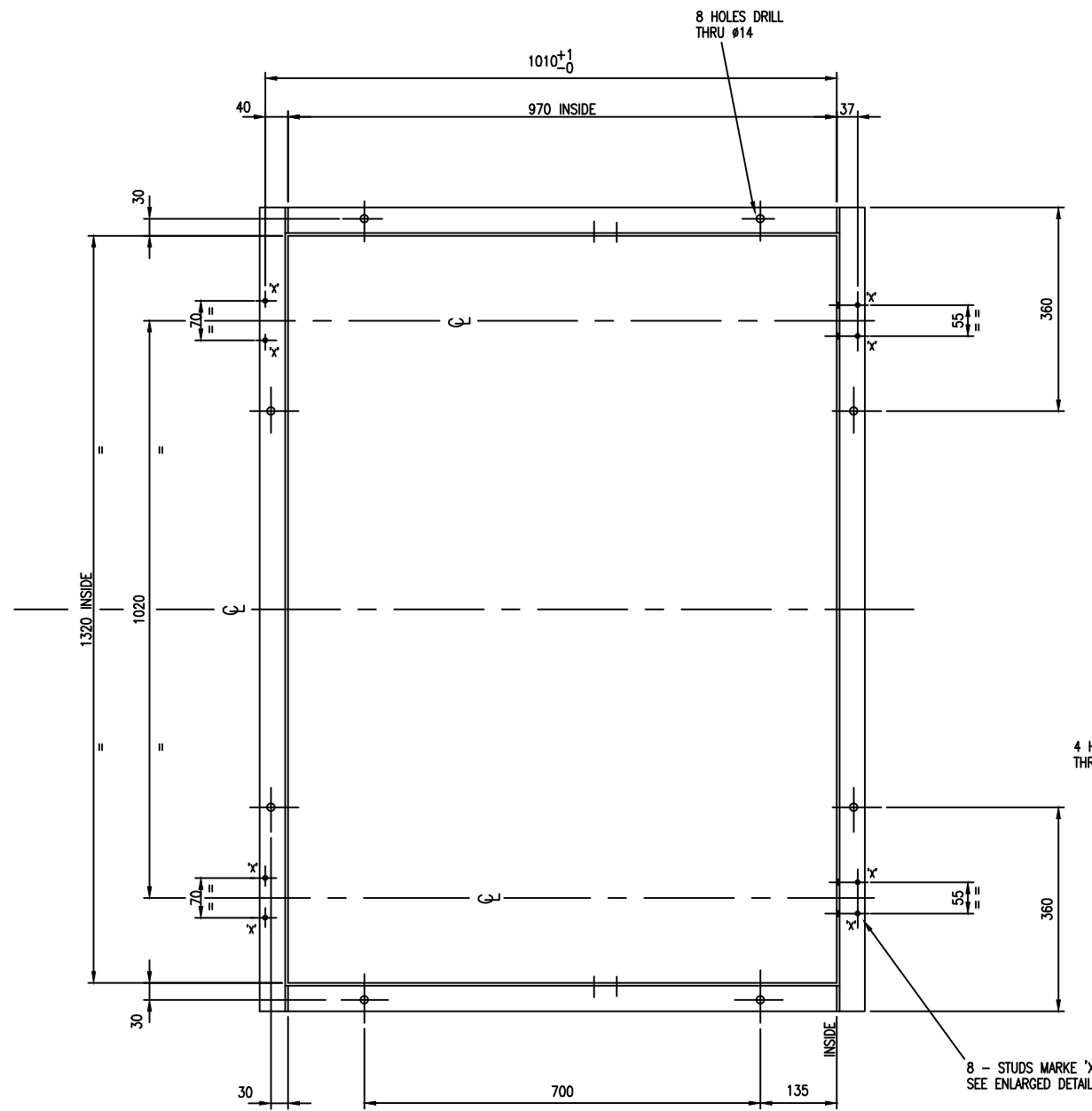
ISSUE	DATE	AMENDMENT	BY	APPD.	DATE	MANAGER
B	09:18	ITEM 15 AMENDED	L.C.	D.M.		
A	08:11	ITEM 6 & 7 REMOVED	G.S.			
A	08:11	ITEM 5 & 15 RENAMED - ITEM 19 ADDED	G.S.			

**DESIGNED**  
**DES. CHECKED**  
**DRAWN**  
**DWG. CHECKED**  
**PROJECT LEADER**

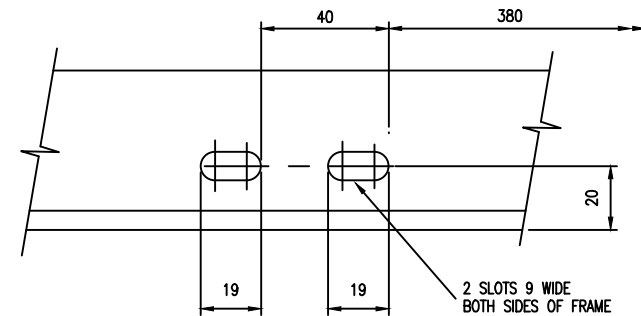


**WATERCARE SERVICES WATER RETICULATION**  
**STANDARD SEALED ACCESS HATCH**  
**ASSEMBLY (SHEET 1 OF 2)**

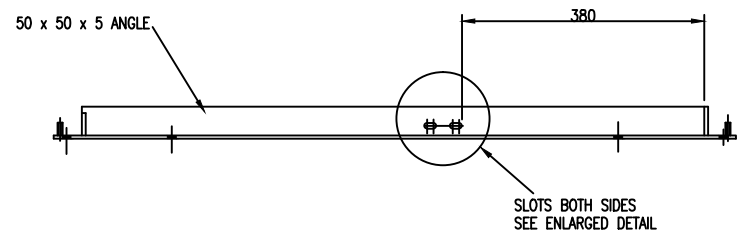
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2001979.001B	27:09:18	A1	-	2001979 .001	B



STUD DETAIL



SLOT DETAIL



ITEM (1) FRAME  
MATERIAL :- 316 STAINLESS STEEL

DESIGNED			
DES. CHECKED			
DRAWN	G.SMITH	6/97	
DWG. CHECKED			
PROJECT LEADER			
BY	G.S.		
APPD.			
BY			
DATE			

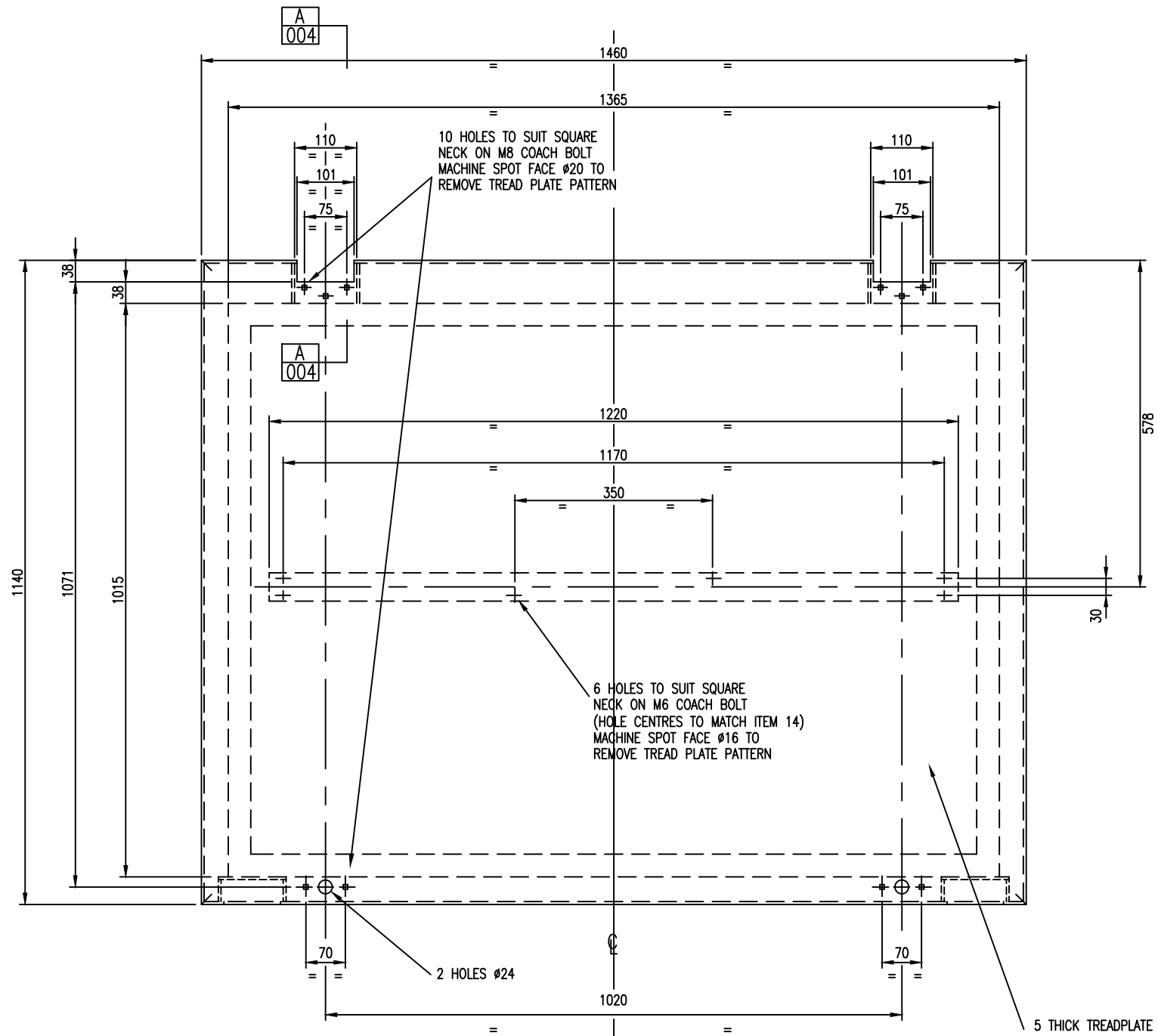
MANAGER  
MANAGER  
WATER OPERATIONS

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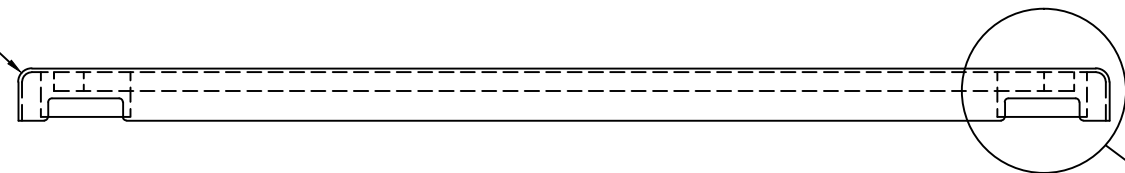
WATERCARE SERVICES WATER RETICULATION  
STANDARD SEALED ACCESS HATCH  
COMPONENT 1

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DRAWING No.	ISSUE
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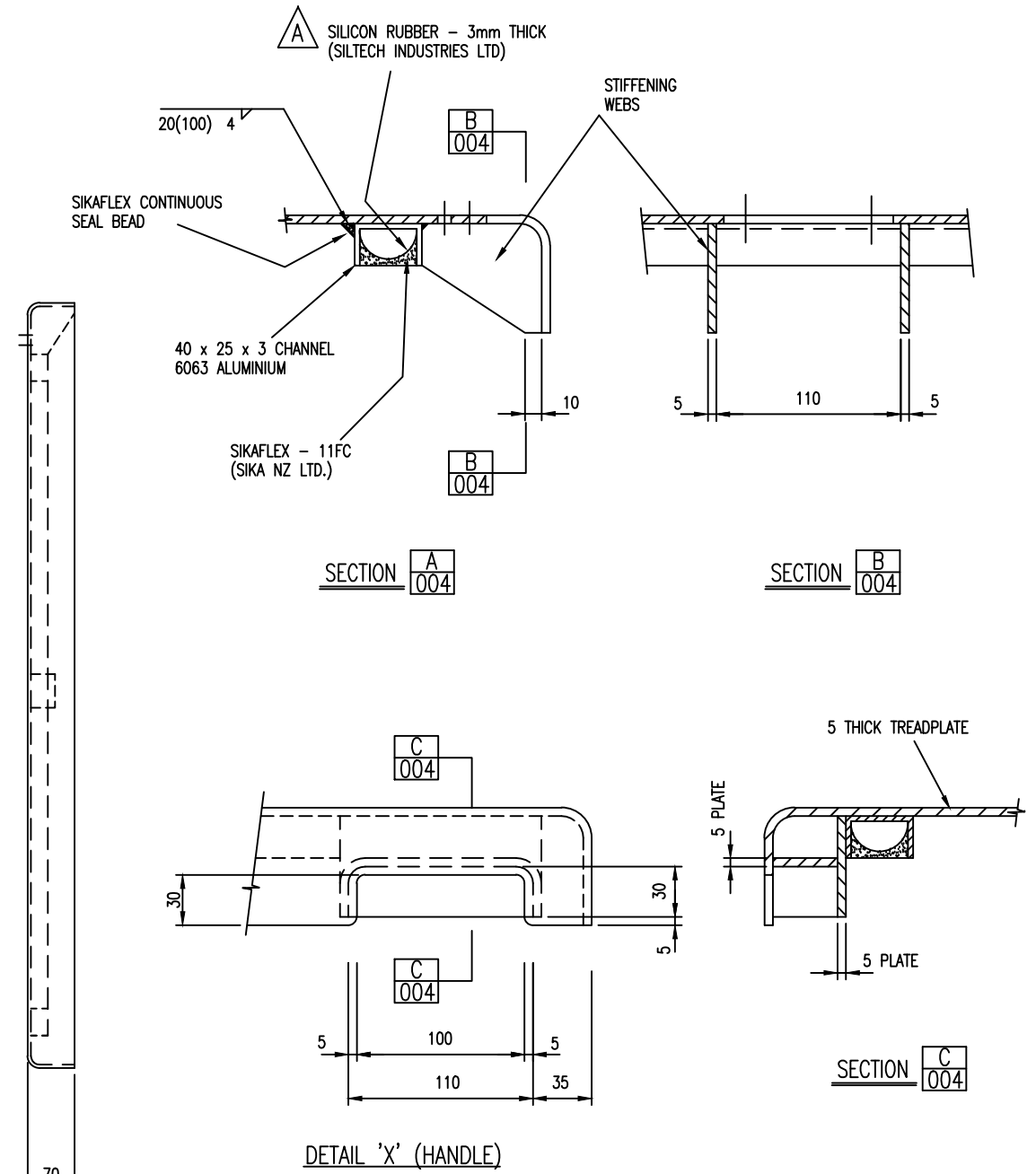




18 EXTERNAL RAD (TYP)



2 HANDLES SEE DETAIL 'X'



ITEM 2 COVER

MATERIAL :- 5251 ALUMINIUM UNLESS STATED OTHERWISE (MEDIUM STRENGTH ALUM-MAGNESIUM ALLOY FOR MARINE & ROAD VEHICLES)

DESIGNED					
DES. CHECKED					
DRAWN	G.SMITH	6/97			
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY
A	08/11	SEAL BACKING MATERIAL CHANGED	G.S.		

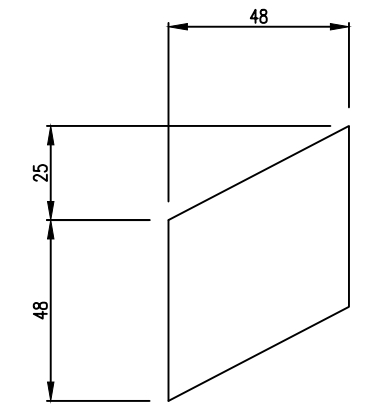
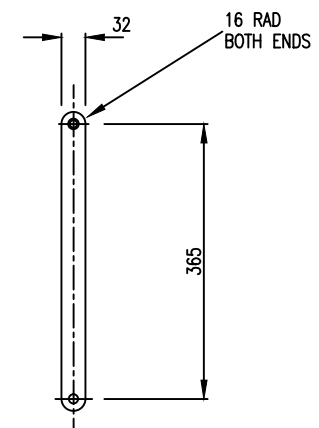
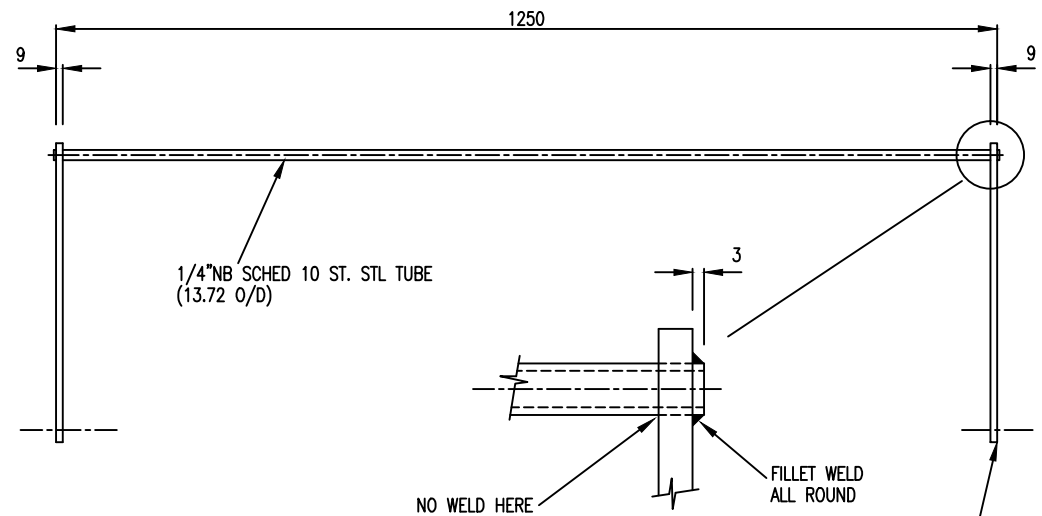
MANAGER	
MANAGER WATER OPERATIONS	

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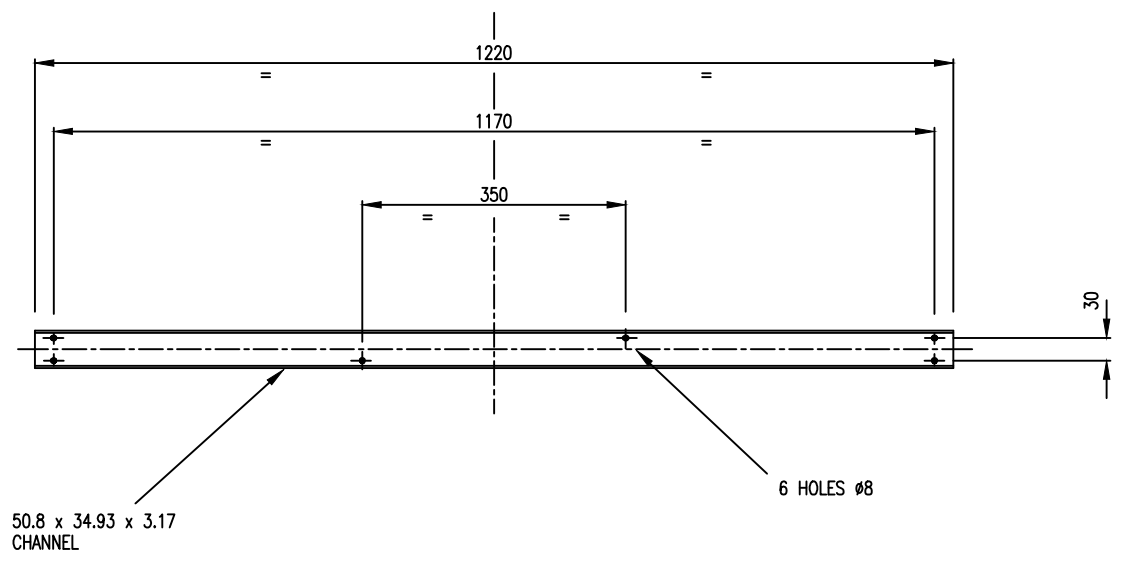
WATERCARE SERVICES WATER RETICULATION  
STANDARD SEALED ACCESS HATCH  
COMPONENT 2

CAD FILE 2001979.004A	DATE 15:08:11
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DRAWING No.	ISSUE
2001979 .004	A

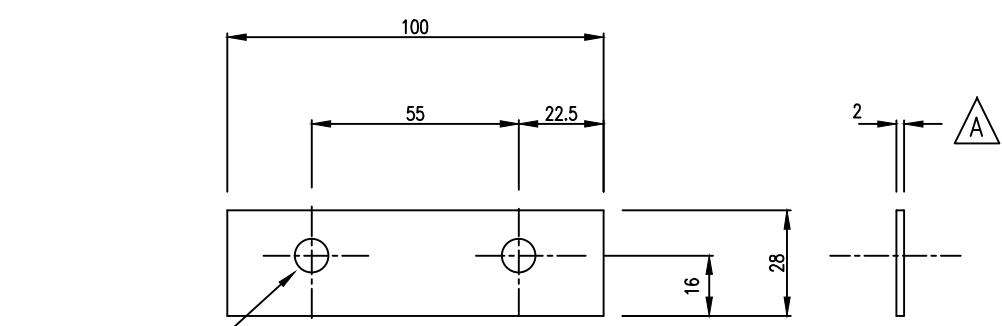


ITEM 8 HINGE BEARING  
 MATERIAL :- 0.8mm PTFE SHEET

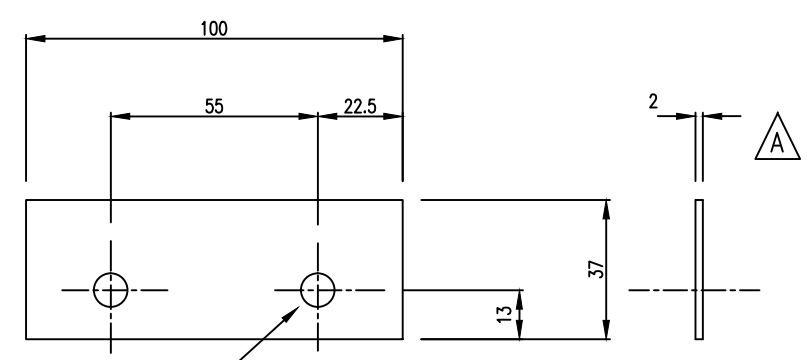
ITEM 10 TORSION STAY  
 MATERIAL :- 316 STAINLESS STEEL



ITEM 14 TORSION STAY COVER  
 MATERIAL:- ALUMINIUM 6351



ITEM 8 HINGE PACKER  
 MATERIAL :- NYLON



ITEM 9 HINGE PACKER  
 MATERIAL :- NYLON

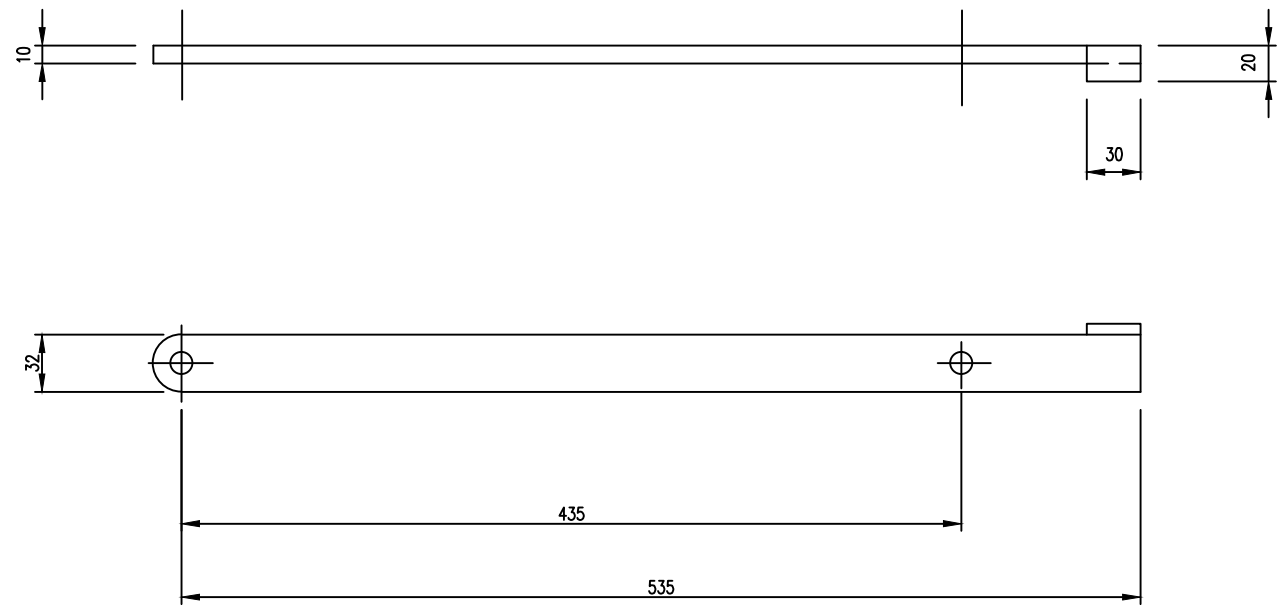
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DES. CHECKED					
DRAWN	G.SMITH	6/97			
DWG. CHECKED					
PROJECT LEADER					
A 08-11	ITEM 19 ADDED- ITEM 8 & 9 MODIFIED	G.S.			
ISSUE	DATE	AMENDMENT	BY	APPD.	

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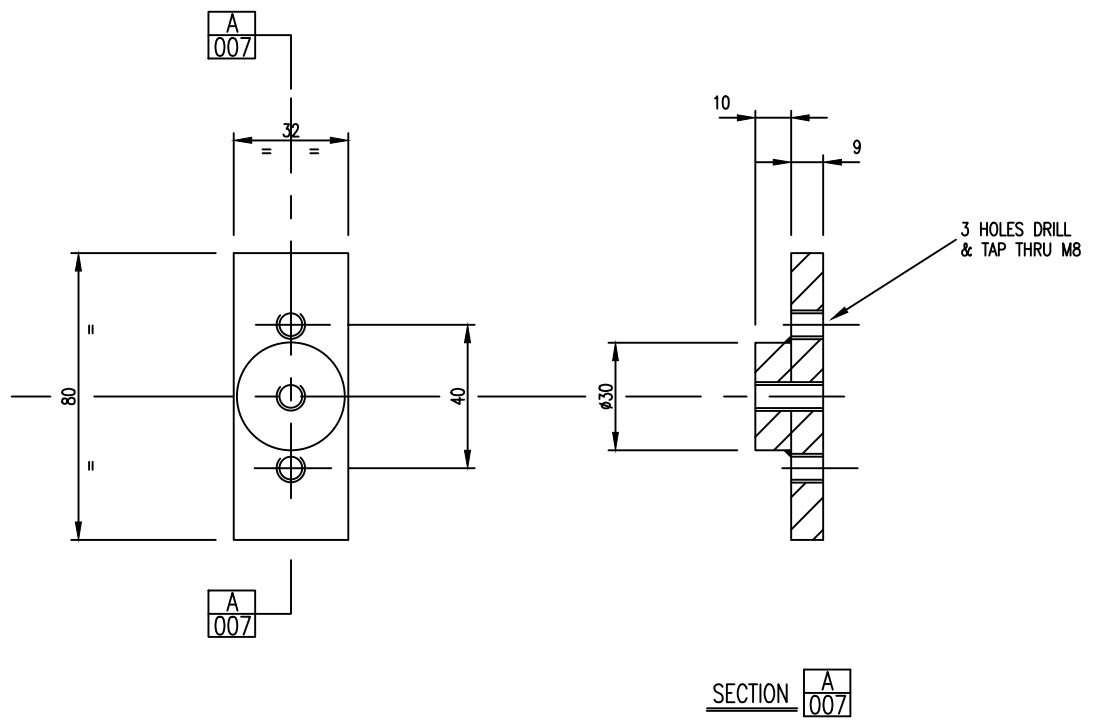
WATERCARE SERVICES WATER RETICULATION  
 STANDARD SEALED ACCESS HATCH  
 COMPONENTS 7, 8, 9, 10, 14.

CAD FILE 2001979.005A	DATE 15:08:11
ORIGINAL SCALE A1	CONTRACT No.
1:5 1:1	-
DRAWING No.	ISSUE
2001979 .005	A

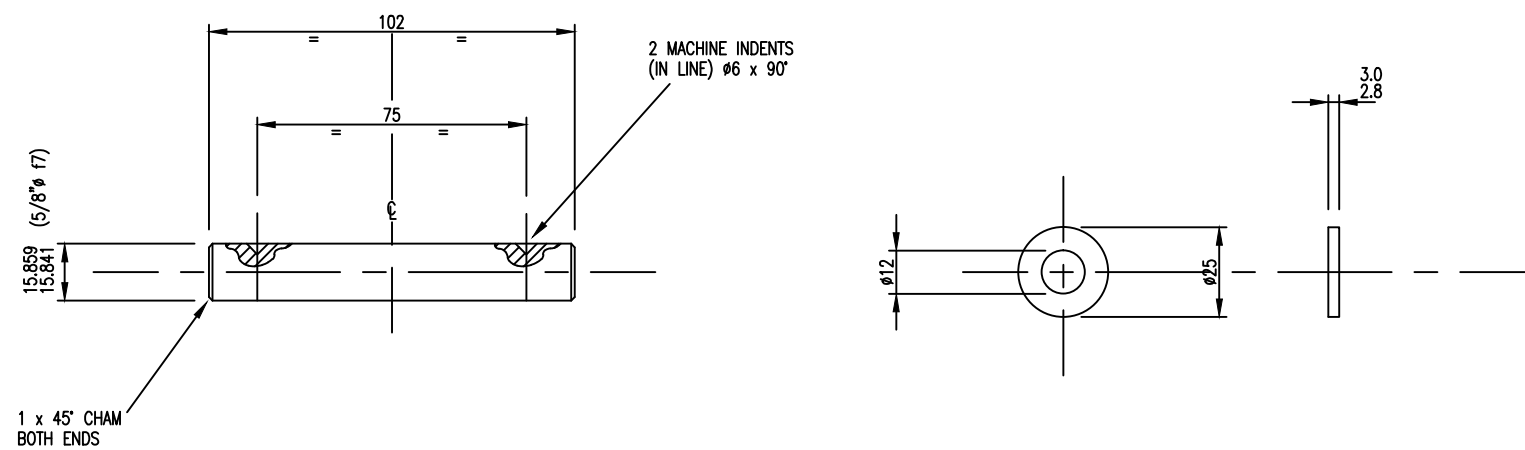


ITEM 11 LOWER STAY L.H. (AS DRAWN)  
MATERIAL:- 316 STAINLESS STEEL

ITEM 12 LOWER STAY R.H. (OPPOSITE HAND)  
MATERIAL:- 316 STAINLESS STEEL

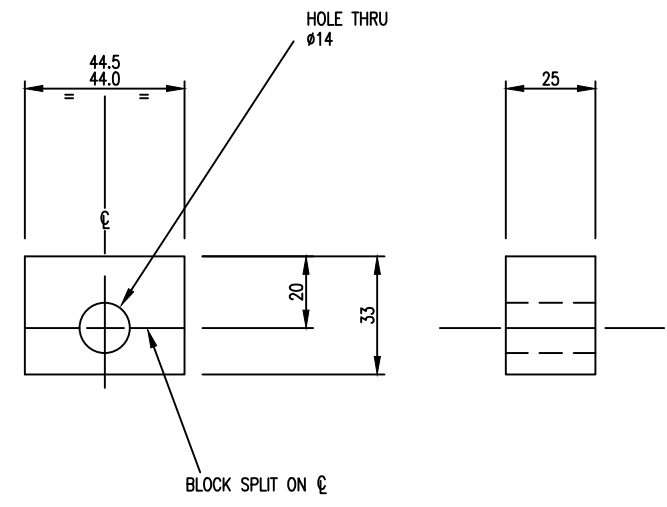


ITEM 13 LOWER STAY MOUNT  
MATERIAL:- 316 STAINLESS STEEL



ITEM 16 HINGE PIN  
MATERIAL:- BRASS

ITEM 17 WASHER  
MATERIAL:- U.H.W.M.P.E.



ITEM 18 TORSION BAR BEARING  
MATERIAL:- U.H.W.M.P.E.

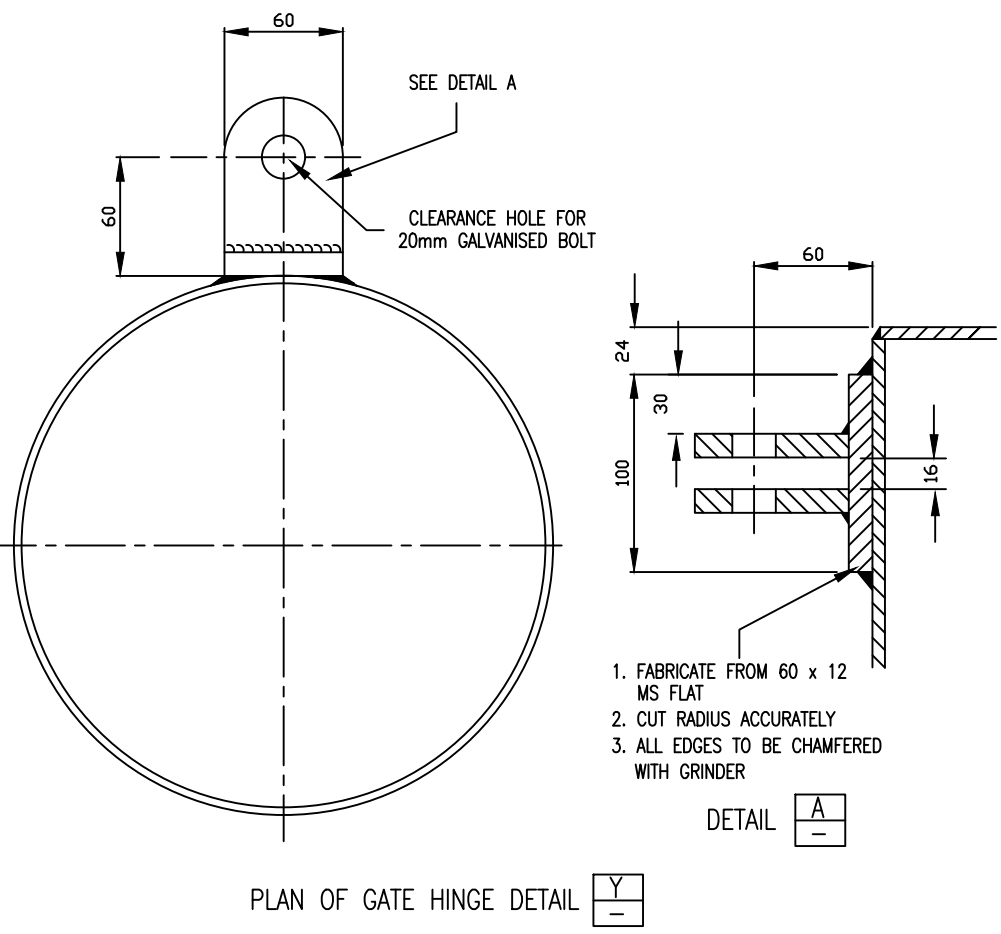
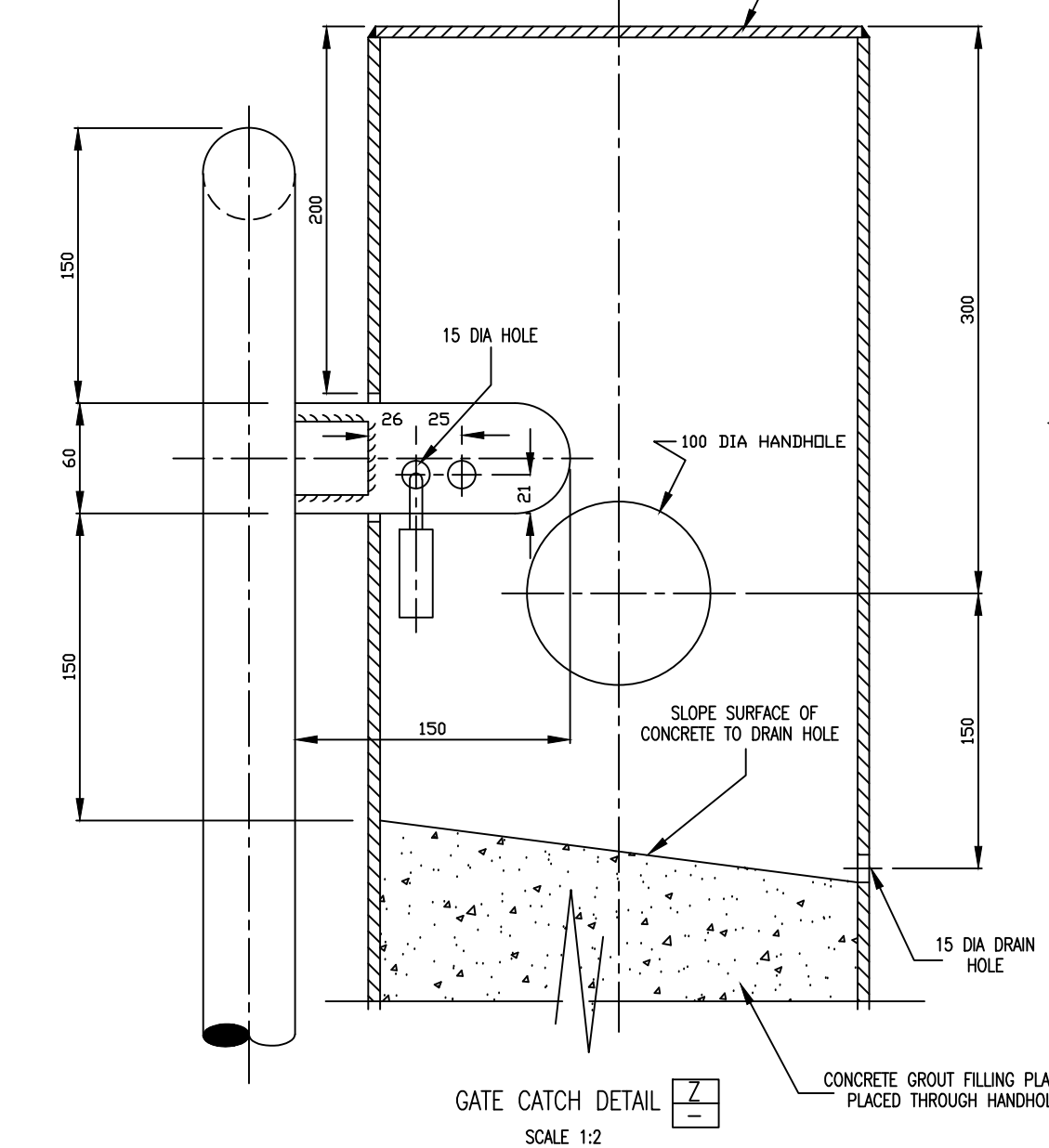
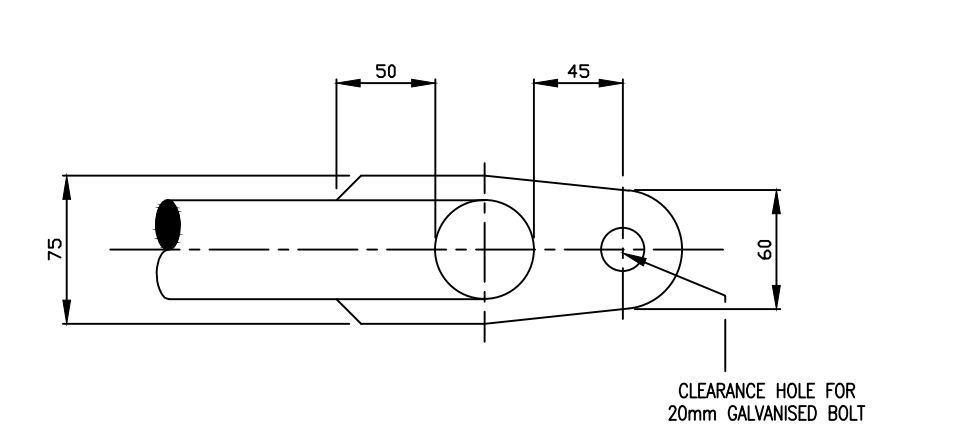
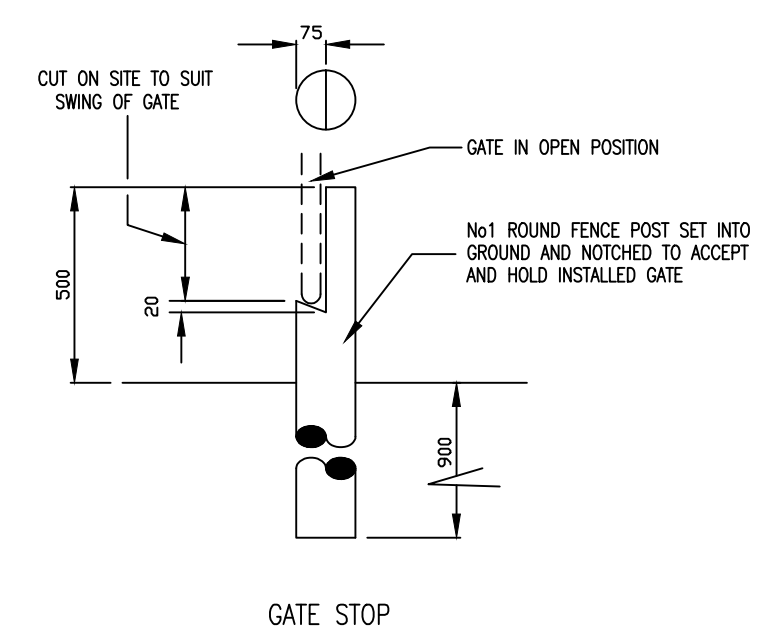
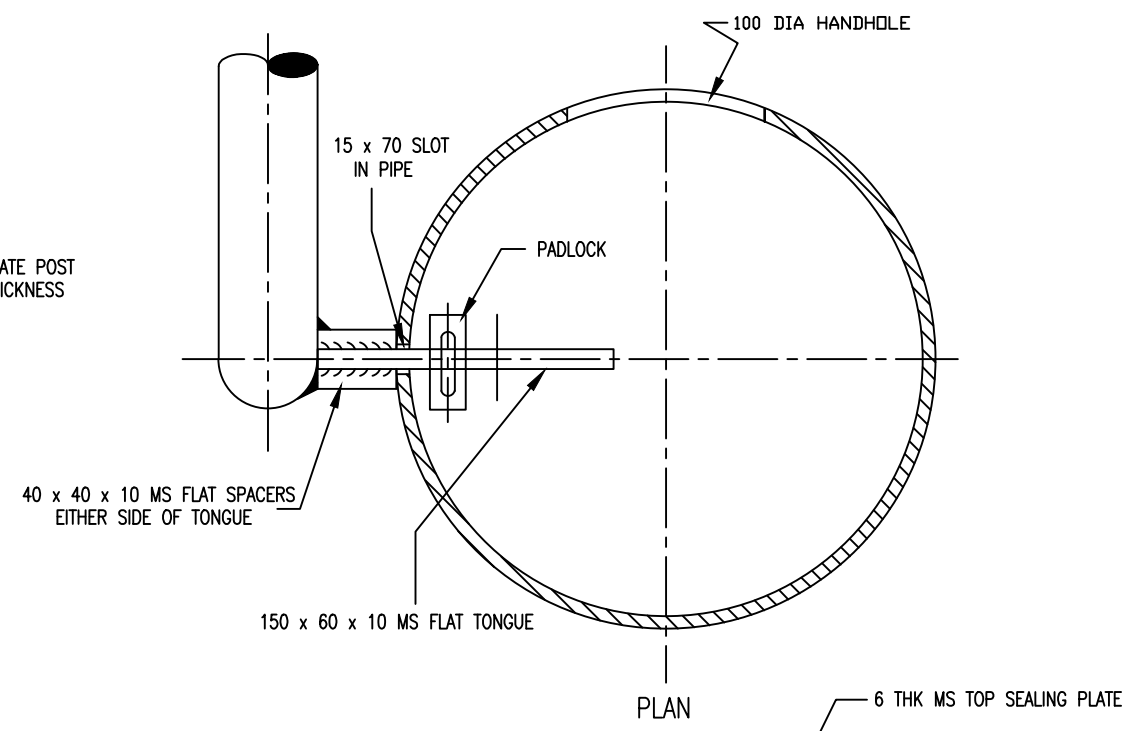
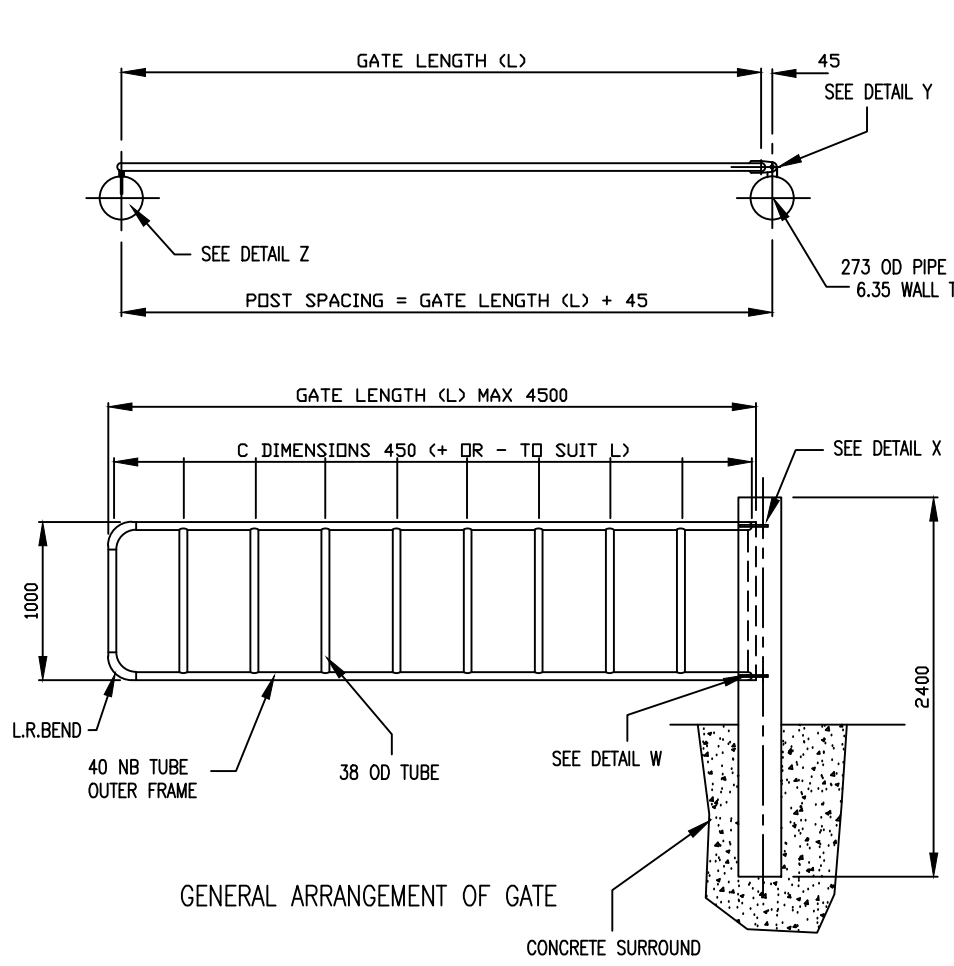
DESIGNED					
DES. CHECKED					
DRAWN	G.SMITH	6/97			
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY

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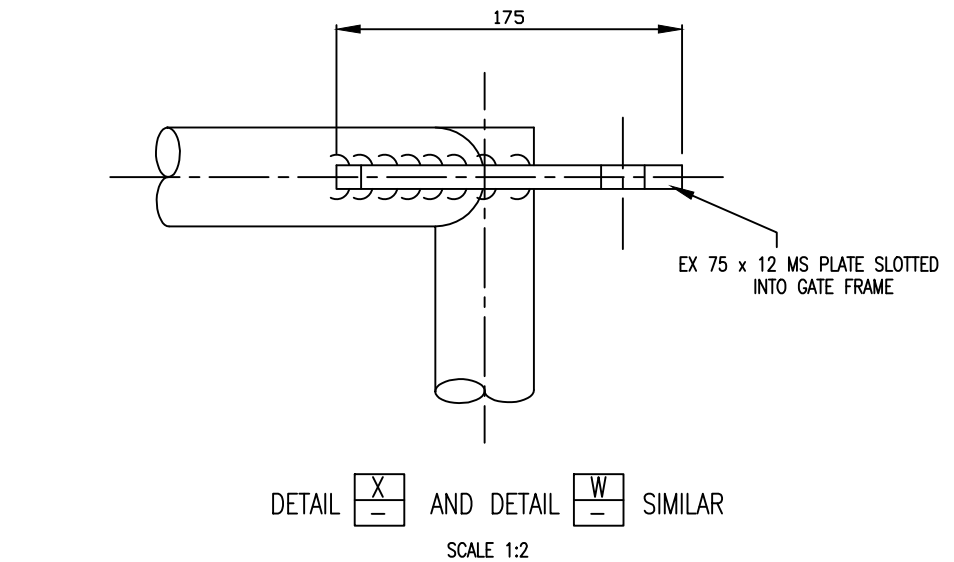
WATERCARE SERVICES WATER RETICULATION  
STANDARD SEALED ACCESS HATCH COVER  
COMPONENTS 11, 12, 13, 16, 17, 18.

CAD FILE 2001979.007	DATE 28:08:01
ORIGINAL SCALE A1	CONTRACT No.
1:1 1:2	-
DRAWING No.	ISSUE
2001979 .007	-



1. FABRICATE FROM 60 x 12 MS FLAT
2. CUT RADIUS ACCURATELY
3. ALL EDGES TO BE CHAMFERED WITH GRINDER

- NOTES
1. ALL WELDS TO BE 5mm FILLET WELDS ALL ROUND UNLESS SHOWN OTHERWISE
  2. HOT DIP GALVANISE ALL COMPONENTS AFTER FABRICATION
  3. REMOVE ALL SHARP EDGES WITH GRINDER BEFORE GALVANISING
  4. PROVIDE 10 DIA VENT/DRAIN HOLES NEAR EACH END OF ALL GATE MEMBERS DURING FABRICATION TO ENSURE COMPLETE AND SAFE GALVANISING (REFER GALVANISING MANUAL PUBLISHED BY GALVANISING ASSOCIATION OF AUSTRALIA)
  5. ASSEMBLY :-  
(A) SET IN HINGE POST AND HANG GATE  
(B) SET IN OTHER POST TO MATCH TANG OF GATE CATCH



DESIGNED	S.CUNIS				
DES. CHECKED					
DRAWN	M.PILCHER	09:82			
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	DATE

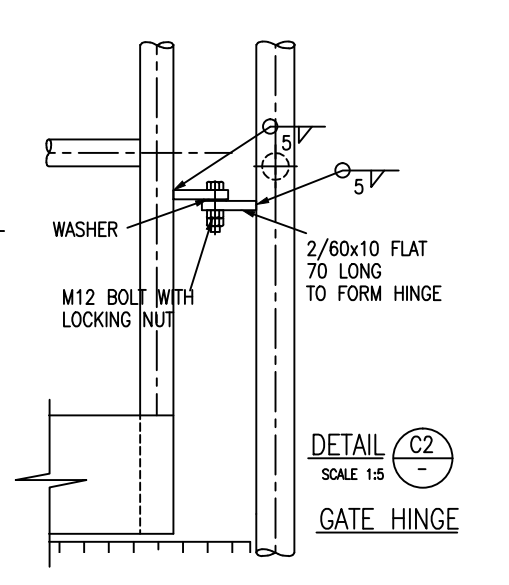
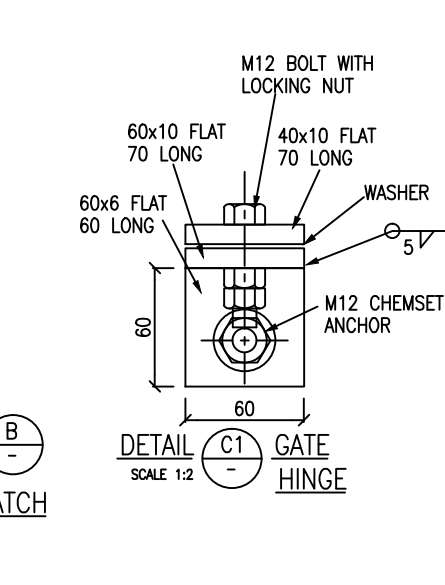
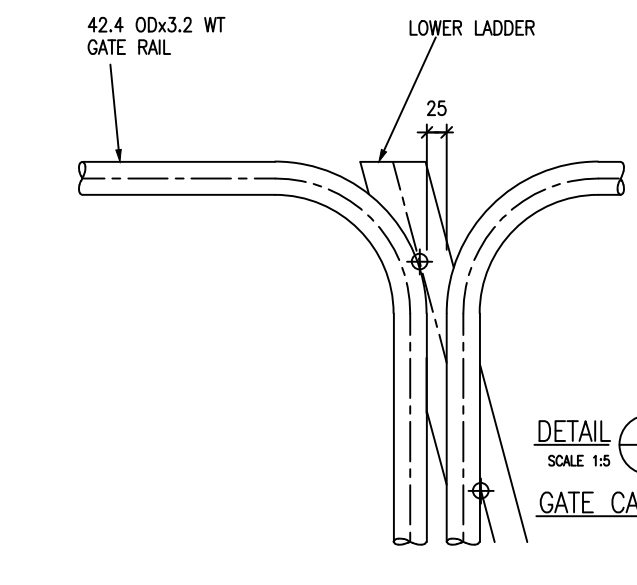
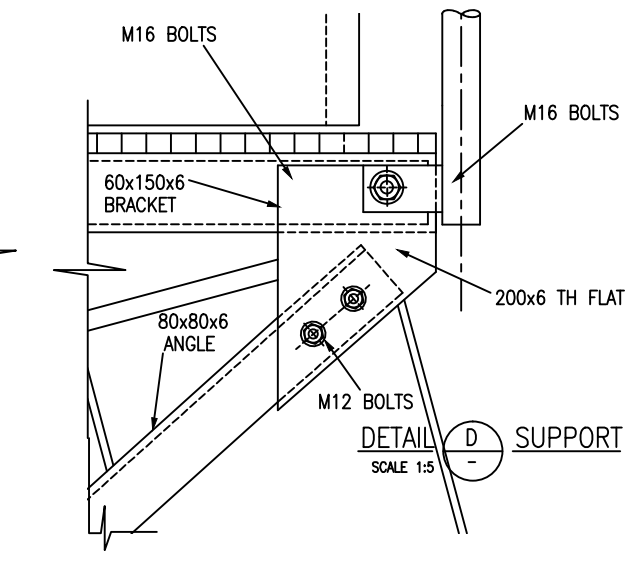
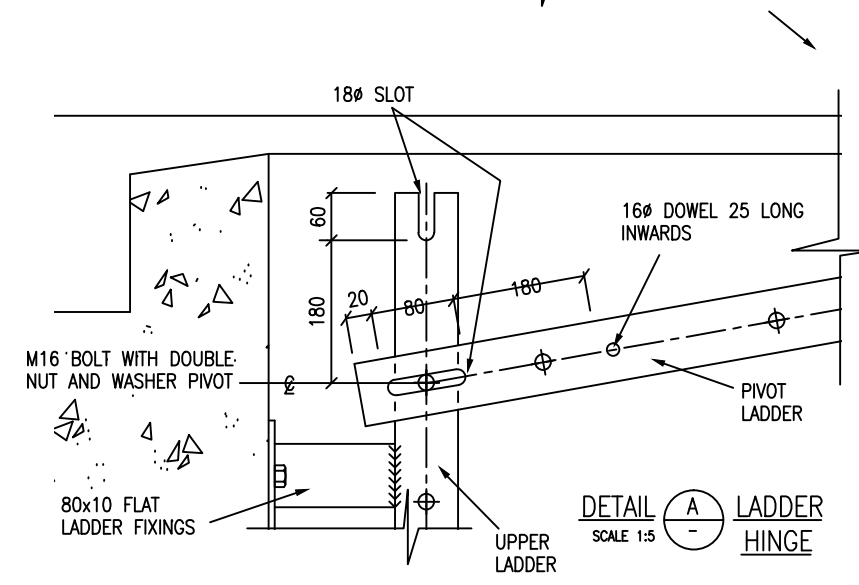
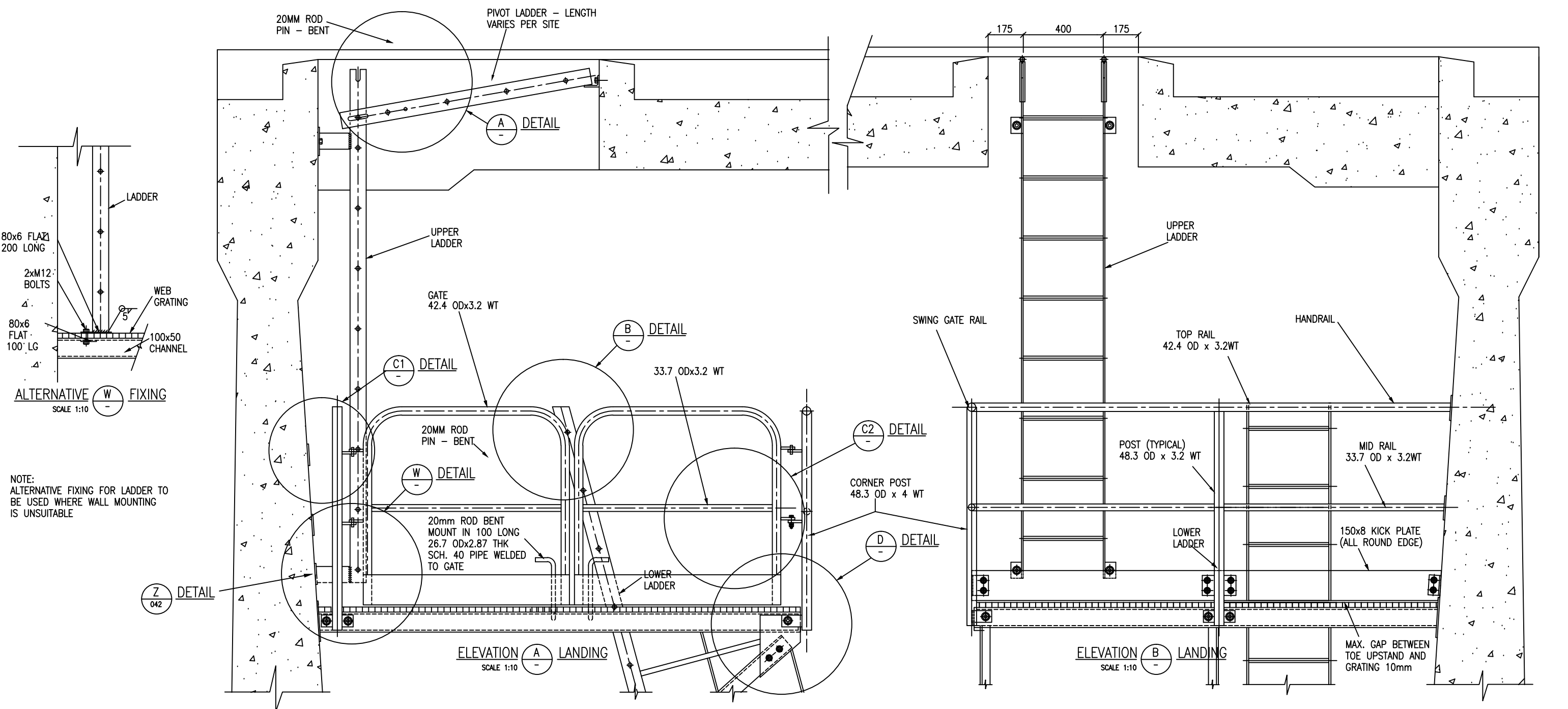
OPERATIONS MANAGER  
WATER

PLANNING MANAGER  
WATER



WATERCARE SERVICES WATER RETICULATION  
STANDARD ROADWAY SECURITY GATE  
GENERAL ARRANGEMENT AND GATE CATCH DETAILS

CAD FILE 2001979.008	DATE 28:08:01
ORIGINAL SCALE A1	CONTRACT No.
1:2	
DRAWING No.	ISSUE
2001979 .008	



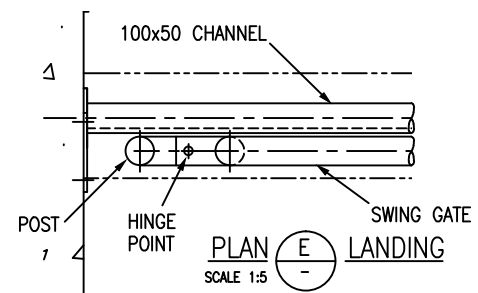
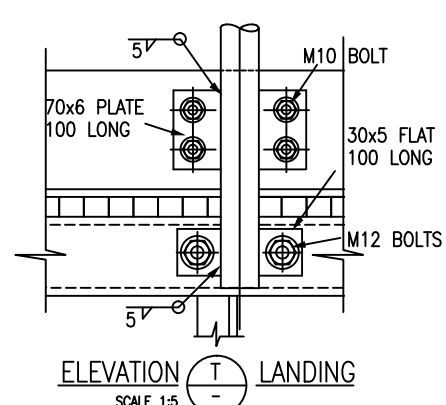
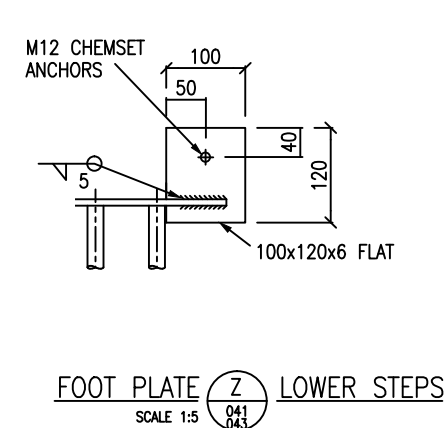
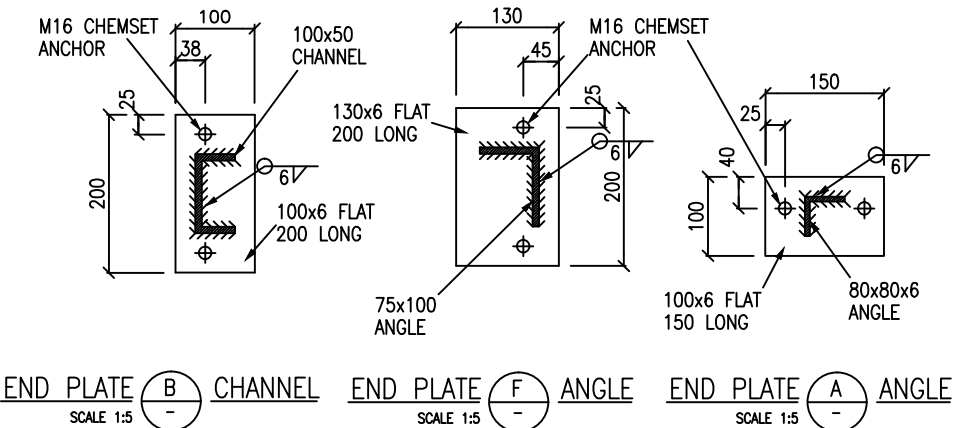
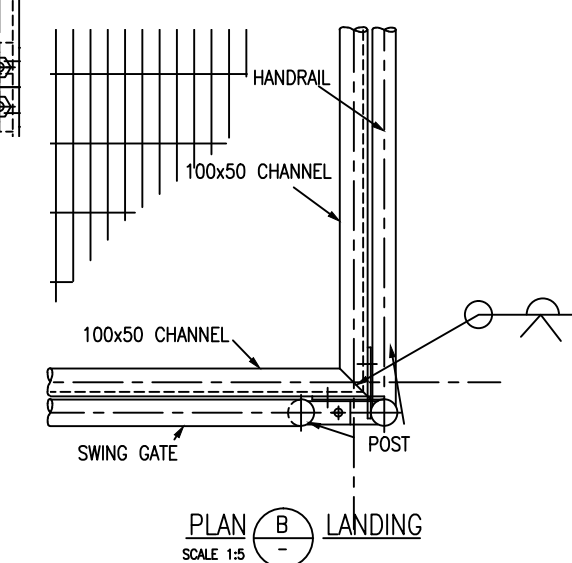
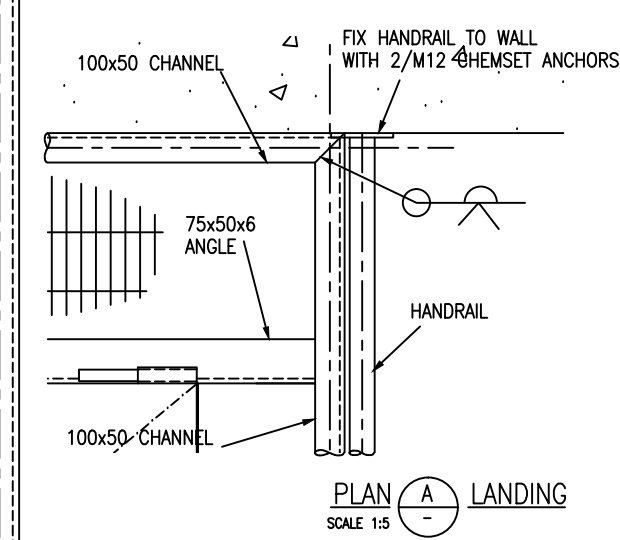
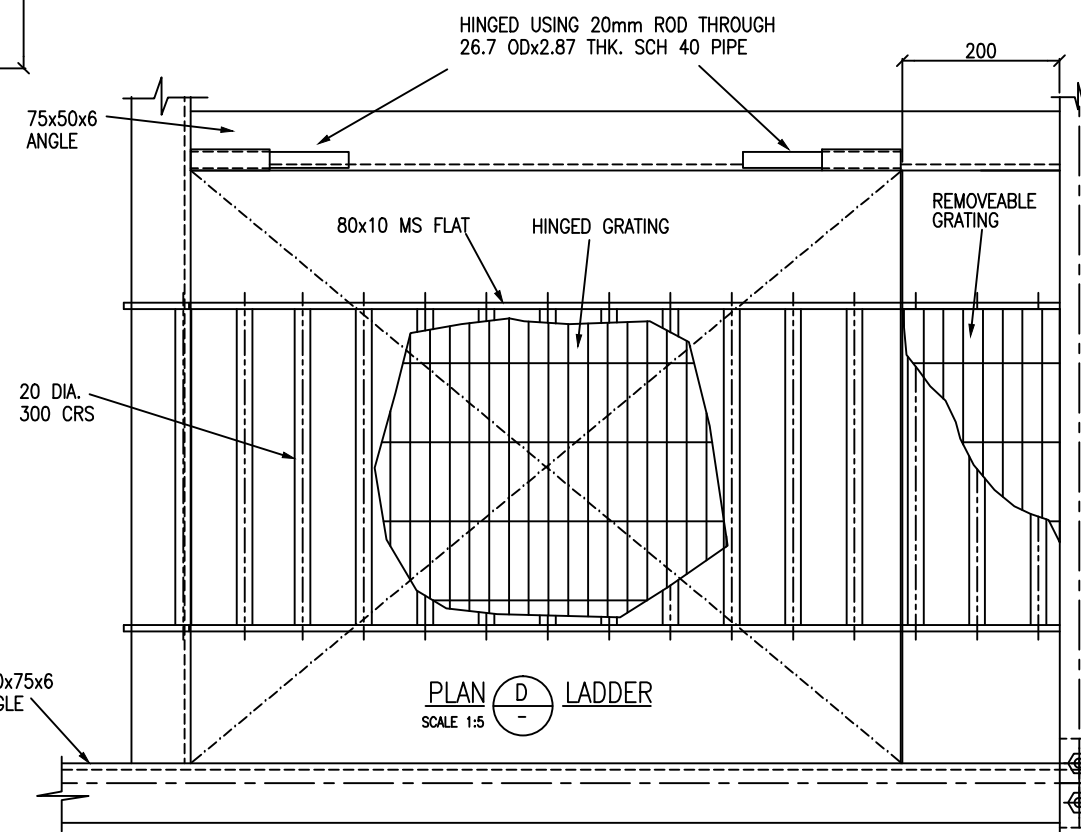
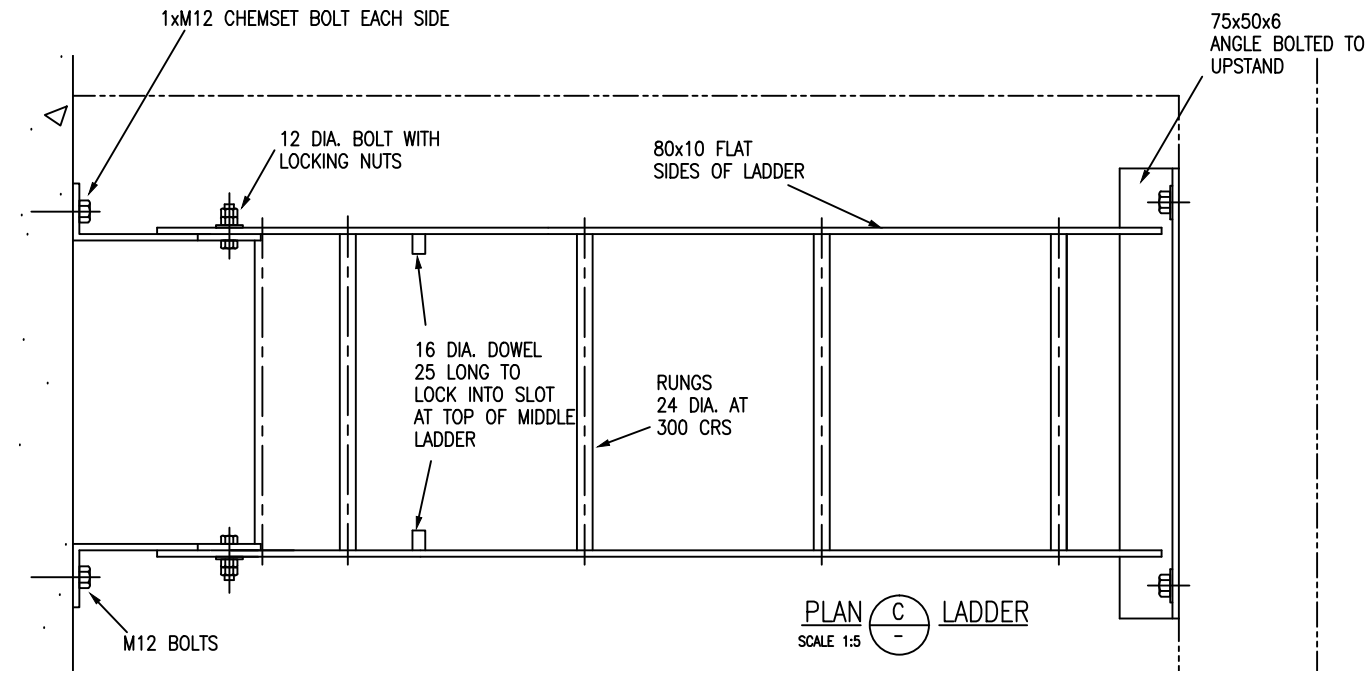
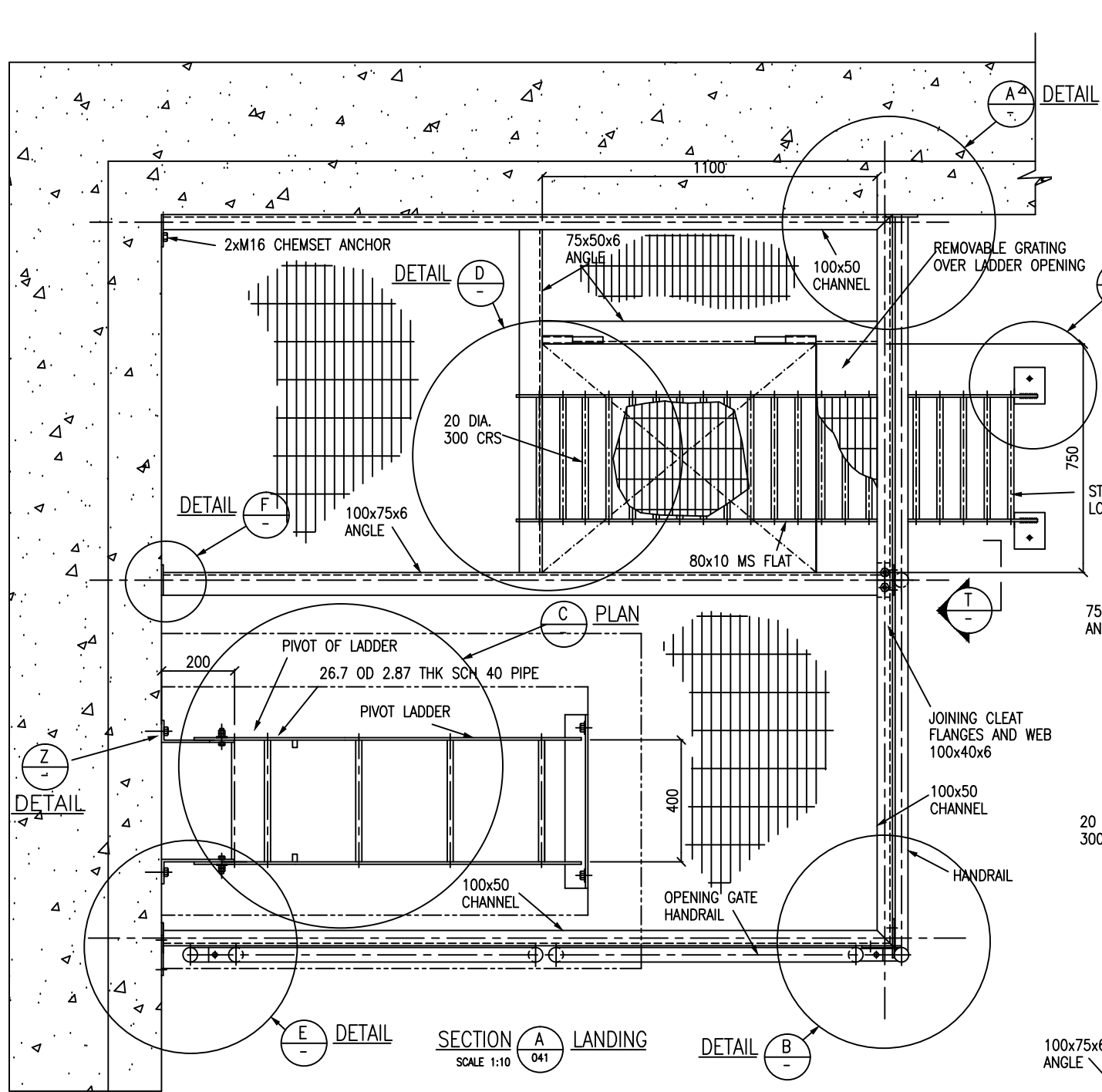
DESIGNED	R.LOBBAN	11:95			
DES. CHECKED					
DRAWN	P.BARDSLEY	02:11:95	OPERATIONS MANAGER		
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY

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WATERCARE SERVICES WATER RESERVOIRS  
STANDARD LANDING AND LADDERS  
DETAILS OF HINGE, SUPPORT AND GATE CATCH

CAD FILE 2001979.009	DATE 29:08:01
ORIGINAL SCALE A1	CONTRACT No.
AS SHOWN	-
DRAWING No.	ISSUE
2001979 .009	



END PLATE B CHANNEL SCALE 1:5  
 END PLATE F ANGLE SCALE 1:5  
 END PLATE A ANGLE SCALE 1:5

FOOT PLATE Z LOWER STEPS SCALE 1:5

ELEVATION T LANDING SCALE 1:5

PLAN E LANDING SCALE 1:5

PLAN B LANDING SCALE 1:5

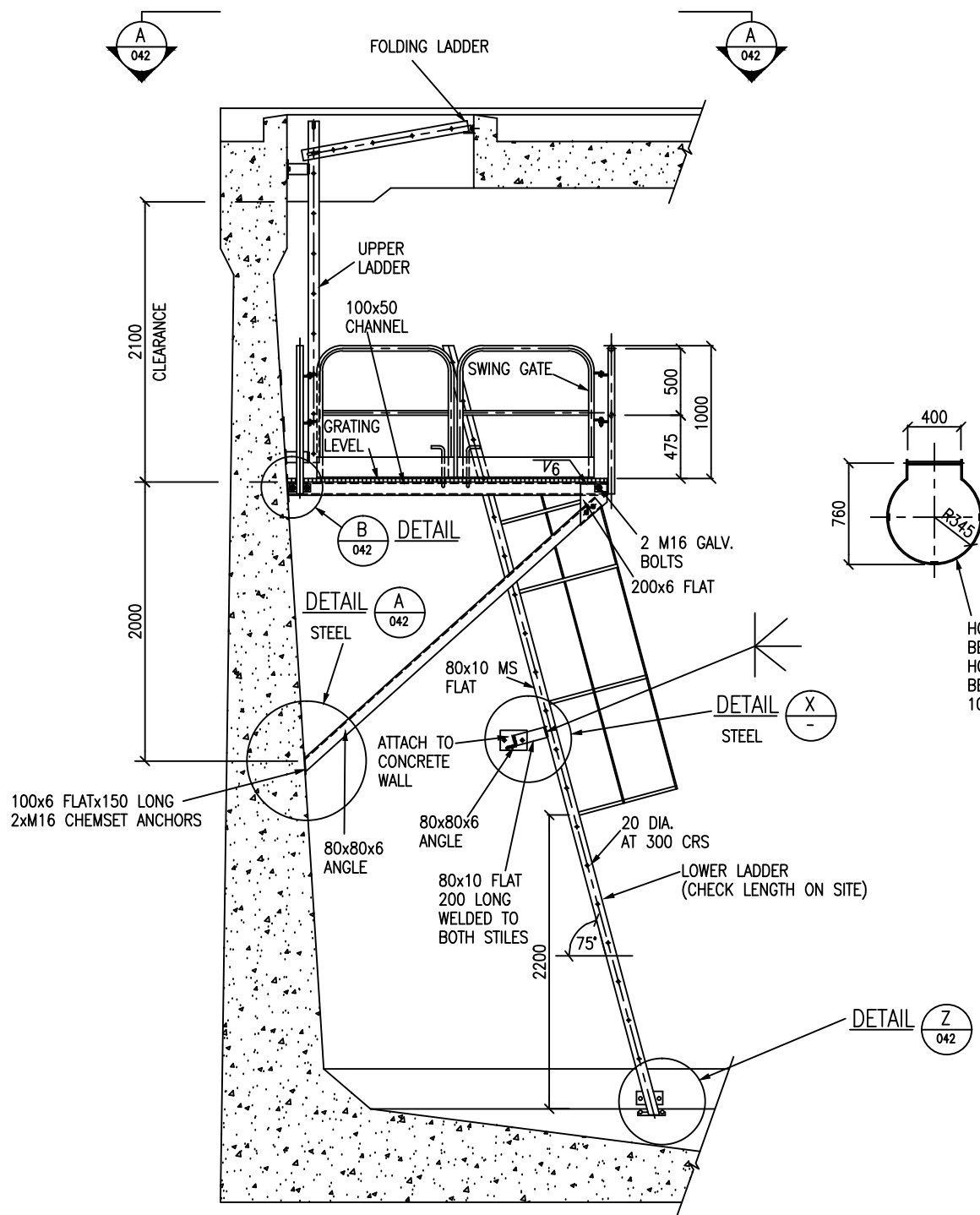
DESIGNED	R.LOBBAN	11:95			
DES. CHECKED					
DRAWN	P.BARDSLEY	02:11:95	OPERATIONS MANAGER		
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY

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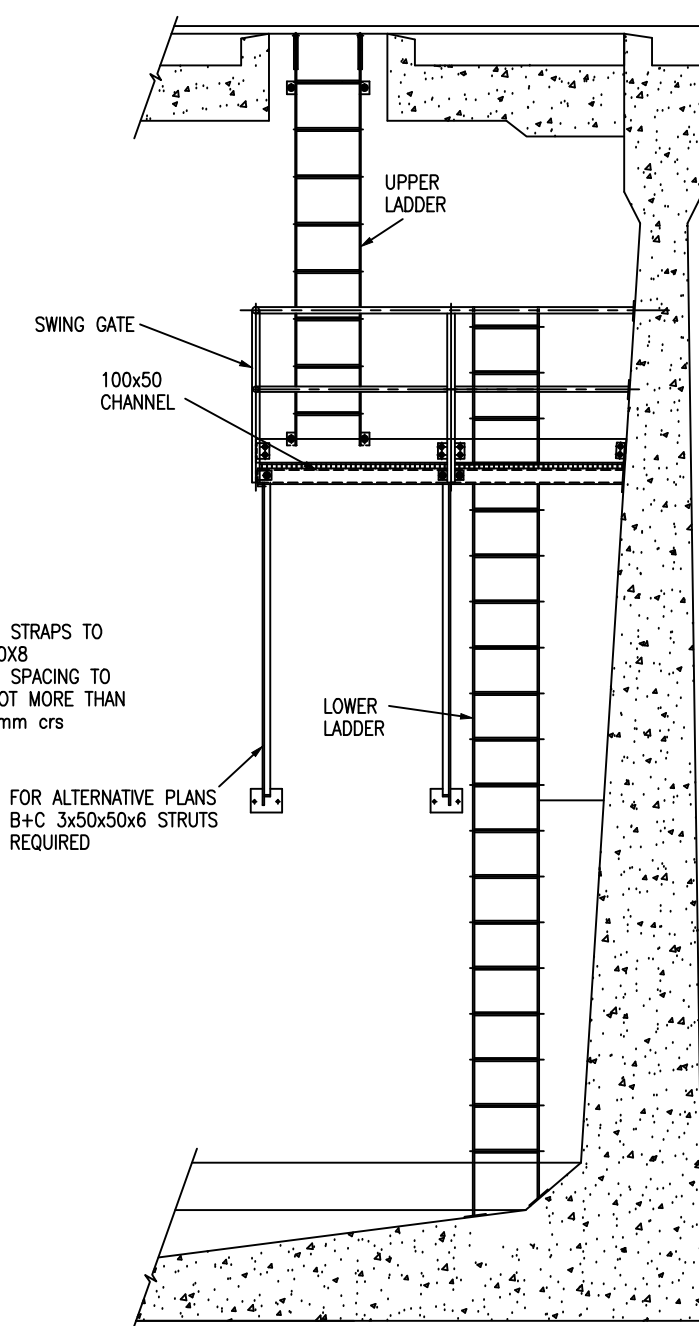


WATERCARE SERVICES WATER RESERVOIRS  
 STANDARD LANDING AND LADDERS  
 PLANS AND DETAILS OF LANDING, END PLATES AND LOWER STEPS

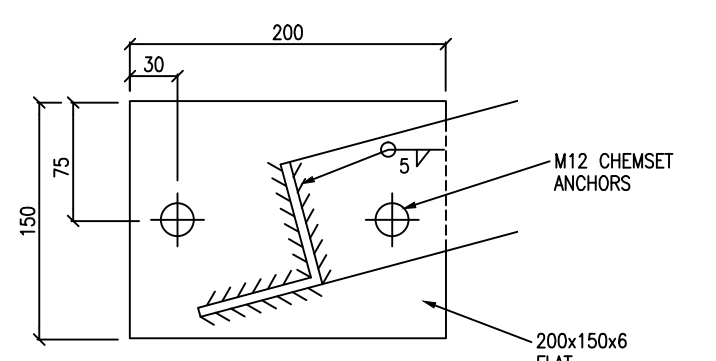
CAD FILE 2001979.010	DATE 29:08:01
ORIGINAL SCALE A1	CONTRACT No.
AS SHOWN	
DRAWING No.	ISSUE
2001979 .010	



SECTION 2 LANDING  
SCALE 1:25

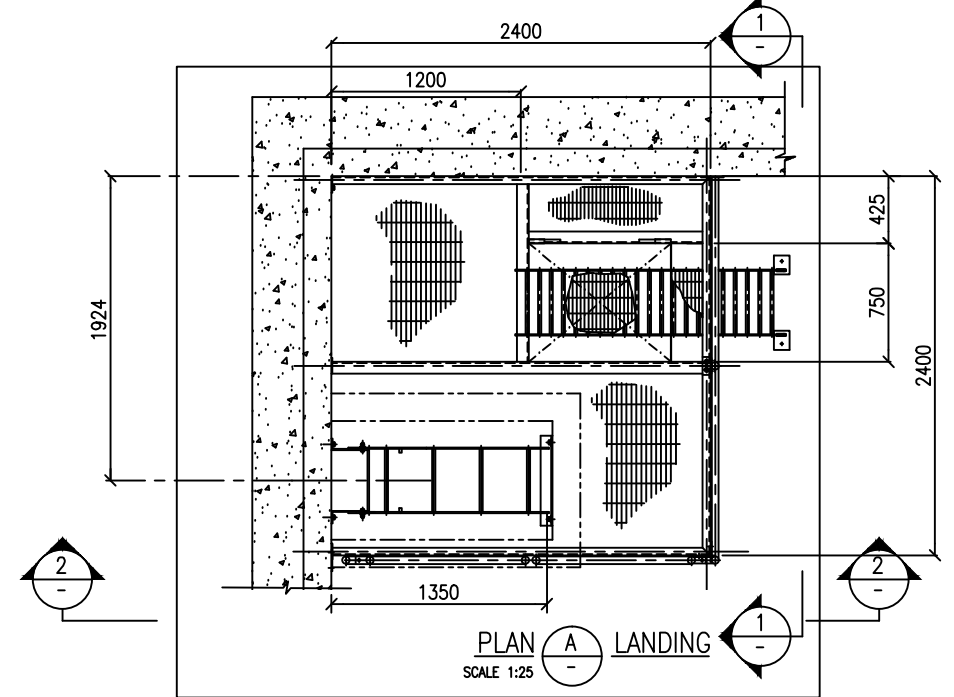


SECTION 1 LANDING  
SCALE 1:25

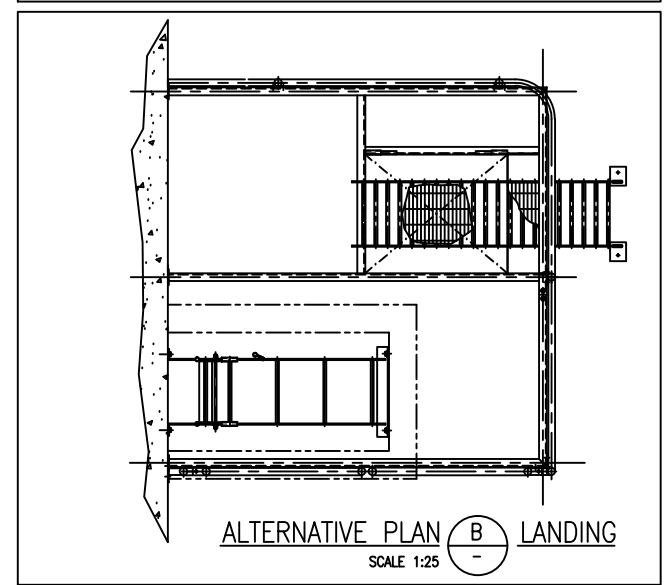


ELEVATION X BRACKET  
SCALE 1:2.5  
MID SUPPORT  
(WALL CONNECTION)

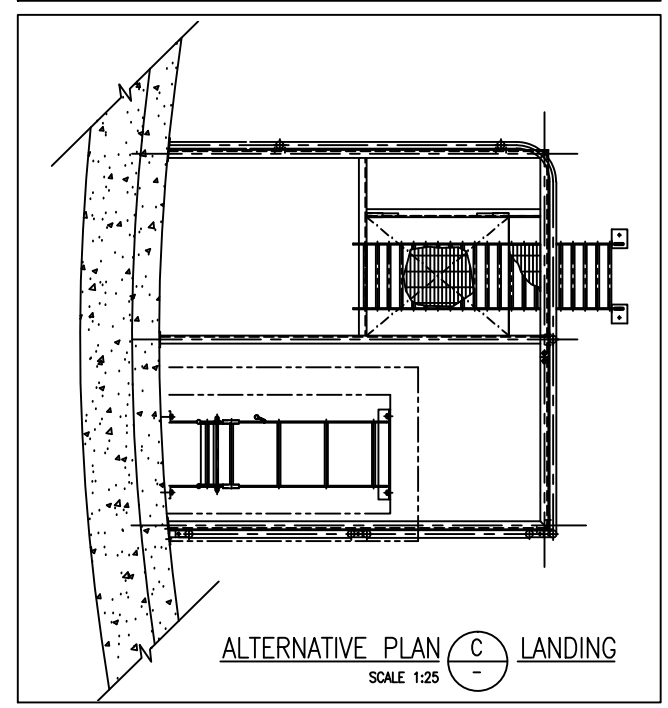
- NOTES:
1. SITE MEASUREMENTS TO BE TAKEN PRIOR TO STEEL FABRICATION
  2. BED ALL BASEPLATES ON MINIMUM 20mm THICK DRYPACK MORTAR
  3. CHEMSET ANCHORS TO BE INSTALLED TO MANUFACTURERS INSTRUCTIONS
  4. ALL STEELWORK TO BE FABRICATED FROM MILD STEEL CONFORMING WITH NZS 3404 Part 1:1992
  5. WELDING SHALL COMPLY WITH AS 1554.1 Part 1 WELDING OF STEEL STRUCTURES EXCEPT AS MODIFIED BY CLAUSE 9.7.1.4 AND APPENDIX D OF NZS 3404:1992
  6. THE ENGINEERS REPRESENTATIVE SHALL HAVE ACCESS FOR SPOT INSPECTIONS DURING NORMAL BUSINESS HOURS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF COMMENCEMENT AND COMPLETION OF WELDING OPERATIONS,
  7. ALL STEELWORK TO BE HOT DIPPED GALVANIZED
  8. GRATING TO BE FW5 SERIES 5 WEB GRATING FIXED WITH STANDARD CLIPS



PLAN A LANDING  
SCALE 1:25



ALTERNATIVE PLAN B LANDING  
SCALE 1:25



ALTERNATIVE PLAN C LANDING  
SCALE 1:25

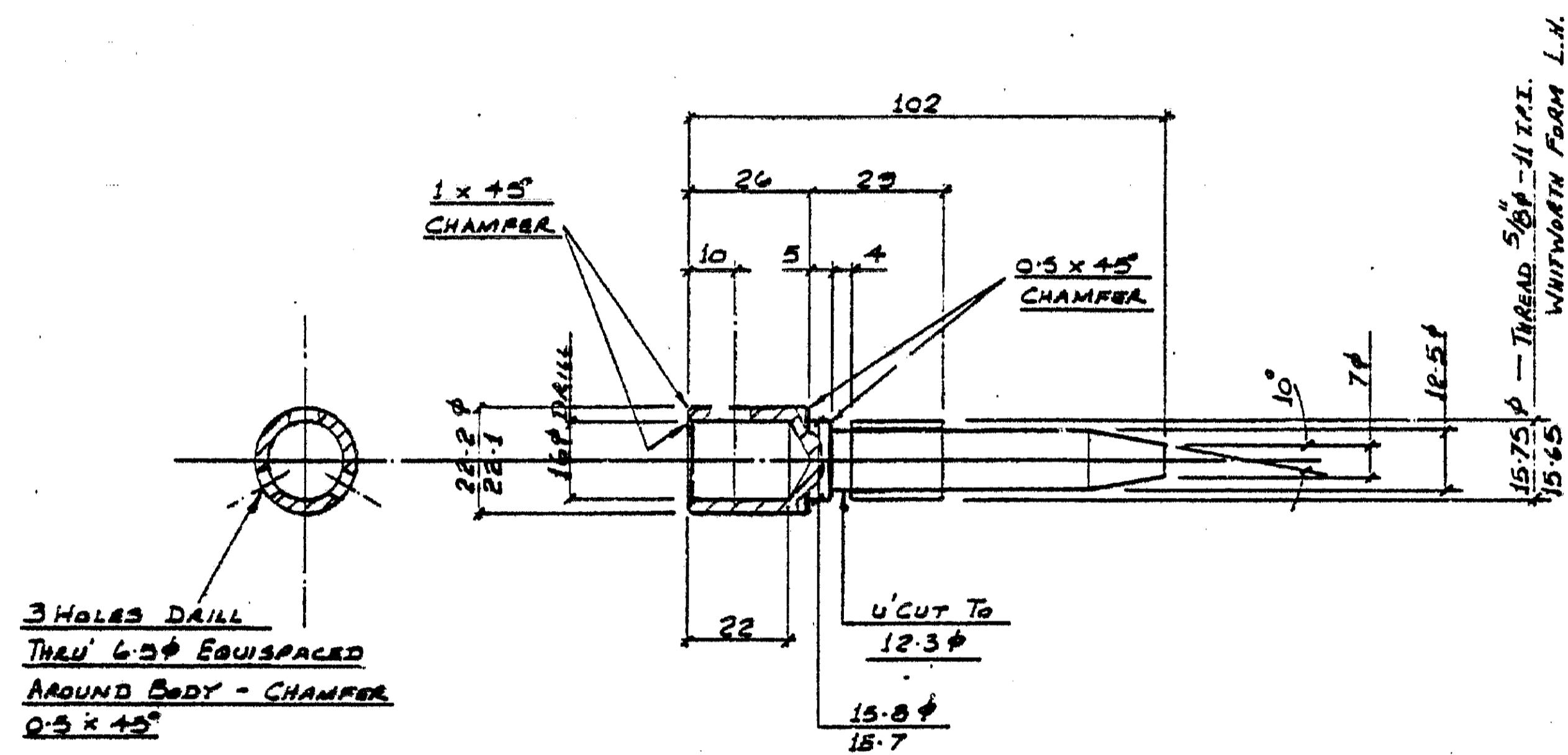
DESIGNED	R.LOBAN	11:95			
DES. CHECKED					
DRAWN	P.BARDSLEY	02:11:95	OPERATIONS MANAGER		
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY

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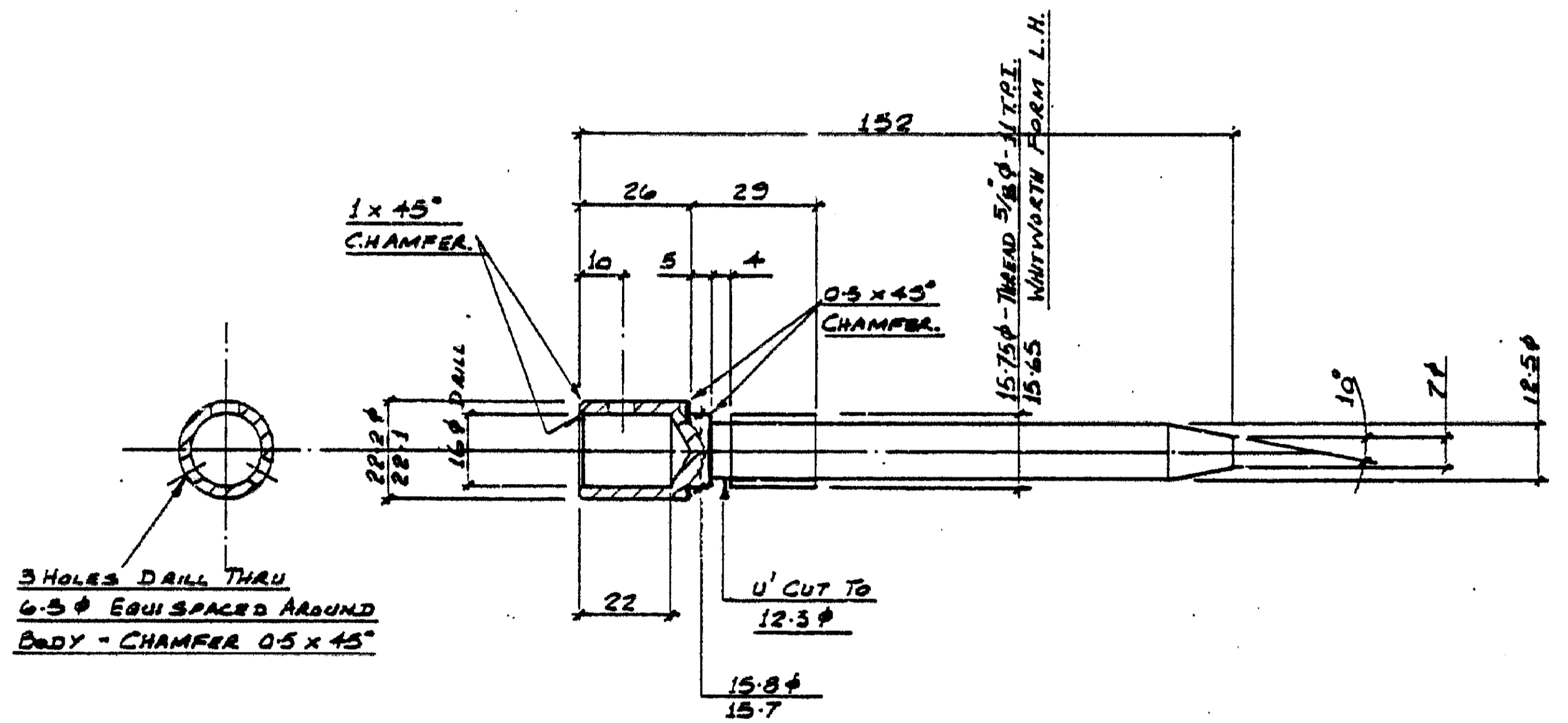
WATERCARE SERVICES WATER RESERVOIRS  
STANDARD LANDING AND LADDERS  
PLANS AND ELEVATIONS OF ALTERNATIVE LANDINGS

CAD FILE 2001979.011	DATE 29:08:01
ORIGINAL SCALE A1	CONTRACT No.
AS SHOWN	
DRAWING No.	ISSUE
2001979	.011



ITEM ① SHORT LOCKING PIN

MATERIAL :- 304 STAINLESS STEEL



ITEM ② LONG LOCKING PIN

MATERIAL :- 304 STAINLESS STEEL

DESIGNED			
DES. CHECKED			
DRAWN	CSM	6/8	OPERATIONS MANAGER WATER
DWG. CHECKED			
SECTION HEAD			PLANNING MANAGER

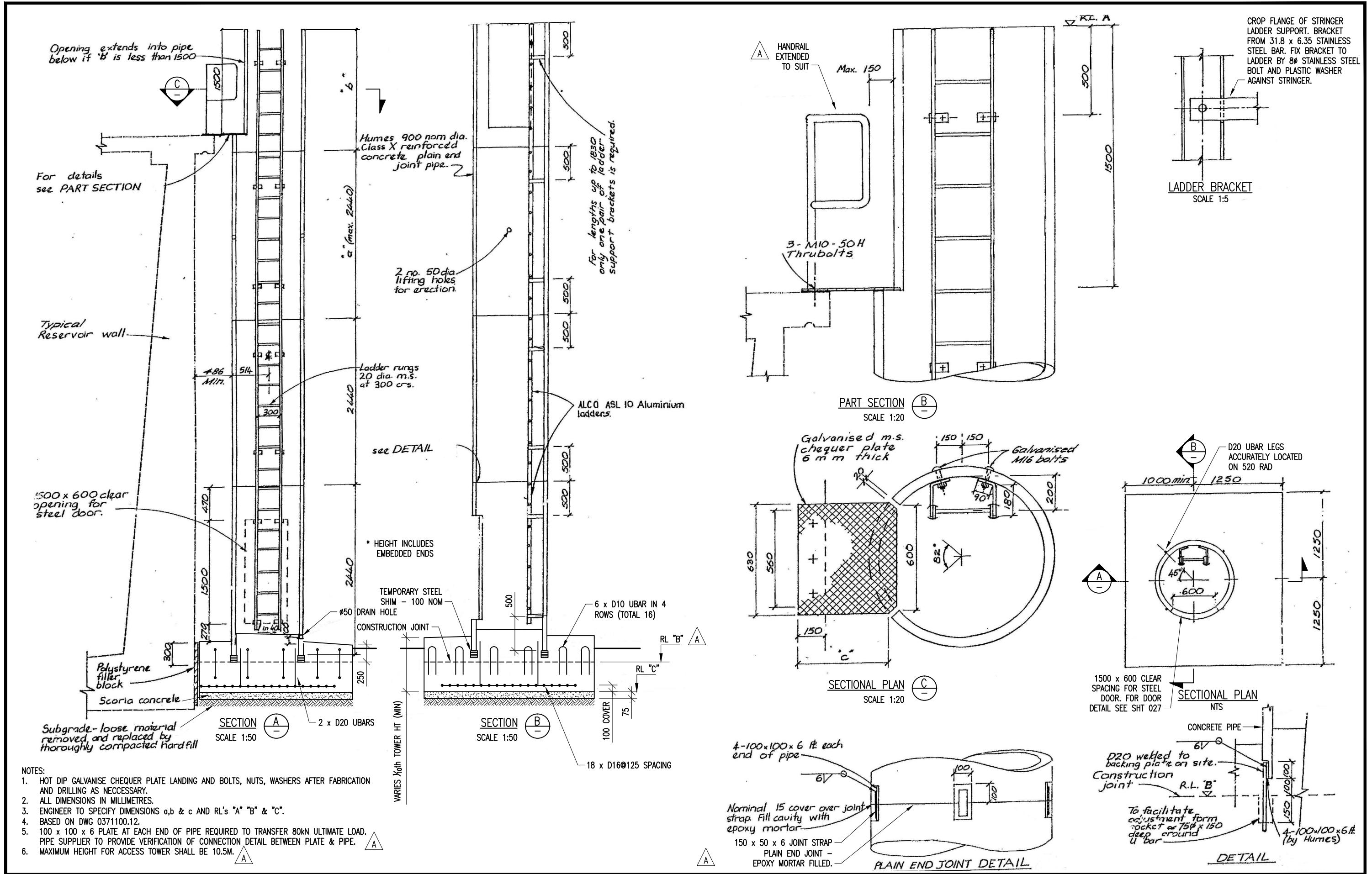
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**WATERCARE SERVICES WATER RESERVOIRS**  
**STANDARD HATCH CROX LOCK**  
COMPONENTS 1 AND 2

CAD FILE 2001979.014	DATE 30-08-01
ORIGINAL SCALE AT 1:1	CONTRACT No.
DRAWING No. 2001979	ISSUE .014





- NOTES:
- HOT DIP GALVANISE CHEQUER PLATE LANDING AND BOLTS, NUTS, WASHERS AFTER FABRICATION AND DRILLING AS NECESSARY.
  - ALL DIMENSIONS IN MILLIMETRES.
  - ENGINEER TO SPECIFY DIMENSIONS a,b & c AND RL'S "A" "B" & "C".
  - BASED ON DWG 0371100.12.
  - 100 x 100 x 6 PLATE AT EACH END OF PIPE REQUIRED TO TRANSFER 80KN ULTIMATE LOAD. PIPE SUPPLIER TO PROVIDE VERIFICATION OF CONNECTION DETAIL BETWEEN PLATE & PIPE.
  - MAXIMUM HEIGHT FOR ACCESS TOWER SHALL BE 10.5M.

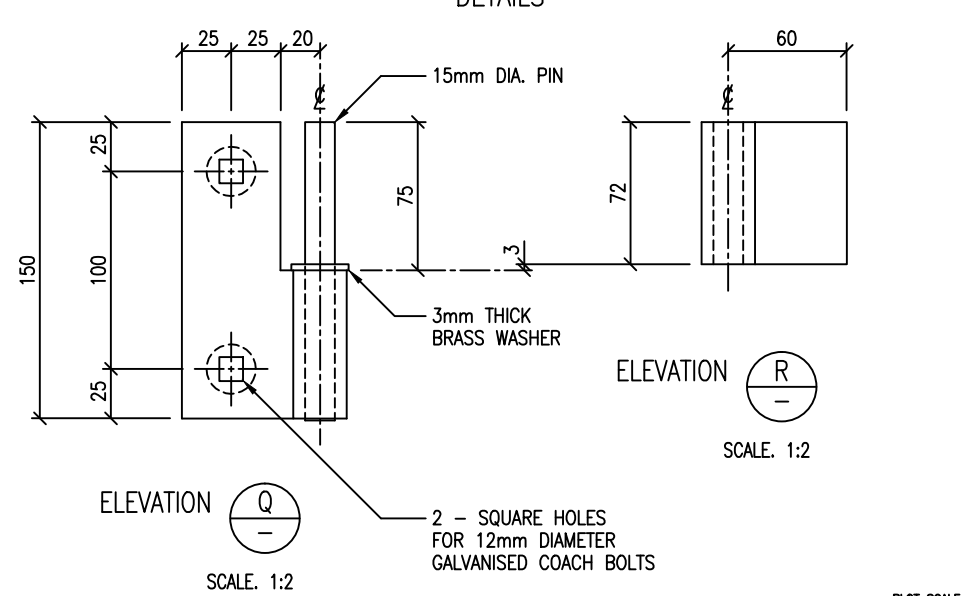
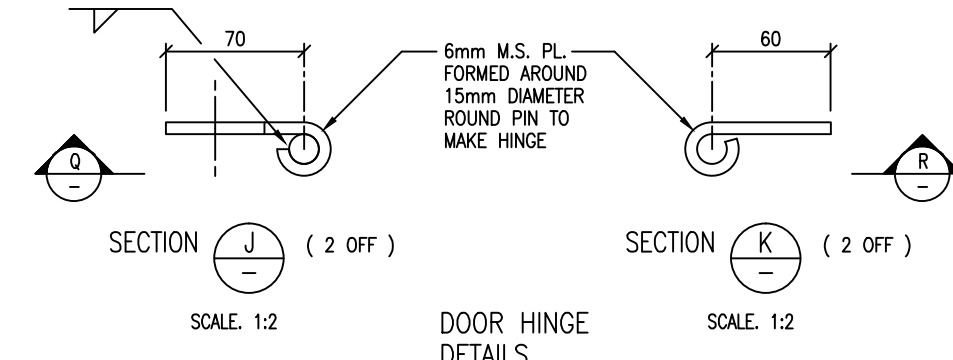
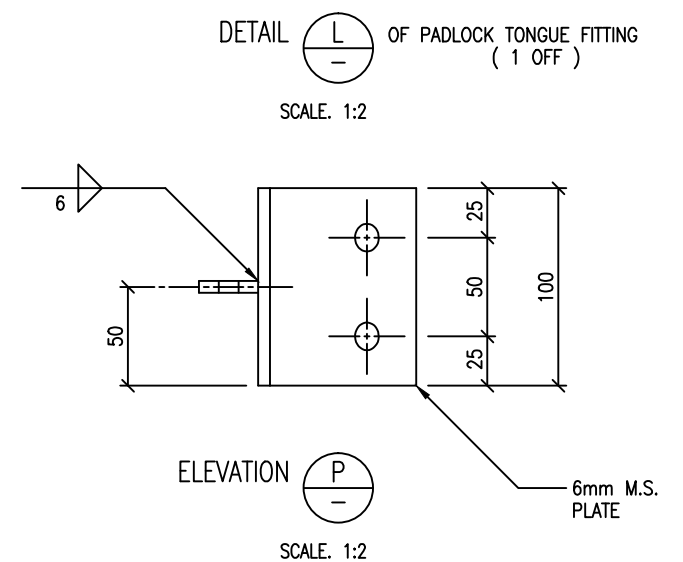
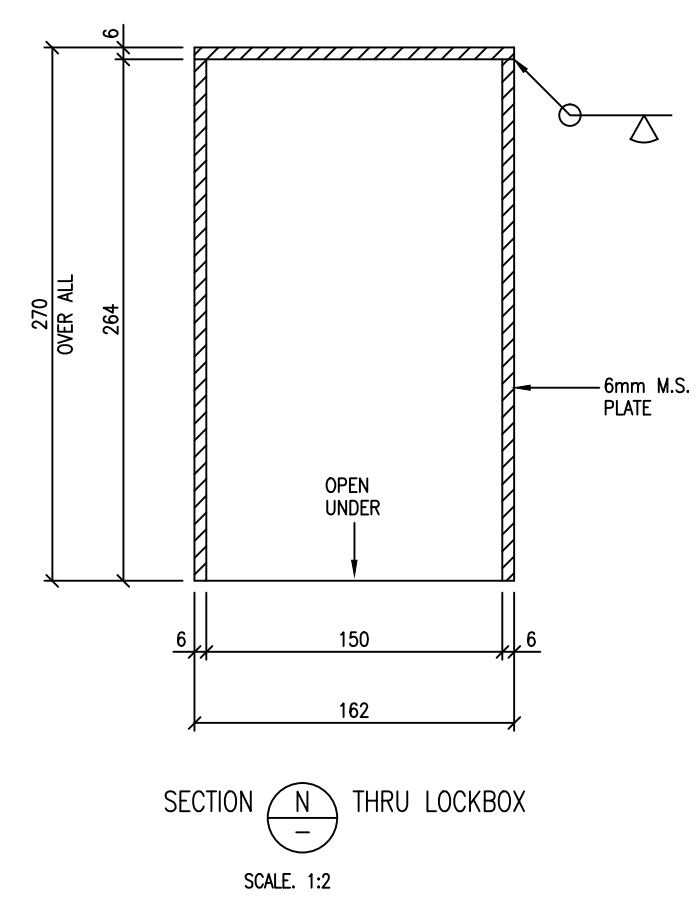
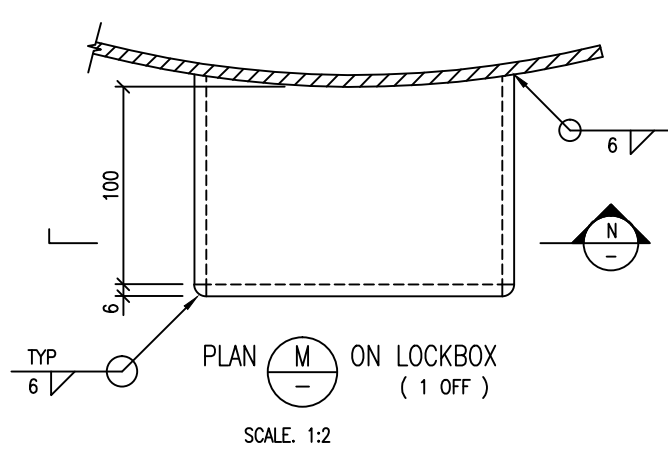
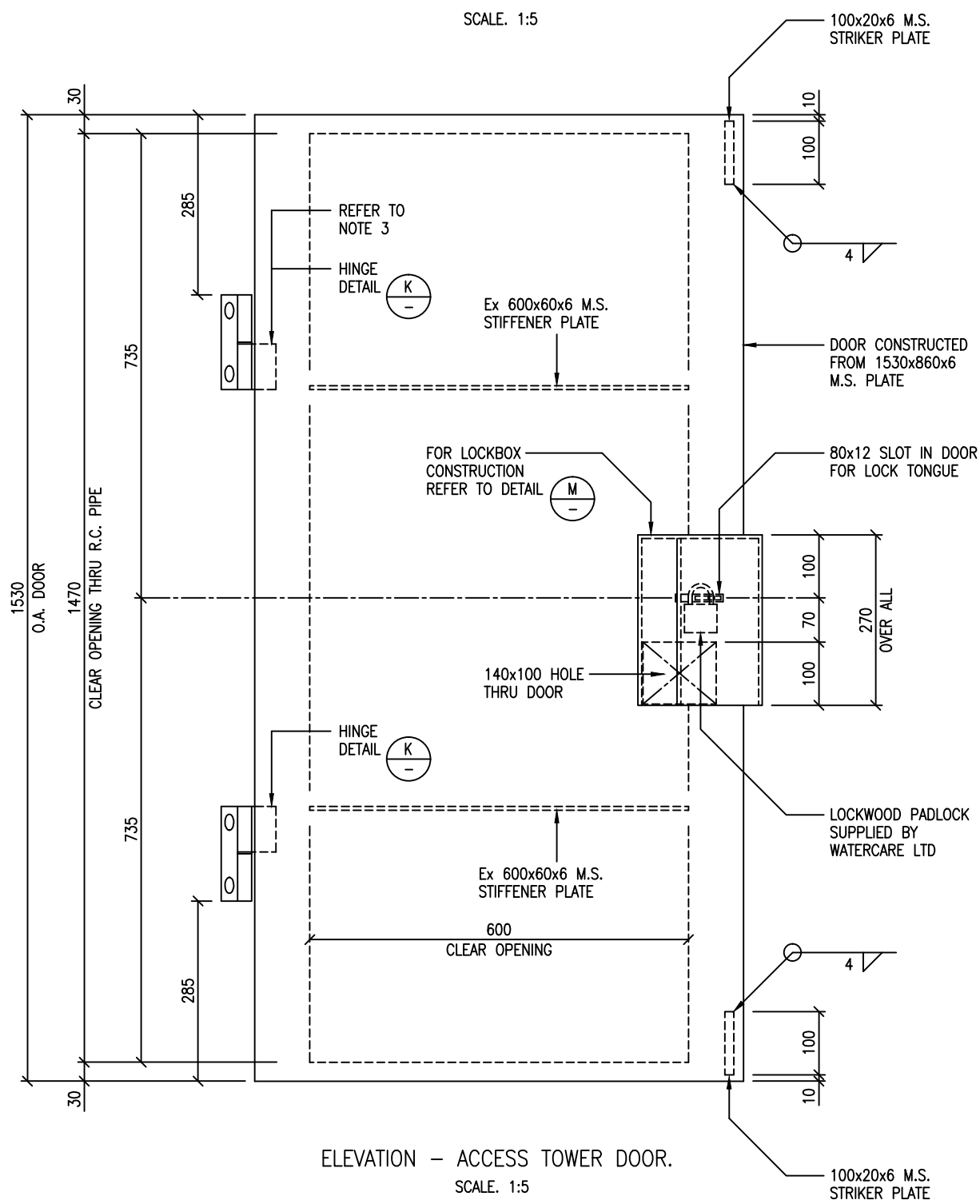
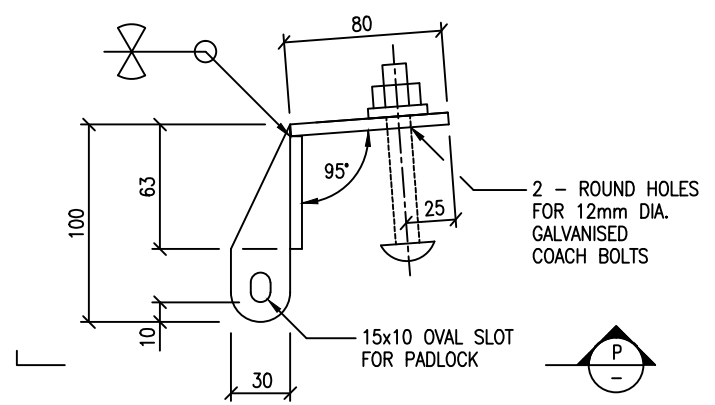
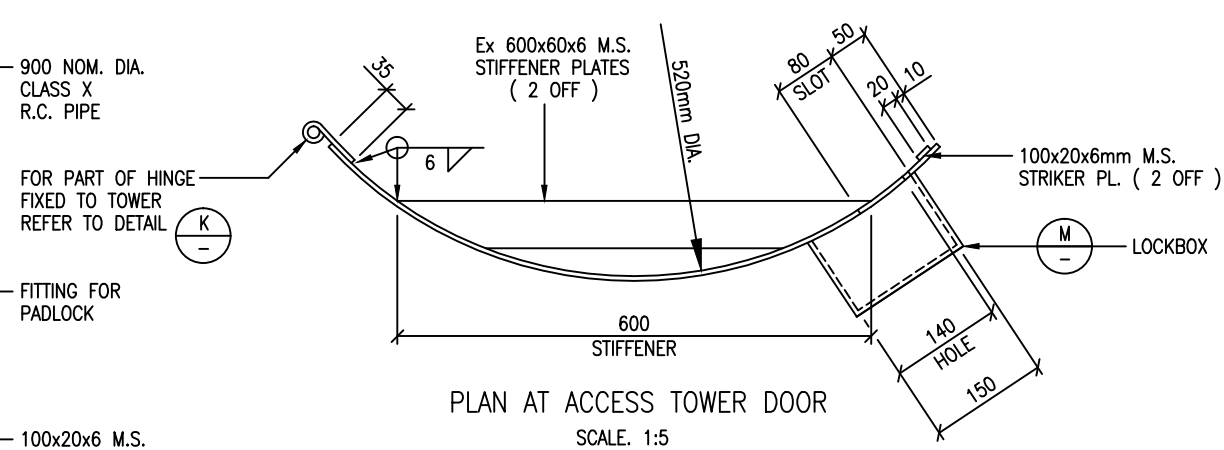
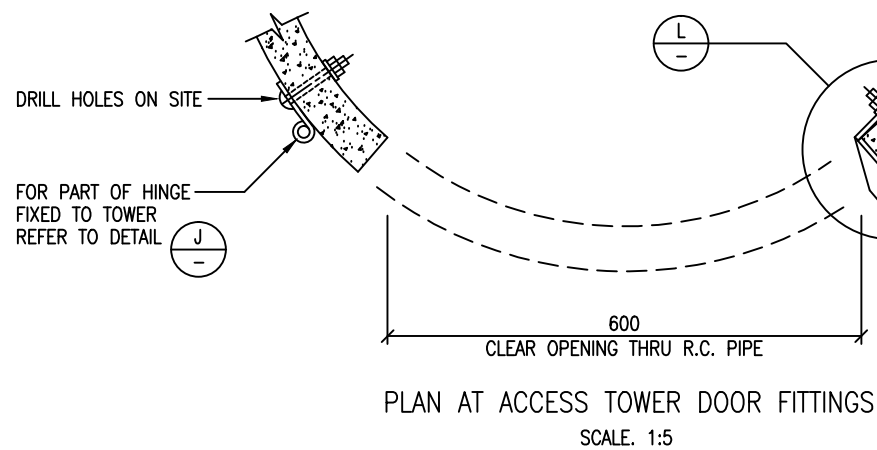
DESIGNED				
DES. CHECKED				
DRAWN	G. B.	mm-10		
DWG. CHECKED	I.M.	mm-10		
PROJECT LEADER				
A.M. APPROVED				
OPERATIONS				
ASSET MANAGEMENT				
ISSUE	DATE	AMENDMENT	BY	APPD.
A	04-10	DRAWING UPDATED	G.B.	AT

**water Care**  
services limited

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WATERCARE SERVICES WATER RESERVOIR  
STANDARD RESERVOIR ACCESS TOWER  
DETAILS - SHEET 1

CAD FILE	2001979.015	DATE	13-04-10
ORIGINAL SCALE	A3	CONTRACT No.	-
SCALE		DRAWING No.	2001979
		ISSUE	.015
			A



- NOTES**
1. DOOR & ALL FITTINGS - FROM 6mm M.S. PLATE UNLESS NOTED OTHERWISE
  2. DOOR & ALL FITTINGS TO BE HOT-DIP GALVANISED AFTER FABRICATION
  3. UPPER HINGE REVERSED - PIN POINTS DOWN

PLOT SCALE: 1:1

DESIGNED					
DES. CHECKED					
DRAWN	I.M.M.	7/85			
DWG. CHECKED					
PROJECT LEADER					
ISSUE	DATE	AMENDMENT	BY	APPD.	BY

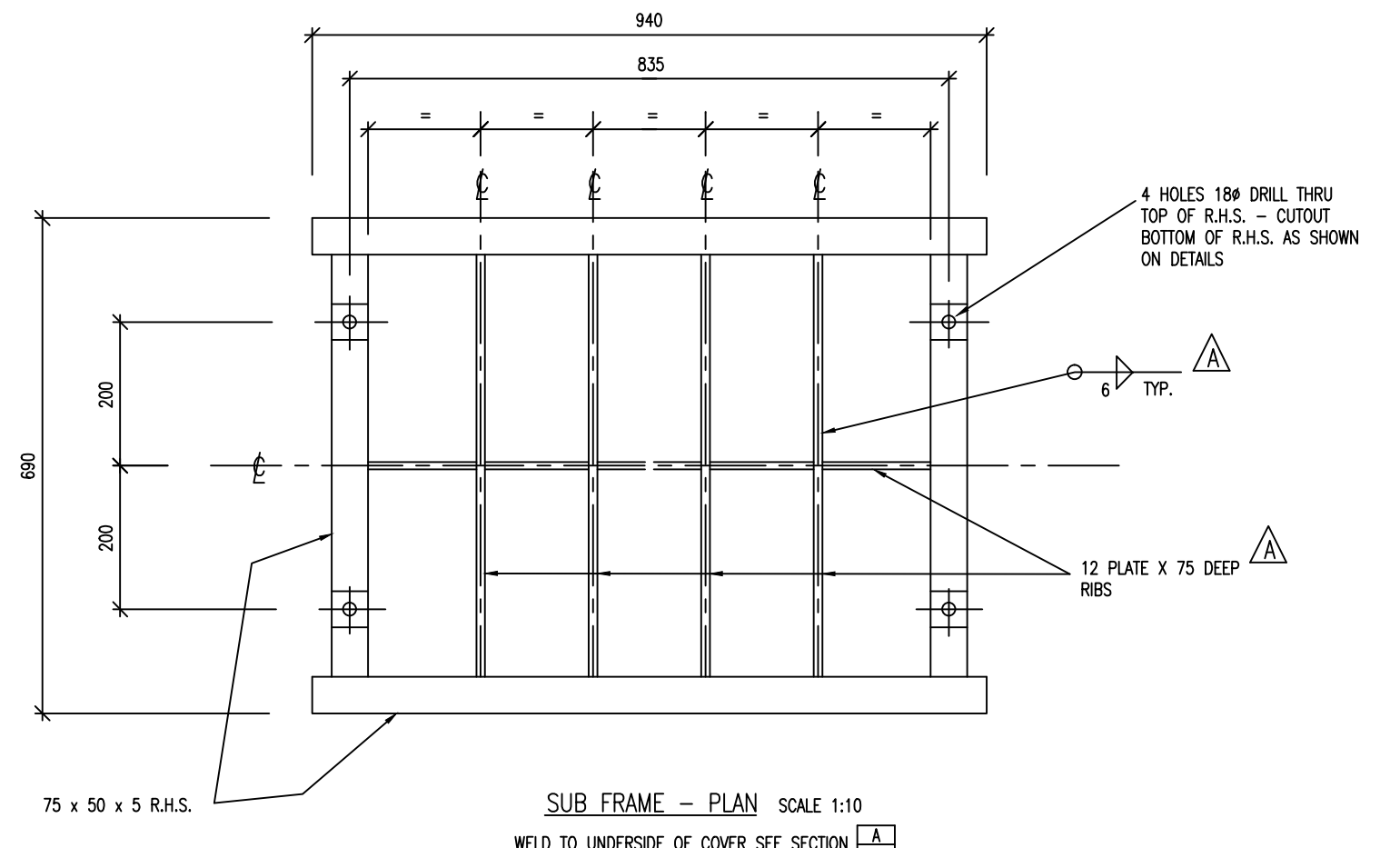
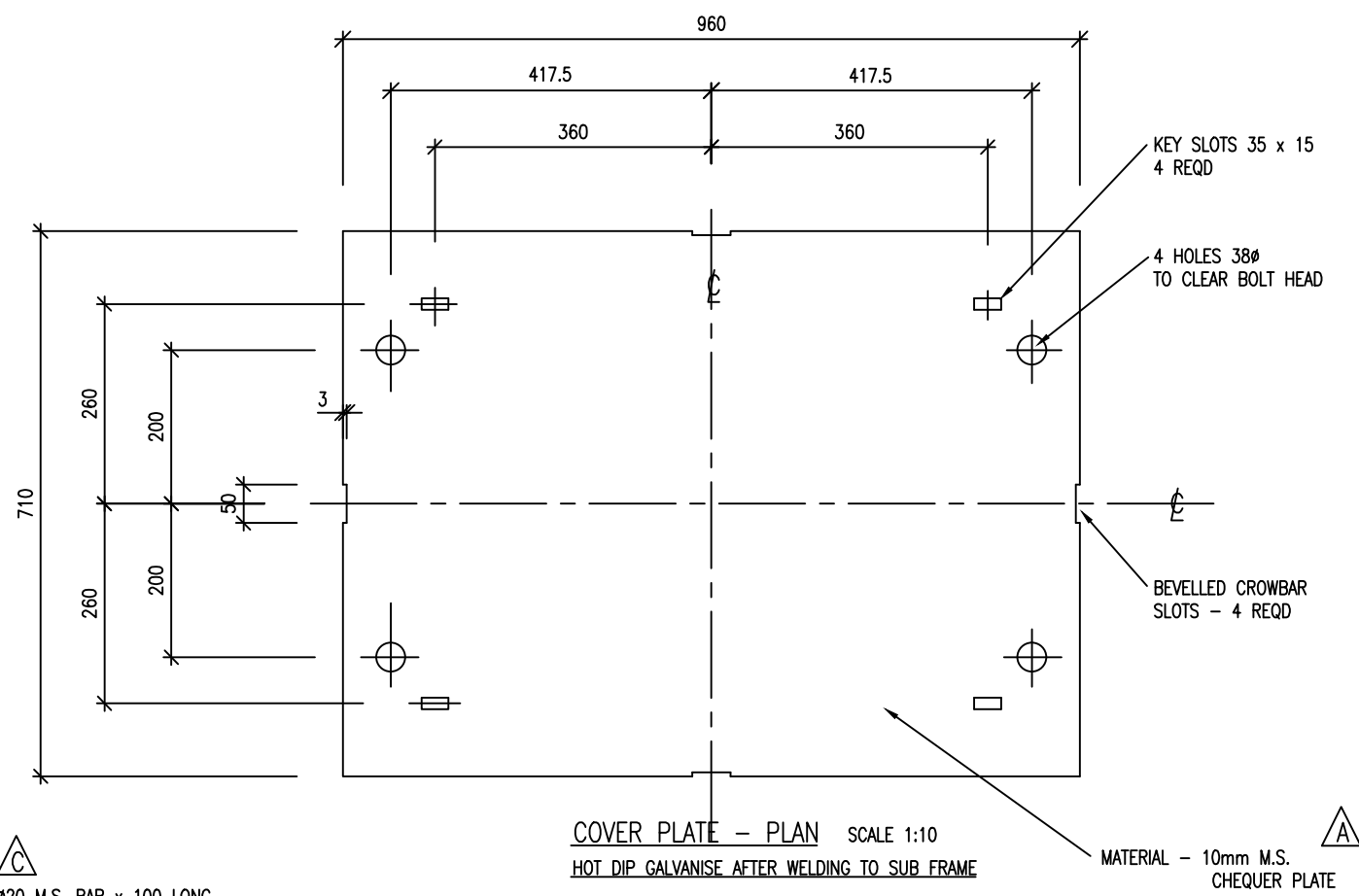
OPERATIONS MANAGER  
WATER

PLANNING MANAGER  
WATER

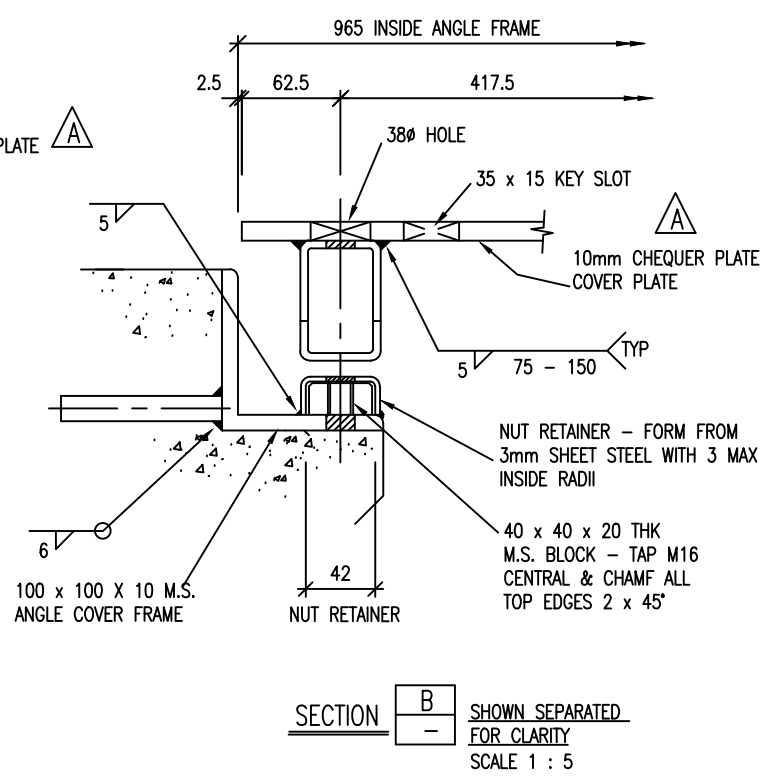
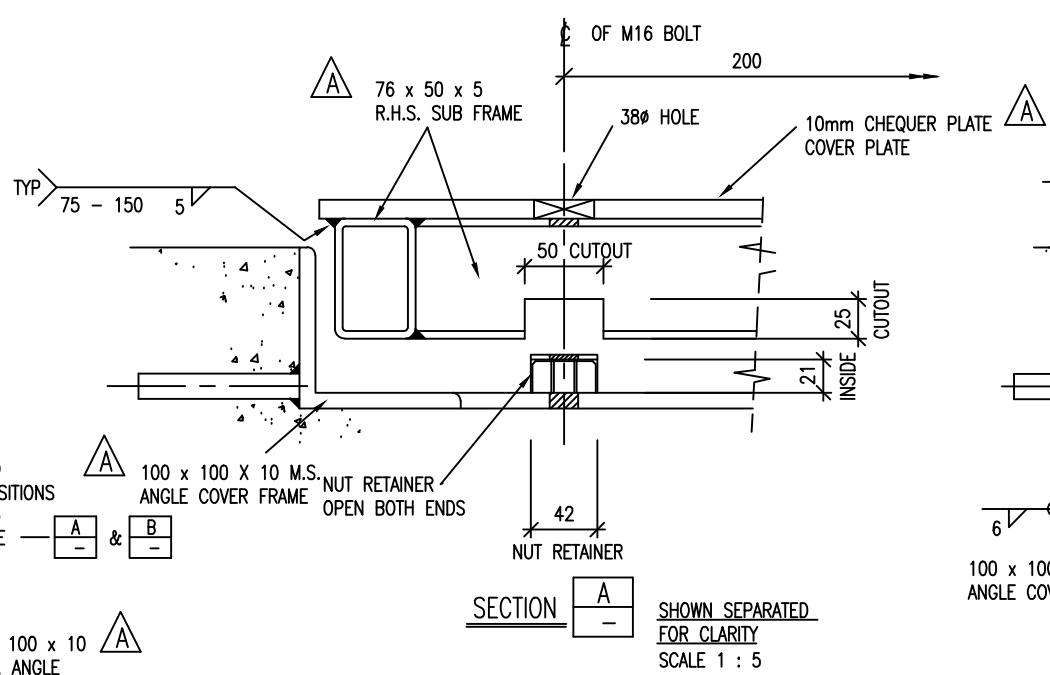
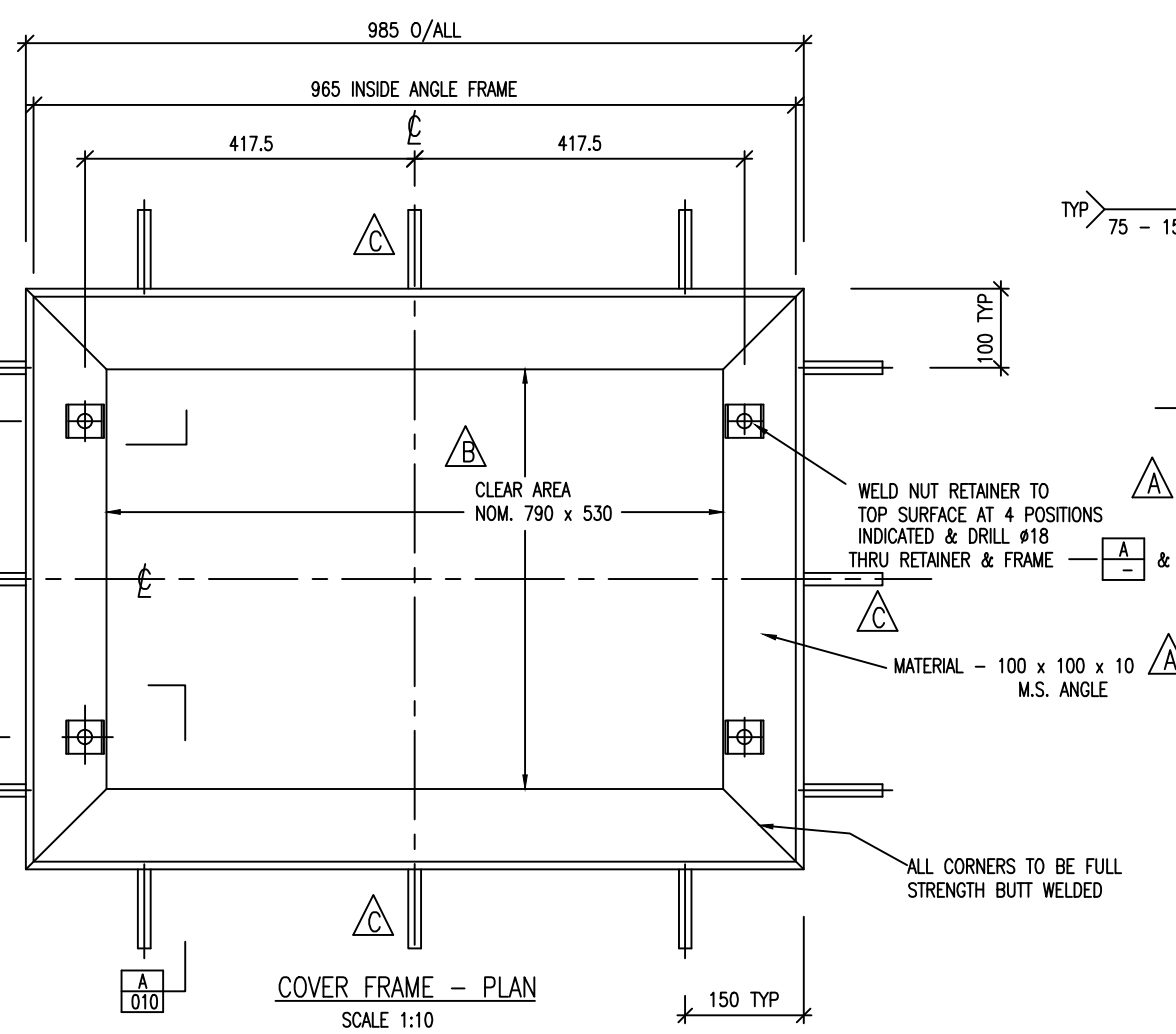


WATERCARE SERVICES WATER RETICULATION  
STANDARD RESERVOIR ACCESS TOWER  
DETAILS - SHEET No2

CAD FILE 2001979.016	DATE 29:08:01
ORIGINAL SCALE A1	CONTRACT No.
AS SHOWN	
DRAWING No.	ISSUE
2001979 .016	



Ø20 M.S. BAR x 100 LONG  
WELD TO FRAME AS SHOWN  
8 PLACES



**LOADING**  
THIS COVER IS DESIGNED  
FOR HN-HO-72 LOADING

- NOTES**
- HOT DIP GALVANISE ALL COMPONENTS AFTER FABRICATION.
  - MINIMUM STEEL STRENGTH 250 MPa
  - ALL WELDING TO AS/NZS 1554.1 : 2000 - WELDING OF STEEL STRUCTURES.

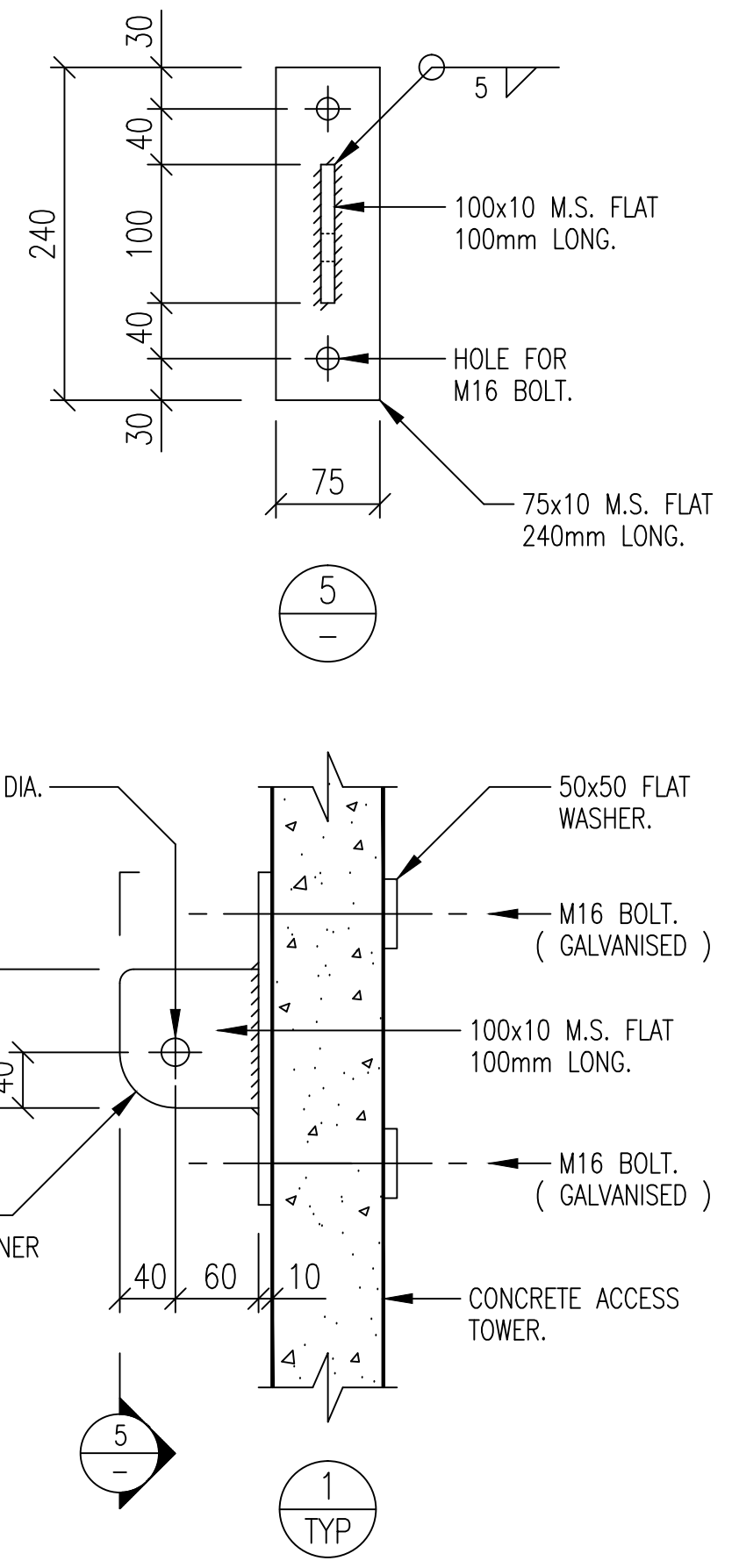
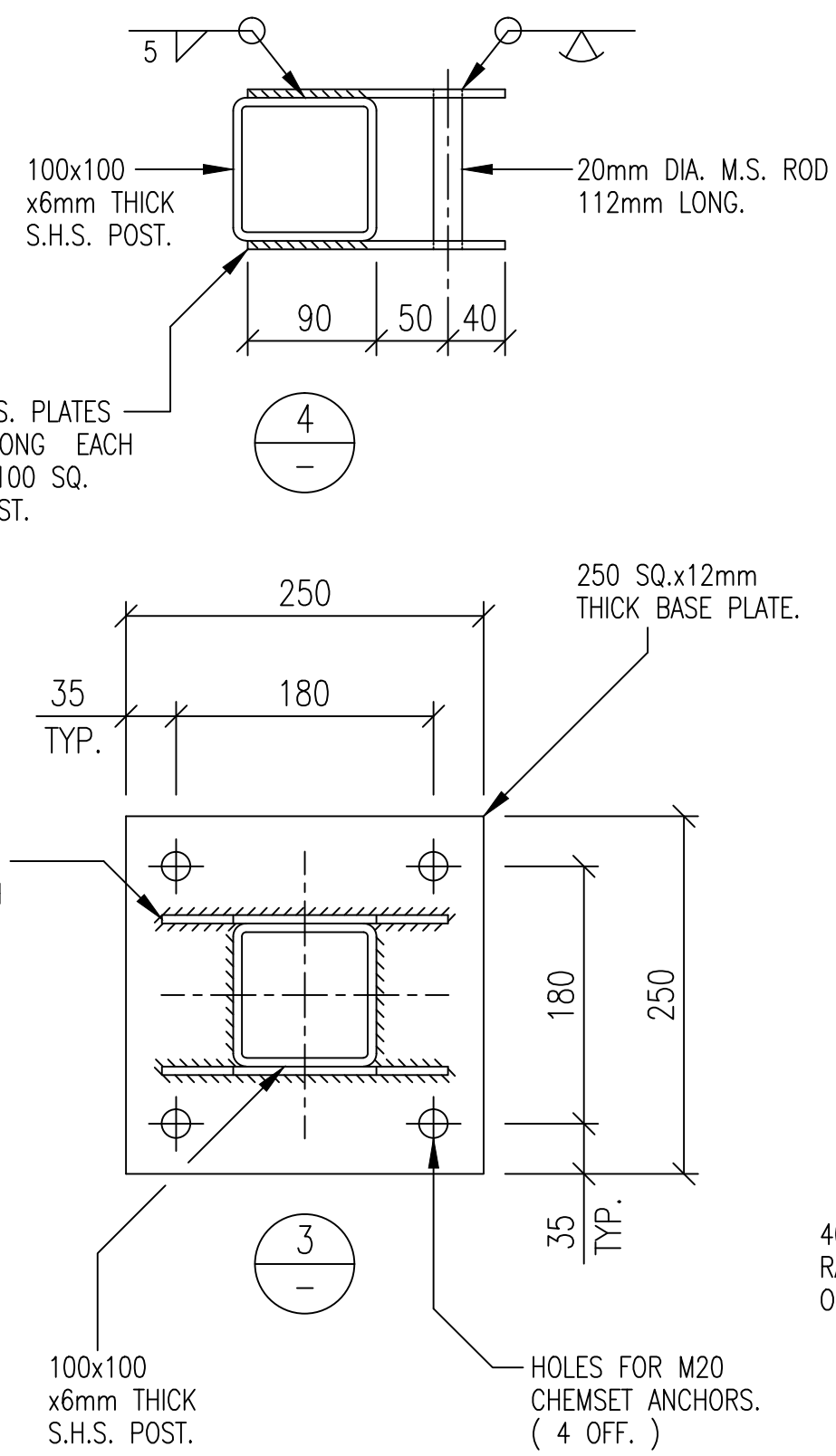
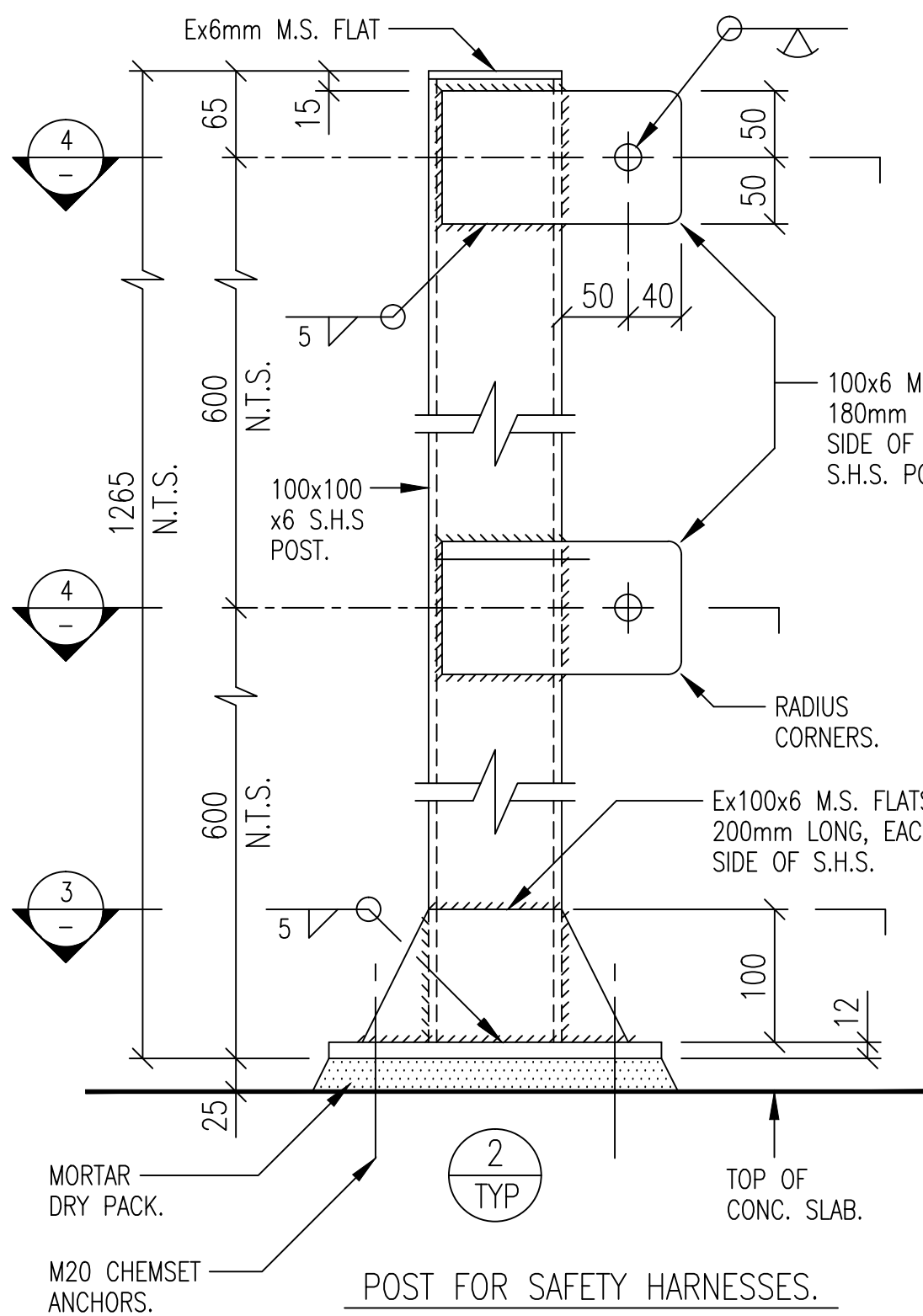
ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	R.G.	11/02	DES. CHECKED	T.C.	11/02	DRAWN	G.SMITH	6/95
C	8-06	FOUR ADDITIONAL ANCHOR BARS & SIZE	I.M.	J.P.	DWG. CHECKED								
B	11-04	CLEAR AREA DIMENSIONS ADDED	I.M.	T.A.C.	PROJECT LEADER								
A	10-02	RIB PLATES REPOSITIONED & MISC. AMND'S	I.M.	T.A.C.	A.M. APPROVED								

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WATERCARE SERVICES WATER RETICULATION  
STANDARD CHAMBER COVERS  
CONSTRUCTION DETAILS

CAD FILE 2001979.017C	DATE 04-08-06
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2001979 .017	ISSUE C



NOTES.

- LOAD CAPACITY OF SLAB TO SUPPORT POST TO BE CHECKED BEFORE POST IS INSTALLED.
- LAYOUT OF POST & HATCH TO BE SUCH THAT ANGLE BETWEEN SAFETY LANYARD & POST WILL NOT EXCEED 45° WHEN LANYARD ON TOP MOUNTING POINT.
- HOT DIP GALVANISE ALL STEELWORK AFTER FABRICATION.
- STEEL SPECIFICATION:  
S.H.S. POSTS TO BE AS1163 GRADE C350.  
FLATES TO BE AS3679 GRADE 250.

BRACKET FOR FASTENING SAFETY LINE  
AT RESERVOIR ACCESS TOWERS.

PLOT SCALE 1:5

DESIGNED	R.GALLAGHER	10:96
DES. CHECKED		
TRACED	L.A.COLLINGE	10:96
DWG. CHECKED	I.MOSES	10:96
APPROVED		
ISSUE	DATE	AMENDMENT
BY	APPD.	
BY	DATE	

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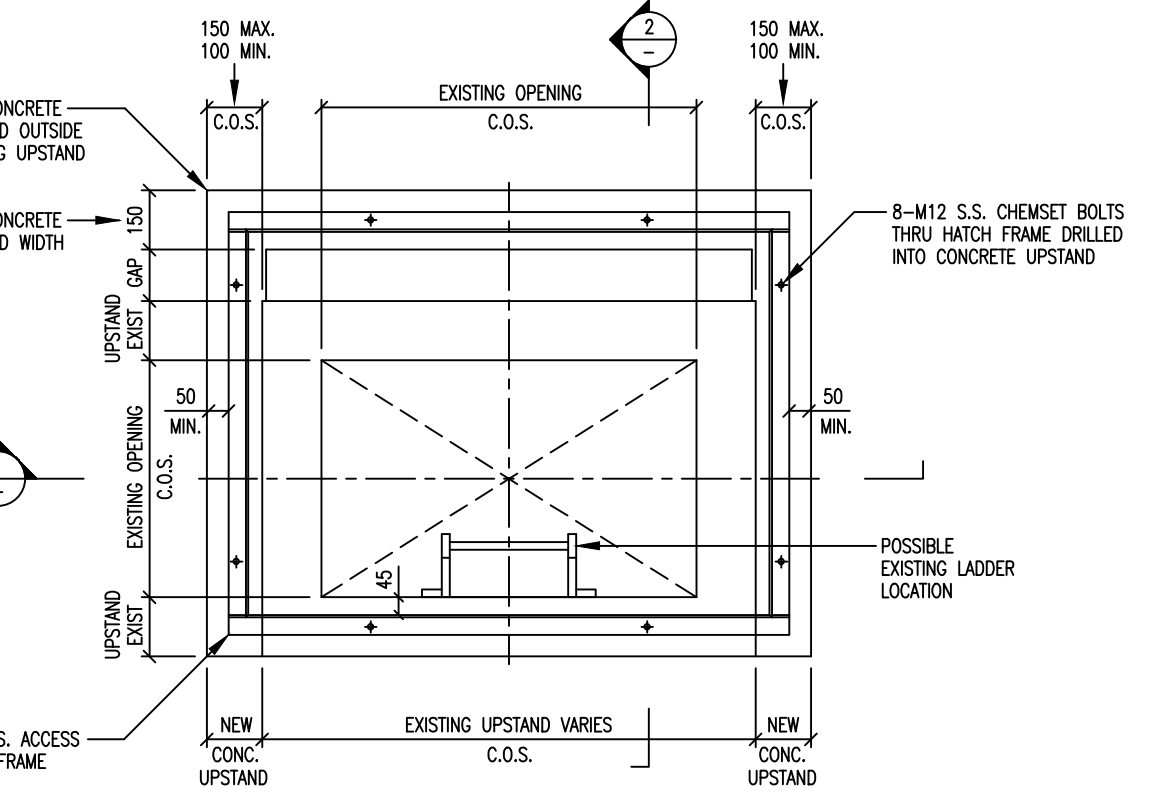
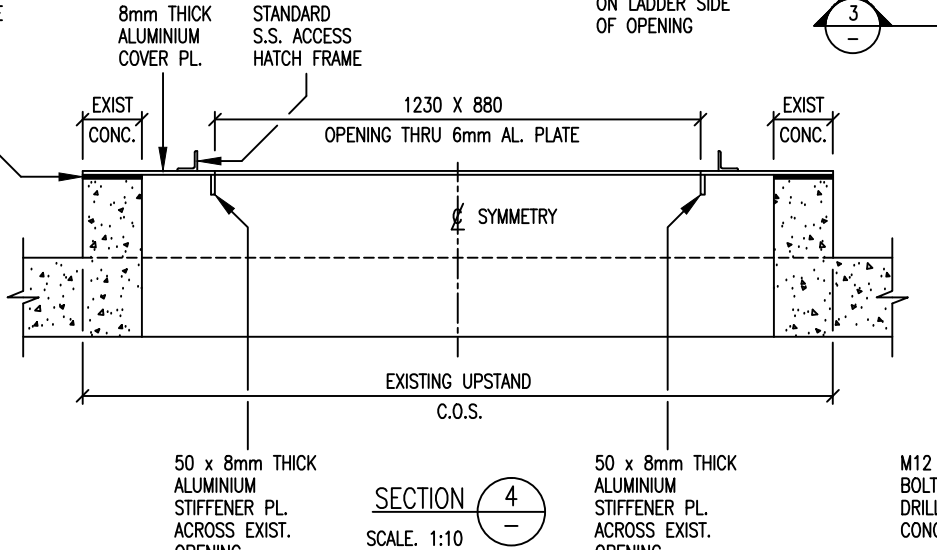
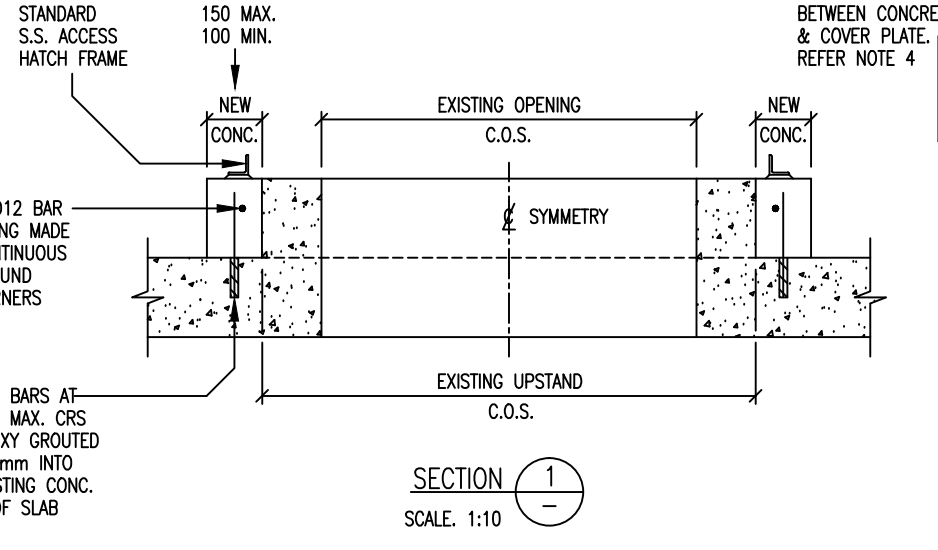
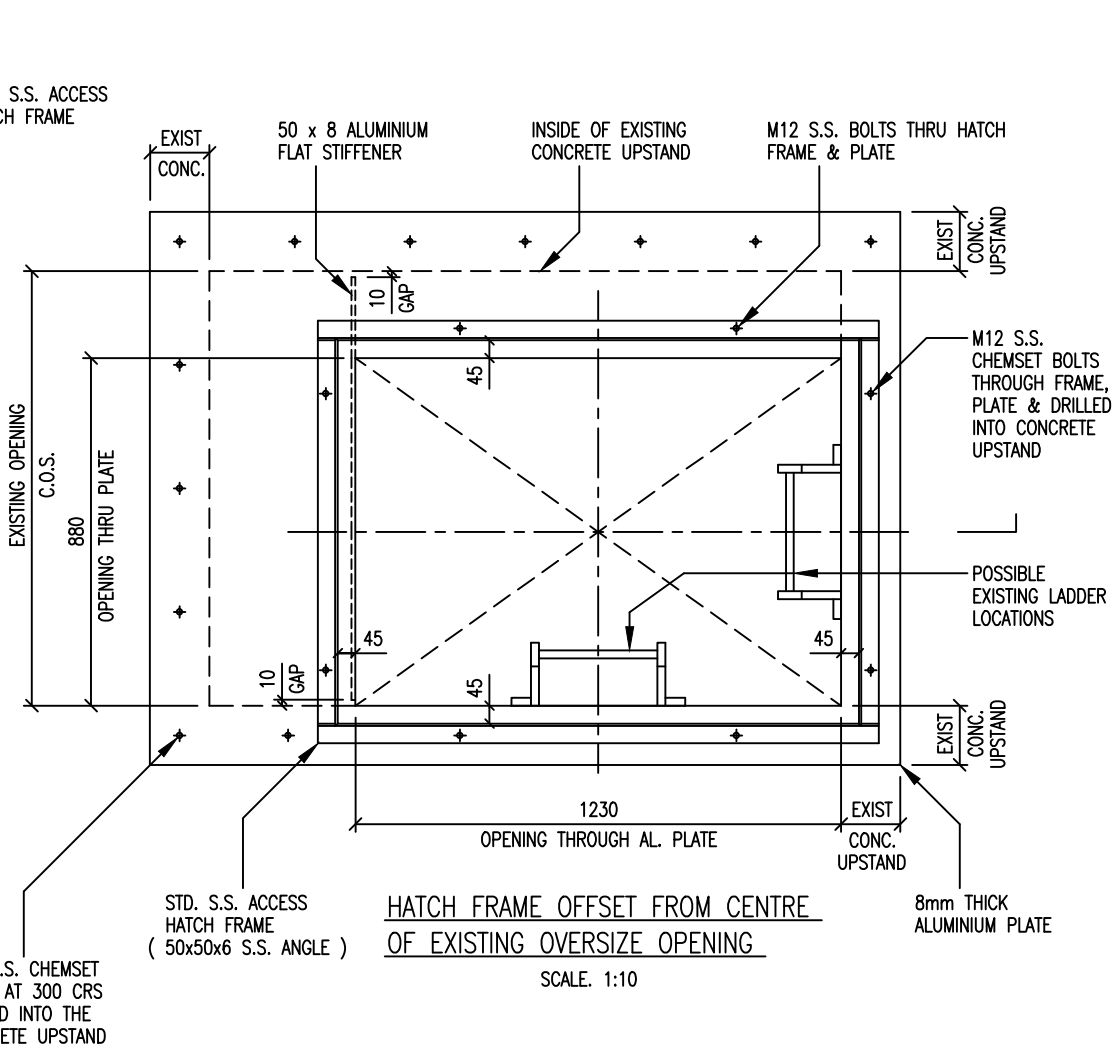
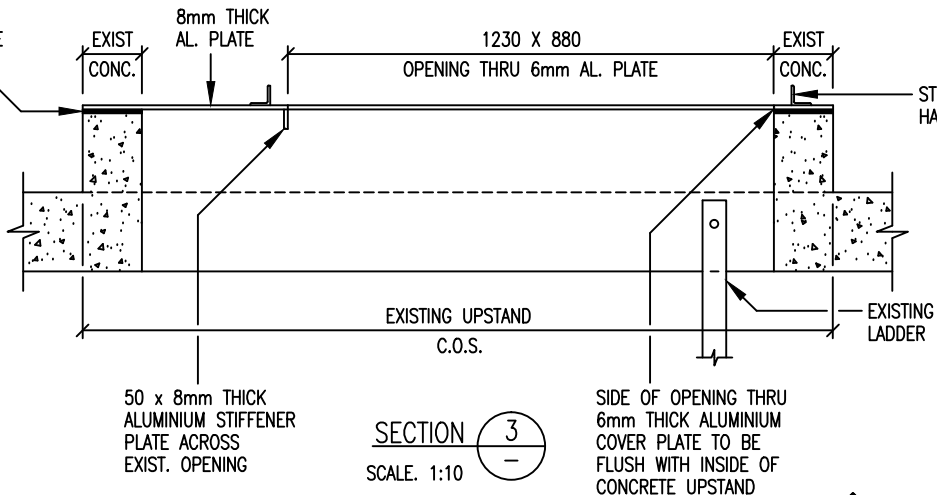
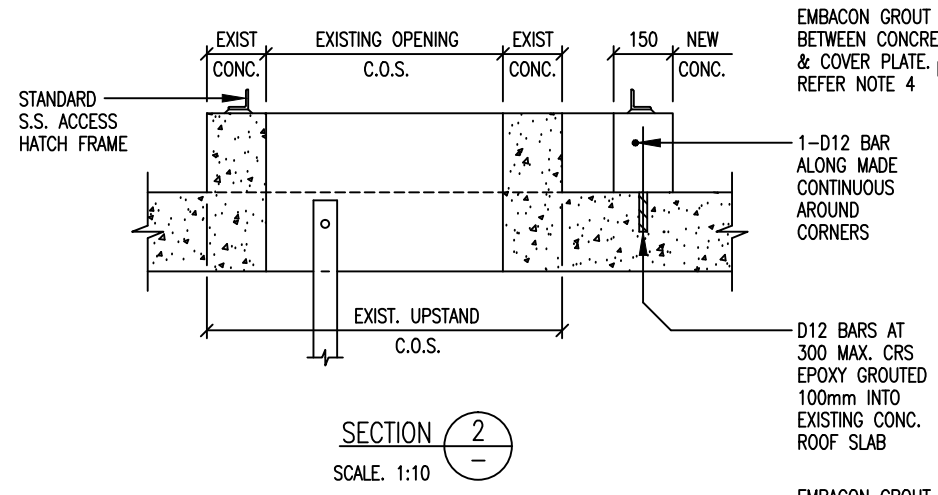
OPERATIONS MANAGER  
WATER

PLANNING MANAGER  
WATER

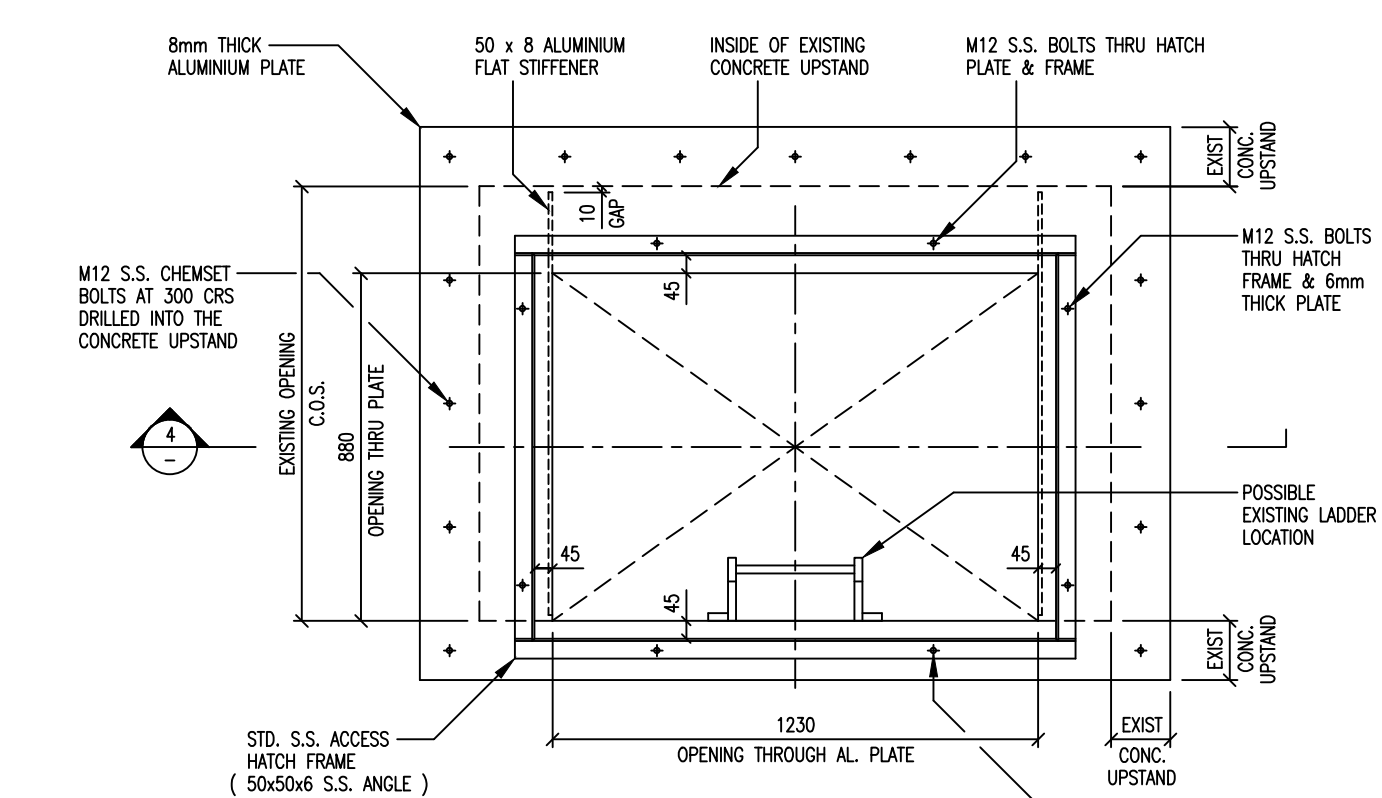


WATERCARE SERVICES WATER RESERVOIRS  
STANDARD RESERVOIR EQUIPMENT  
STEEL POST & BRACKETS FOR HARNESS SAFETY LINES.

CAD FILE: 2001979.039	DATE: 29:08:01
ORIGINAL SCALE A3	CONTRACT No.
1:5	
DRAWING No.	ISSUE
2001979 .039	



- GENERAL NOTES**
1. CONCRETE FOR NEW UPSTANDS WHERE REQUIRED UNDER ACCESS HATCH FRAMES TO HAVE A 28 DAY STRENGTH OF 25 M.Pa
  2. ALL REINFORCING IN CONCRETE UPSTANDS UNDER ACCESS HATCH FRAMES TO BE DEFORMED MILD STEEL
  3. WHERE NEW CONCRETE ABUTS EXISTING CONCRETE SCABBLE THE SURFACE OF THE EXISTING CONCRETE BY APPROXIMATELY 5mm
  4. PROVIDE EMBAICON LL 897 GROUT OR APPROVED EQUIVALENT BETWEEN ALL CONCRETE UPSTANDS & THE NEW 6mm THICK ALUMINIUM COVER PLATES
  5. REFER TO DWG 2001979.003 FOR ACCESS HATCH FRAME & BOLT FIXING SETOUT



ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

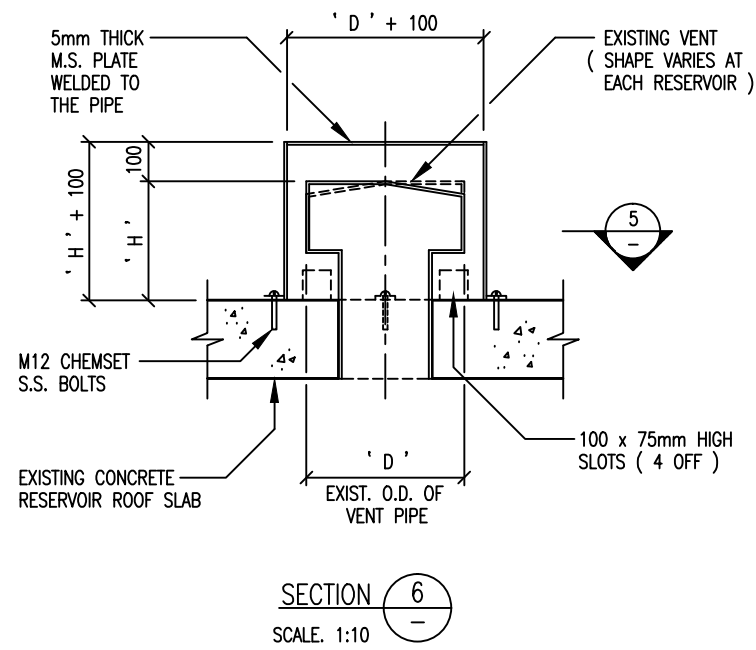
DESIGNED	D. Mc CANN	1/03
DES. CHECKED	R. GALLAGHER	1/03
DRAWN	L. A. COLLINGE	1/03
DWG. CHECKED	I. MOSES.	1/03
PROJECT LEADER	R. GALLAGHER	1/03

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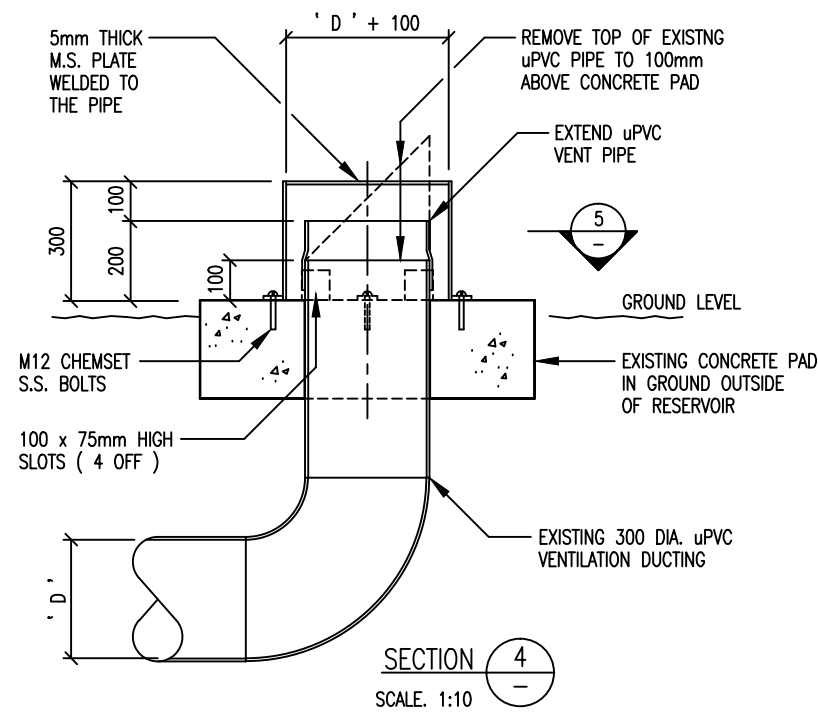


STANDARD WATER STRUCTURES  
POSITIONING OF RESERVOIR ROOF HATCHES  
DETAILS OF ROOF HATCHES OVER EXISTING OPENINGS

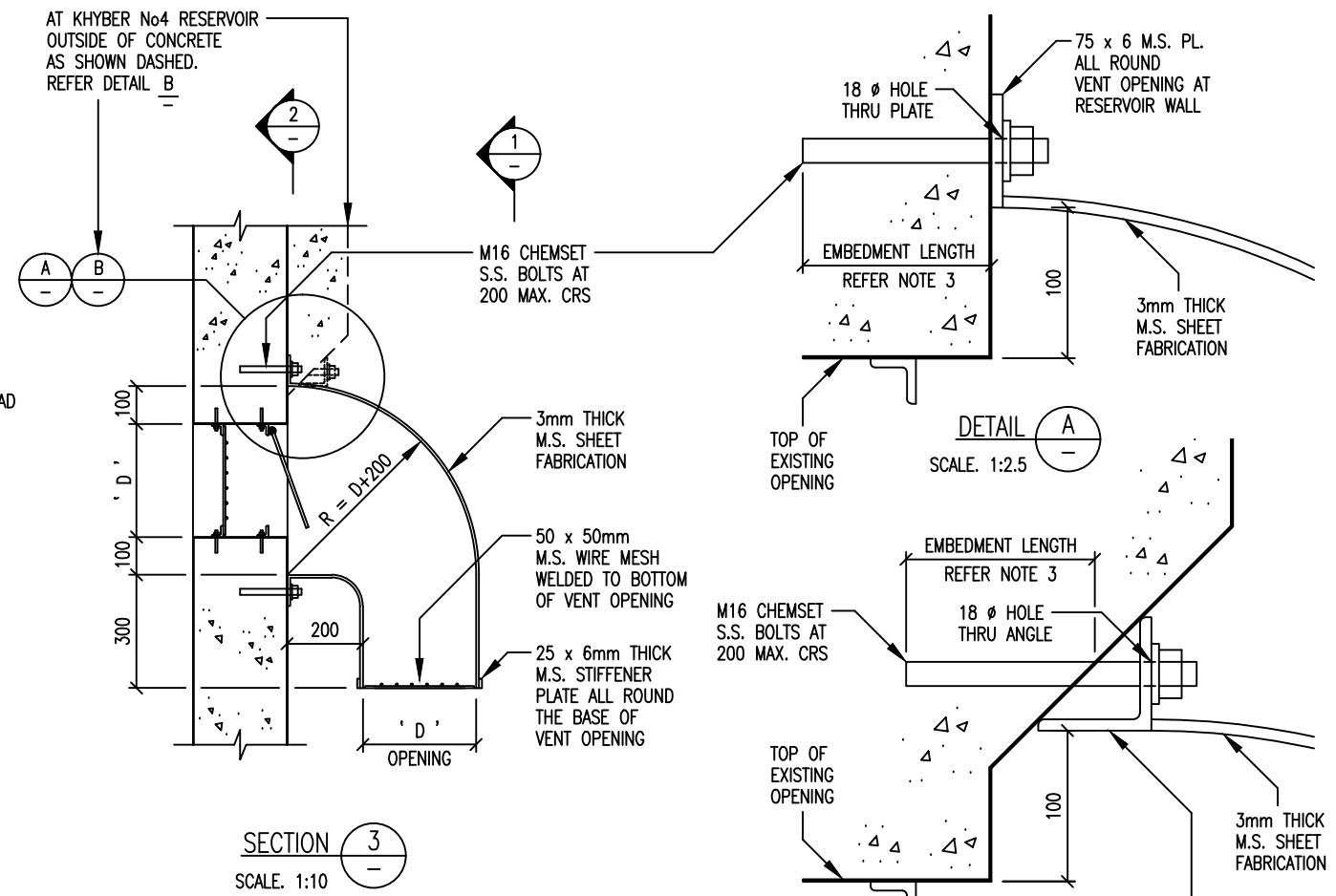
CAD FILE EG 2001979.053	DATE 12-2-03
ORIGINAL SCALE A1	CONTRACT No.
1:10	-
DRAWING No.	ISSUE
2001979 .053	-



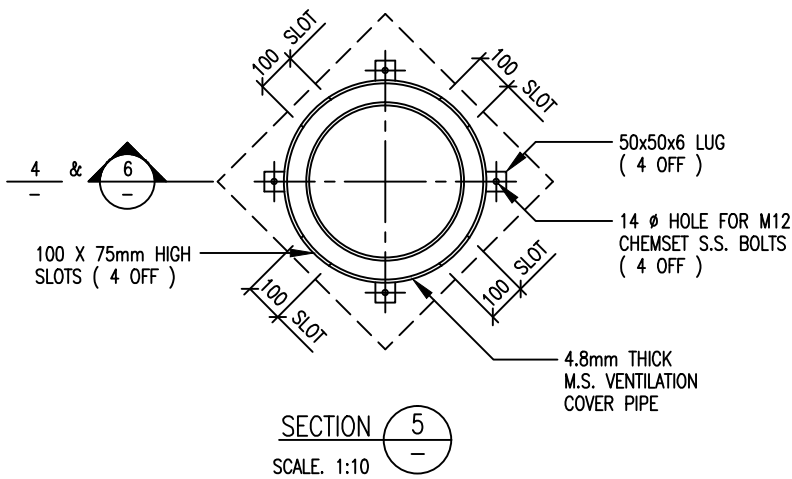
RESERVOIR VENT COVERS ( TYPE C )  
OVER EXISTING VERTICAL VENT HOLES



RESERVOIR VENT COVER ( TYPE B )  
OVER EXISTING VERTICAL VENT HOLE  
AT MILL ROAD RESERVOIR

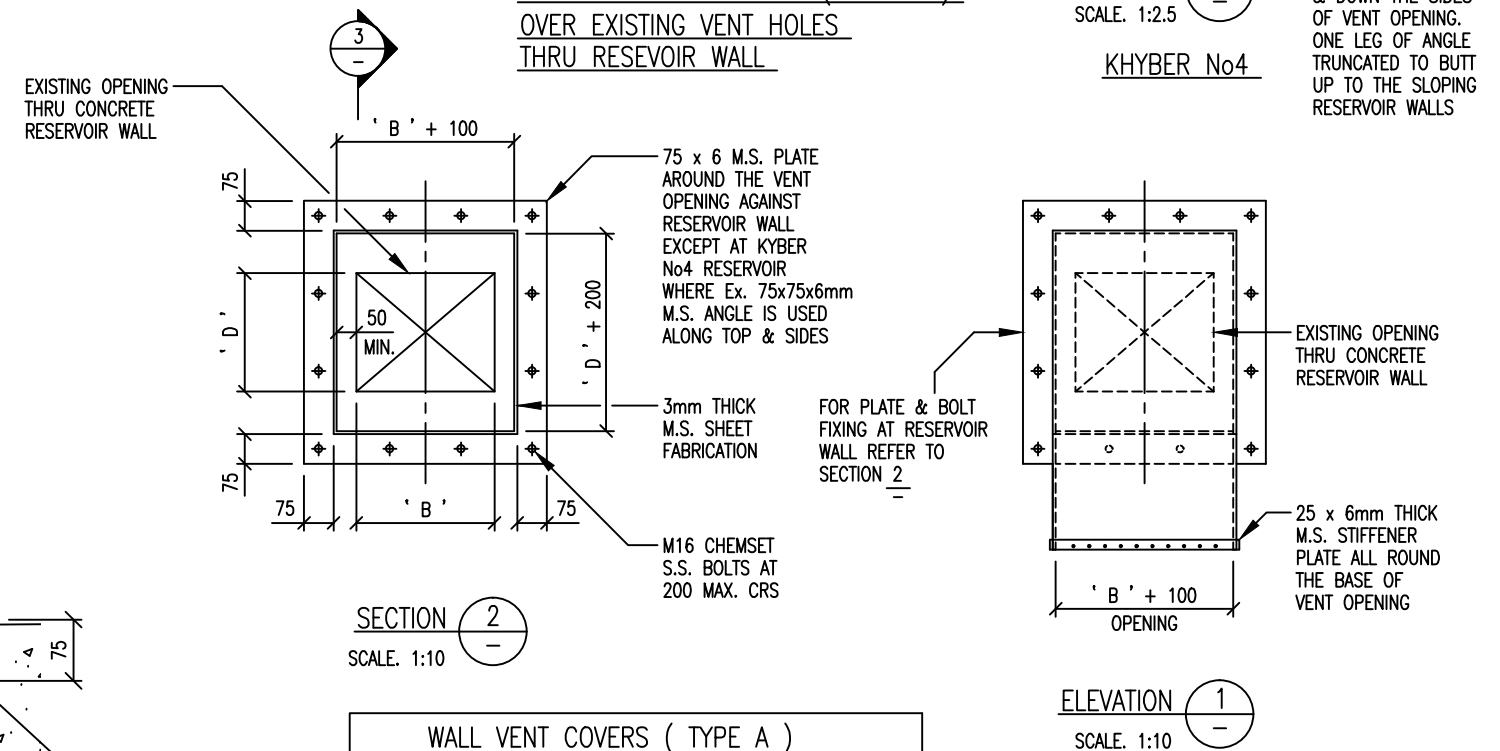


RESERVOIR VENT COVERS ( TYPE A )  
OVER EXISTING VENT HOLES  
THRU RESEVOIR WALL



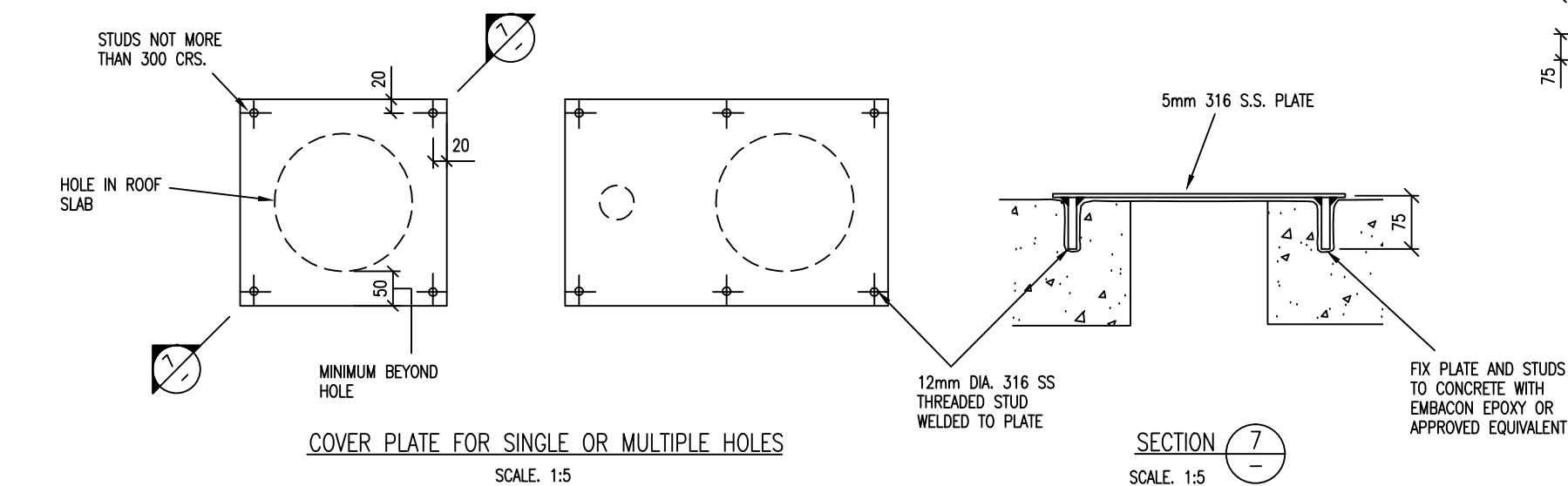
GENERAL NOTES

1. ALL BOLTS & WASHERS TO BE STAINLESS STEEL ( S.S. )
2. ALL VENT COVERS TO BE CONSTRUCTED FROM MILD STEEL ( M.S. ) & HOT-DIP GALVANISED AFTER FABRICATION
3. CHEMSET BOLT EMBEDMENT DEPTHS INTO CONCRETE TO COMPLY WITH MANUFACTURERS RECOMMENDATIONS
4. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO FABRICATION



WALL VENT COVERS ( TYPE A )		
LOCATION	EXIST. OPENING SIZE	No. OFF
PONSONBY N03 RESERVOIR	300mm x 350mm	4
KHYBER No4 RESERVOIR	480mm x 800mm	10
ONEHUNGA FINAL WATER TANK	320mm x 1000mm	2

NOTE:  
ACTUAL EXISTING HOLE SIZES ' D x B ' THROUGH RESERVOIR WALLS TO BE CHECKED ON SITE PRIOR TO FABRICATION



COVER PLATE FOR SINGLE OR MULTIPLE HOLES  
SCALE: 1:5

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

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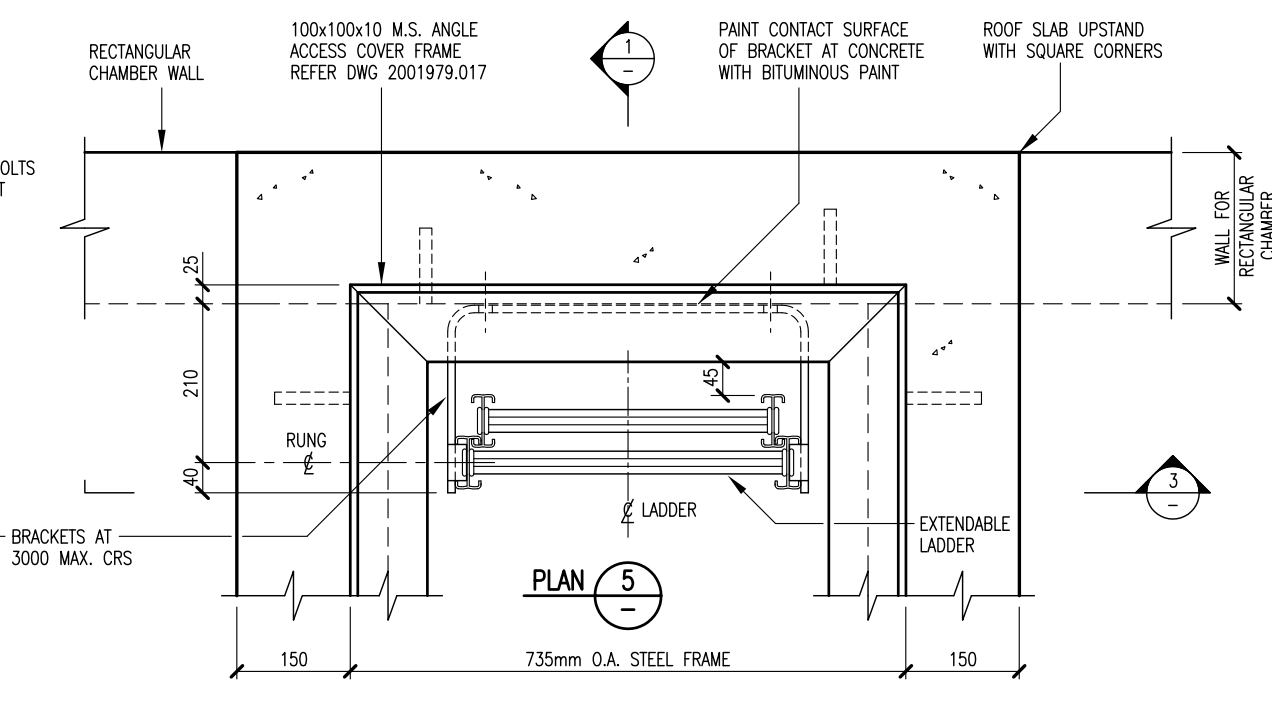
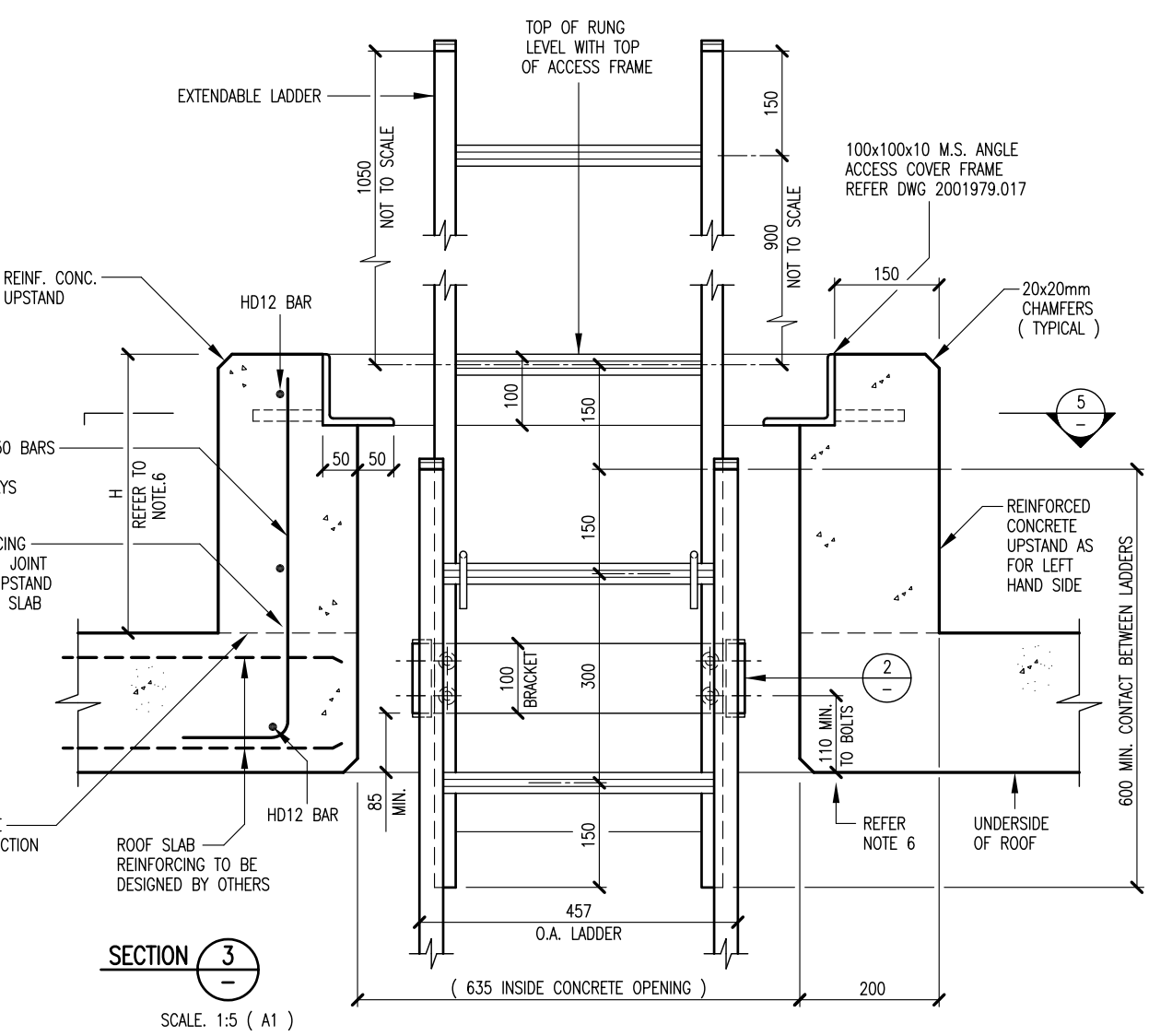
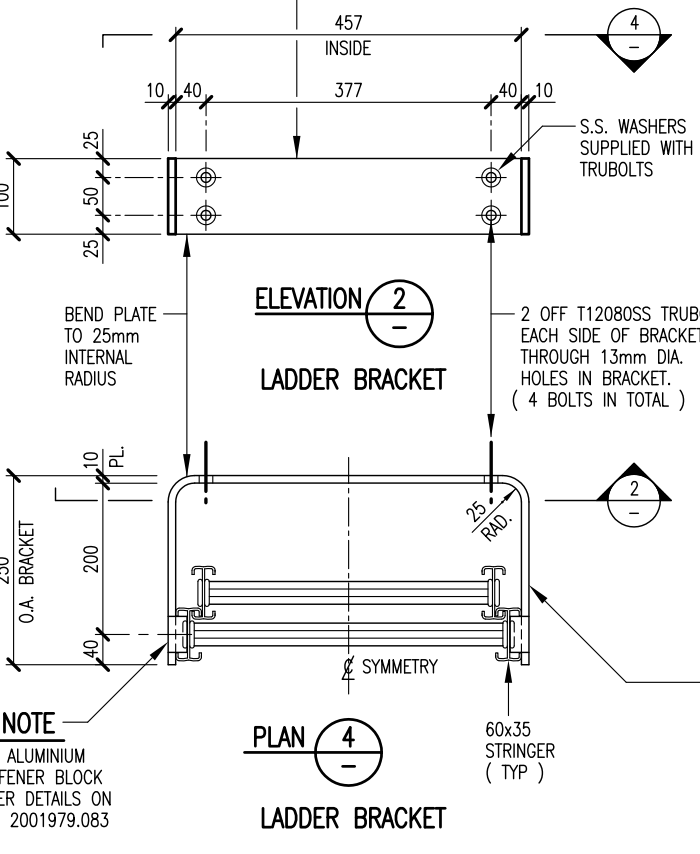
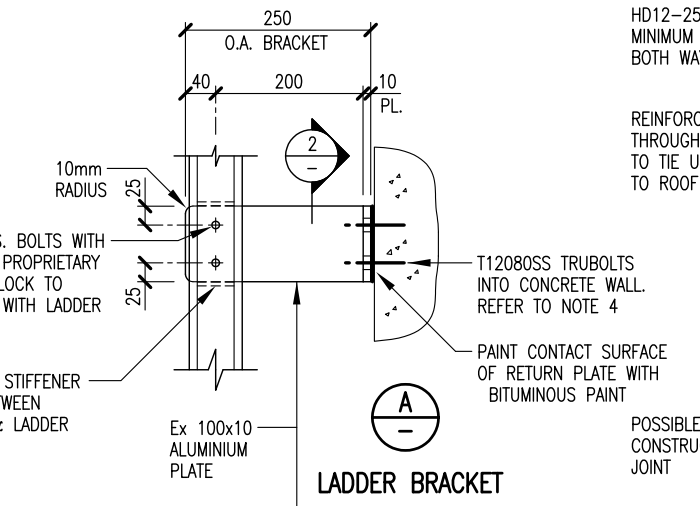
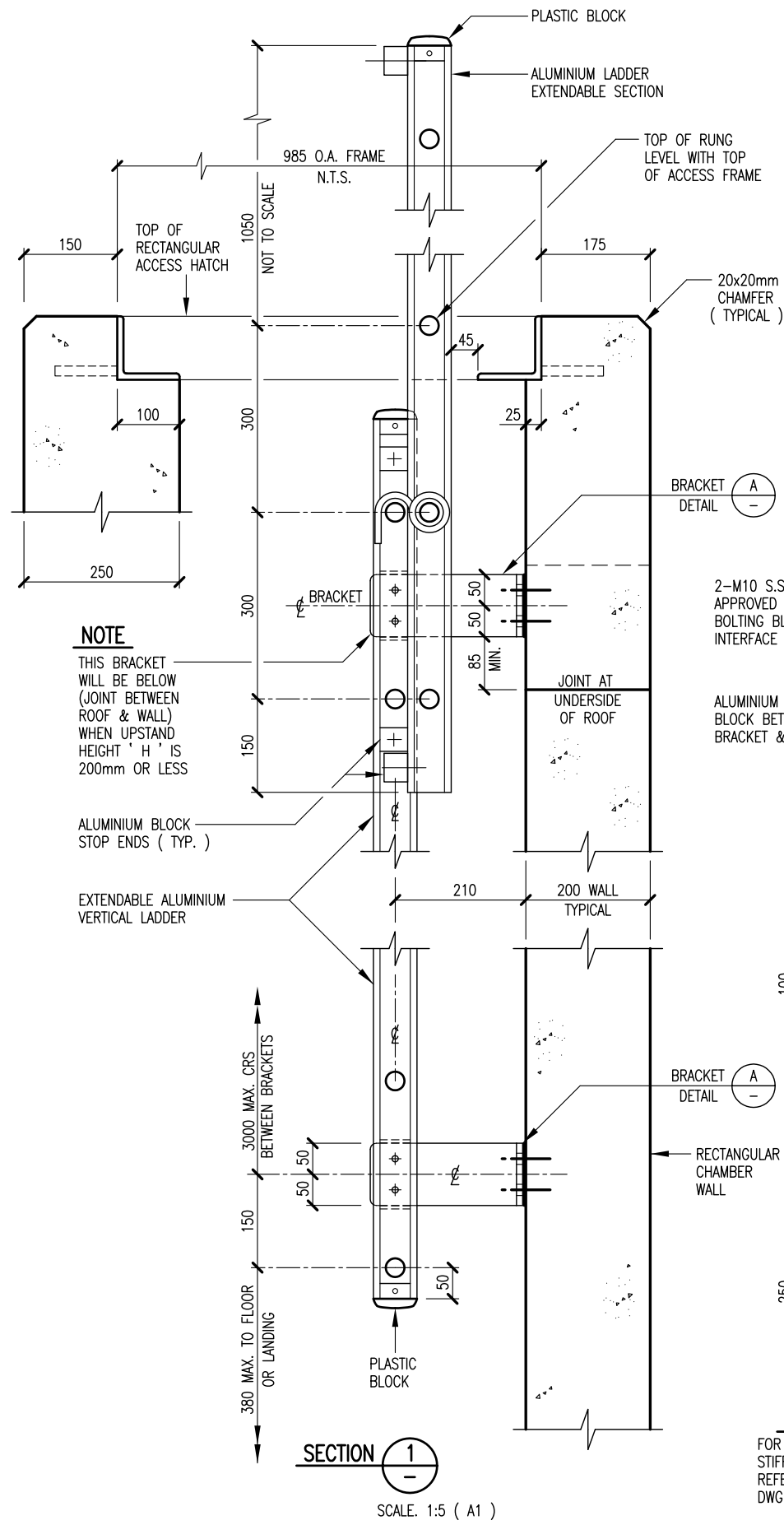


STANDARD WATER STRUCTURES  
RESERVOIR VENT COVERS AND HOLE COVER PLATES  
DETAILS OF VENT COVERS OVER EXISTING OPENINGS

CAD FILE EG 2001979.054	DATE 27-02-03
ORIGINAL SCALE A1 AS SHOWN	CONTRACT No. -
DRAWING No. 2001979	ISSUE .054

**LADDER NOTES**

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DWG 2001979.083
2. BOTTOM RUNG TO BE A MAX. OF 380mm ABOVE LANDING.
3. ALUMINIUM ALLOY FOR BRACKETS TO BE GRADE 5032-H32 OR APPROVED ALTERNATIVE
4. ALL BOLTS & WASHERS ARE STAINLESS STEEL
5. UPSTAND HEIGHT H FOR ALL CHAMBERS MAY VARY FROM 0mm TO 200mm THEN GREATER THAN OR EQUAL TO 400mm.
6. BRACKET BOLTS TO BE 110mm MINIMUM FROM JOINT BETWEEN ROOF & WALLS WHETHER BRACKET IS ABOVE OR BELOW JOINT



ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
A	10:18	NOTES AMENDED FOR CONSTRUCTION	L.C.	J.D.	12:06
-	12:07		L.C.	J.P.	12:06

DESIGNED	T.C./J.P.	12:06
DES. CHECKED	T.C.	12:06
DRAWN	L.C.	12:06
DWG. CHECKED	I.M.	12:06
PROJECT LEADER	T.C.	12:06
AD APPROVED	D.B.	12:06

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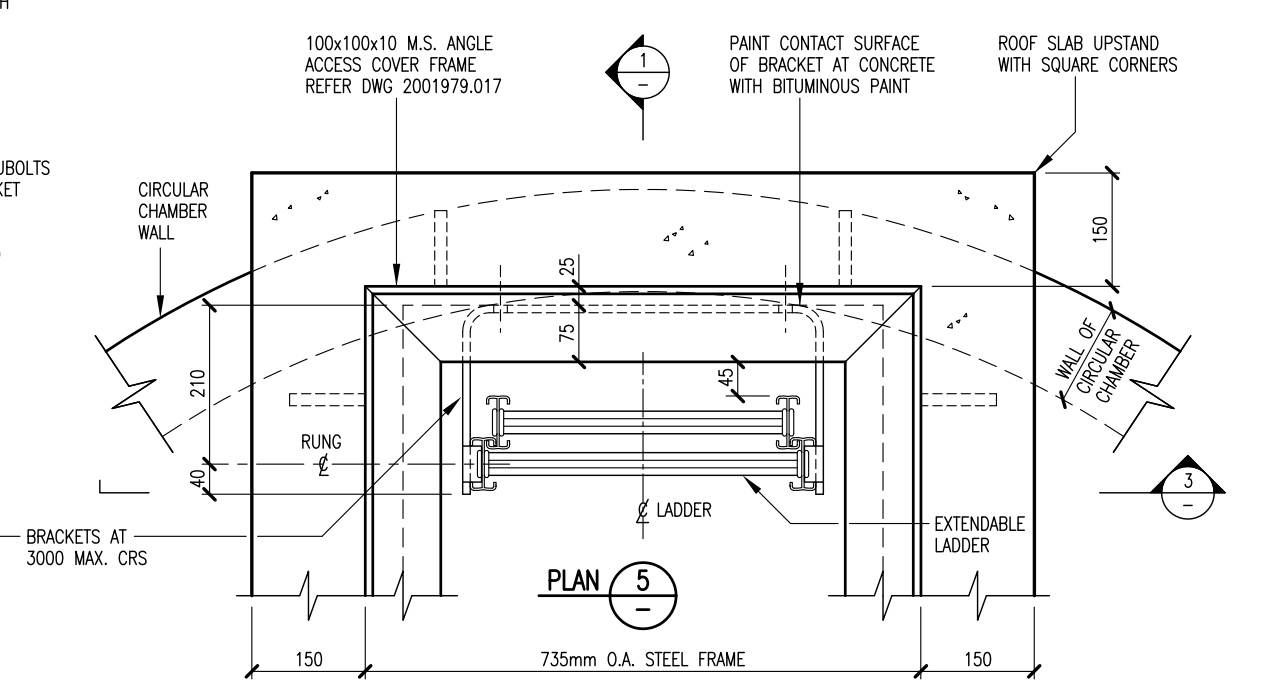
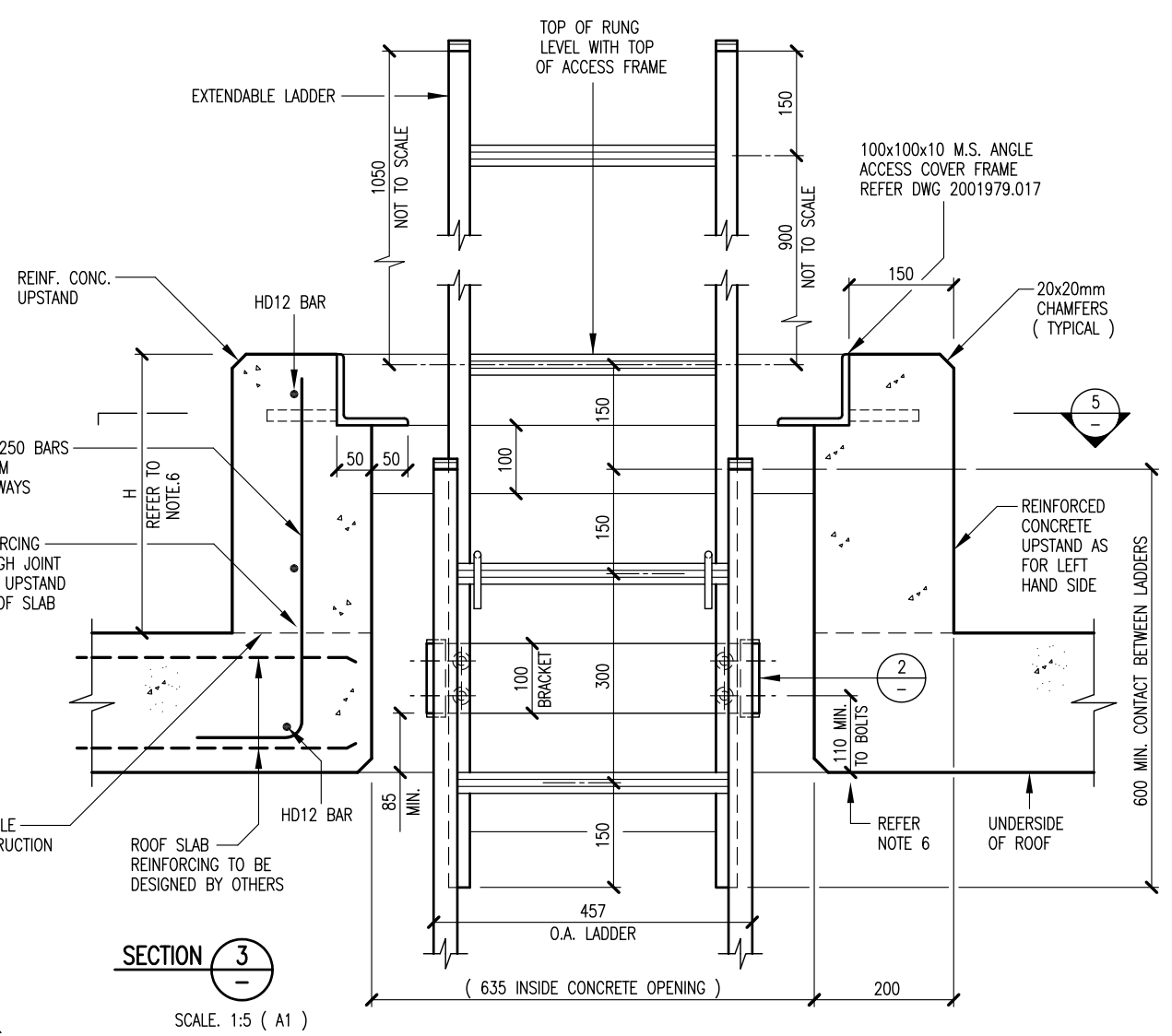
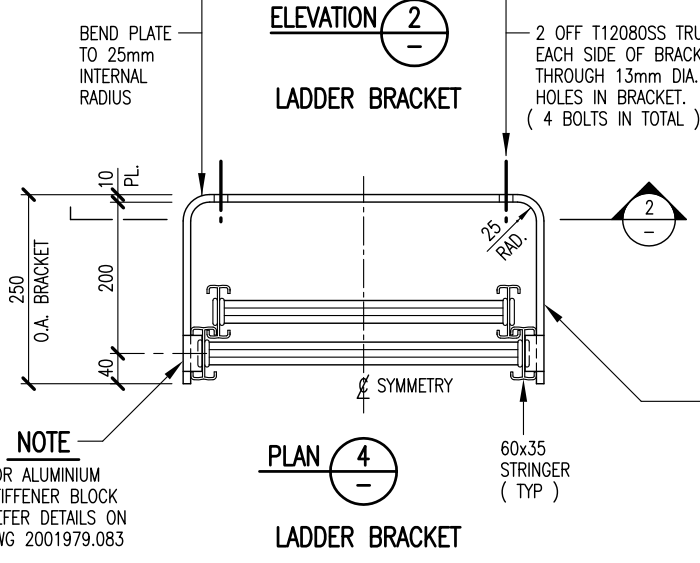
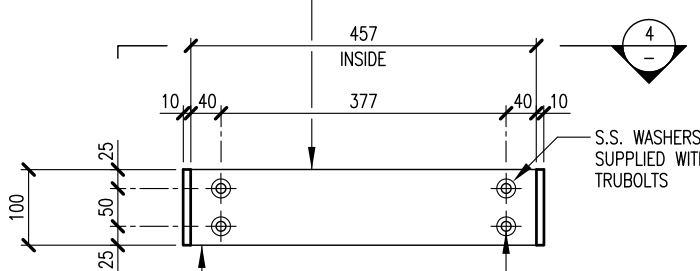
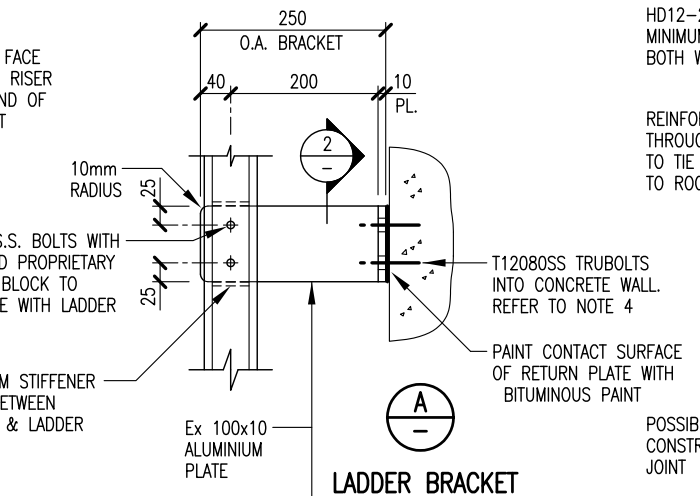
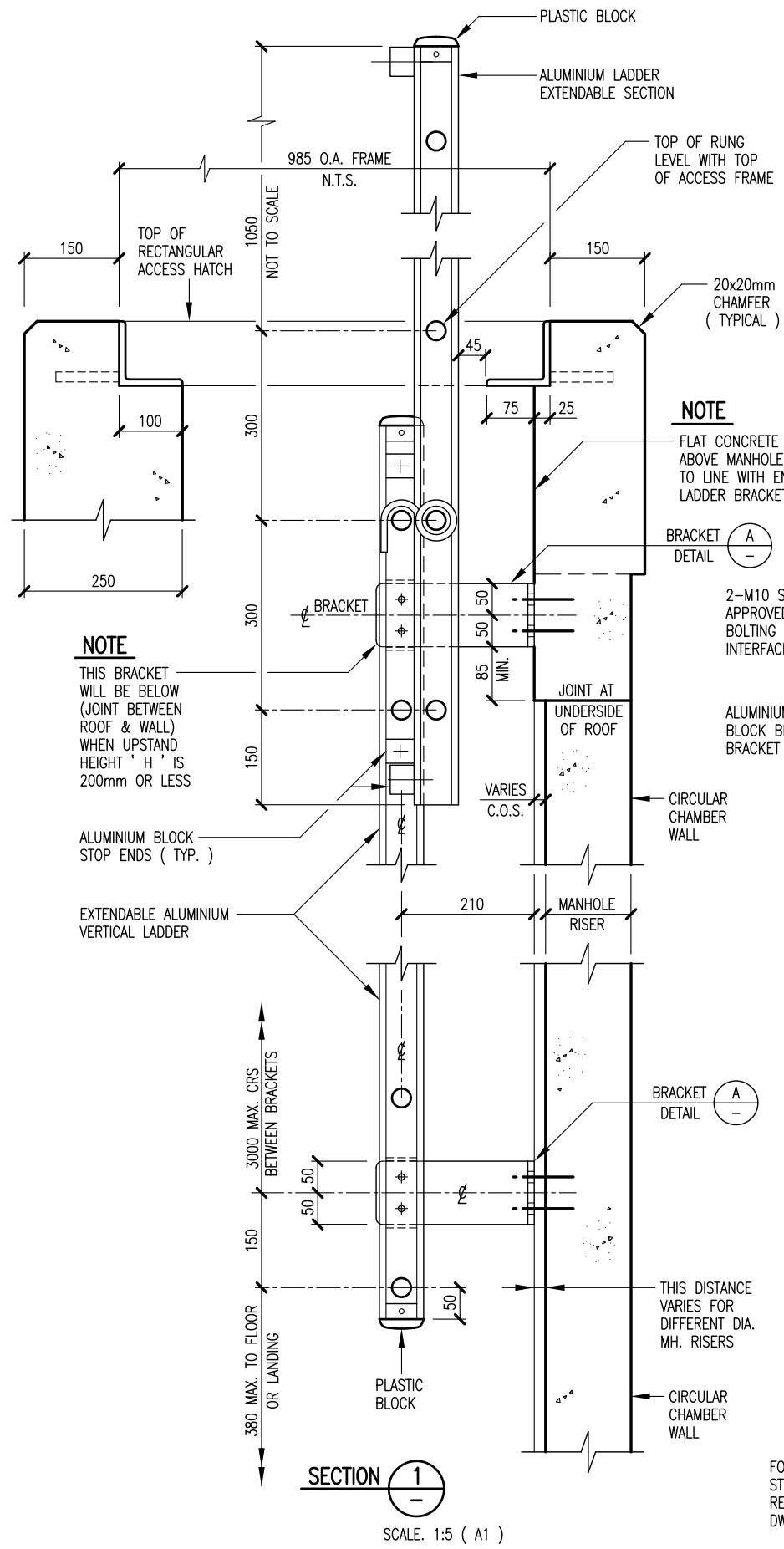
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**WATER RETICULATION STANDARD**  
**EXTENDABLE ALUMINIUM ACCESS LADDER**  
FOR RECTANGULAR CHAMBER - PLAN, SECTION & BRACKET DETAIL

CAD FILE 2001979.080A	DATE 19/10/18
ORIGINAL SCALE A1	CONTRACT No.
1:5	-
DRAWING No. 2001979	ISSUE A
.080	

**LADDER NOTES**

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DWG 2001979.083
2. BOTTOM RUNG TO BE A MAX. OF 380mm ABOVE LANDING.
3. ALUMINIUM ALLOY FOR BRACKETS TO BE GRADE 5032-H32 OR APPROVED ALTERNATIVE
4. ALL BOLTS & WASHERS ARE STAINLESS STEEL
5. UPSTAND HEIGHT H FOR ALL CHAMBERS MAY VARY FROM 0mm TO 200mm THEN GREATER THAN OR EQUAL TO 400mm.
6. BRACKET BOLTS TO BE 110mm MINIMUM FROM JOINT BETWEEN ROOF & WALLS WHETHER BRACKET IS ABOVE OR BELOW JOINT



ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
B	10:18	NOTES AMENDED	L.C.	J.D.	12:06
A	12:07	GENERAL REVISION	L.C.	J.P.	12:06
-	12:06	FOR CONSTRUCTION - REPLACES DWG 2001979.051	L.C.	J.P.	12:06

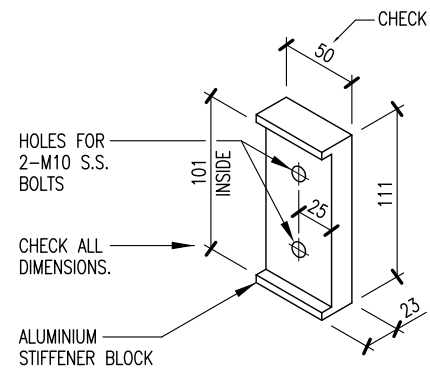
DESIGNED	T.C./J.P.	12:06
DES. CHECKED	T.C.	12:06
DRAWN	L.C.	12:06
DWG. CHECKED	I.M.	12:06
PROJECT LEADER	T.C.	12:06
AD APPROVED	D.B.	12:06

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**WATER RETICULATION STANDARD**  
**EXTENDABLE ALUMINIUM ACCESS LADDER**  
FOR CIRCULAR CHAMBER - PLAN, SECTION & BRACKET DETAIL

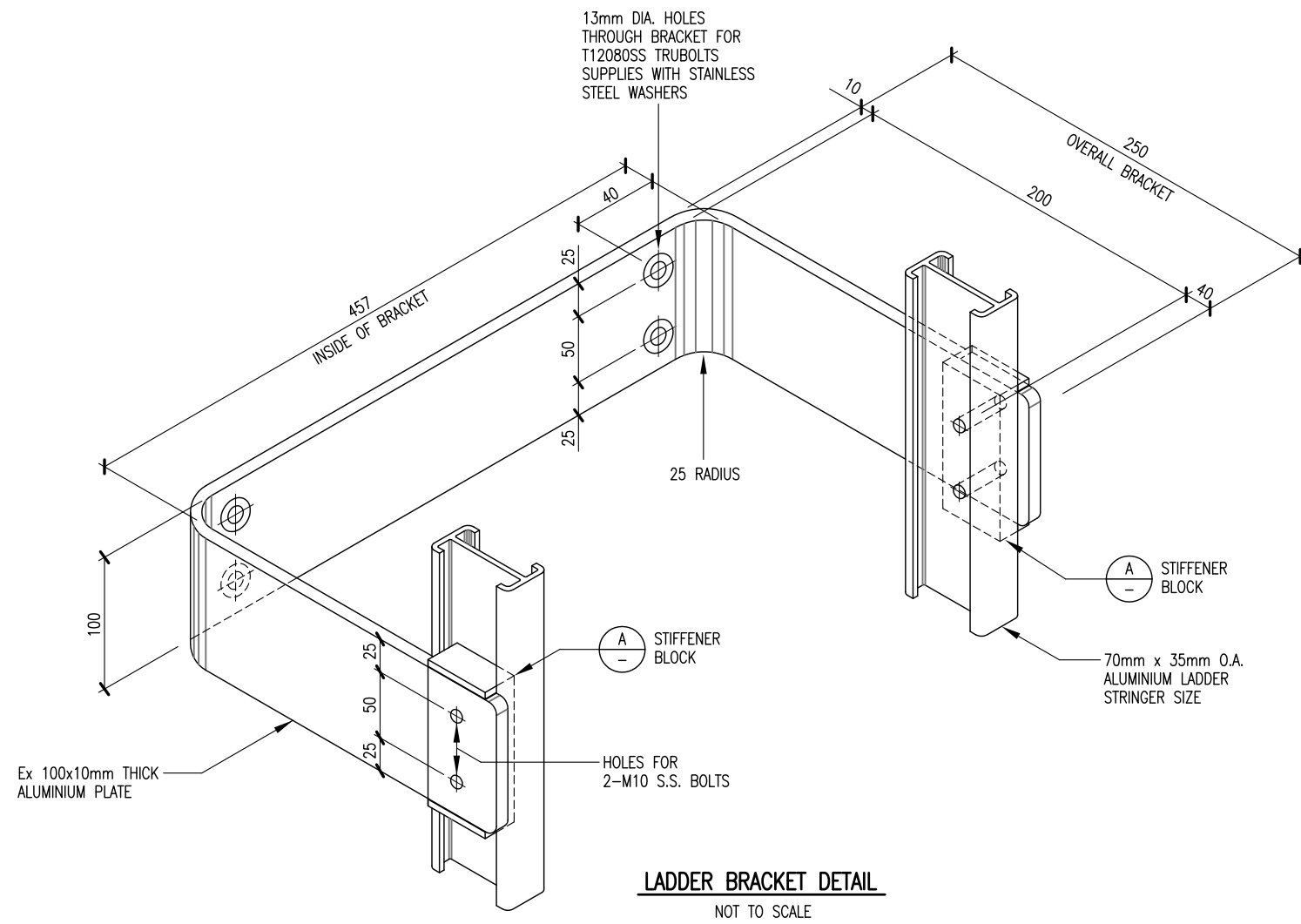
CAD FILE 2001979.081B	DATE 19-10-18
ORIGINAL SCALE A1	CONTRACT No.
1:5	-
DRAWING No. 2001979	ISSUE B
.081	





STIFFENER BLOCK (A)

SCALE: 1:2.5 ( A1 )



**LADDER BRACKET DETAILS**

SCALE: 1:5 ( A1 )  
1:10 ( A3 )

**NOTE**

THIS DRAWING TO BE READ  
IN CONJUNCTION WITH DRAWINGS  
2001979 .081 & .085

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
B	10:18	NOTE AMENDED	L.C.	J.D.		12:06
A	12:07	GENERAL REVISION	L.C.	J.P.		12:06
-	12:06	FOR CONSTRUCTION - REPLACES DWG 2001979.079	L.C.	J.P.		12:06

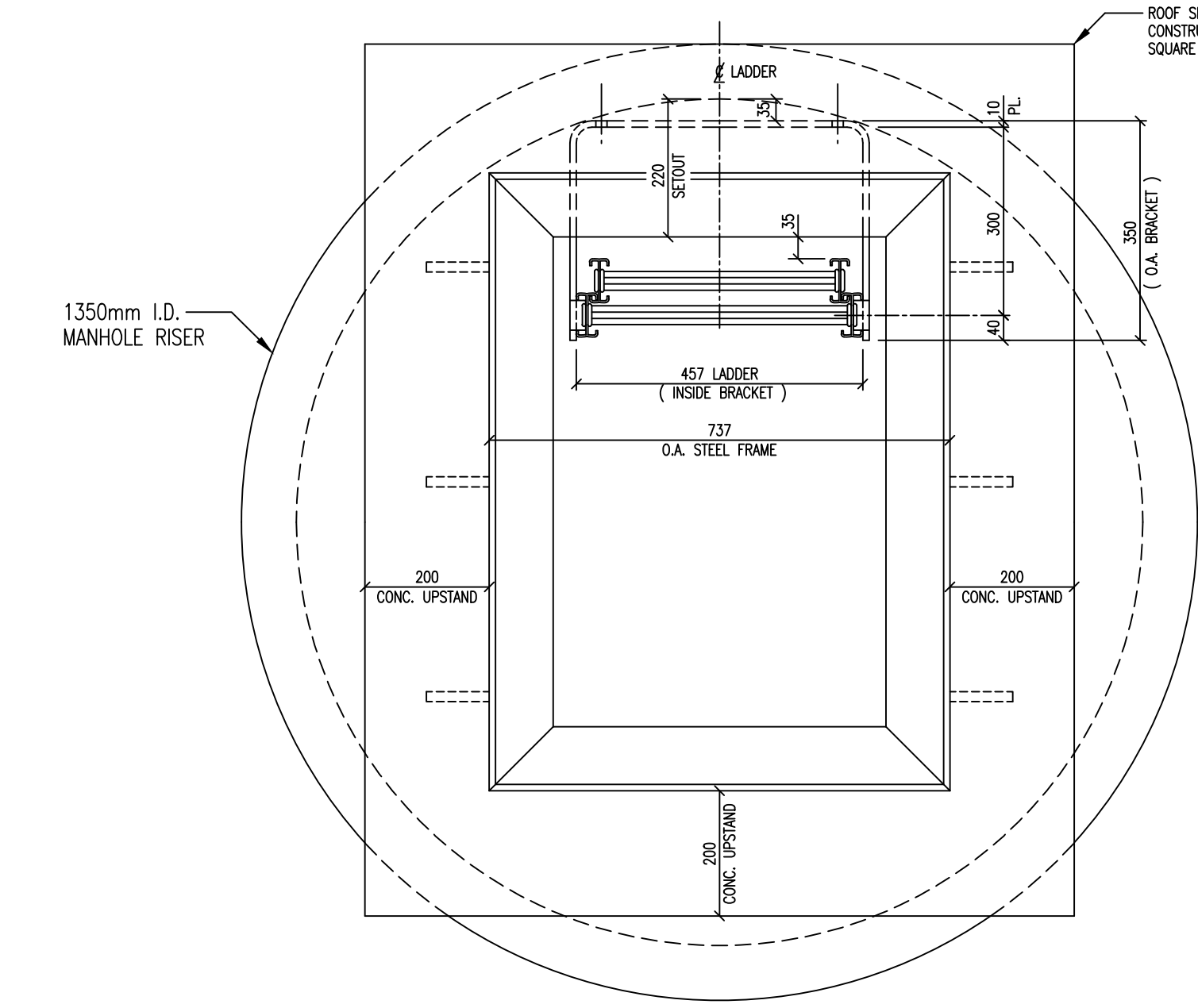
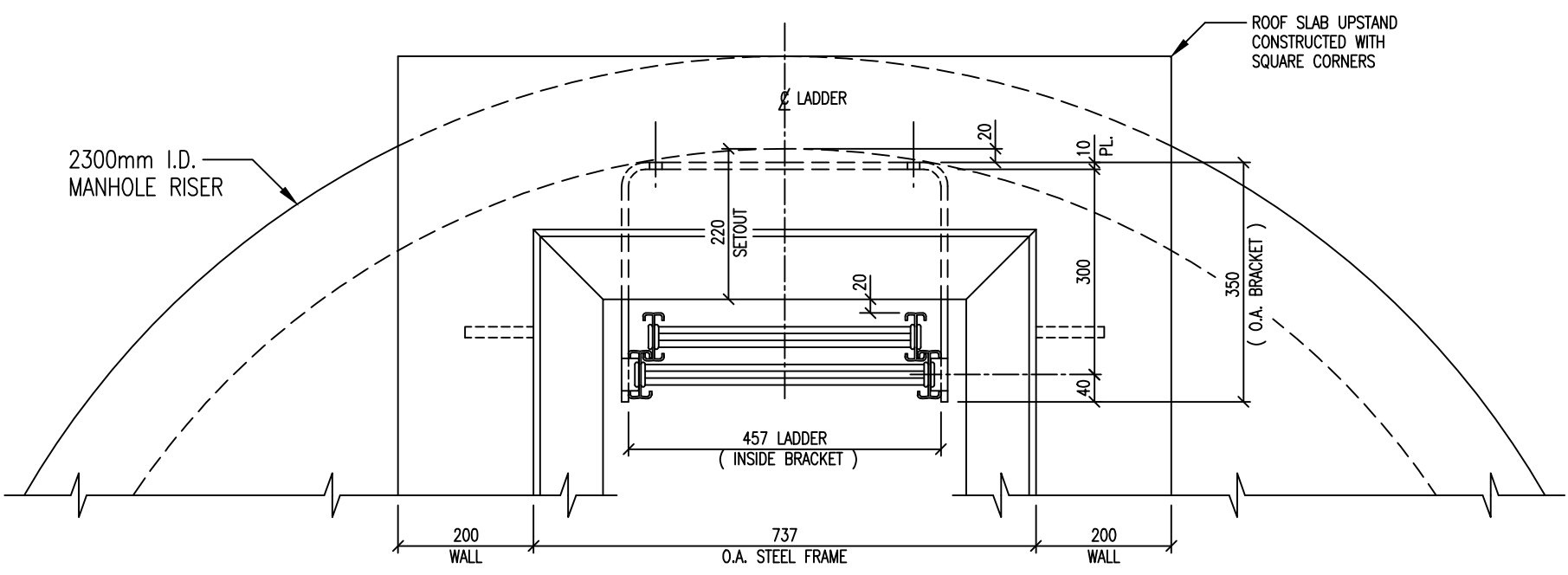
DESIGNED	J.P.	12:06
DES. CHECKED	T.C.	12:06
DRAWN	L.C.	12:06
DWG. CHECKED	I.M.	12:06
PROJECT LEADER	J.P.	12:06
AD APPROVED	D.B.	12:06

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**WATER RETICULATION STANDARD**  
**ALUMINIUM BRACKET FOR ACCESS LADDERS**  
TYPICAL DETAILS

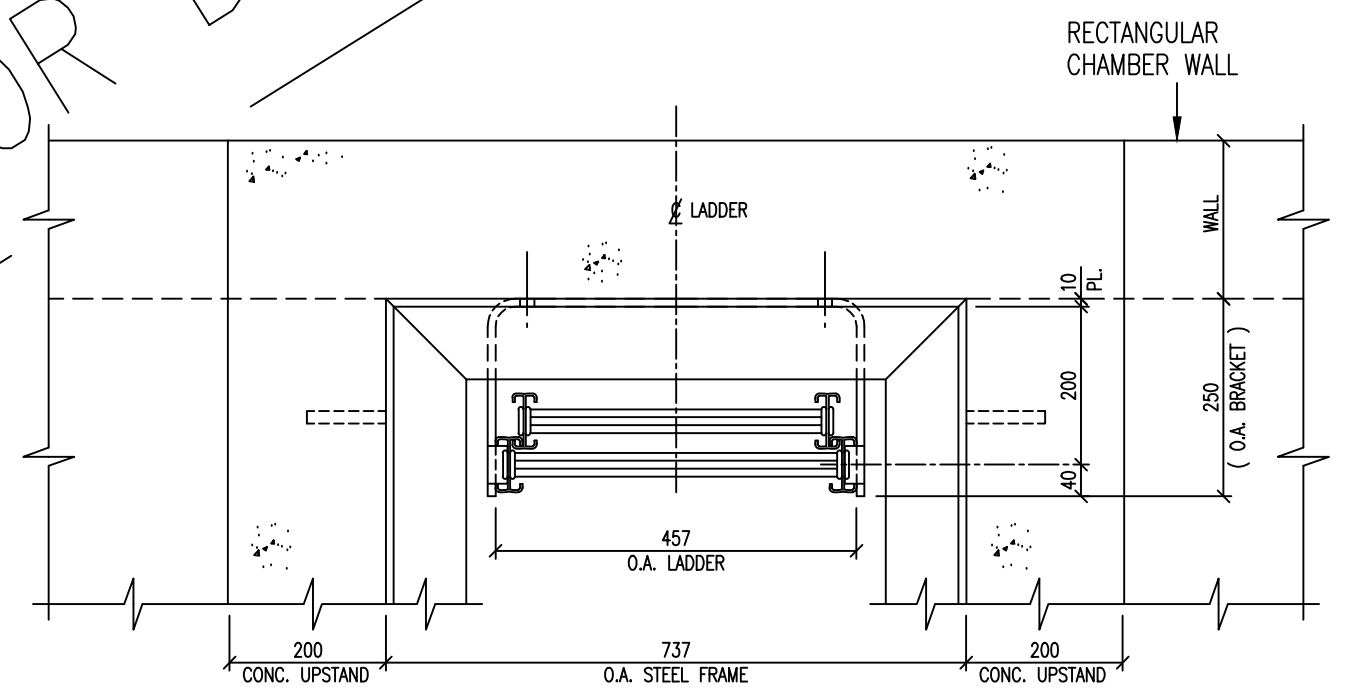
CAD FILE	2001979.083B	DATE	19-10-18
ORIGINAL SCALE	A1	CONTRACT No.	-
AS SHOWN			
DRAWING No.	2001979	ISSUE	B
	.083		



FOR DESIGN

**NOTE**  
THIS DRAWING TO BE READ  
IN CONJUNCTION WITH DRAWINGS  
2001979.081 & 2001979.083

USE ONLY



**EXTENDABLE LADDER SETOUT DETAILS**

SCALE: 1:5 ( A1 )  
1:10 ( A3 )

L:\EXISTING\GR\EGCAD\F\2006\STANDARD DWGS\2001979.085 .DWG

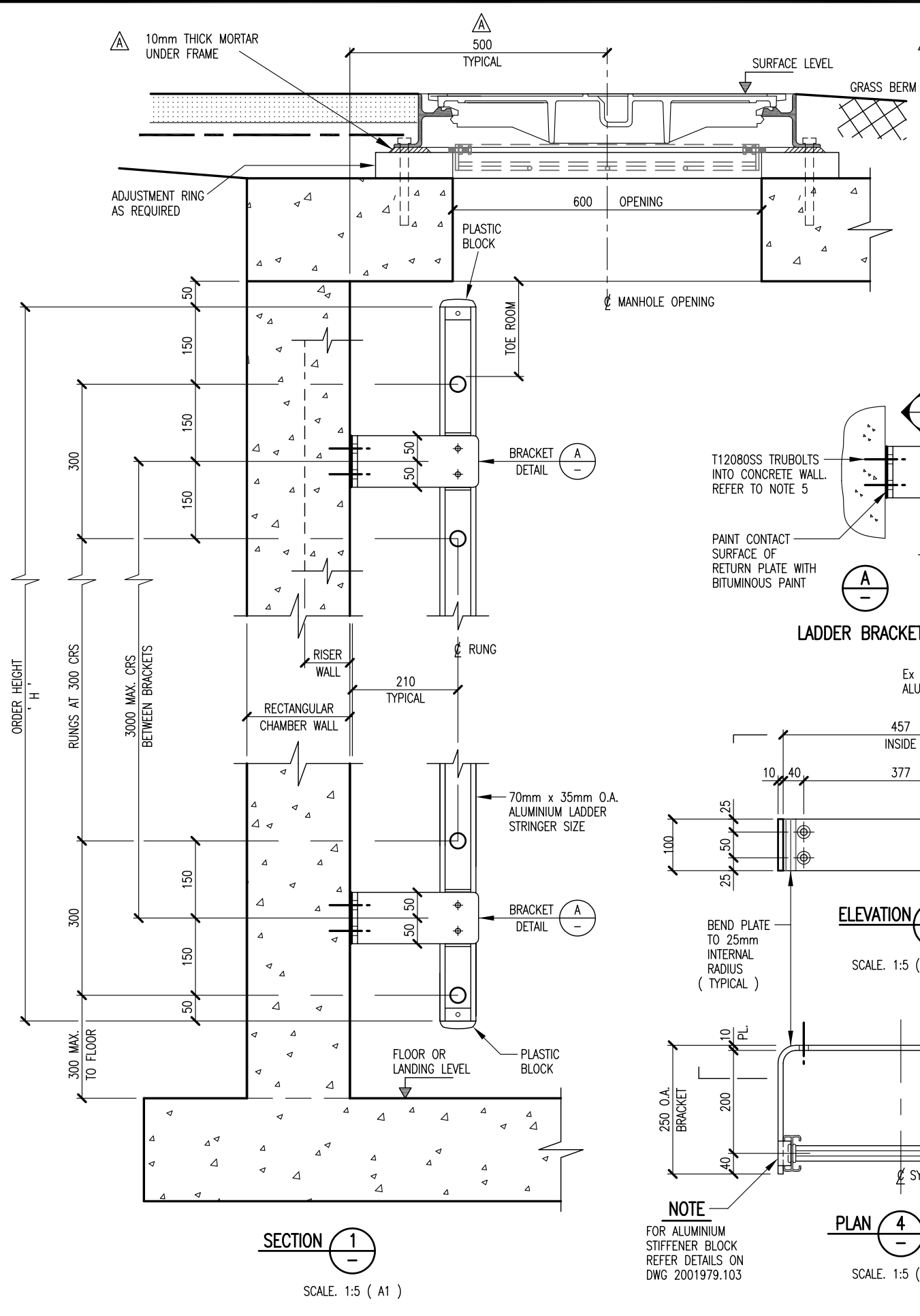
ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
-	12:06	FOR CONSTRUCTION - REPLACES DWG 2001979.078	L.C.	J.P.	12:06

DESIGNED	J.P.	12:06
DES. CHECKED	T.C.	12:06
DRAWN	L.C.	12:06
DWG. CHECKED	I.M.	12:06
PROJECT LEADER	T.C.	12:06
AD APPROVED	D.B.	12:06

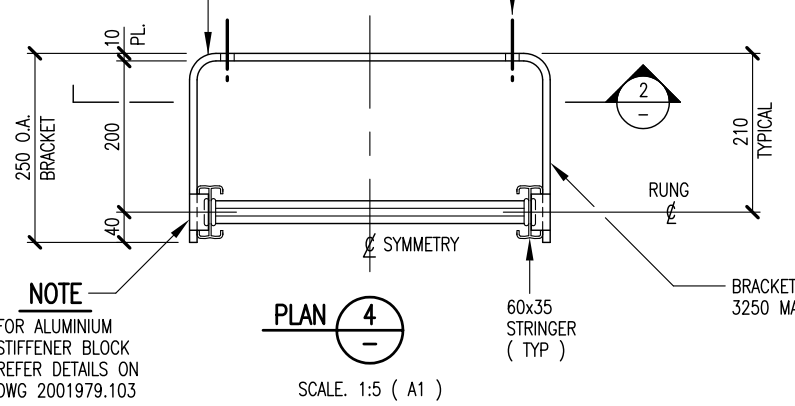
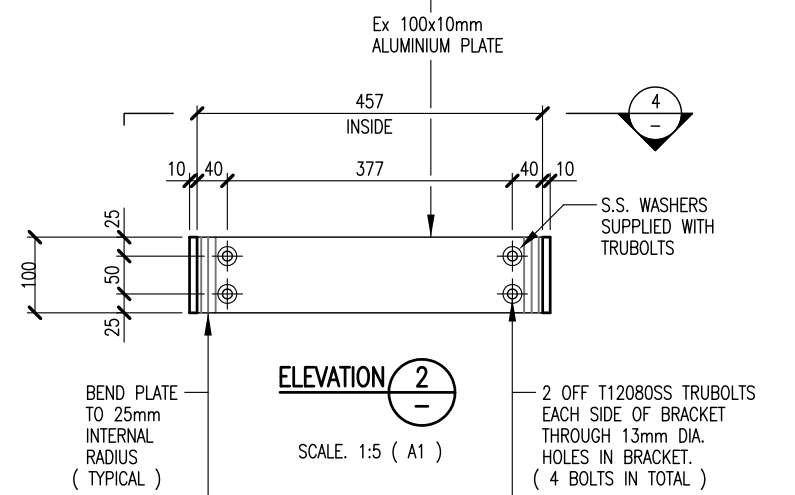
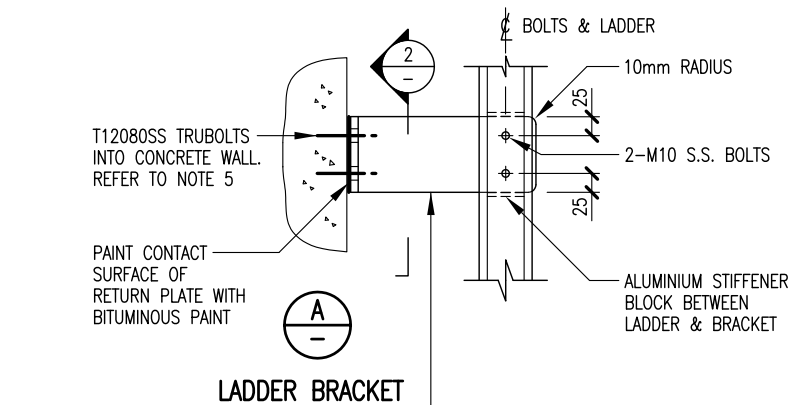


**WATERCARE SERVICES WATER RETICULATION**  
STANDARD EXTENDABLE ALUMINIUM ACCESS LADDER  
DETAIL OF MANHOLE ACCESS LIDS

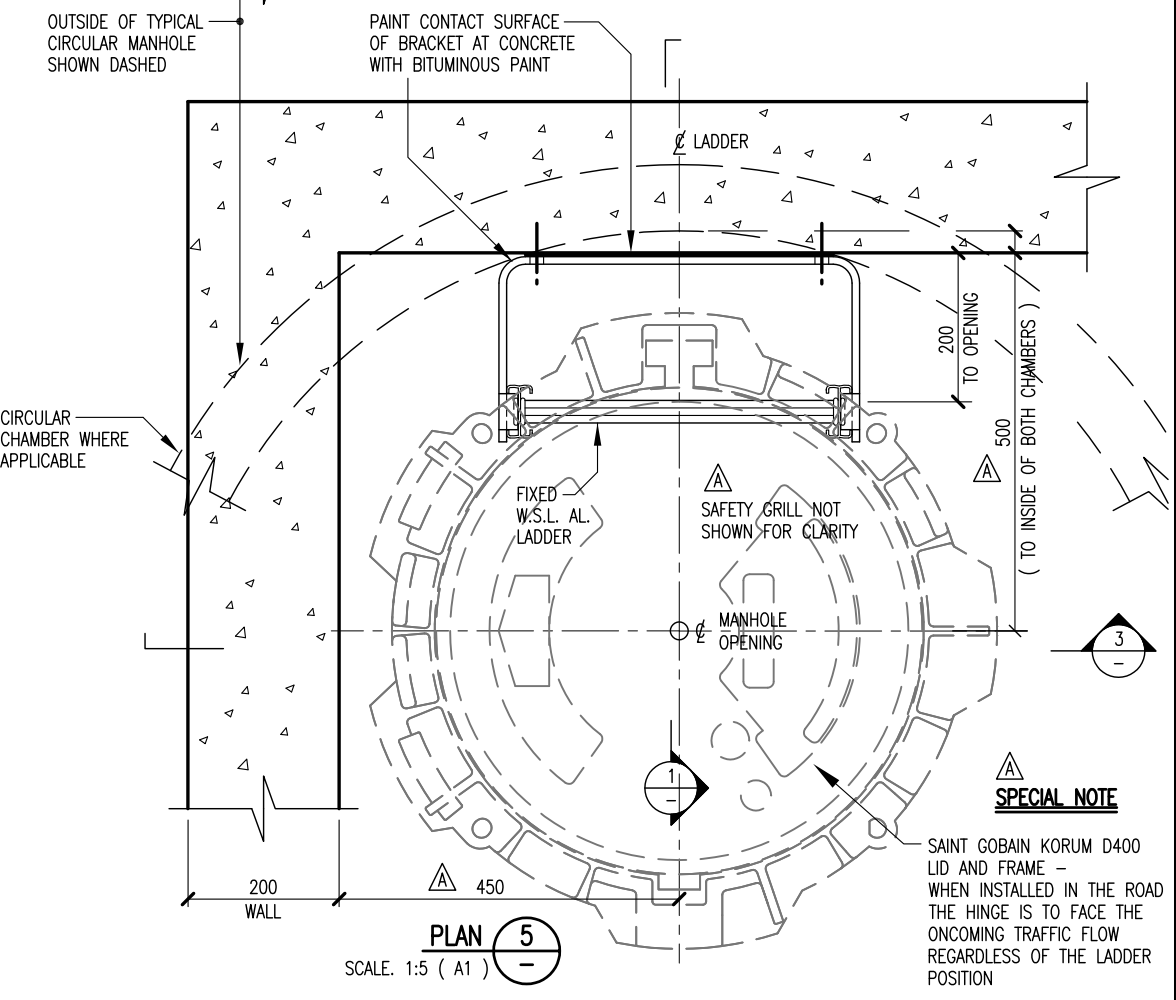
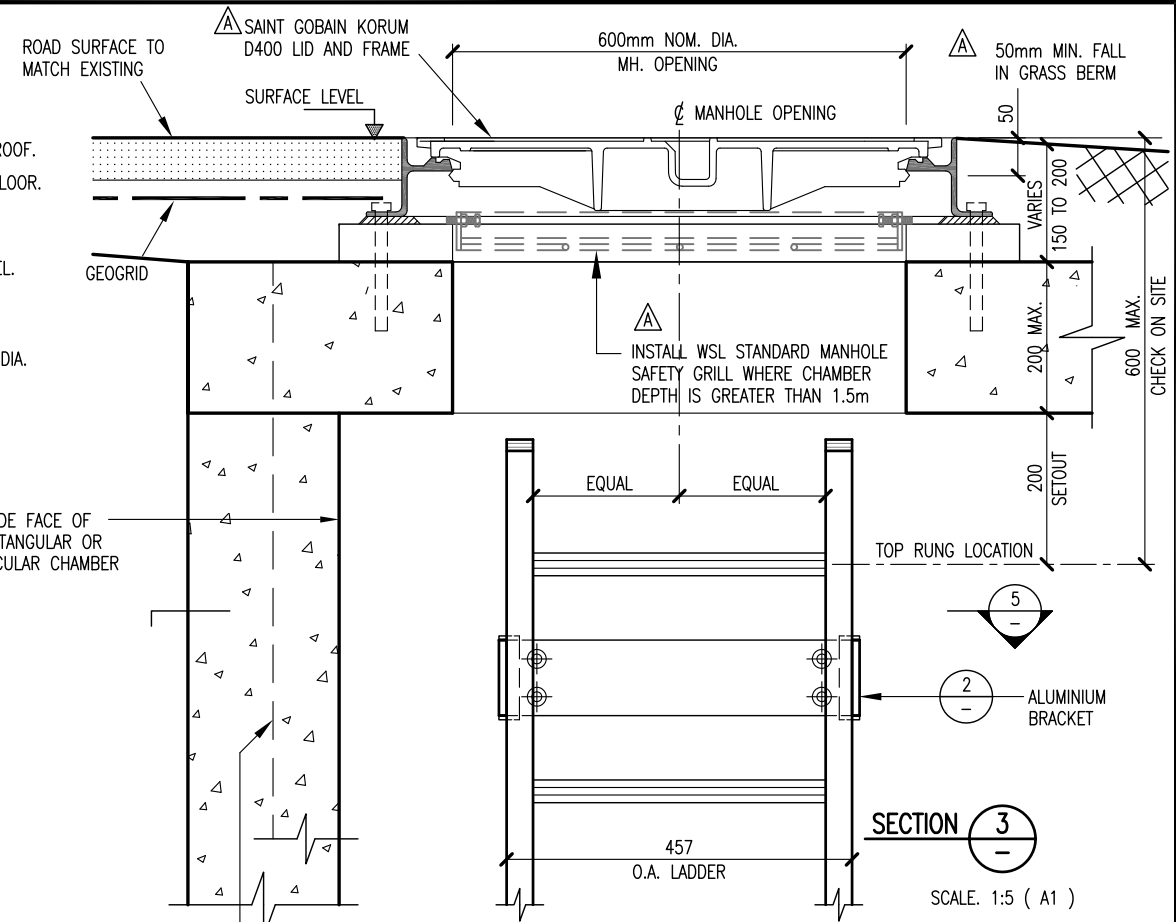
CAD FILE	2001979.085	DATE	21-12-06
ORIGINAL SCALE	A1	CONTRACT No.	-
	1:5		
DRAWING No.	2001979	ISSUE	-
	.085		



- LADDER NOTES**
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DWG 2001979.103
  2. TOP RUNG TO BE 200mm BELOW UNDERSIDE OF ROOF.
  3. BOTTOM RUNG TO BE A MAX. OF 380mm ABOVE FLOOR.
  4. ALUMINIUM ALLOY FOR BRACKETS TO BE GRADE 5032-H32 OR APPROVED ALTERNATIVE
  5. ALL BOLTS, NUTS & WASHERS ARE STAINLESS STEEL. THE INTERFACES WITH ALUMINIUM ARE TO BE ELECTRICALLY ISOLATED BY MEANS OF APPROVED COLLARED NYLON SLEEVES AND NYLON WASHERS (EX. SHUK ENGINEERING) BRACKET HOLES ARE 16 DIA. AND DRILLED STRAIGHT IN ALL CASES.
  6. ALL DIMENSIONS TO BE CHECKED ON SITE & WITH THE MAKE OF LADDER USED
  7. FOR CHAMBER BACKFILL DETAILS REFER DWG. 2001979.137



**NOTE**  
FOR ALUMINIUM STIFFENER BLOCK REFER DETAILS ON DWG 2001979.103



**SPECIAL NOTE**  
SAINT GOBAIN KORUM D400 LID AND FRAME - WHEN INSTALLED IN THE ROAD THE HINGE IS TO FACE THE ONCOMING TRAFFIC FLOW REGARDLESS OF THE LADDER POSITION

ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
B	10:18	NOTES AMENDED	L.C.	J.D.	11:08
A	04:13	MANHOLE FRAME & LID CHANGED TO KORUM D400 FOR CONSTRUCTION	L.C.	T.C.	11:08

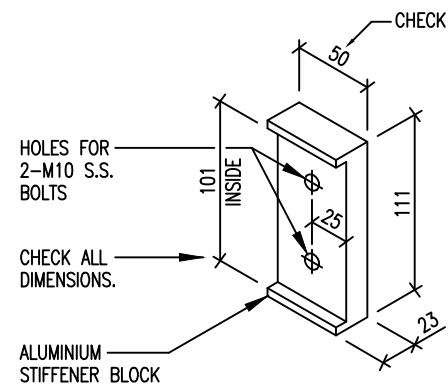
DESIGNED	T.C.	11:08
DES. CHECKED	J.P.	11:08
DRAWN	L.C.	11:08
DWG. CHECKED	I.M.	11:08
PROJECT LEADER	T.C.	11:08
AM APPROVED	A.S.	11:08

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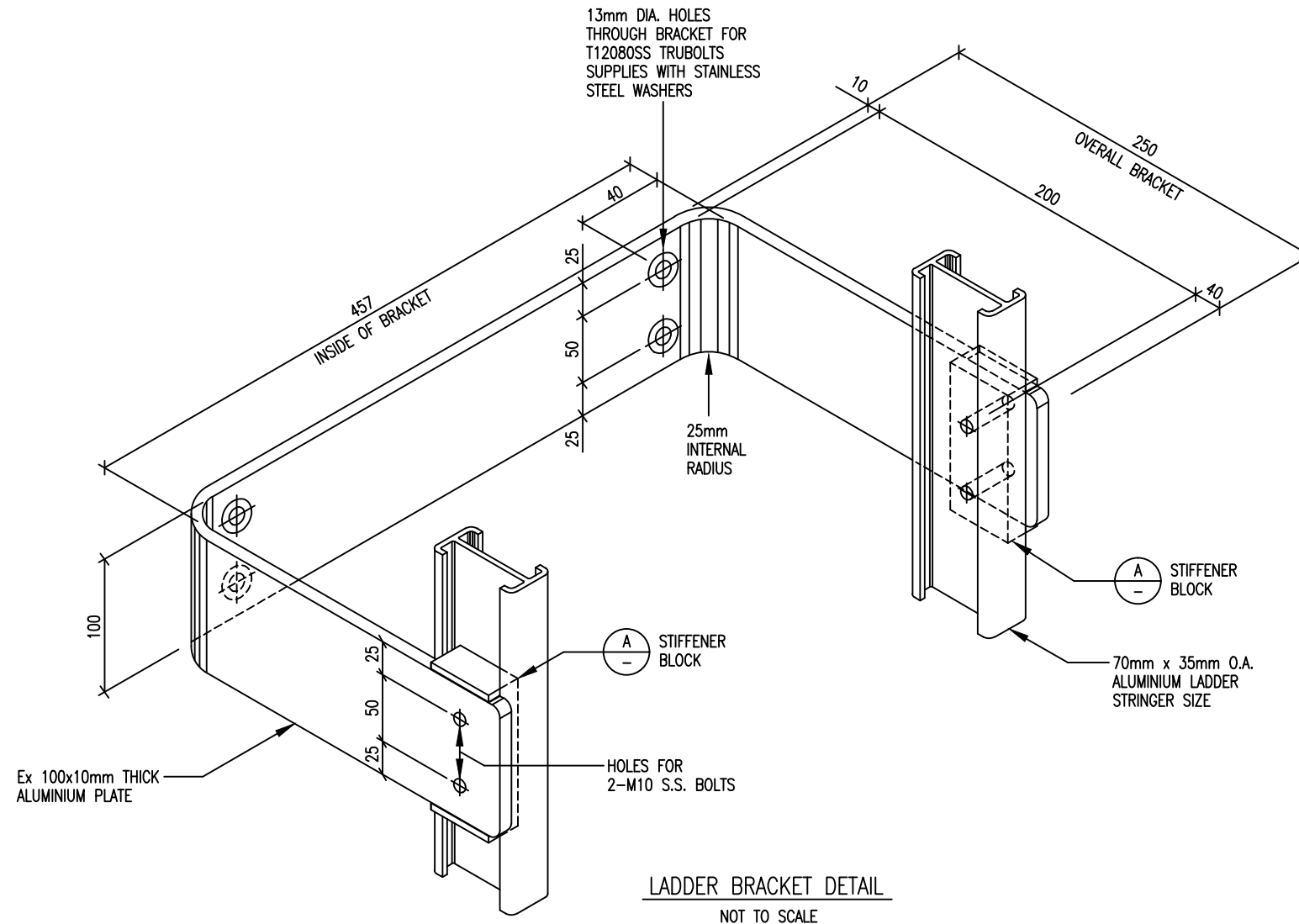
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**WATER RETICULATION STANDARD**  
**FIXED ALUMINIUM ACCESS LADDER**  
RECTANGULAR & CIRCULAR CHAMBERS - PLAN, SECTION & BRACKET DETAILS

CAD FILE 2001979.102B	DATE 19-10-18
ORIGINAL SCALE A1	CONTRACT No. -
1:5	
DRAWING No. 2001979	ISSUE B
.102	



STIFFENER BLOCK (A)  
SCALE: 1:2.5 ( A1 )



LADDER BRACKET DETAIL  
NOT TO SCALE

LADDER BRACKET DETAILS  
SCALE: 1:5 ( A1 )  
1:10 ( A3 )

NOTE

THIS DRAWING TO BE READ  
IN CONJUNCTION WITH DRAWINGS  
2001979 .098 , .099 , .100 , .101  
.102 , .104 , 105 & .106

L:\EXISTING\GR\EGCAD\FI\2008\STANDARD DWGS\2001979.103 .DWG

DESIGNED	J.P.	11:08			
DES. CHECKED	T.C.	11:08			
DRAWN	L.C.	11:08			
DWG. CHECKED	I.M.	11:08			
PROJECT LEADER	J.P.	11:08			
AM APPROVED	A.S.	11:08			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY
-	11:08	FOR CONSTRUCTION	L.C.	T.C.	

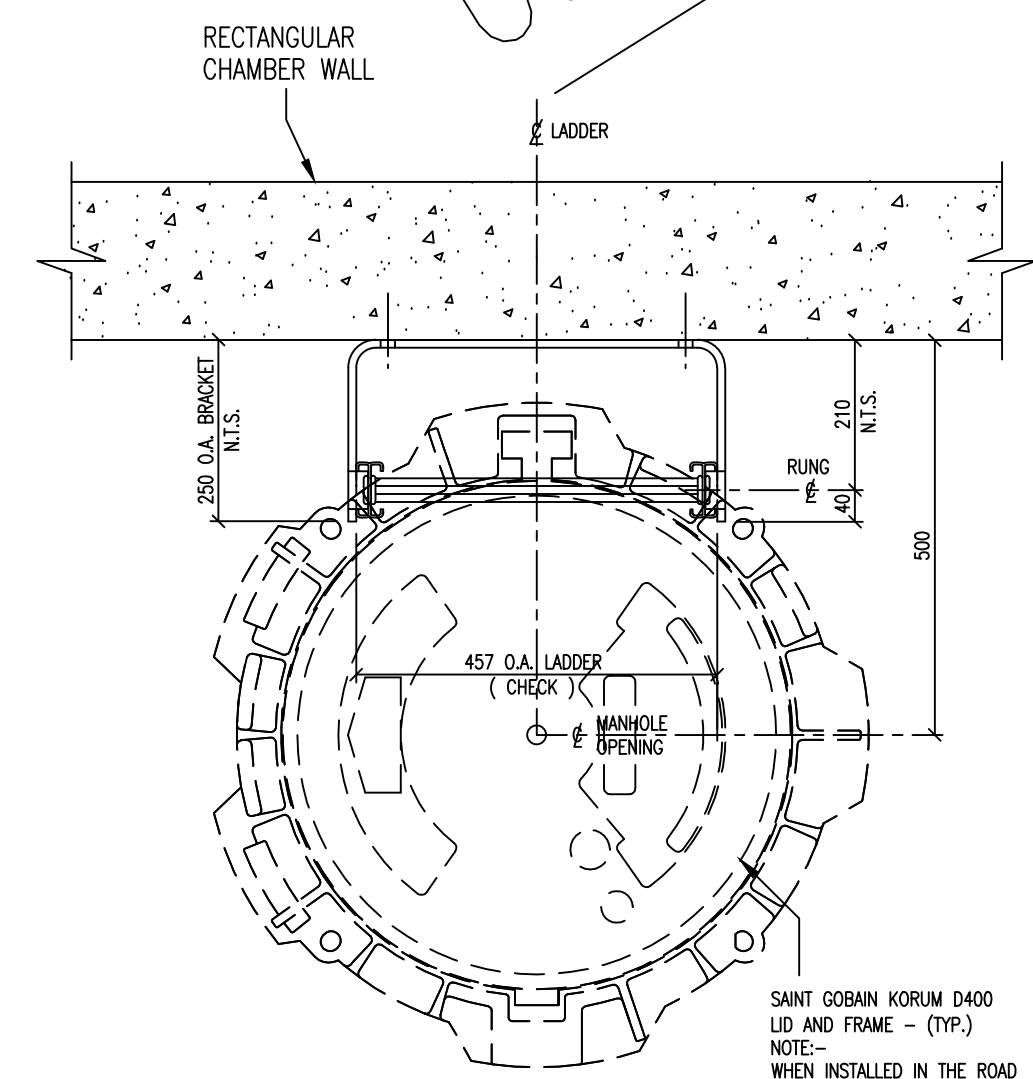
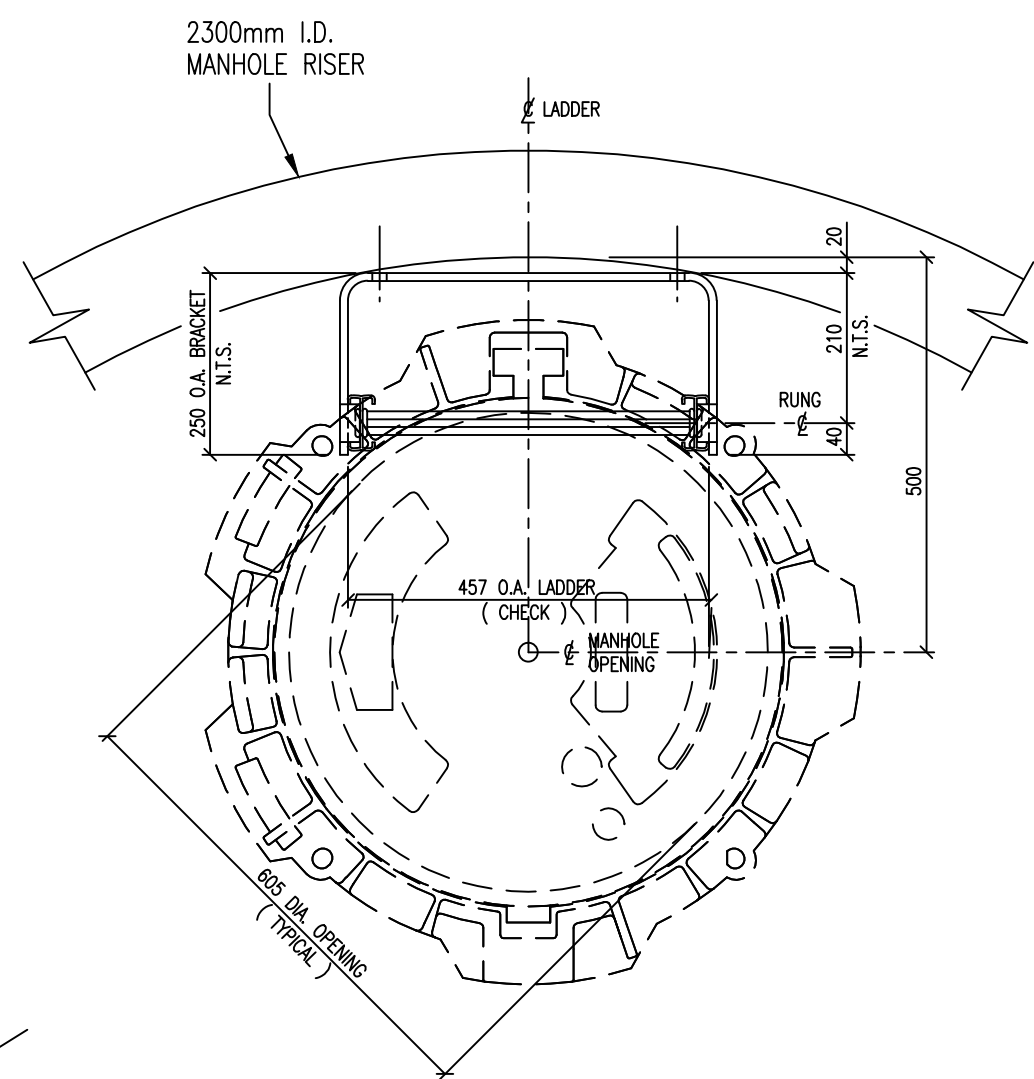
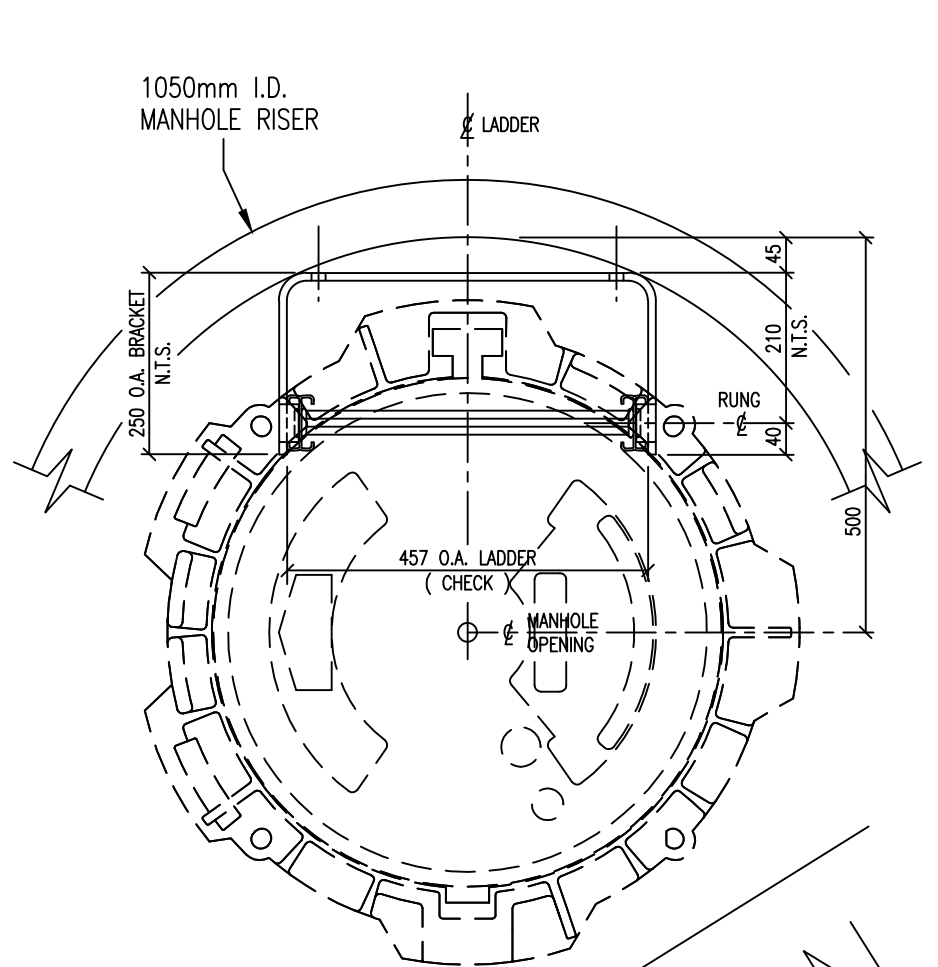
T. HAWKE	OPERATIONS
A. STEWART	ASSET MANAGEMENT



WATER RETICULATION STANDARD  
ALUMINIUM BRACKET FOR ACCESS LADDERS  
TYPICAL DETAILS

CAD FILE 2001979.103	DATE 11-11-08
ORIGINAL SCALE A1	CONTRACT No. -
AS SHOWN	
DRAWING No. 2001979	ISSUE -
.103	

USE ONLY



FOR DESIGN

FIXED LADDER SETOUT DETAILS

SCALE. 1:5 ( A1 )  
1:10 ( A3 )

NOTE

THIS DRAWING TO BE READ  
IN CONJUNCTION WITH DRAWINGS  
2001979.102 & .103

SAINT GOBAIN KORUM D400  
LID AND FRAME - (TYP.)  
NOTE:-  
WHEN INSTALLED IN THE ROAD  
THE HINGE IS TO FACE THE  
ONCOMING TRAFFIC FLOW  
REGARDLESS OF THE LADDER  
POSITION

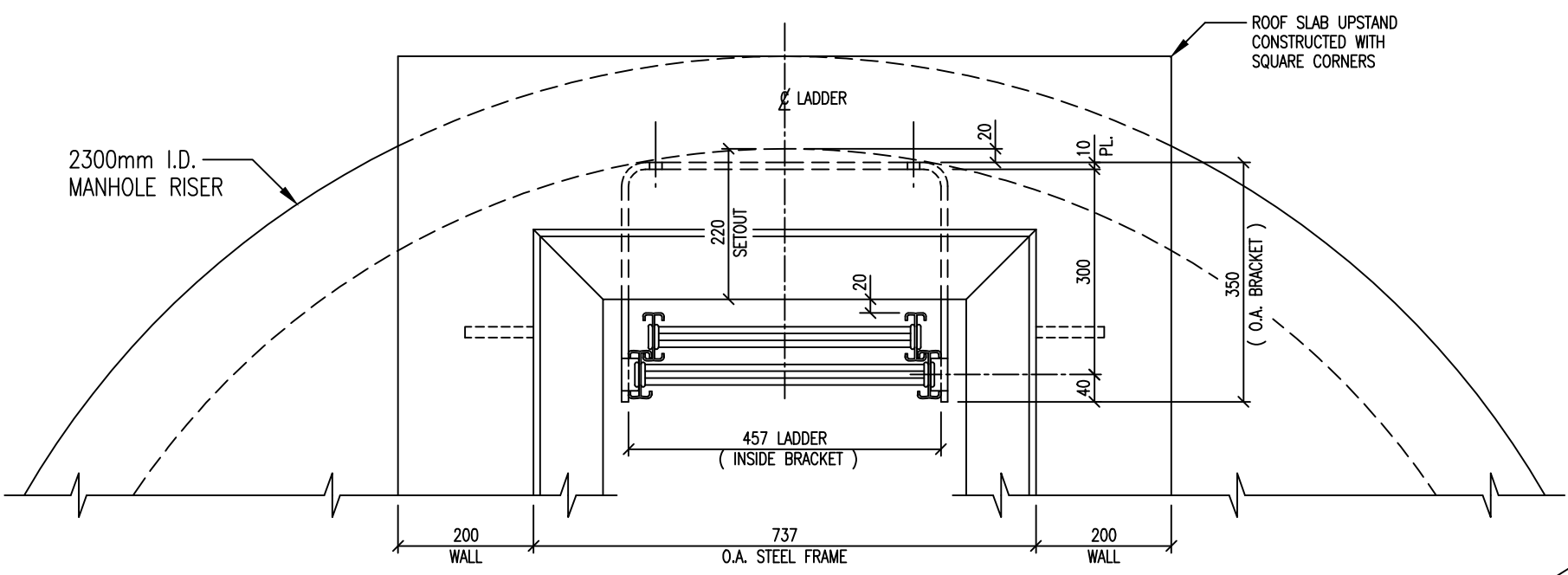
ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	J.P.	11:08	DES. CHECKED	T.C.	11:08	DRAWN	L.C.	11:08	DWG. CHECKED	I.M.	11:08	PROJECT LEADER	T.C.	11:08	AM APPROVED	A.S.	11:08
A	05-13	KORUM D400 LID AND FRAME USED	I.M.	T.C.																		
-	11:08	FOR CONSTRUCTION	L.C.	T.C.																		

M. BOURNE	OPERATIONS
A. STEWART	ASSET MANAGEMENT



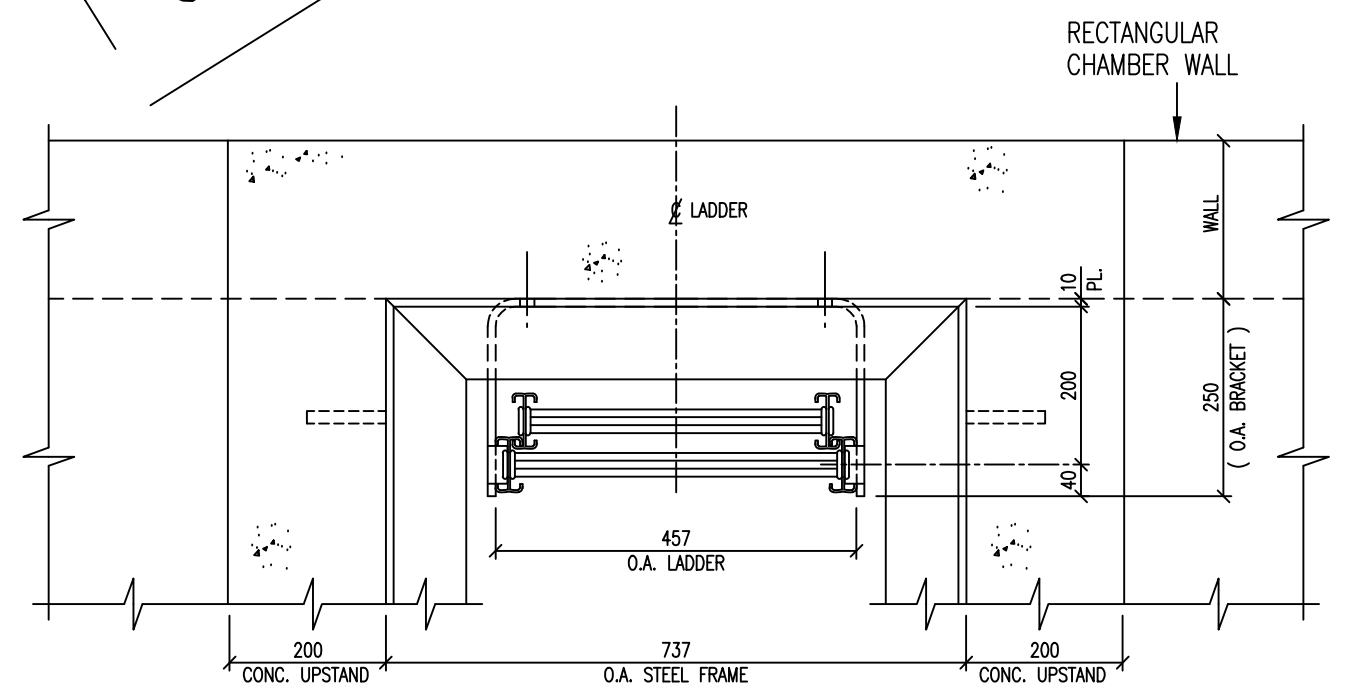
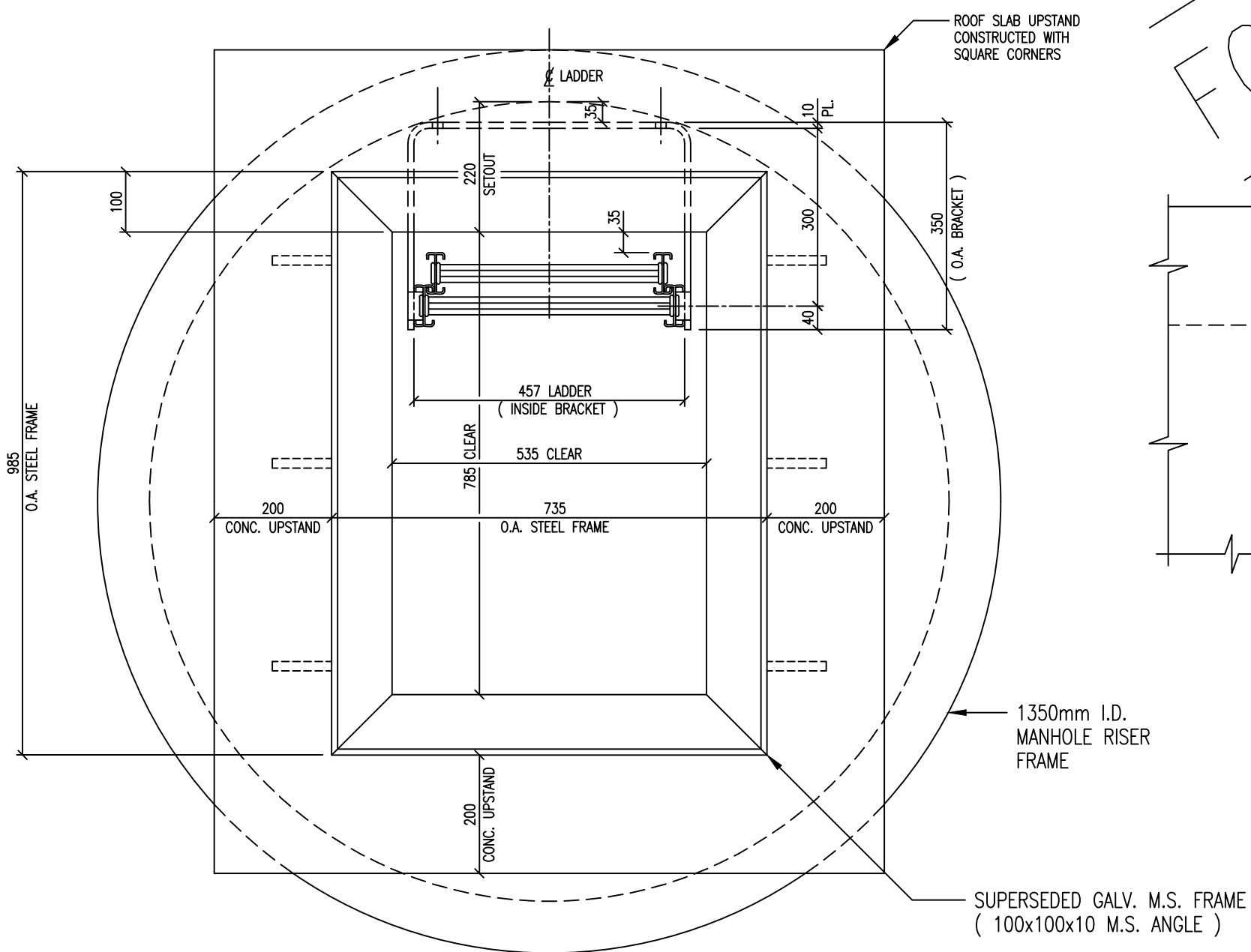
WATER RETICULATION STANDARD  
FIXED ALUMINIUM ACCESS LADDER  
DETAILS OF ACCESS LADDERS & LIDS

CAD FILE	2001979.104A	DATE	31-05-13
ORIGINAL SCALE	A1	CONTRACT No.	-
SCALE	1:5	DRAWING No.	2001979
		ISSUE	.104 A



FOR DESIGN USE ONLY

FOR STANDARD GALVANISED M.S. FRAME & LID



EXTENDABLE LADDER SETOUT DETAILS

SCALE: 1:5 ( A1 )  
1:10 ( A3 )

**NOTE**

THIS DRAWING TO BE READ  
IN CONJUNCTION WITH DRAWINGS  
2001979 .098 , .099 , .100  
.101 & .103

L:\EXISTING\GR\EGCAD\2008\STANDARD DWGS\2001979.105 .DWG

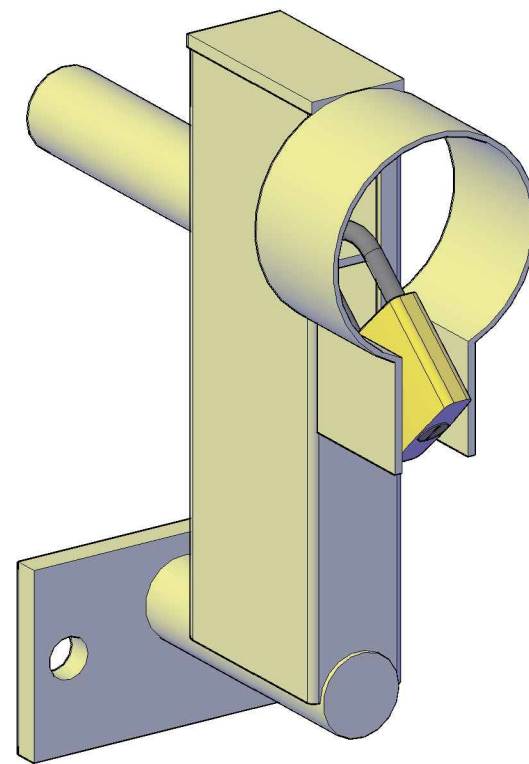
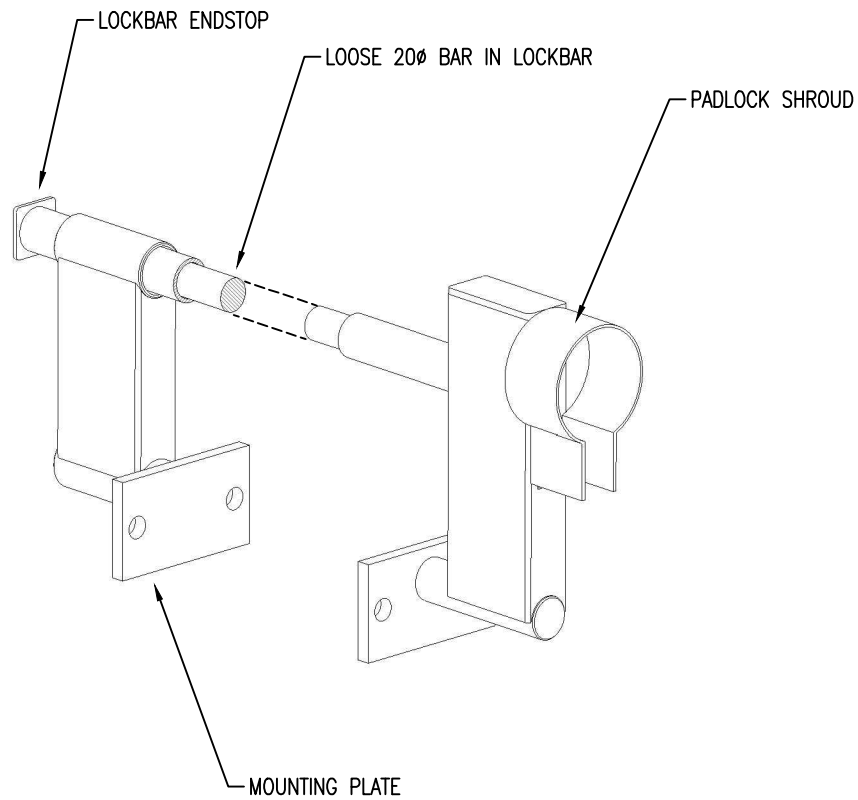
DESIGNED	J.P.	11:08		
DES. CHECKED	T.C.	11:08		
DRAWN	L.C.	11:08		
DWG. CHECKED	I.M.	11:08		
PROJECT LEADER	T.C.	11:08		
AM APPROVED	A.S.	11:08		
ISSUE	DATE	AMENDMENT	BY	APPD.
-	11:08	FOR CONSTRUCTION	L.C.	T.C.

M. BOURNE	OPERATIONS
A. STEWART	ASSET MANAGEMENT

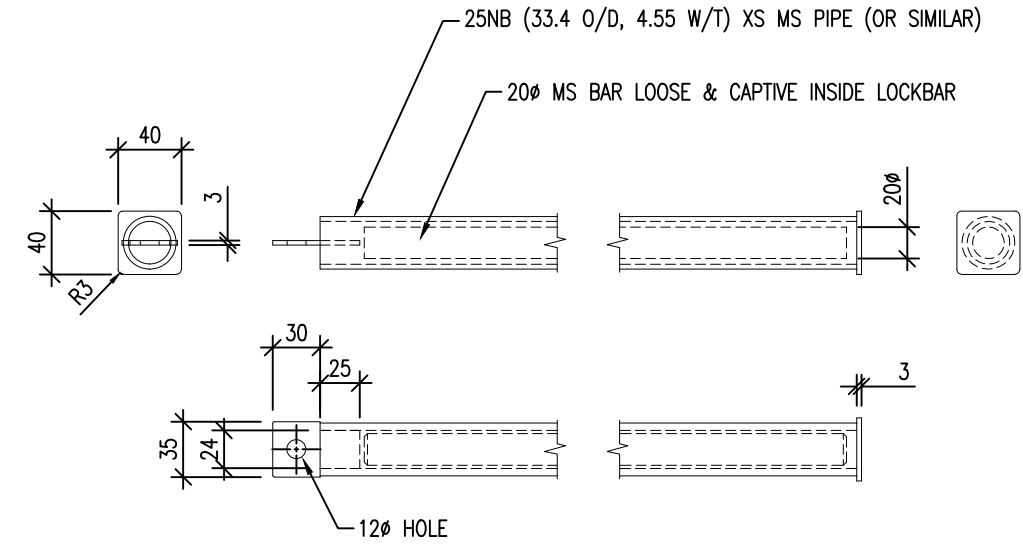
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WATER RETICULATION STANDARD  
EXTENDABLE ALUMINIUM ACCESS LADDER  
DETAIL OF GALVANISED MILD STEEL MANHOLE ACCESS FRAME

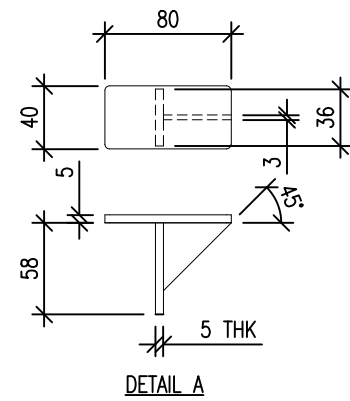
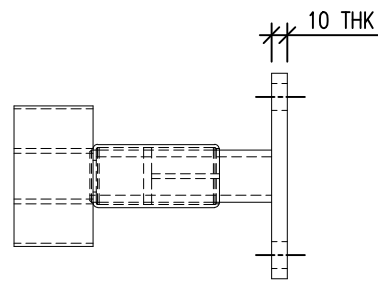
CAD FILE	2001979.105	DATE	11-11-08
ORIGINAL SCALE	A1	CONTRACT No.	-
	1:5		
DRAWING No.	2001979	ISSUE	-
	.105		



3D VIEW (WITH PADLOCK INSTALLED)  
SCALE NTS

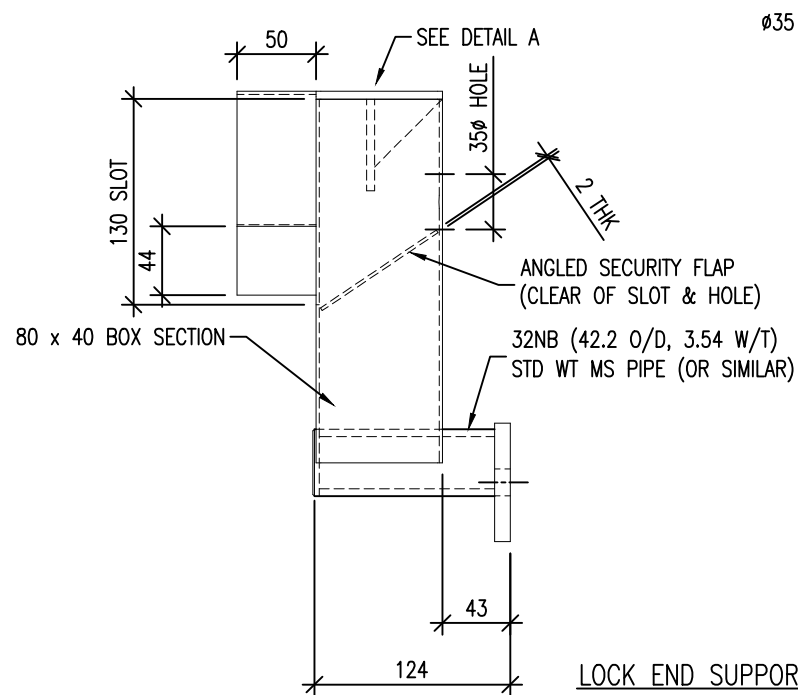
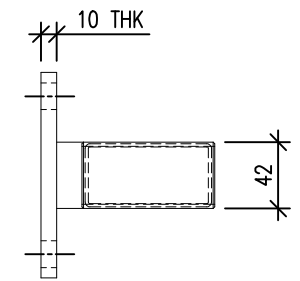


LOCKING ROD  
SCALE 1:5  
1 REQUIRED PER ASSY

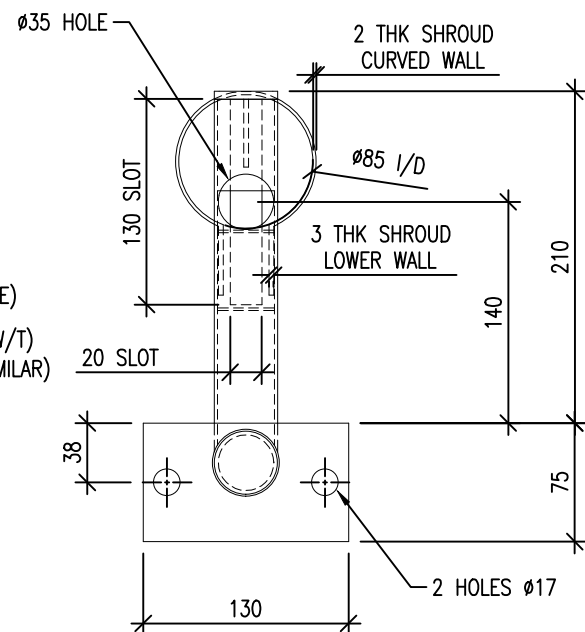


NOTES:

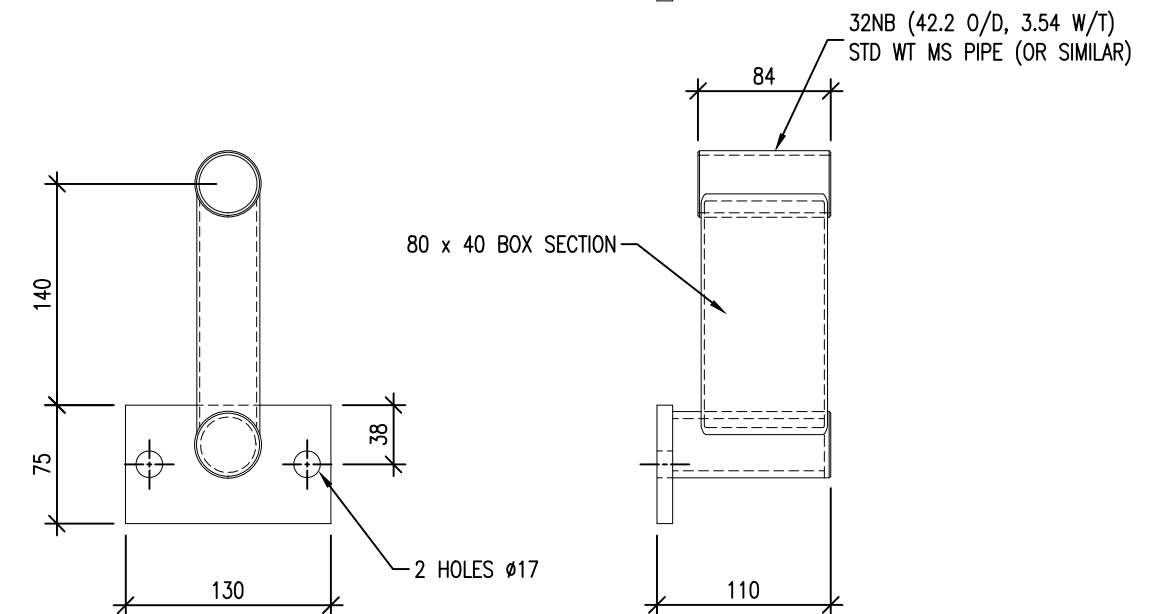
1. ALL MATERIAL MILD STEEL
2. ALL PARTS TO BE HOT DIP GALVANISED AFTER FABRICATION



LOCK END SUPPORT BRACKET  
SCALE 1:5  
1 REQUIRED PER ASSY



STOP END SUPPORT BRACKET  
SCALE 1:5  
1 REQUIRED PER ASSY



DESIGNED	DES. CHECKED	DES CHECK	9-09
DRAWN	G.B.	9-09	
DWG. CHECKED	I.M.	9-09	
PROJECT LEADER	PROJECT LEADER	9-09	
A.M. APPROVED	A.M. APPROVER	8-09	
ISSUE DATE	AMENDMENT	BY APPD.	DATE
9-10	CONSTRUCTION ISSUE	G.B. A.M.	

OPERATIONS	ASSET MANAGEMENT
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WATERCARE RETICULATION STANDARD  
HATCH COVER LOCKING BAR ASSEMBLY  
DETAILS

CAD FILE 2001979.123	DATE 14-9-10
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2001979 .123	ISSUE -