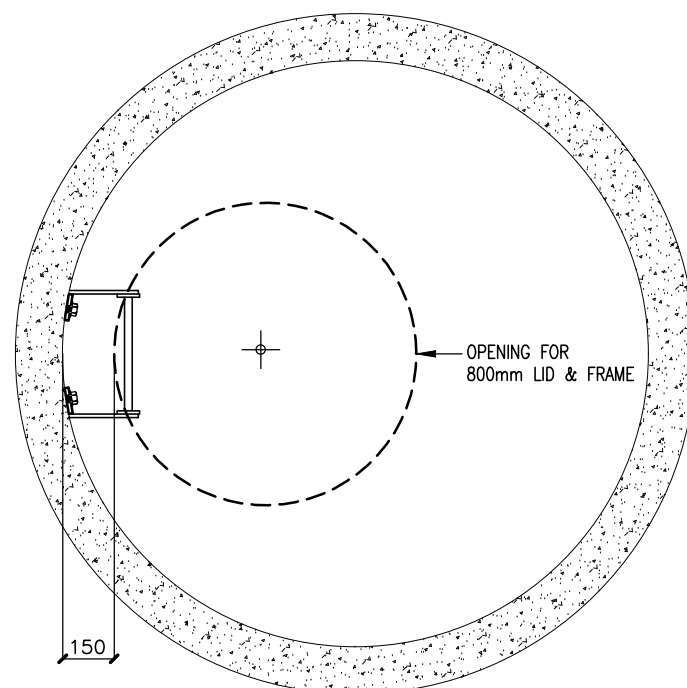
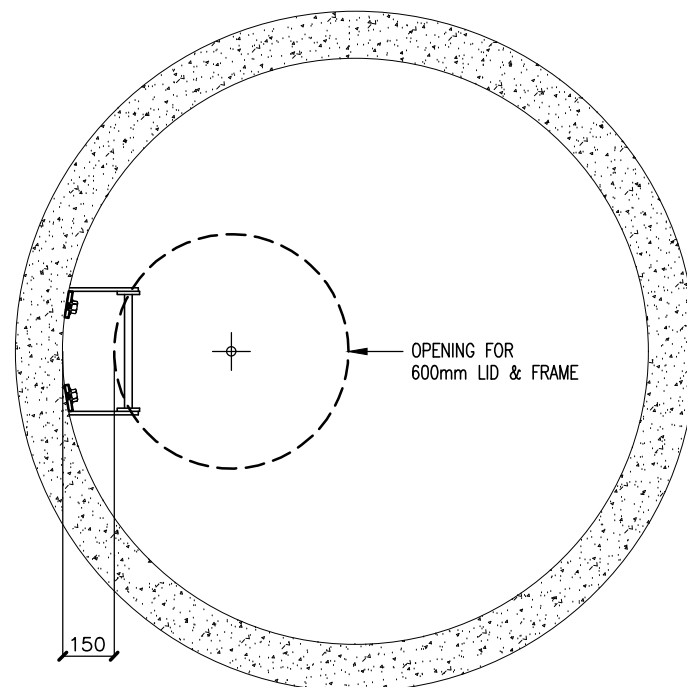


DRAWING INDEX: ACCESS STRUCTURE DRAWINGS FOR WASTEWATER INFRASTRUCTURE

DRAWING NO.	REVISION	DRAWING TITLE
2000244.003	G	STANDARD WASTEWATER MANHOLES COVER POSITIONS STEP IRONS AND LADDER DETAILS
2000244.015	E	STANDARD WASTEWATER CIRCULAR MANHOLE FOR LINES 375 NB TO 900 NB PLATFORM DETAIL FOR 1500 DIA MANHOLE
2000244.029	A	STANDARD WASTEWATER CIRCULAR MANHOLE POLYETHYLENE PIPE DN355 TO DN1000 LADDER CONSTRUCTION DETAILS
2000244.030	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM NB TO 900MM NB PLATFORM LAYOUT AND DETAILS FOR 1950MM I.D. MANHOLE RISER
2000244.031	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM N.B. TO 900MM N.B. PLATFORM DETAILS FOR 1950MM DIAMETER MANHOLE RISER
2000244.032	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM N.B. TO 900MM N.B. PLATFORM LAYOUT AND DETAILS FOR 2300MM DIAMETER MANHOLE RISER
2000244.033	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM N.B. TO 900MM N.B. PLATFORM DETAILS FOR 2300MM DIAMETER MANHOLE RISER
2000244.034	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM N.B. TO 900MM N.B. PLATFORM LAYOUT AND DETAILS FOR 2550MM DIAMETER MANHOLE RISER
2000244.035	A	STANDARD WASTEWATER CIRCULAR MANHOLES FOR LINES 375MM N.B. TO 900MM N.B. PLATFORM DETAILS FOR 2550MM DIAMETER MANHOLE RISER
2000244.043	B	STANDARD WASTEWATER TRANSMISSION MANHOLES WITH FRAMES AND LIDS LID ORIENTATION LADDER POSITION AND LAYOUT DETAILS
2000244.044	A	STANDARD WASTEWATER TRANSMISSION MANHOLES WITH FRAMES AND LIDS LID DIMENSIONS MANHOLE LID AND FRAME RAISING DETAILS
2000244.046	A	STANDARD WASTEWATER STAINLESS STEEL LADDER EXTENSION ELEVATION SECTION AND DETAILS
2000244.047	A	STANDARD PIPE BRIDGE SAFETY BARRIERS DIAGRAMMATIC VIEWS SHEET 1 OF 3
2000244.048	A	STANDARD PIPE BRIDGE SAFETY BARRIERS DETAILS SHEET 2 OF 3
2000244.049	A	STANDARD PIPE BRIDGE SAFETY BARRIERS DETAILS SHEET 3 OF 3
2003160.001	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER OVERALL LAYOUT AND COMPONENT LIST
2003160.002	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - ASSEMBLY DETAILS
2003160.003	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - FRAME AND DETAILS
2003160.004	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - COVER AND DETAILS
2003160.005	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - HINGE AND CLAMP DETAILS
2003160.006	C	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - STAYS DETAILS

DRAWING NO.	REVISION	DRAWING TITLE
2003160.007	B	WASTEWATER RETICULATION STANDARD ACCESS HATCH UPPER - STAYS DETAILS SHEET 2
2003160.008	A	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER - INSTALLATION DIMENSIONS
2003160.009	A	WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER WITH SAFETY GRILLE GENERAL ASSEMBLY
2000244.051	A	AIR VALVE AND CHAMBER DETAILS (ON-LINE)
2000244.052	A	AIR VALVE AND CHAMBER DETAILS (OFF-LINE)
2000244.053	A	SCOUR VALVE CHAMBER
2000244.054	A	PIPE GUIDES FOR DN200 TO DN600 PIPELINES
2000244.055	A	PIPE BRIDGE EXAMPLE - PLAN AND ELEVATION, PIPE CAMBER
2000244.056	A	PIPE BRIDGE - PIPE SUPPORT SLIDING SADDLE EXAMPLE - SECTIONS AND DETAILS
2000244.057	A	PIPE BRIDGE - FIXED SADDLE & SECTIONS AND DETAILS

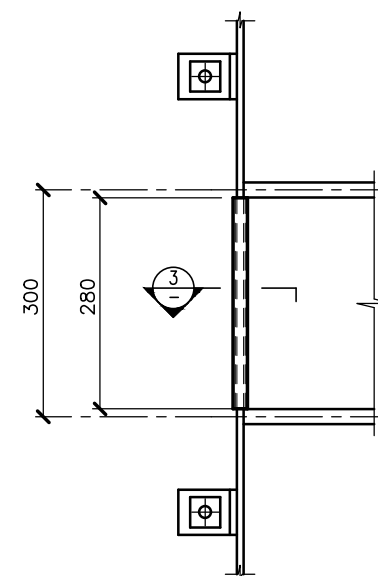
1. ALL SHARP EDGES ON STEELWORK TO BE GROUND OFF.
2. LADDER STEELWORK TO BE HOT DIPPED GALVANISED AFTER FABRICATION.
3. TOP RUNG TO BE AT FLOOR LEVEL WHEN STEPPING OFF FLOORS OR PLATFORMS.
4. LADDERS SHOULD BE COMPLIANT WITH AS 1657.
5. LADDER LENGTH MAX. 10 RUNGS MIN. 3 RUNGS. USE LADDER JOINING TUBES FOR LARGER LADDERS.
6. ORKOT TOP HAT OR APPROVED EQUIVALENT TO BE USED BETWEEN NUT AND FLAT WASHER
7. ALL STAINLESS STEEL COMPONENTS TO BE GRADE 316
8. 60x70 FL. CLEAT IS ON INSIDE OF STRINGER BRACKET FOR CIRCULAR MANHOLE RISER
9. REFER TO MATERIAL SUPPLY STANDARD FOR ACCEPTABLE COVERS.



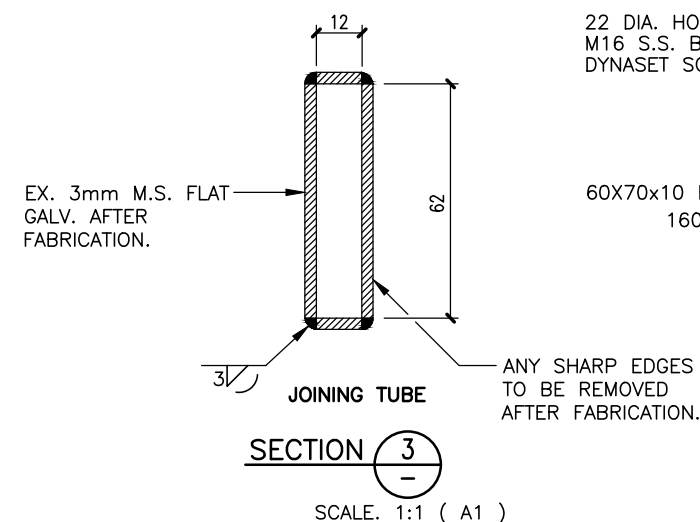
20 DIA BAR PASSING THROUGH STRINGERS

RUNG DETAIL
SCALE FULL SIZE (A1)

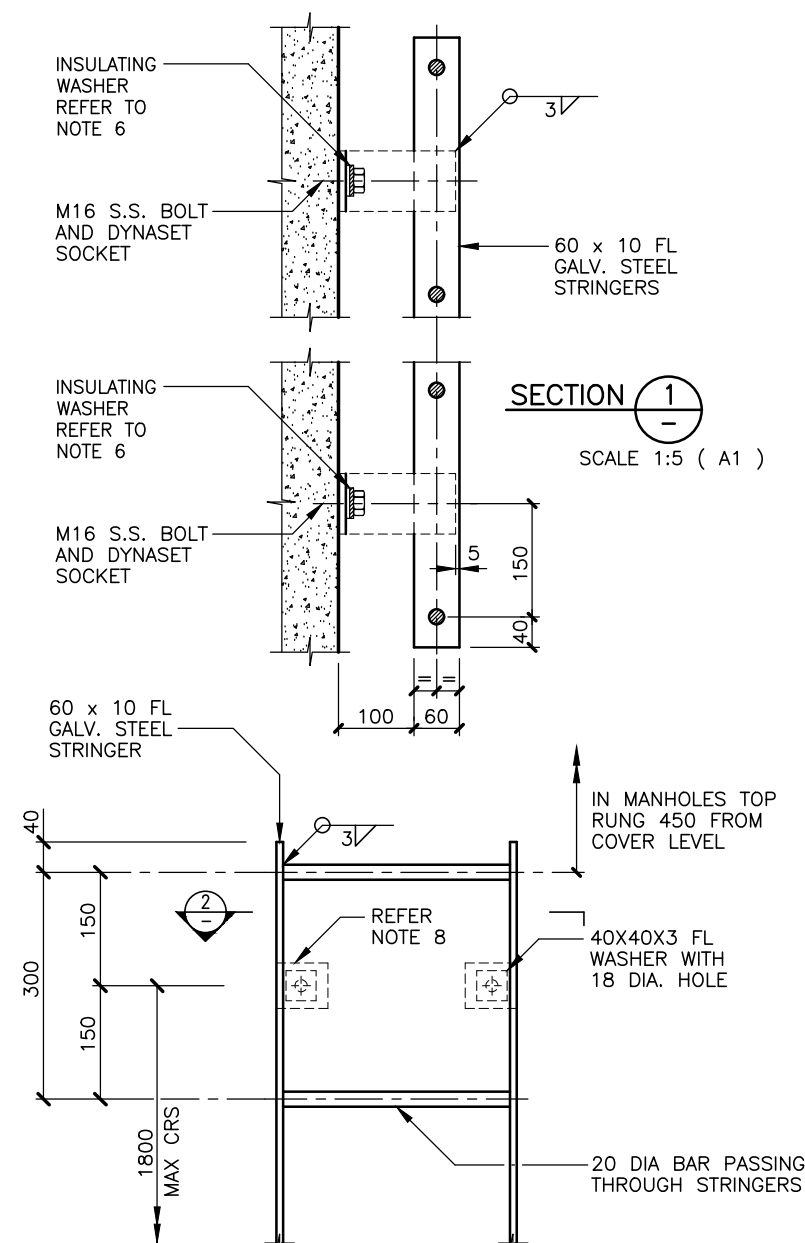
NOTE:
STRINGER TO BE NEAT DRILLED
FOR RUNG TO PASS THROUGH



LADDER JOINING TUBE DETAIL

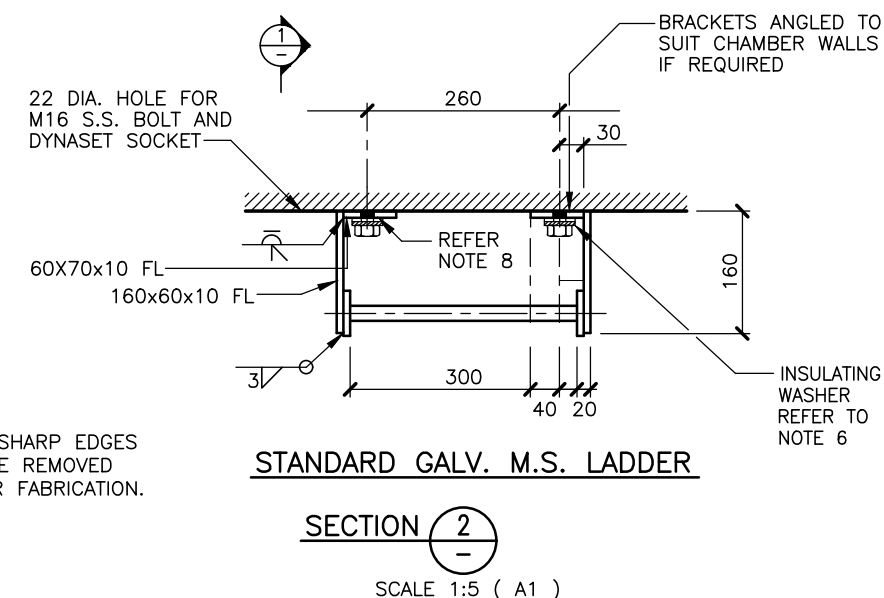


SECTION 3
—
SCALE. 1:1 (A1)



SECTION 1
—

SCALE 1:5 (A1)



STANDARD GALV. M.S. LADDER

SECTION 2

SCALE 1:5 (A1)

G	5-25	CIRCULAR MANHOLE & GENERAL REVISION	F.F.	P.H.	DESIGNED			J. PIGGOT This drawing, the design and concept, remain the exclusive property of Watercare Services Limited and may not be used without approval Copyright reserved.
F	4-13	JOINT TUBE DETAIL & GENERAL REVISION	L.C.	C.H.	DES. CHECKED	B. MILLER	06/92	
E	6-12	STANDARD FRAME & LID DETAIL UPDATED	I.M.	C.H.	DRAWN	I. MOSES	06/92	
D	2-06	FRAME & COVER FIXING AND NOTES	I.M.	B.M.	DWG. CHECKED	I.M.M.	06/92	
C	03:05	LADDER DETAILS CORRECTED	I.M.		PROJECT LEADER	D. McCANN	06/92	
B	05:01	LADDER JOINING DETAIL AND COVERS AMEND'D	P.R.		SECTION HEAD			A. DEUTSCHLE This drawing, the design and concept, remain the exclusive property of Watercare Services Limited and may not be used without approval Copyright reserved.
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE	



Watercare

STANDARD WASTEWATER MANHOLES

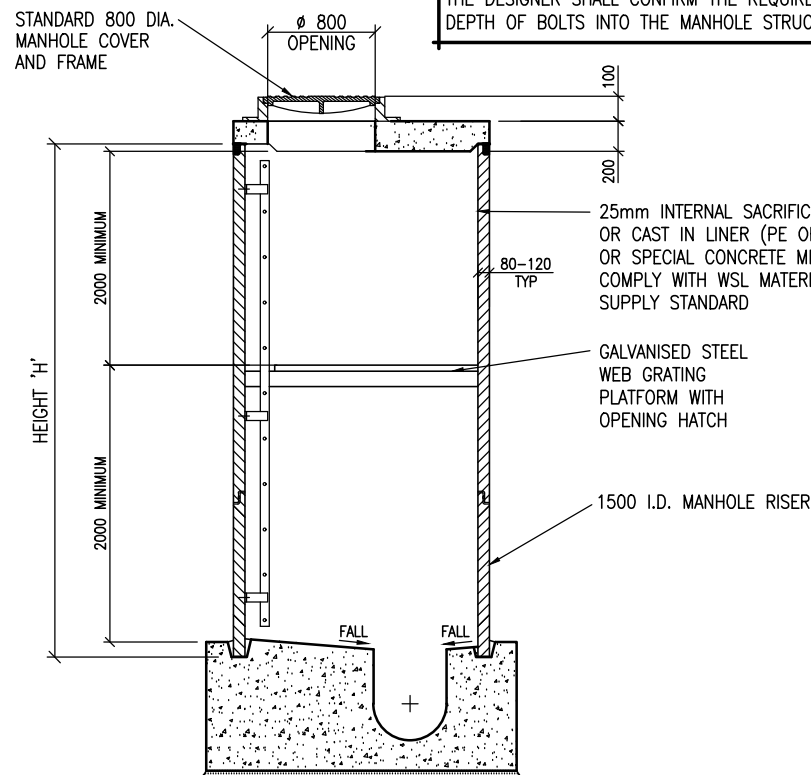
COVER POSITIONS AND LADDERS

DETAILS

CAD FILE 2000244.003G		DATE 23-05-25	
ORIGINAL SCALE A1		CONTRACT No.	
AS SHOWN		-	
DRAWING No.		ISSUE	
2000244 .003		G	

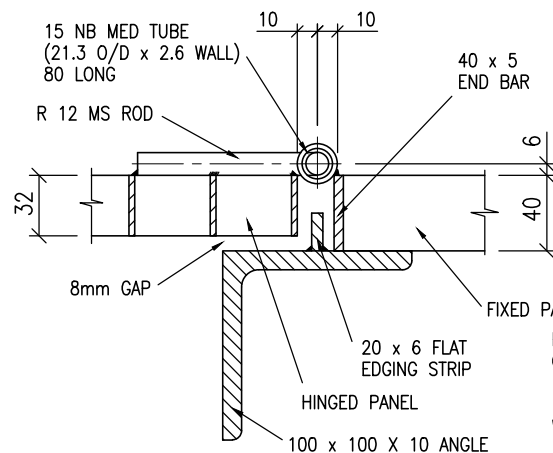
NOTES

1. MANHOLE PLATFORMS TO BE INSTALLED WHERE H > 6m (IN LINE WITH AS 1657)
2. ALLOWABLE PLATFORM LOAD = 500kg
3. FIXING MATERIALS NEED TO BE ISOLATED WHERE GALVANIC CORROSION CAN OCCUR
3. WHERE PLATFORMS ARE REQUIRED, MANHOLES WITH A WALL THICKNESS GREATER THAN 100MM SHALL BE USED. THE DESIGNER SHALL CONFIRM THE REQUIRED EMBEDMENT DEPTH OF BOLTS INTO THE MANHOLE STRUCTURE.



SECTION THROUGH MANHOLE
SCALE: 1:50

NOTE :- ALL M.S. ITEMS TO BE HOT DIP GALVANISED AFTER FABRICATION

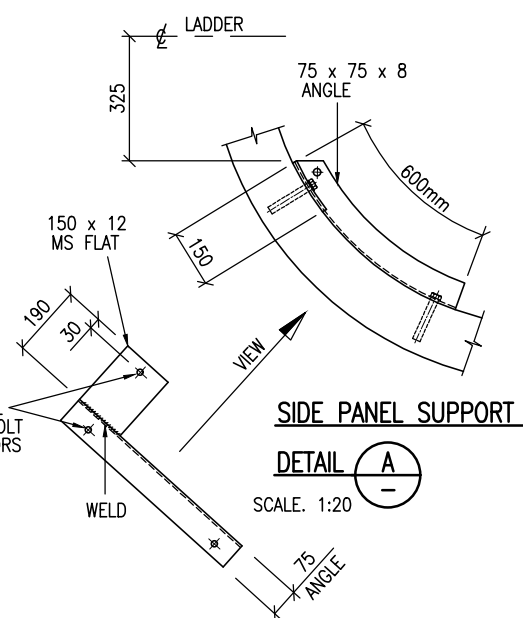


HINGE DETAIL

SECTION 1
SCALE: 1:4

PREVENT GALVANIC CORROSION
REFER TO APPROVED WEB GRATING IN MATERIAL STANDARD

100 x 100 x 10 ANGLE

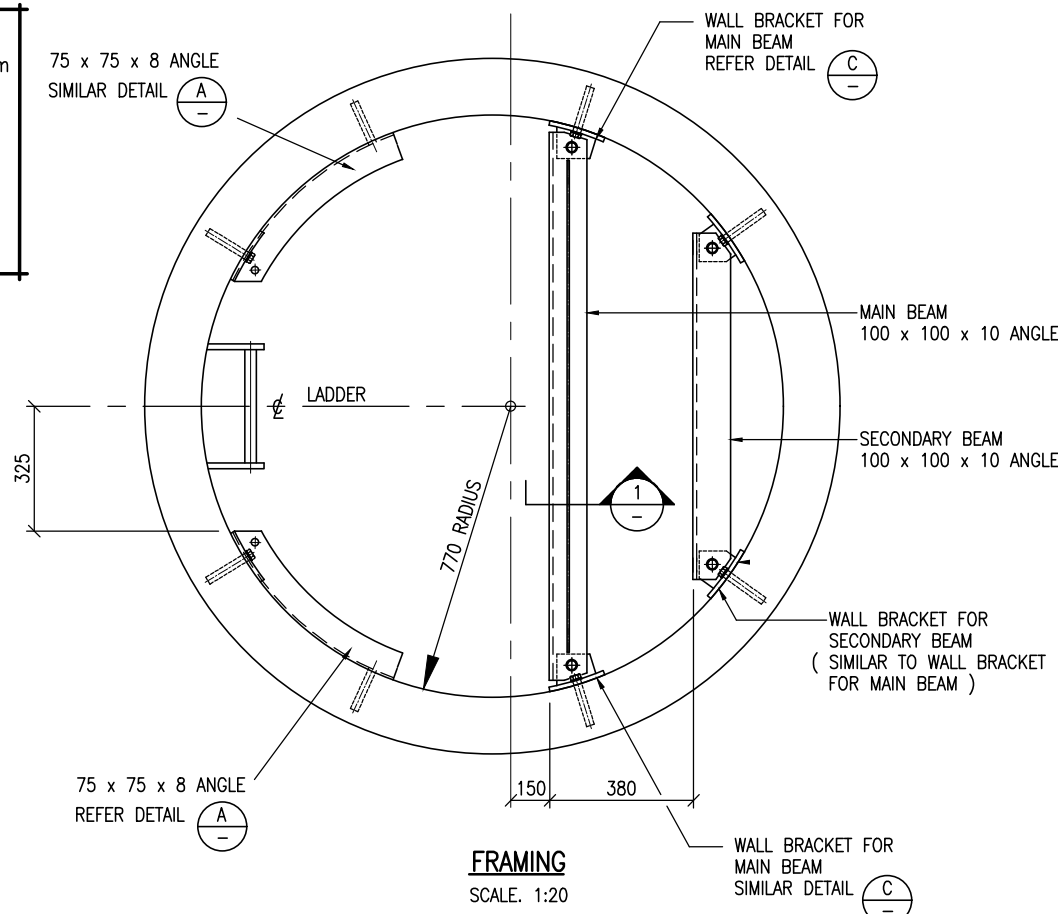


SIDE PANEL SUPPORT

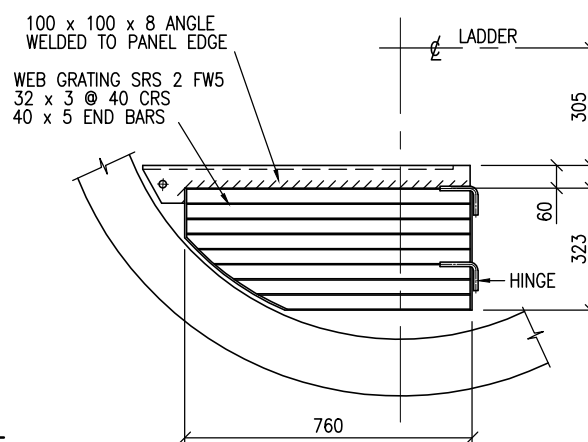
DETAIL A
SCALE: 1:20

FIXING CLIP DETAIL

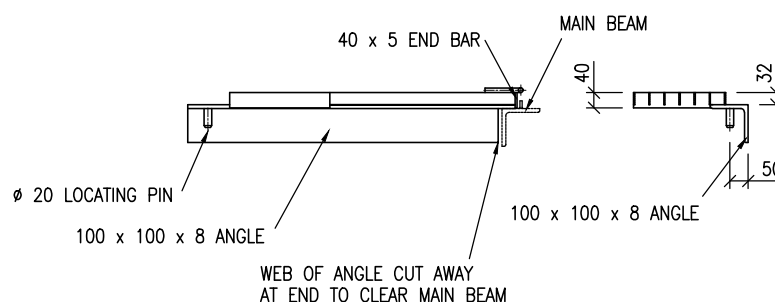
SCALE: 1:4



FRAMING
SCALE: 1:20

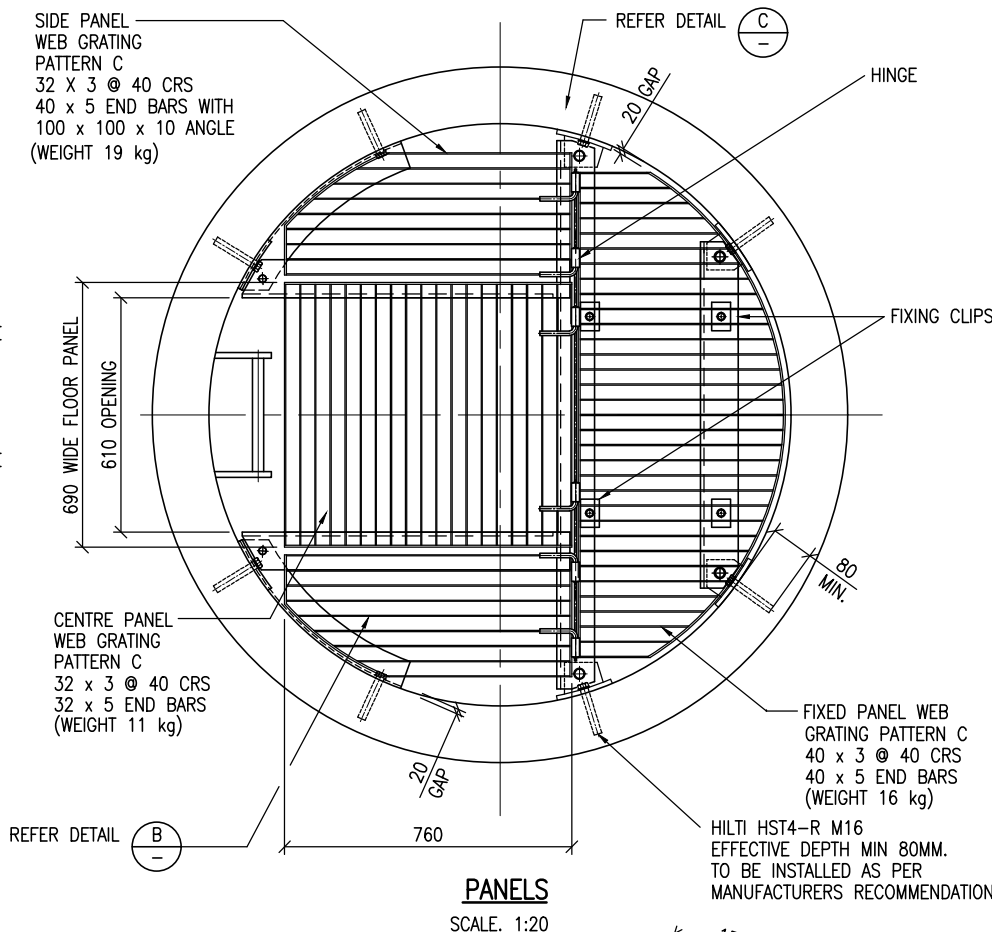


DETAIL B
SCALE: 1:20

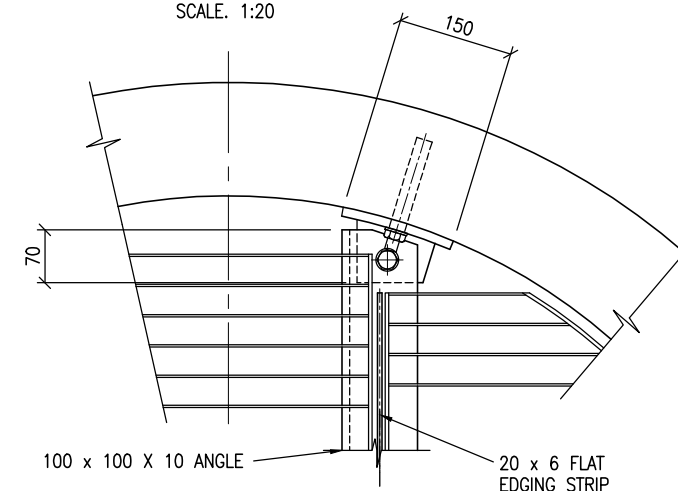


SIDE PANEL DETAIL

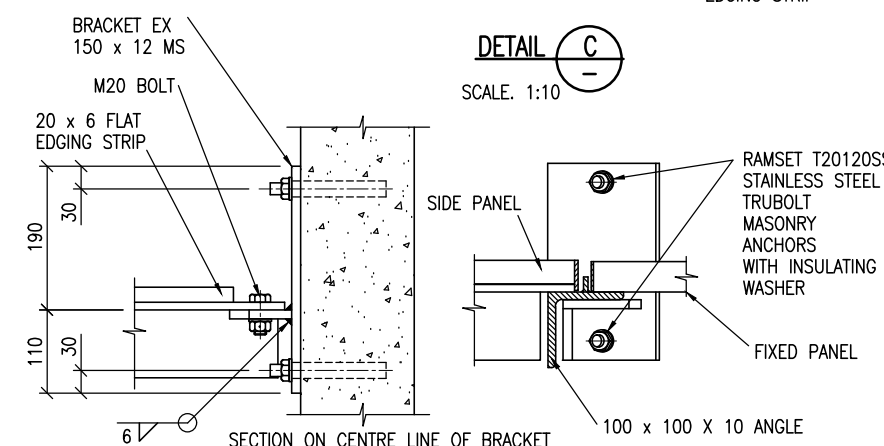
SCALE: 1:20



PANELS
SCALE: 1:20



DETAIL C
SCALE: 1:10



MAIN BEAM SUPPORT BRACKET

SCALE: 1:10

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
E	05-25	OPENING DIMENSIONS & GENERAL REVISION	F.F.	P.H.	DESIGNED	C. RODIFFE 11-01
D	9:10	OPENING DIMENSIONS REVISED	L.C.	C.R.	DES. CHECKED	D. McCANN 11-01
C	5:10	FRAMING AND FIXING ANCHORS REVISED	L.C.	C.R.	DRAWN	I.M. & L.C. 11-01
B	11:09	MH LID DIMENSION & PLATFORM NOTE ADDED	G.B.	B.M.	DWG. CHECKED	I. MOSES. 11-01
A	1:03	OPENING WIDTH ALTERED AND NOTES ADDED	L.C.	C.R.	PROJECT LEADER	C. RODIFFE 11-01
					A.D. APPROVED	A. KENNARD 11-01

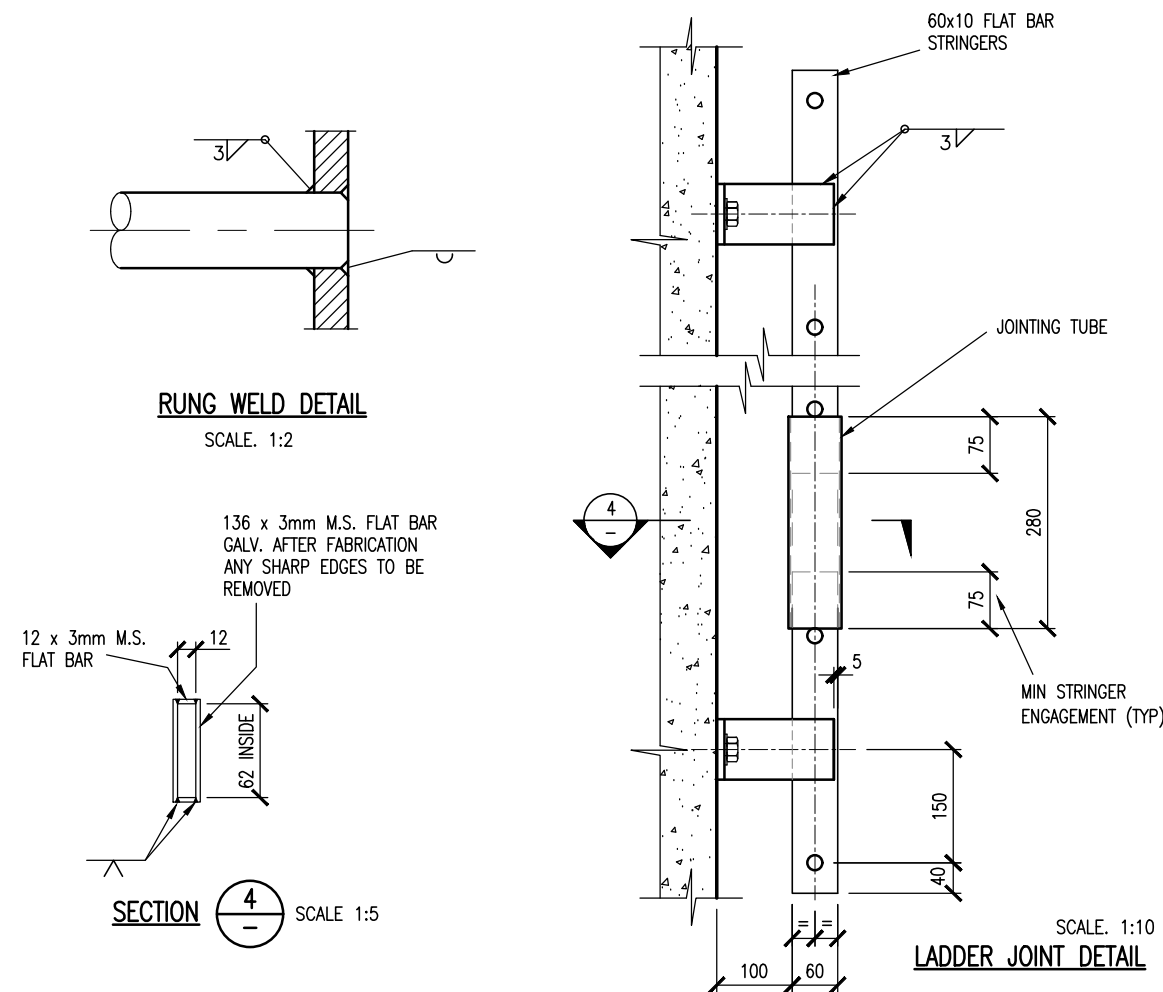
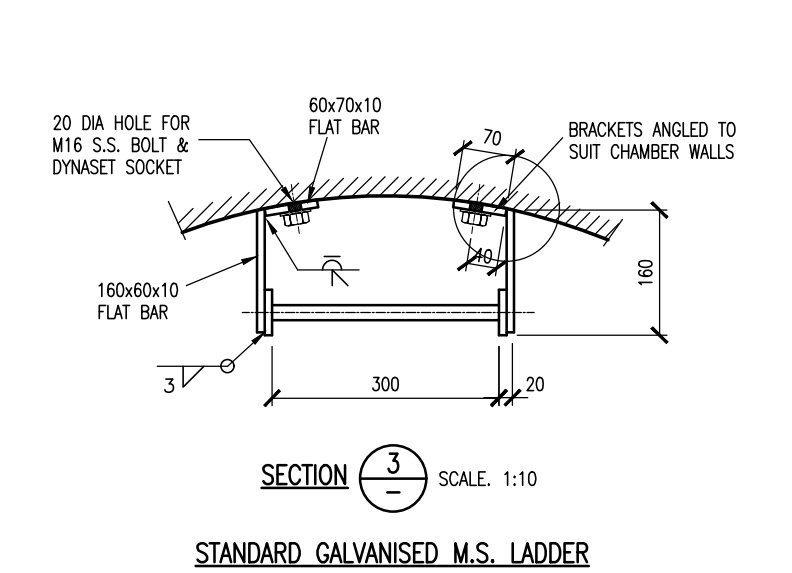
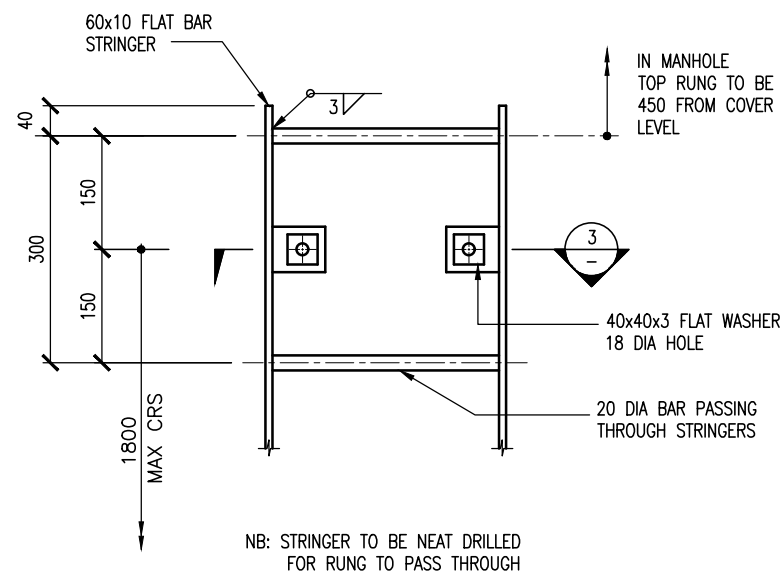
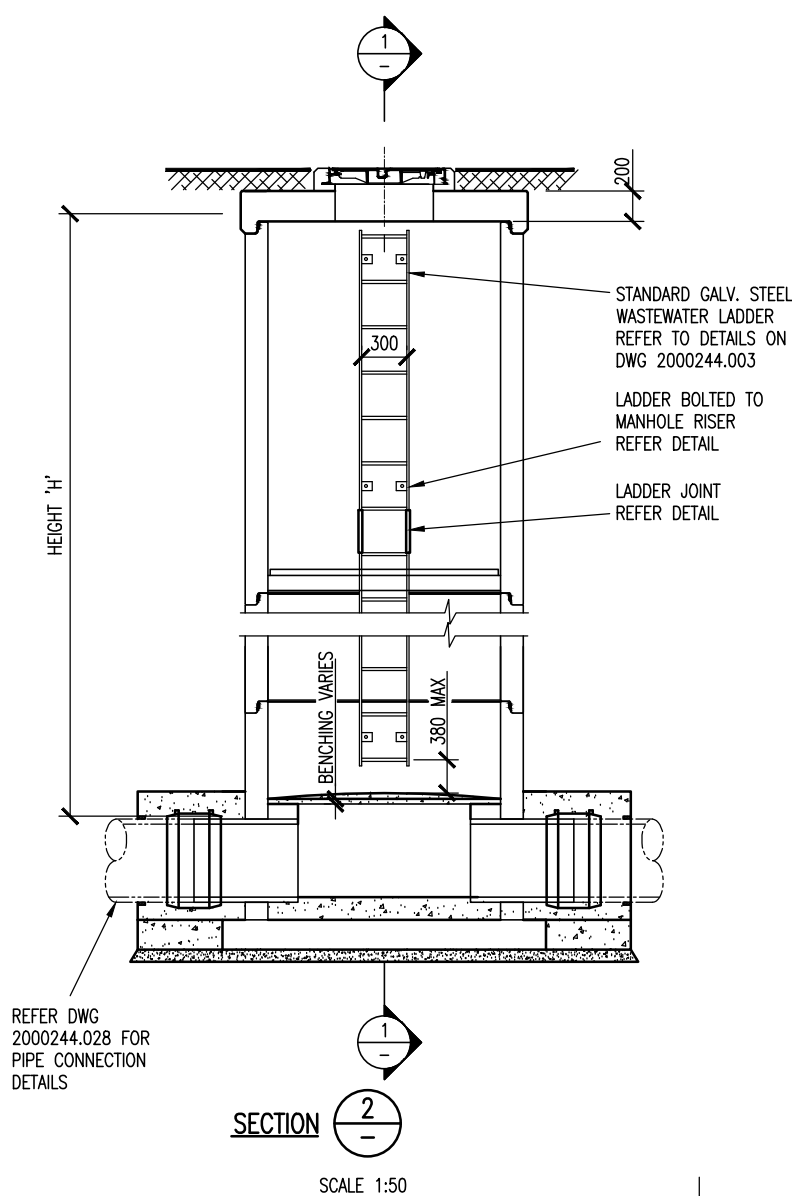
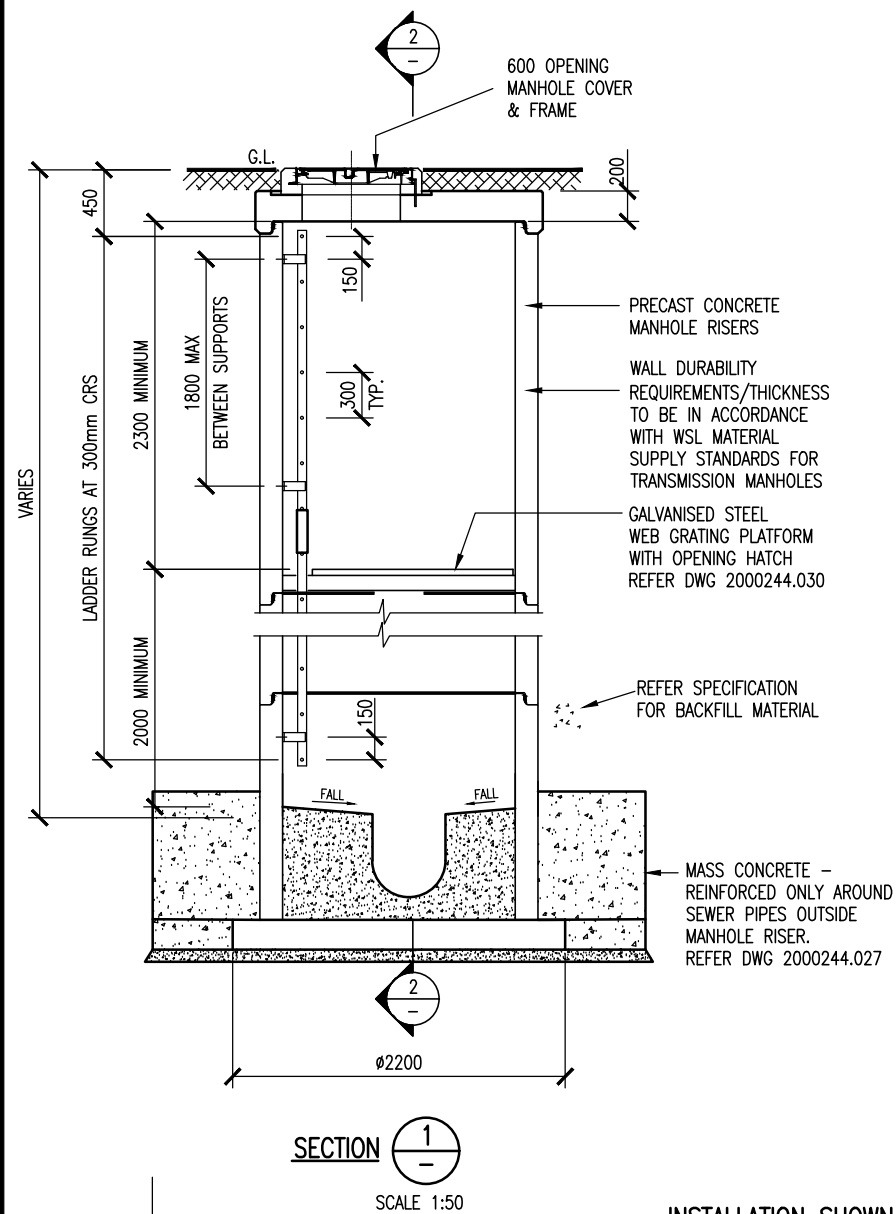
J. PIGGOT	OPERATIONS: HEAD OF WASTEWATER
A. DEUTSCHLE	PLANNING: HEAD OF WASTEWATER

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PLATFORM DETAILS FOR Ø1500 MANHOLE

CAD FILE 2000244.015E	DATE 23-05-25
ORIGINAL SCALE A3	CONTRACT No.
AS SHOWN	-
DRAWING No. 2000244	ISSUE E
.015	

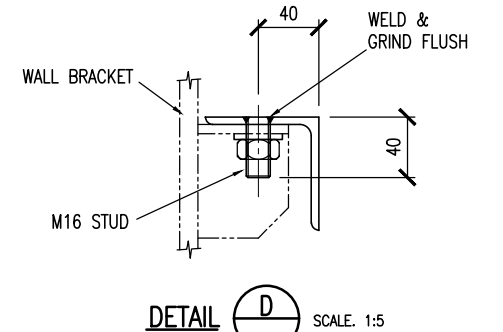
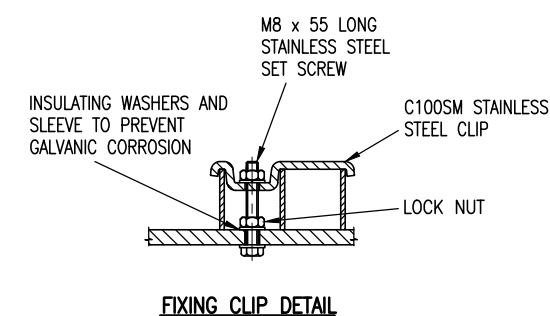
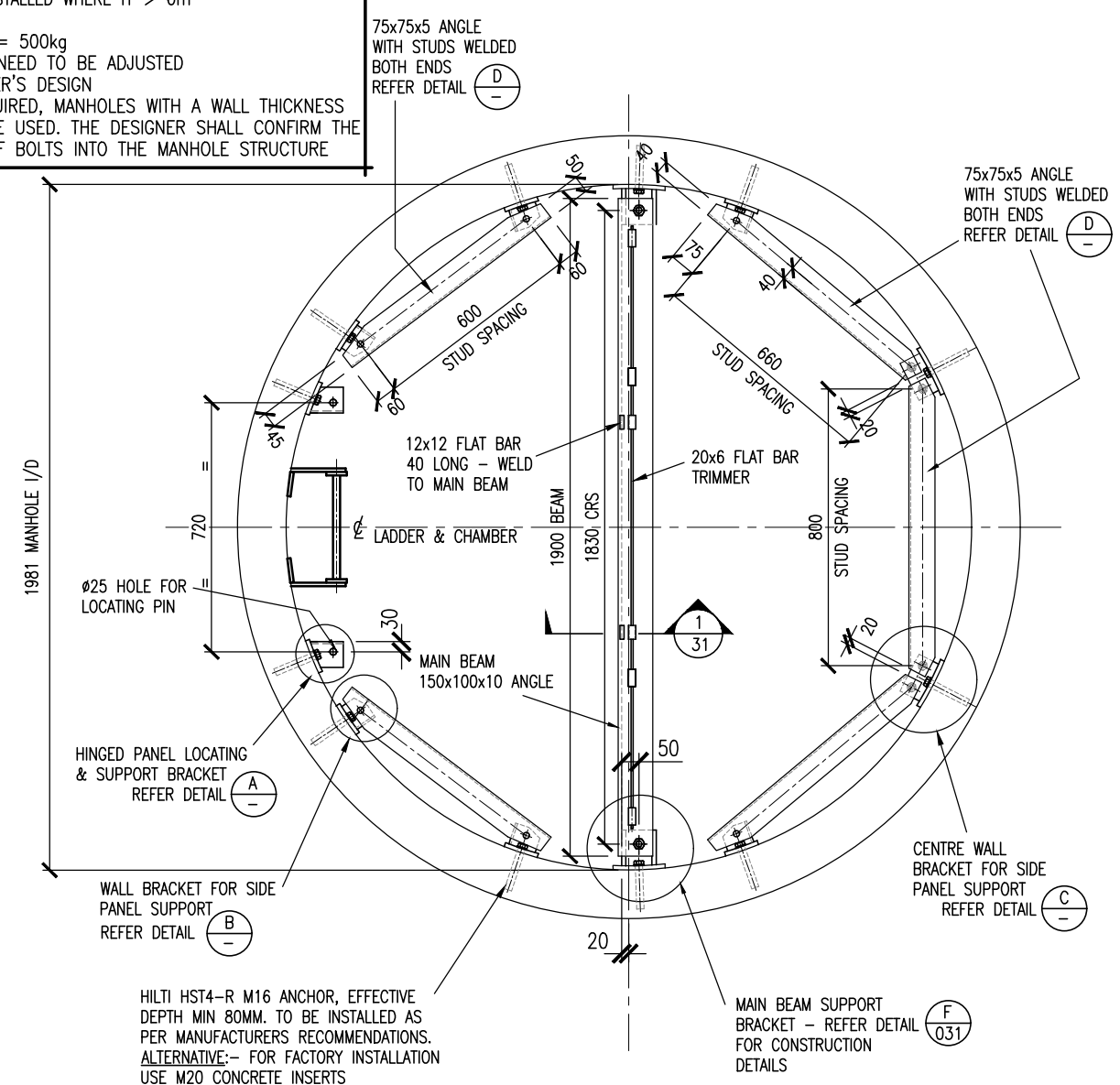
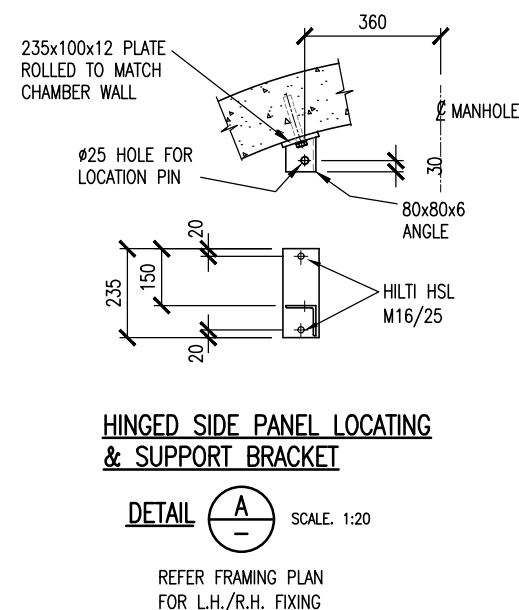
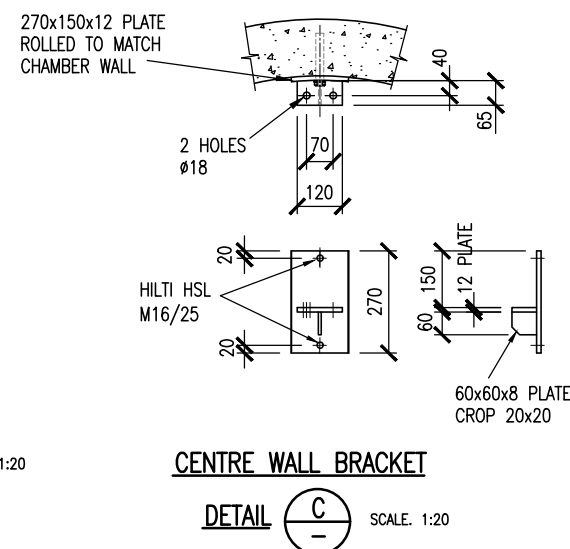
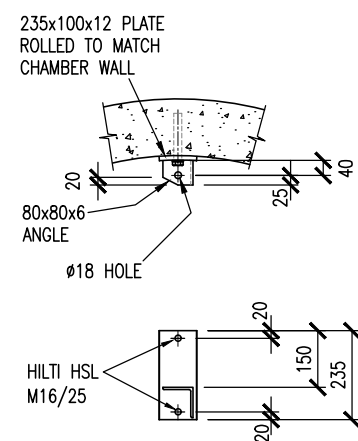
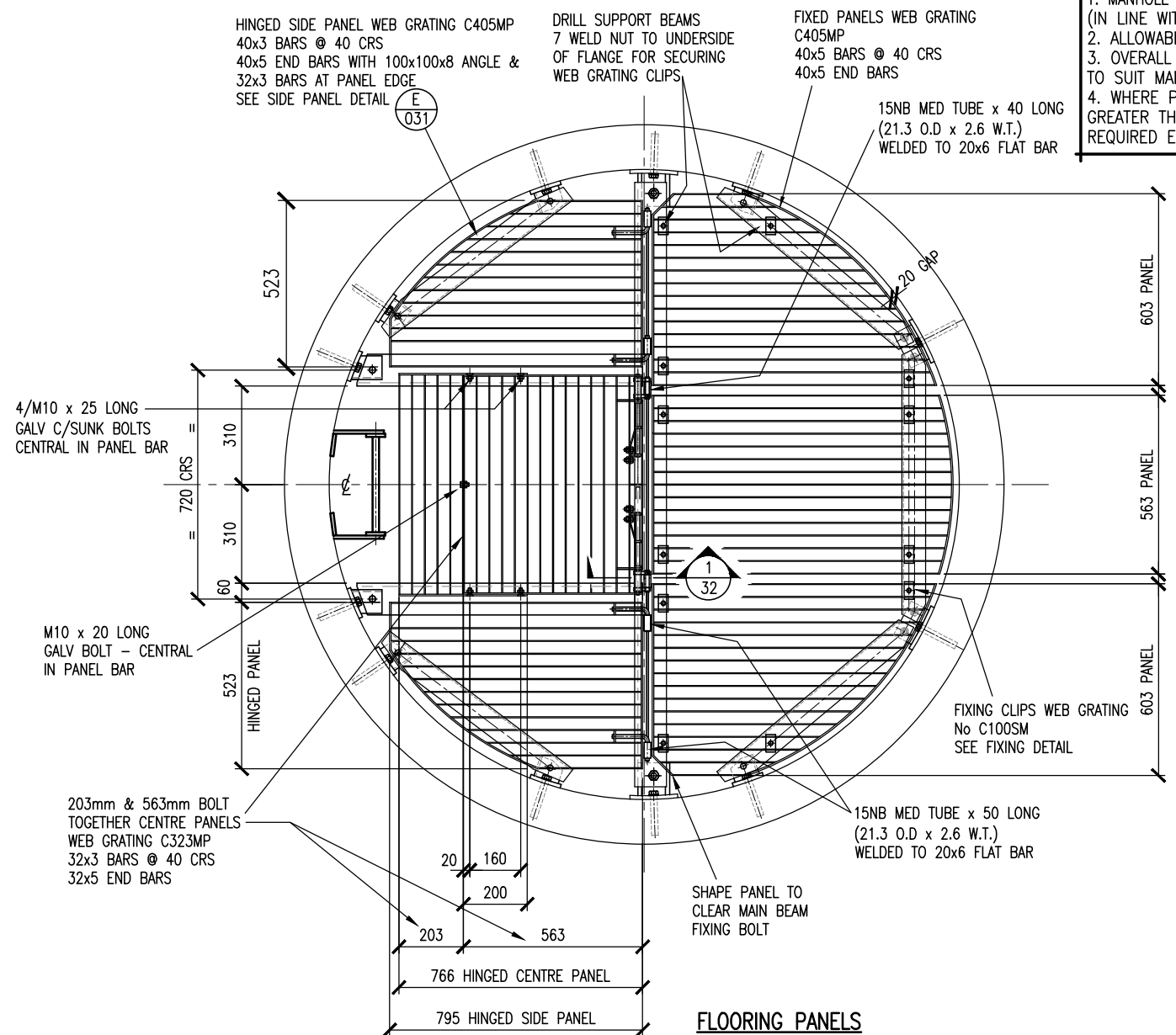


NOTES

1. ALL SHARP EDGES ON STEELWORK TO BE GROUND OFF.
2. ALL STEELWORK TO BE HOT DIPPED GALVANISED AFTER FABRICATION.
3. TOP RUNG TO BE AT FLOOR LEVEL WHEN STEPPING OFF FLOORS OR PLATFORMS.
4. REFER TO WATERCARE MATERIAL SUPPLY STANDARD FOR ALL APPROVED STEP IRONS, CAST IRON FRAMES AND COVERS.
5. MAX. LENGTH OF LADDER SECTION 3m (11 RUNGS). FOR GREATER LENGTHS USE LADDER JOINING TUBES AS DETAILED.
6. PRECAST MANHOLES CAN BE USED UP TO A DEPTH OF 10m. APPROVAL FROM WATERCARE IS REQUIRED FOR MANHOLES DEEPER THAN 10m. REFER TO WATERCARE MATERIAL SUPPLY STANDARD FOR ALL APPROVED TRANSMISSION PRECAST MANHOLES.
7. TOP RUNG TO BE MAX. 450MM FROM TOP OF MANHOLE COVER.
8. BOTTOM RUNG TO BE MAX. 380MM ABOVE LANDING.

						DESIGNED	J. GRAHAM	09/11	J. PIGGOT		WASTEWATER TRANSMISSION STANDARD – CIRCULAR MANHOLES FOR POLYETHYLENE PIPES DN355 TO DN1000 LADDER CONSTRUCTION DETAILS	CAD FILE 2000244.029		DATE 23-05-25	
						DES. CHECKED	P. GOWANS					ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. –	
						DRAWN	N. SMITH	09/11				REF No.		ISSUE	
						DWG. CHECKED	J. GRAHAM	09/11				DWG No. 2000244.029		A	
A	05–25	MINOR UPDATES AND REMOVAL OF SEAL DETAIL			F.F.	P.H.	PROJECT LEADER		A. DEUTSCHLE	COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.					
–	09–11	APPROVED FOR ISSUE			G.S.	J.G.	INFRASTR APP'D		PLANNING: HEAD OF WASTEWATER						
ISSUE	DATE	AMENDMENT			BY	APPD.									

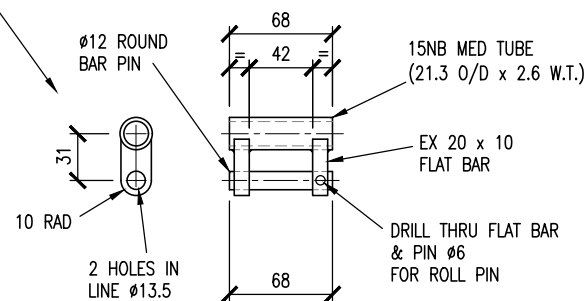
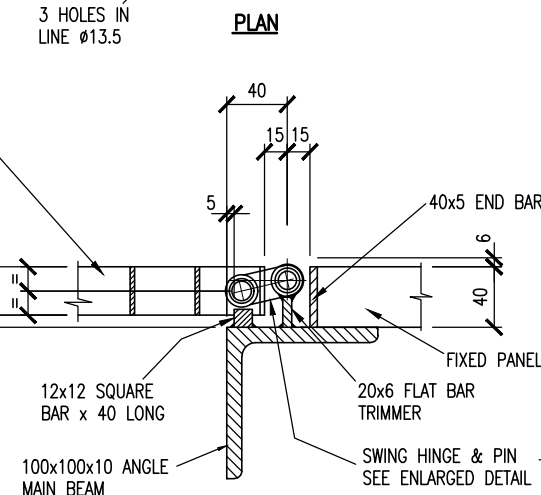
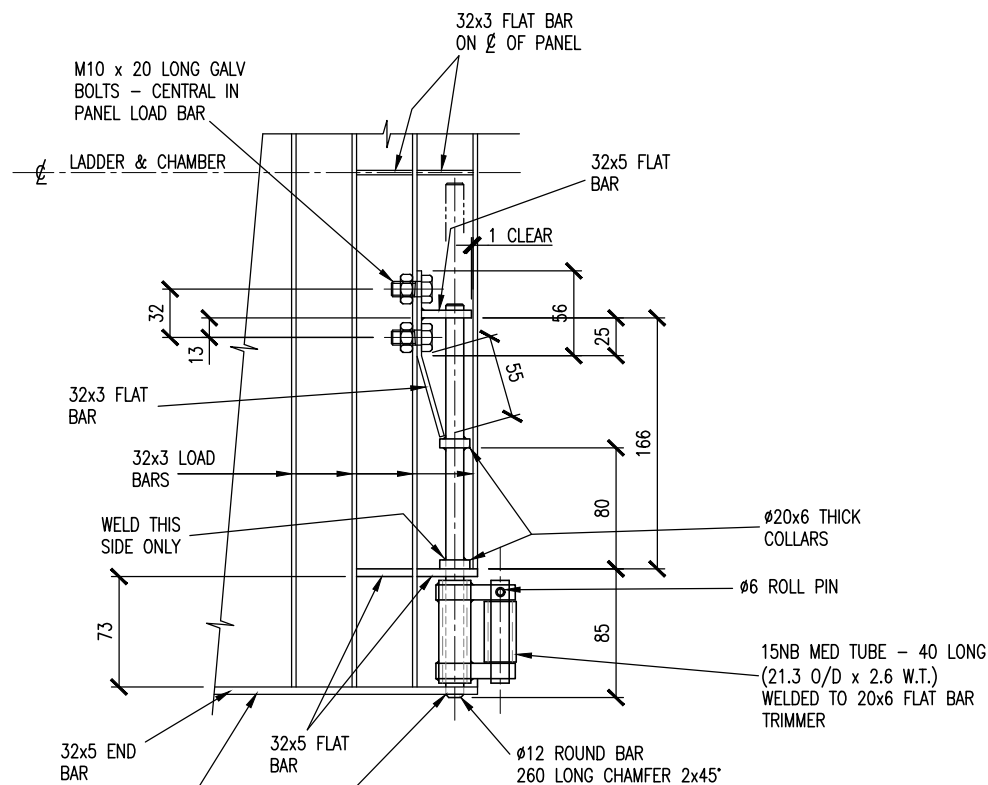
WASTEWATER TRANSMISSION STANDARD – CIRCULAR MANHOLES
FOR POLYETHYLENE PIPES DN355 TO DN1000
LADDER CONSTRUCTION DETAILS



- ## NOTES

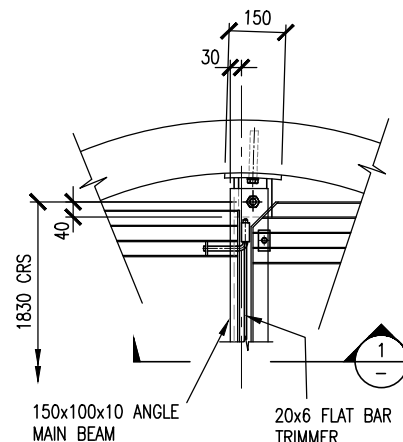
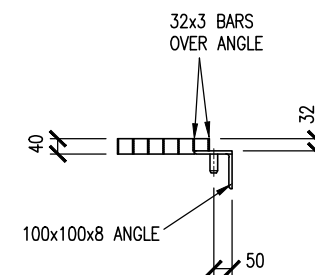
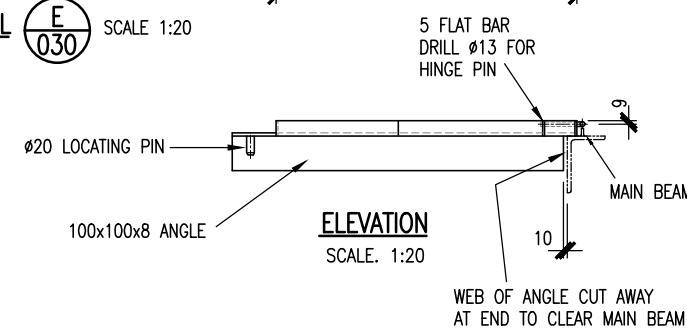
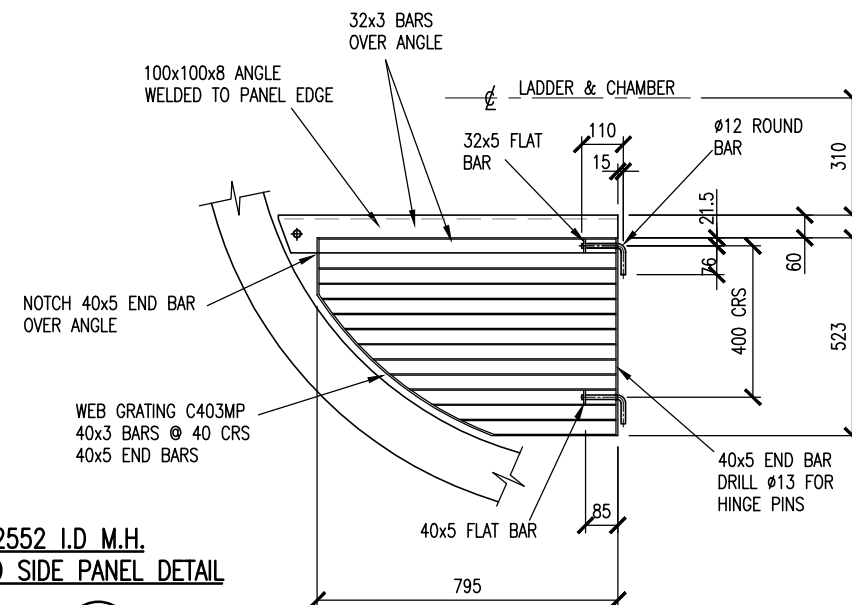
1. MANHOLE PLATFORMS TO BE INSTALLED WHERE $H > 6m$
(IN LINE WITH AS 1657)
2. ALLOWABLE PLATFORM LOAD = 500kg
3. OVERALL DIMENSIONING MAY NEED TO BE ADJUSTED
TO SUIT MANHOLE MANUFACTURER'S DESIGN
4. WHERE PLATFORMS ARE REQUIRED, MANHOLES WITH A WALL THICKNESS
GREATER THAN 100MM SHALL BE USED. THE DESIGNER SHALL CONFIRM THE
REQUIRED EMBEDMENT DEPTH OF BOLTS INTO THE MANHOLE STRUCTURE

						DESIGNED	J. GRAHAM	09/11	J. PIGGOT		PLATFORM LAYOUT & DETAILS FOR 1950 MANHOLE RISER	CAD FILE 2000244.030		DATE 23-05-25			
						DES. CHECKED	P. GOWANS					OPERATIONS: HEAD OF WASTEWATER	ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. -		
						DRAWN	N. SMITH	09/11					A. DEUTSCHLE	REF No.		ISSUE	
						DWG. CHECKED	J. GRAHAM	09/11						DWG No. 2000244.030		A	
A	05-25	MINOR NOTES UPDATE			F.F.	P.H.	PROJECT LEADER			PLANNING: HEAD OF WASTEWATER	COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.						
-	09-11	APPROVED FOR ISSUE			G.S.	J.G.	INFRASTR APP'D										
ISSUE	DATE	AMENDMENT			BY		APPD.										

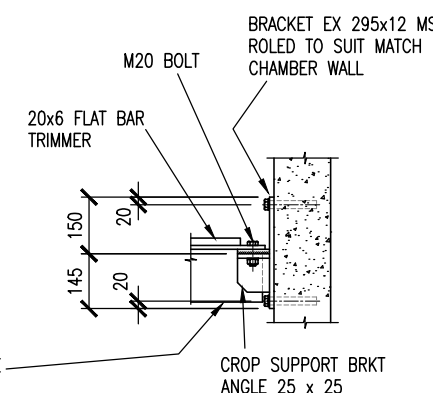
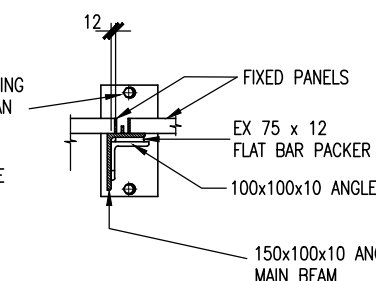


2552 I.D M.H.
HINGED SIDE PANEL DETAIL

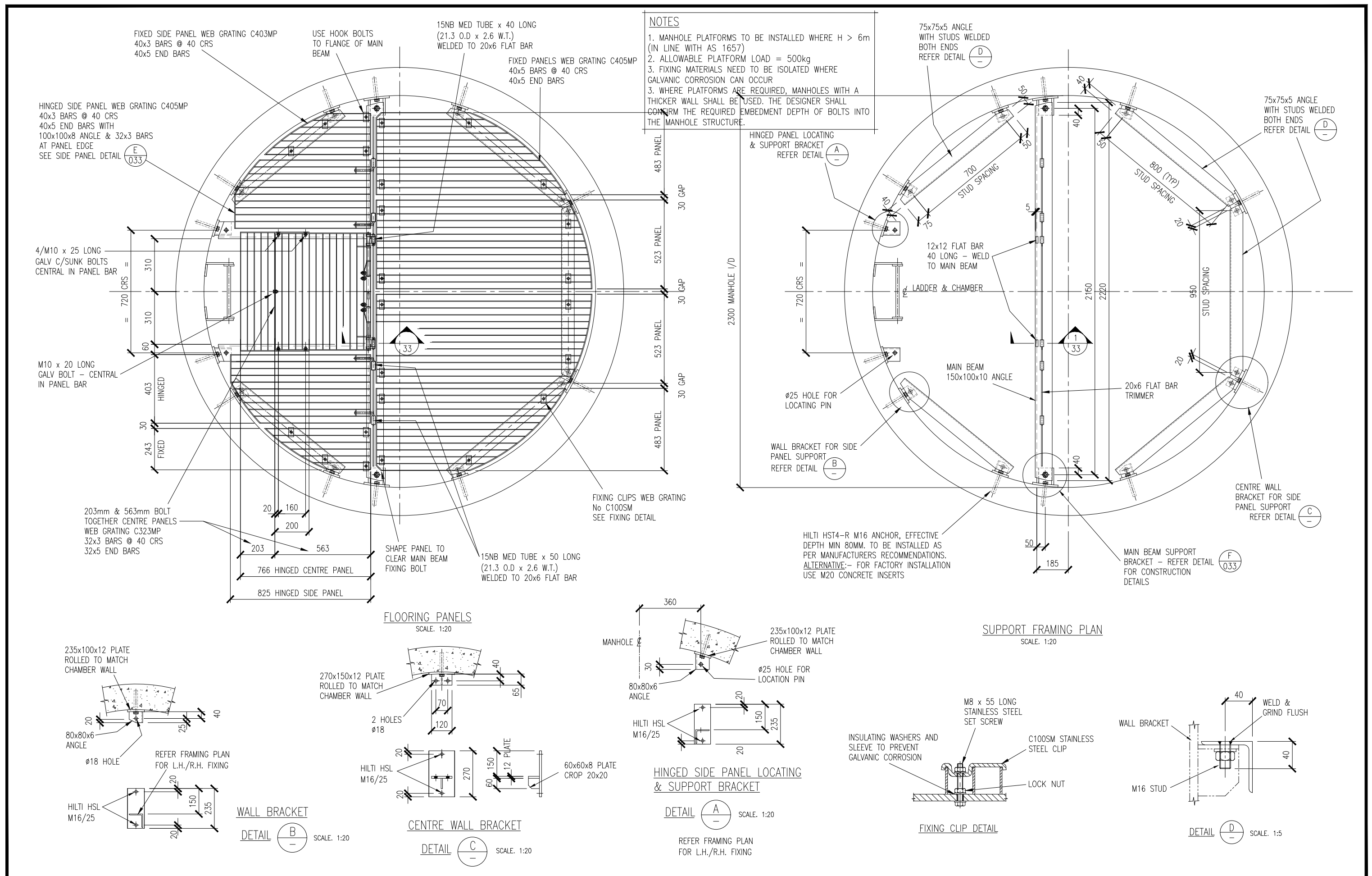
DETAIL E 030 SCALE 1:20



HILTI HST4-R M16 SS ANCHORS WITH INSULATING WASHER TO BE CHEMICALLY ANCHORED WITH AN APPROVED PRODUCT, MIN 80mm EMBEDMENT. HOLE TO BE CORED (NOT DRILLED) ALTERNATIVE:- FOR FACTORY INSTALLATION USE M20 CONCRETE INSERTS

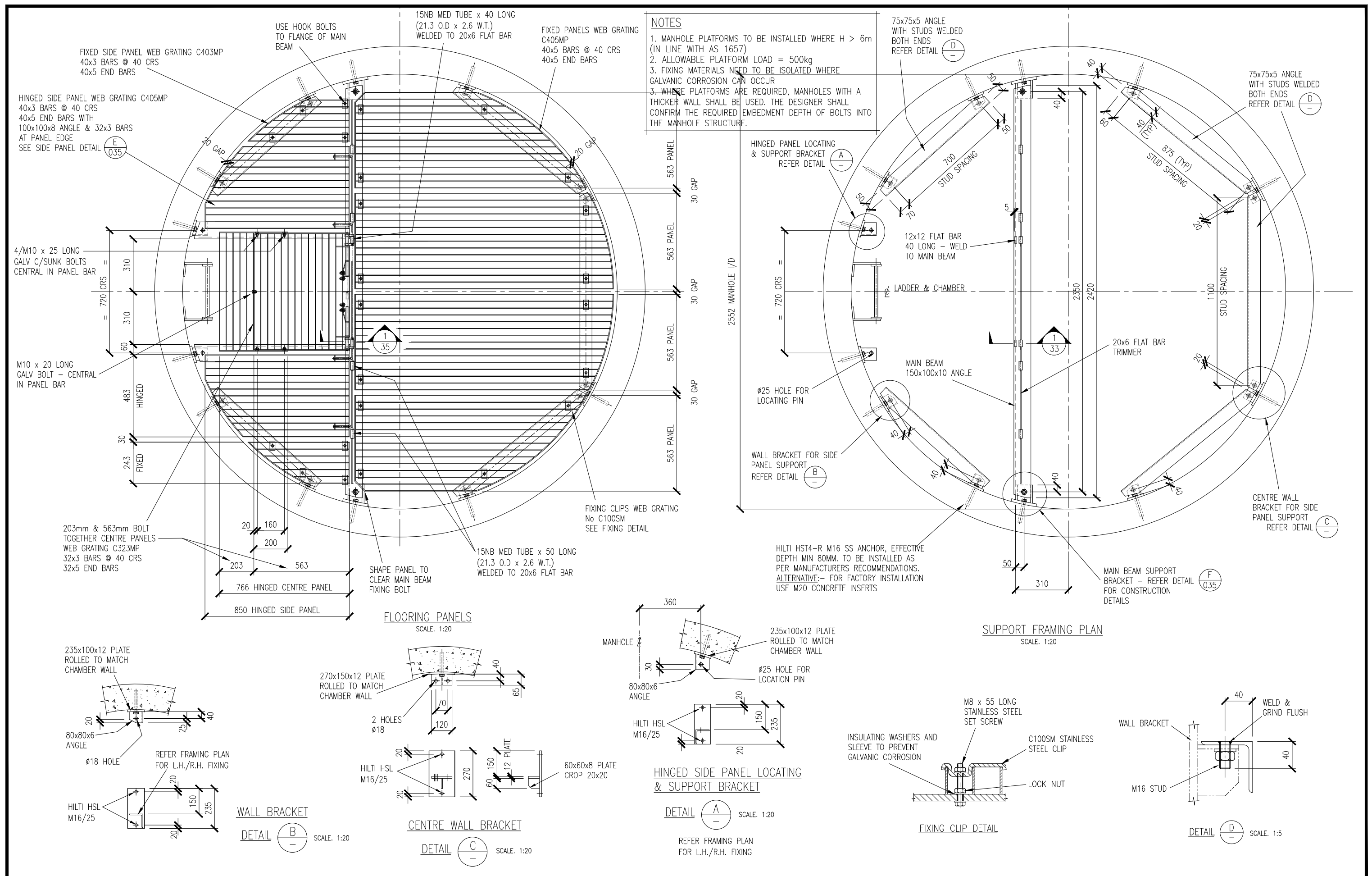


				DESIGNED	J. GRAHAM	09/11	J. PIGGOT OPERATIONS: HEAD OF WW A. DEUTSCHLE PLANNING: HEAD OF WW	COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PLATFORM DETAILS FOR 1950 DIAMETER MANHOLE RISER			CAD FILE 2000244.031		DATE 23/05/2025	
				DES. CHECKED	P. GOWANS				ORIGINAL SCALE A3 AS SHOWN			CONTRACT No. -		ISSUE	
				DRAWN	N. SMITH	09/11						REF No.			
				DWG. CHECKED	J. GRAHAM	09/11						DWG No. 2000244.031		A	
A	05-25	MINOR NOTES UPDATE		F.F.	P.H.										
-	09-11	APPROVED FOR ISSUE		G.S.	J.G.										
ISSUE	DATE	AMENDMENT	BY	APPD.											



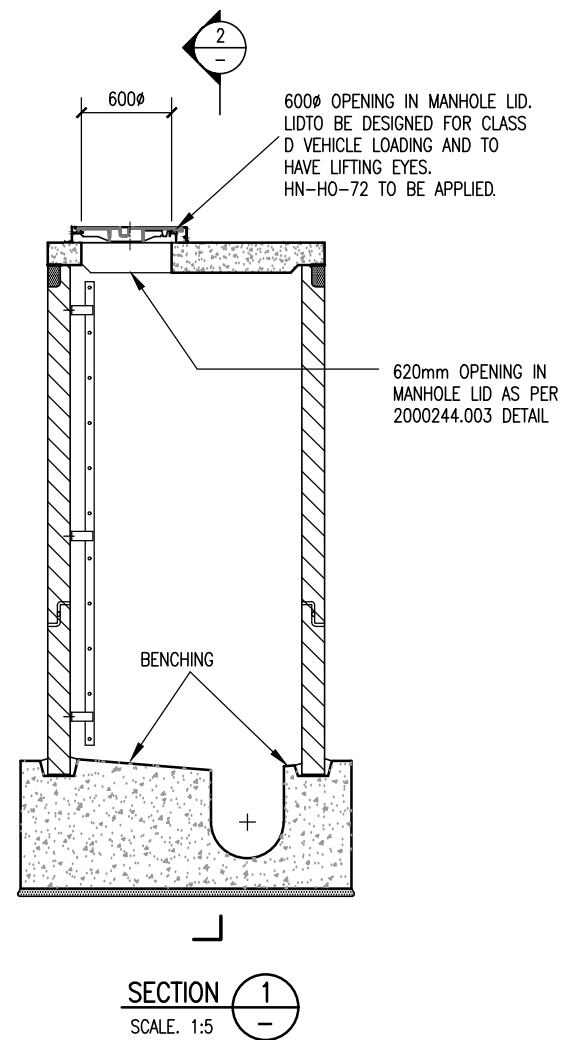
				DESIGNED	J. GRAHAM	09/11	J. PIGGOT OPERATIONS: HEAD OF WASTEWATER A. DEUTSCHLE PLANNING: HEAD OF WASTEWATER		PLATFORM LAYOUT & DETAILS FOR 2300 DIAMETER MANHOLE RISER			CAD FILE 2000244.032		DATE 23-05-25	
				DES. CHECKED	P. GOWANS				ORIGINAL SCALE A3			CONTRACT No.		-	
				DRAWN	N. SMITH	09/11			AS SHOWN			REF No.		ISSUE	
				DWG. CHECKED	J. GRAHAM	09/11						DWG No.		2000244.032	
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-	09-11	APPROVED FOR ISSUE		G.S.	J.G.										
ISSUE	DATE	AMENDMENT		BY	APPD.										

						DESIGNED	J. GRAHAM	09/11	J. PIGGOT OPERATIONS: HEAD OF WW	 Watercare COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PLATFORM DETAILS FOR 2300 DIAMETER MANHOLE RISER	CAD FILE 2000244.033		DATE 23/05/2025	
					DES. CHECKED	P. GOWANS		ORIGINAL SCALE A3 AS SHOWN				CONTRACT No. -			
					DRAWN	N. SMITH	09/11	REF No.				ISSUE			
					DWG. CHECKED	J. GRAHAM	09/11								
A	05-25	MINOR NOTES UPDATE			F.F.	P.H.	PROJECT LEADER		A. DEUTSCHLE						
-	09-11	APPROVED FOR ISSUE			G.S.	J.G.	INFRASTR APP'D		PLANNING: HEAD OF WW			DWG No. 2000244.033		A	
ISSUE	DATE	AMENDMENT			BY	APPD.									

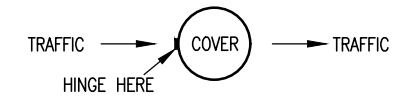


						DESIGNED	J. GRAHAM	09/11	J. PIGGOT OPERATIONS: HEAD OF WW A. DEUTSCHLE PLANNING: HEAD OF WW	 Watercare COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PLATFORM LAYOUT & DETAILS FOR 2550 DIAMETER MANHOLE RISER	CAD FILE 2000244.034		DATE 23/05/2025		
												ORIGINAL SCALE A3	CONTRACT No.			
													AS SHOWN		—	
													REF No.			ISSUE
A	05–25	MINOR NOTES UPDATE		F.F.	P.H.	PROJECT LEADER										
–	09–11	APPROVED FOR ISSUE		G.S.	J.G.	INFRASTR APP'D										
ISSUE	DATE	AMENDMENT		BY	APPD.							DWG No.	2000244 .034	A		

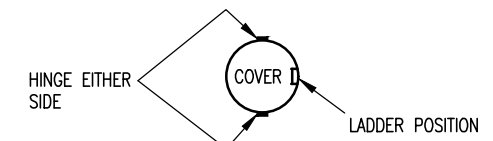
						DESIGNED	J. GRAHAM	09/11	J. PIGGOT OPERATIONS: HEAD OF WW A. DEUTSCHLE PLANNING: HEAD OF WW	 Watercare COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PLATFORM DETAILS FOR 2550 DIAMETER MANHOLE RISER				CAD FILE 2000244.035		DATE 23/05/2025	
						DES. CHECKED	P. GOWANS				ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. -					
						DRAWN	N. SMITH	09/11			REF No.		ISSUE					
						DWG. CHECKED	J. GRAHAM	09/11										
A	05-25	MINOR NOTES UPDATE			F.F.	P.H.	PROJECT LEADER											
-	09-11	APPROVED FOR ISSUE			G.S.	J.G.	INFRASTR APP'D											
ISSUE	DATE	AMENDMENT			BY	APPD.					DWG No.	2000244 .035	A					



1. FOR DEEPER MANHOLES (WITH LANDINGS) THE COVER SHALL BE WITH 800mm OPENING.
2. LADDER POSITION IS DICTATED BY THE BENCHING AREA AND IS TO BE INSTALLED SO THAT THE ENTRANT STEPS ON TO THE BENCHING. THE LADDER IS TO BE INSTALLED AS PER THE DETAILS SHOWN ON DWG. 2000244.003 WITH THE TOP RUNG AS CLOSE TO THE OPENING AS PRACTICABLE AND NO MORE THAN 450mm. ENSURE THAT THE MANHOLE OPENING IN THE CONCRETE LID IS APPROX. 150mm FROM THE CHAMBER WALL SO THAT THE LADDER POSITION DOES NOT REDUCE THE ENTRY OPENING.
3. MANHOLE COVERS IN ROAD SHOULD BE CONSTRUCTED SO THAT THE HINGE IS FACING THE ONCOMING TRAFFIC REGARDLESS OF LADDER POSITIONING.



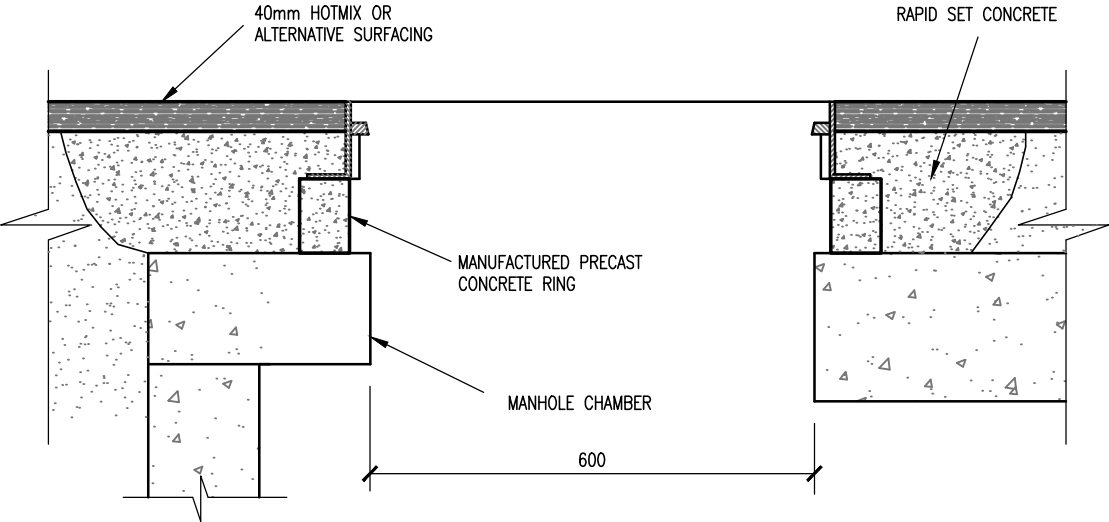
4. FOR ALL OTHER COVERS THE ORIENTATION SHOULD BE SO THAT THE COVER HINGE IS AT 90° FROM THE LADDER (EITHER SIDE)



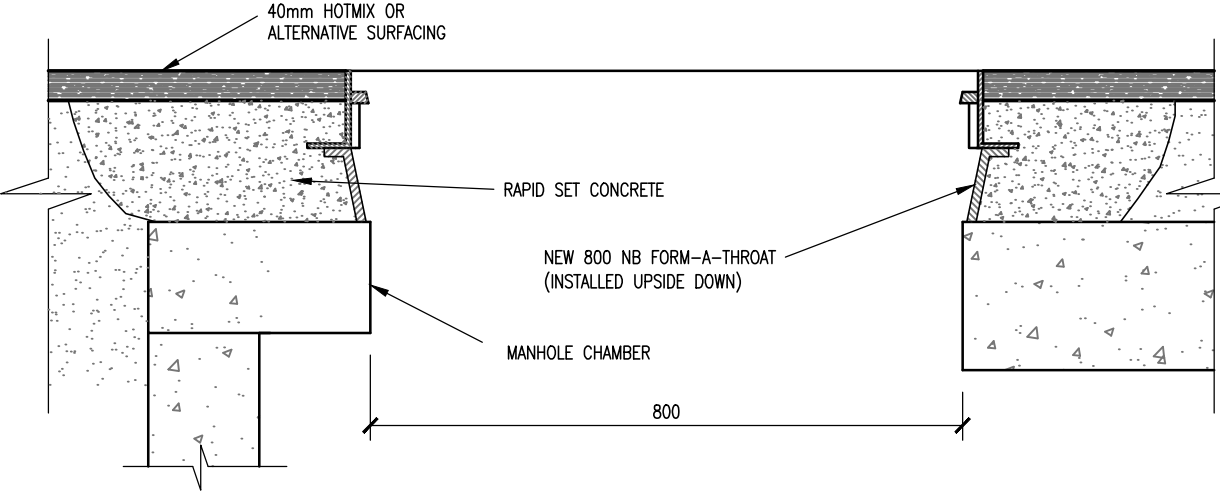
5. ALL FRAMES TO BE FITTED WITH SS 316L SAFETY GRILLES RATED MIN. CLASS A IN ACCORDANCE WITH AS 3976
6. ANTI-INTRUSION LOCKS MAY BE SPECIFIED BY THE ENGINEER IN SOME CIRCUMSTANCES
7. THE FITTING OF 'WATERCARE TRANSMISSION' IDENTIFICATION TAGS MAY BE SPECIFIED BY THE ENGINEER.
8. NOTE: CLASS D400 REFERS TO TRAFFIC CARRIAGEWAY LOADING
9. REFER 2000244.044 FOR MANHOLE LID RAISING DETAILS
10. REFER TO WATERCARES MATERIAL SUPPLY STANDARD FOR ACCEPTABLE LIDS. LIDS SHALL GENERALLY BE SEALED UNLESS CONFIRMED OTHERWISE BY WATERCARE OPERATIONS.

				DESIGNED	SAINT GOBAIN		 Watercare WASTEWATER MANHOLE LID ORIENTATION, LADDER POSITION AND LAYOUT DETAILS	CAD FILE 2000244.043B ORIGINAL SCALE A3 AS SHOWN REF No. DWG No. 2000244 .043 DATE 23-05-25 CONTRACT No. — ISSUE B
B	05-25	MINOR NOTES UPDATE	F.F.	P.H.		02-12		J.PIGGOT
A	04-13	MANHOLE OPENING IN LID NOW 200MM FROM CHAMBER WALL	I.M.	C.H.				OPERATIONS: HEAD OF WASTEWATER
—	04-12	APPROVED FOR ISSUE	I.M.	C.H.				A.DEUTSCHLE
2	04-12	PRELIMINARY FOR ENGINEERS APPROVAL	I.M.		A. McG.	04-12		PLANNING: HEAD OF WASTEWATER
ISSUE	DATE	AMENDMENT	BY	APPD.	INFRSTR APP'D		COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	

600mm LID

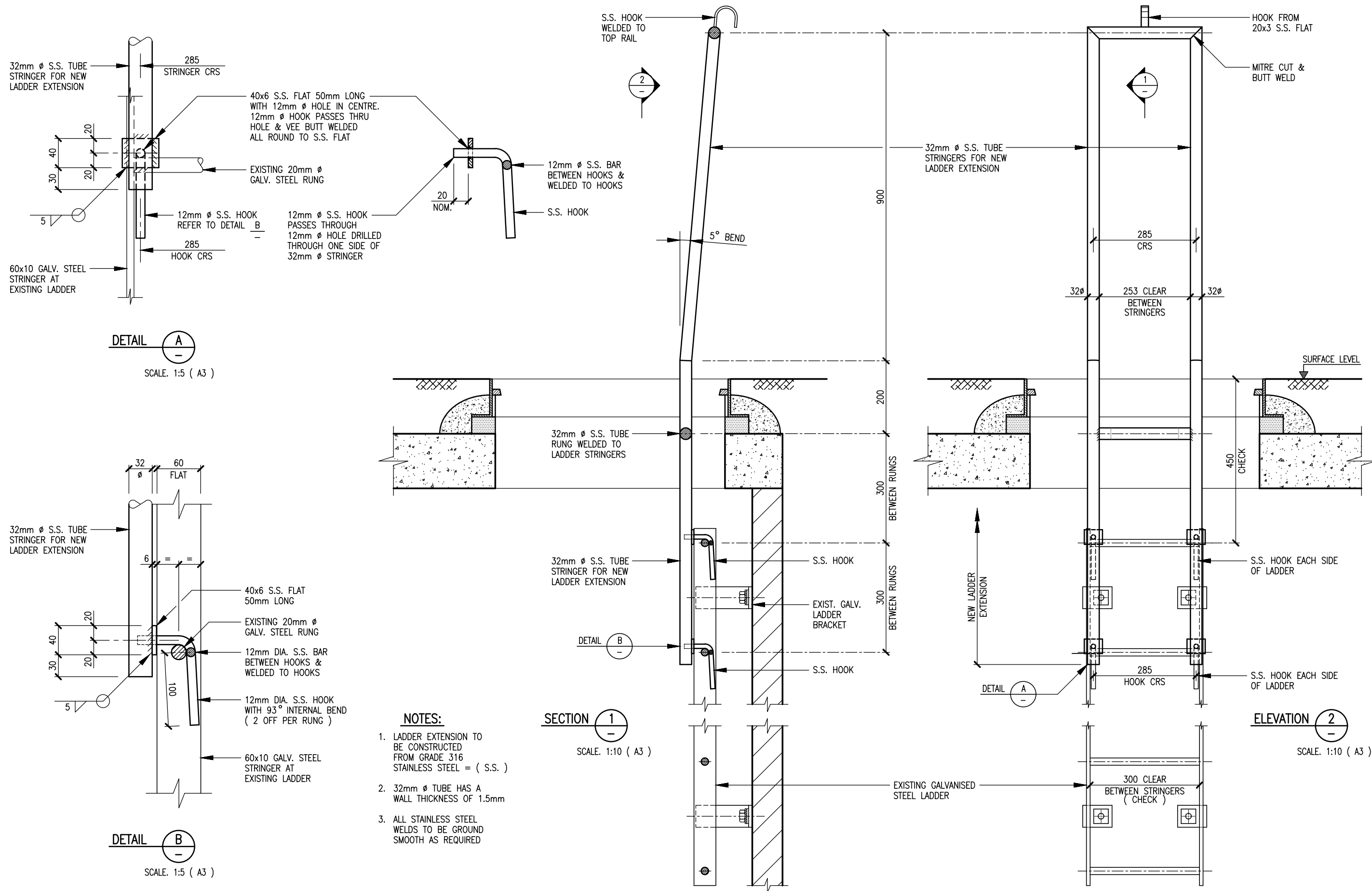


800mm LID



COVERS & FRAMES IN ROAD OR OTHER HARD-PAVED AREAS
SCALE 1:10

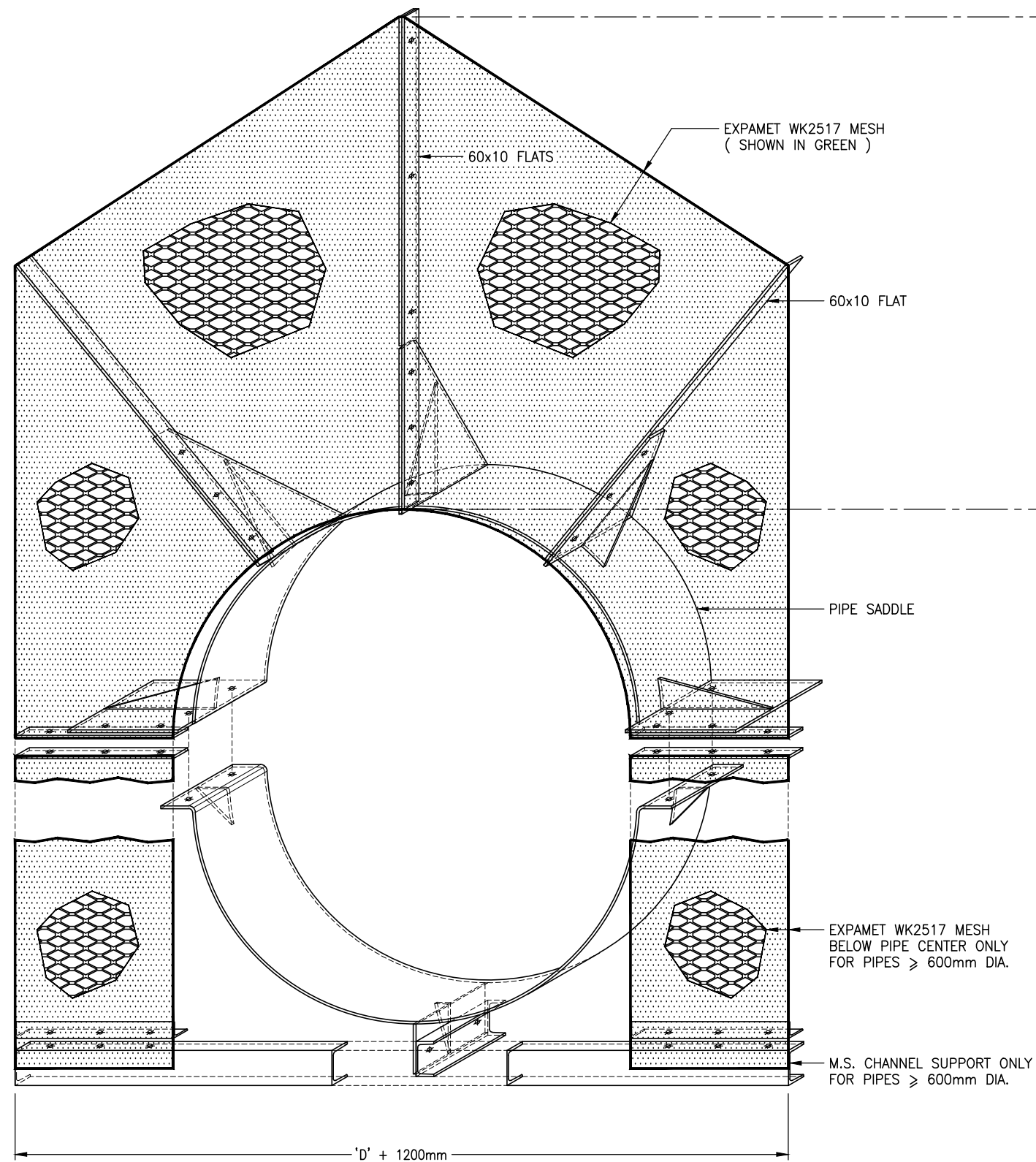
				DESIGNED	W.B.	02-12	J. PIGGOT	 COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	MANHOLE LID AND FRAME RAISING DETAILS	CAD FILE 2000244.044		DATE 23-05-25	
				DES. CHECKED			OPERATIONS: HEAD OF WASTEWATER			ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. -	
				DRAWN	I.M.	02-12				REF No.		ISSUE	
				DWG. CHECKED	A. McG		A. DEUTSCHLE			DWG No. 2000244.044		A	
A	05-25	REMOVAL OF CAST IRON LID	F.F.	P.H.									
-	04-12	APPROVED FOR ISSUE	I.M.	C.H.									
2	04-12	PRELIMINARY FOR ENGINEERS APPROVAL	I.M.										
ISSUE	DATE	AMENDMENT	BY	APPD.									



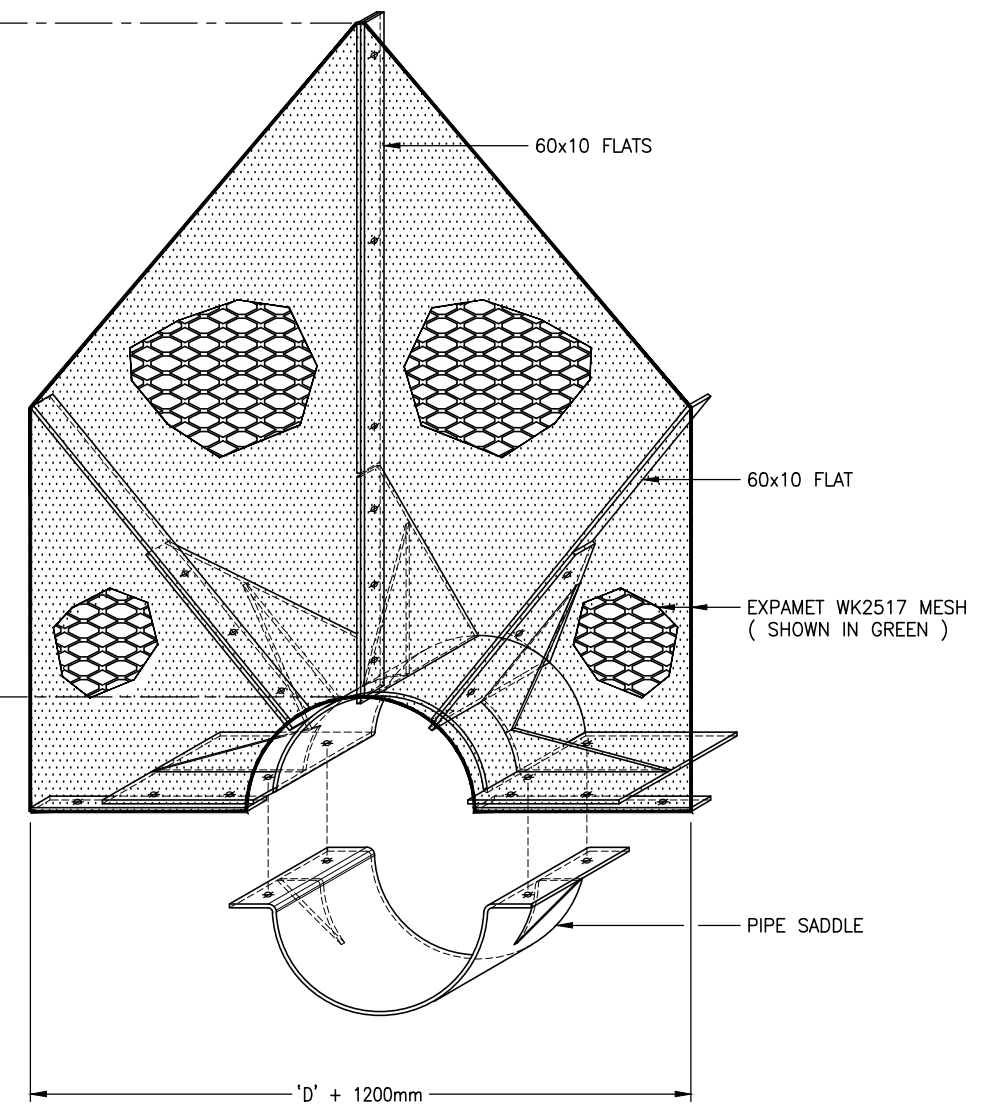
L:\-----\EGCAD\F\2013\WASTEWATER TRANSMISSION STANDARD\LADDER EXTENSION\2000244.046 .DWG

						DESIGNED	A.Mc.	04-13	J. PIGGOT OPERATIONS: HEAD OF WASTEWATER	 Watercare COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	WASTEWATER TRANSMISSION STANDARD STAINLESS STEEL LADDER EXTENSION ELEVATION , SECTION AND DETAILS	CAD FILE 2000244.046		DATE 23-05-25	
						DES. CHECKED	C.H.	04-13				ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. -	
						DRAWN	L.C.	04-13				REF No. -		ISSUE -	
						DWG. CHECKED	I.M.	04-13				DWG No. 2000244 .046		A	
						PROJECT LEADER	A.Mc.	04-13							
A	05-25	MINOR NOTES UPDATE			F.F.	P.H.	INFRAS'T'R APP'D								
ISSUE	DATE	AMENDMENT			BY	APPD.									

WASTEWATER TRANSMISSION STANDARD
STAINLESS STEEL LADDER EXTENSION
ELEVATION , SECTION AND DETAILS



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



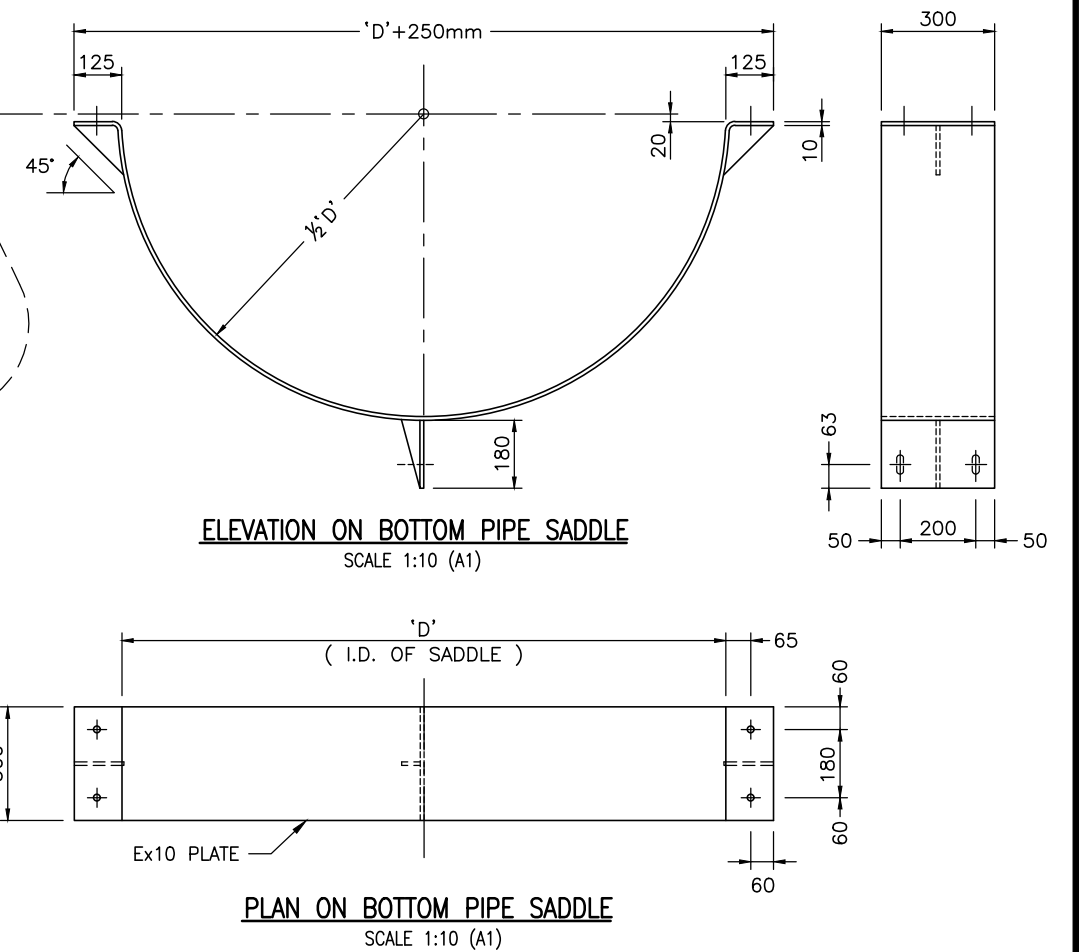
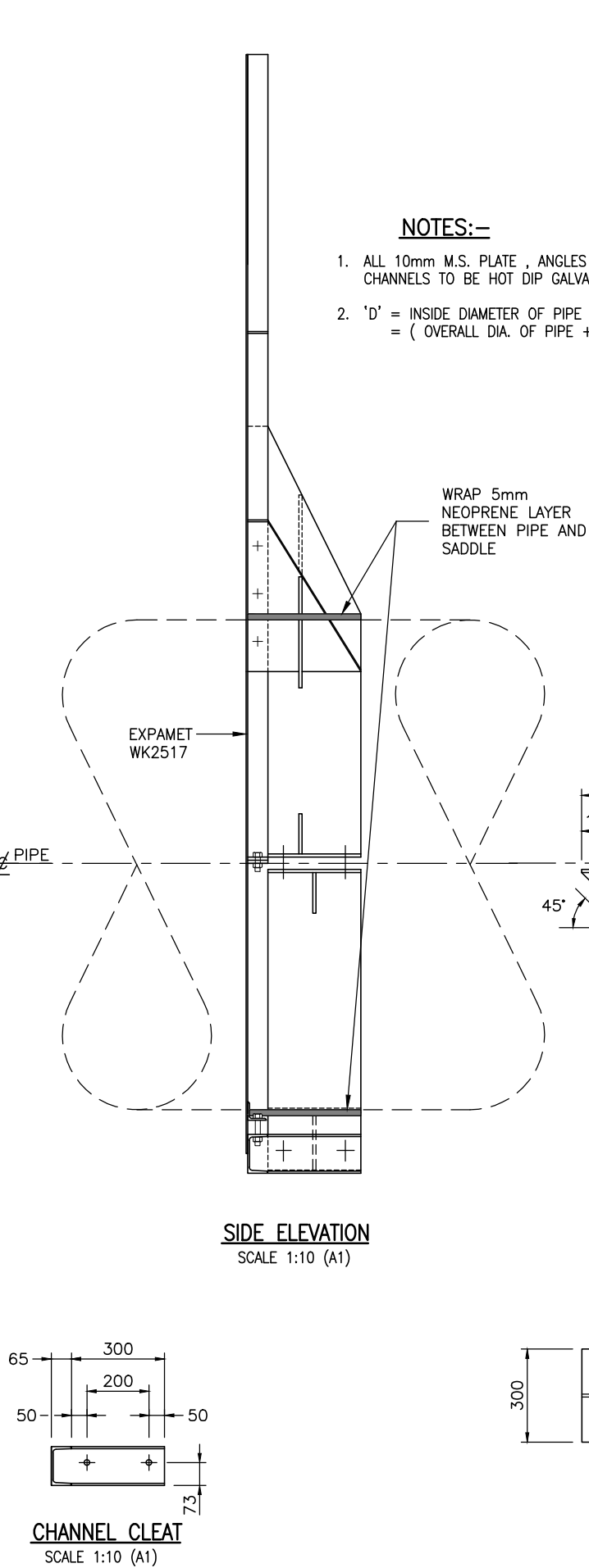
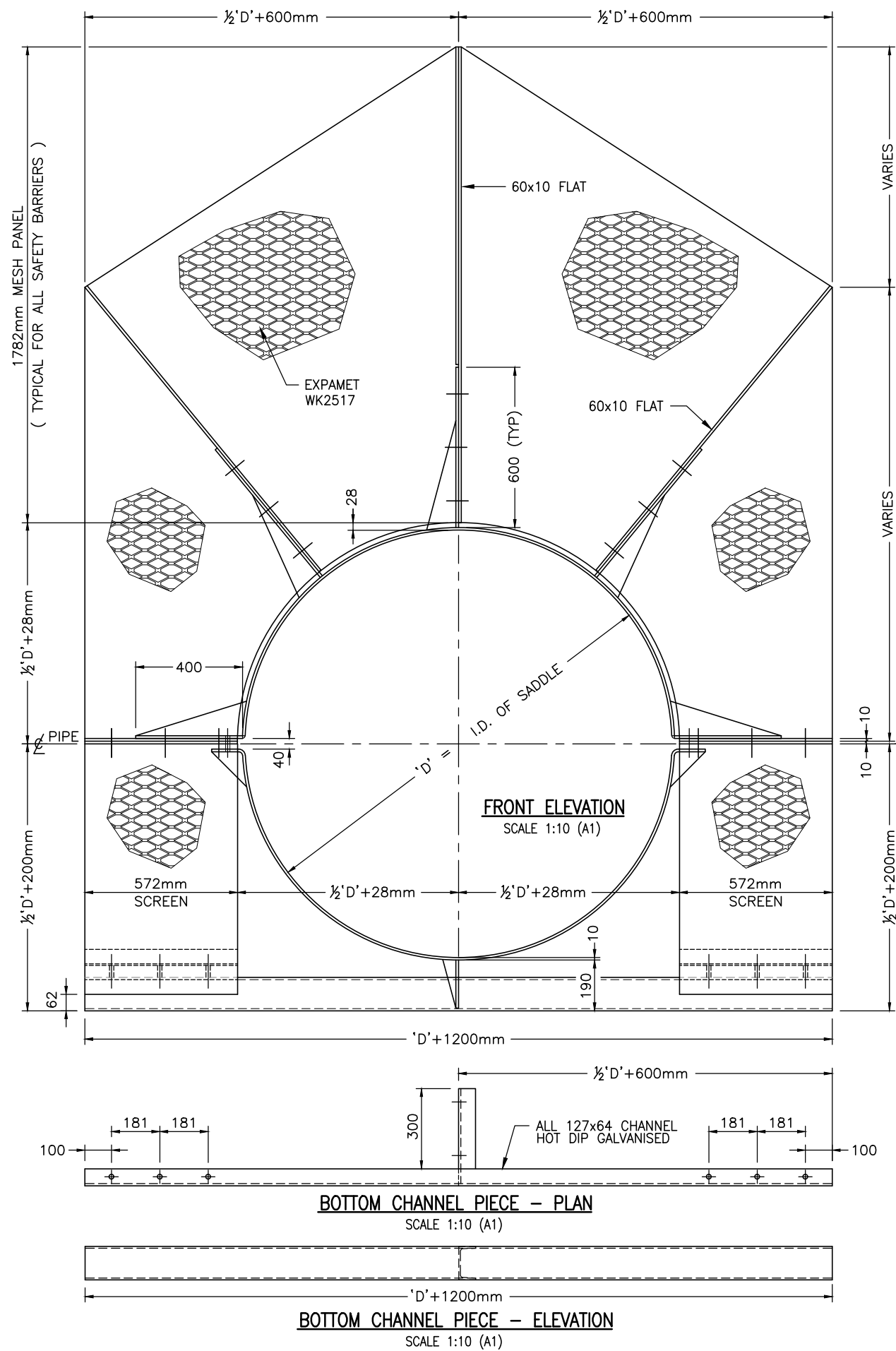
**DIAGRAMATIC VIEW OF PIPE SAFETY BARRIER
FOR WATERCARE PIPES < 600mm DIA.**
SCALE: 1:10 (A1) & NOT TO SCALE.

NOTES

- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS .002 & .003
- 'D' = INSIDE DIAMETER OF PIPE SADDLE
= (OVERALL DIA. OF PIPE + 10mm)
- EXPAMET WK2517 MESH SHALL BE HOT DIP GALVANISED

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

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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.

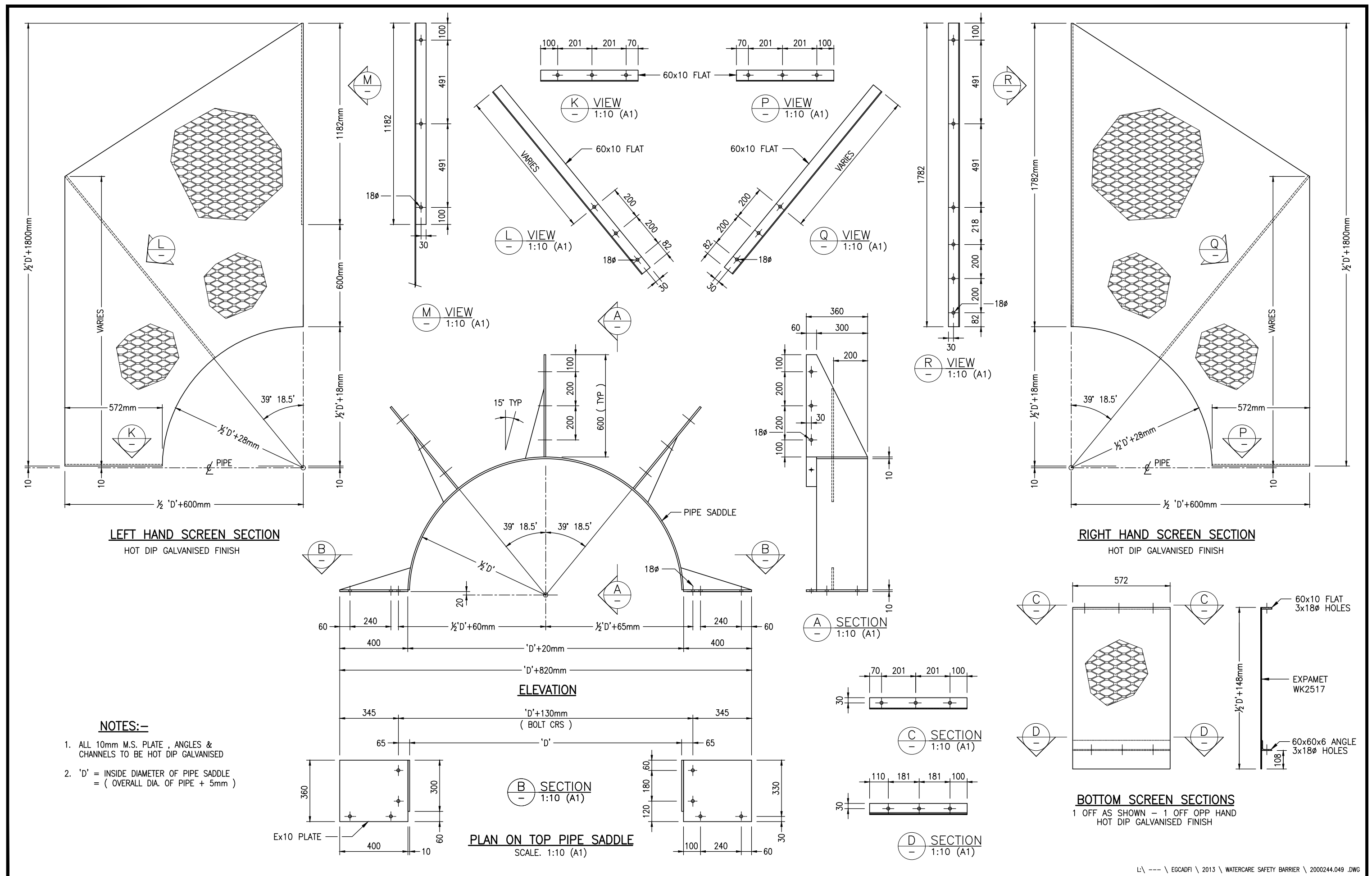
L:\ --- \ EGCADFI \ 2013 \ WATERCARE SAFETY BARRIER \ 2000244.048 .DWG

						DESIGNED			J. PIGGOT	 Watercare COPYRIGHT — This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PIPE BRIDGE SAFETY BARRIERS SAFETY BARRIER DETAILS — SHEET 2 OF 3	CAD FILE 2000244.048		DATE 23/05/2025	
						DES. CHECKED						ORIGINAL SCALE A1	CONTRACT No.		
						DRAWN	L.C.	09-13	OPERATIONS: HEAD OF WW			AS SHOWN		—	
						DWG. CHECKED	I.M.	09-13				REF. No.		ISSUE	
						PROJECT LEADER	A.M.	09-13	A. DEUTSCHLE						
A	05-25	ADDITION OF A NEOPRENE LAYER			F.F.	P.H.									
—	09-13	SAFETY BARRIERS — SHEET 2 OF 3			L.C.	A.M.	INFRAS'T'R APP'D								
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE	PLANNING: HEAD OF WW		DWG. No.	2000244 .048	A	

PIPE BRIDGE SAFETY BARRIERS SAFETY BARRIER DETAILS - SHEET 2 OF 3

Watercare

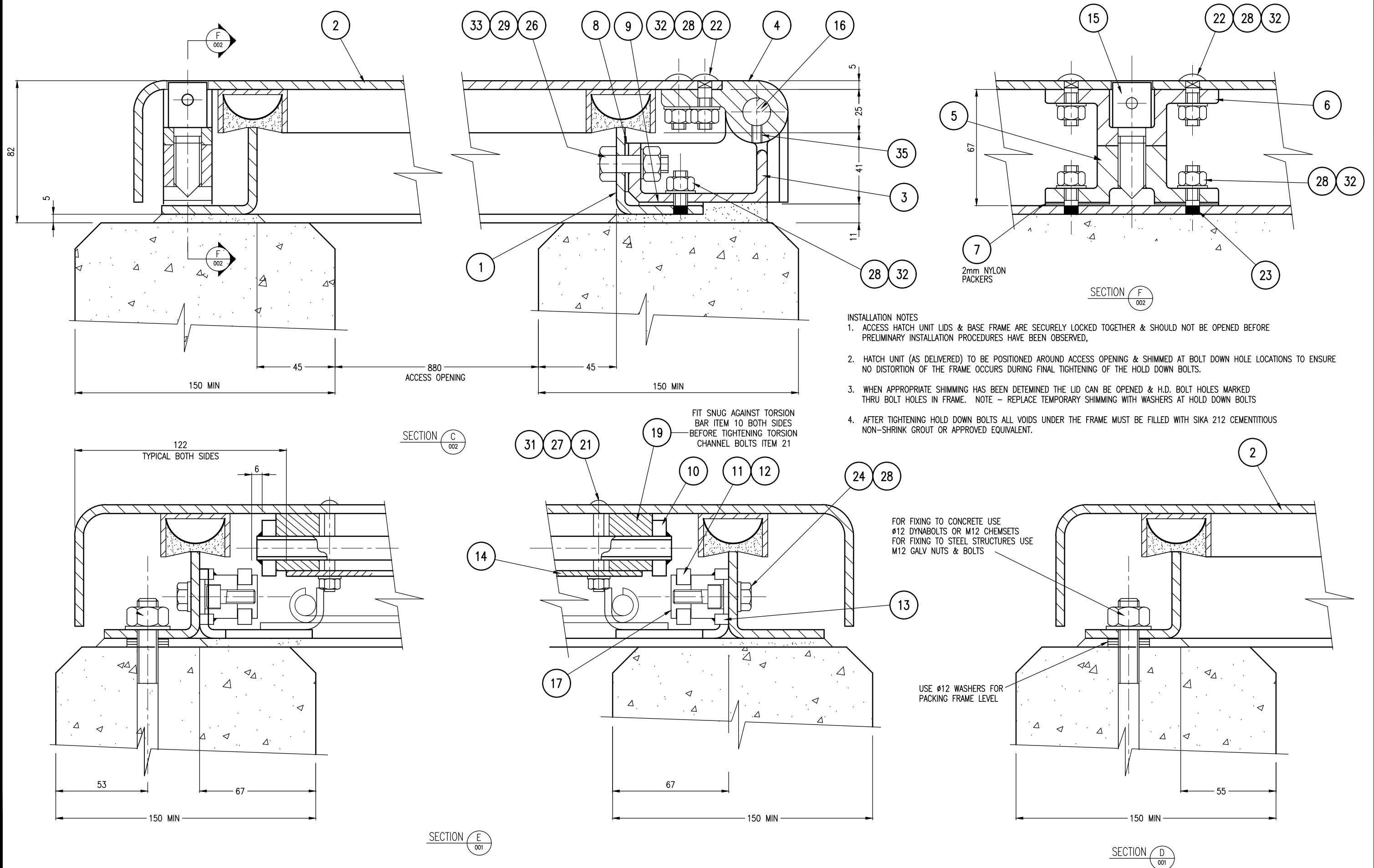
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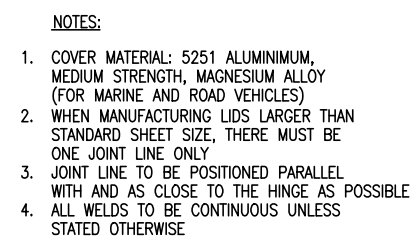
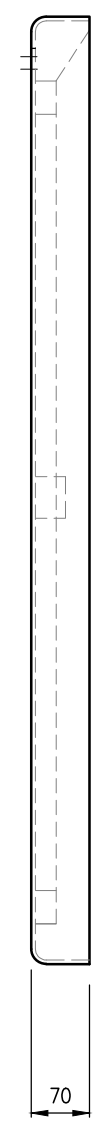
L:\ --- \ EGCADFI \ 2013 \ WATERCARE SAFETY BARRIER \ 2000244.049 .DWG

						DESIGNED			J. PIGGOT	 Watercare COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	PIPE BRIDGE SAFETY BARRIERS SAFETY BARRIER DETAILS – SHEET 3 OF 3	CAD FILE 2000244.049		DATE 23/05/2025					
						DES. CHECKED						OPERATIONS: HEAD OF WW		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											
A	05-25	GENERAL TITLE UPDATE			F.F.	P.H.			A. DEUTSCHLE			PLANNING: HEAD OF WW							
–	09-13	SAFETY BARRIERS – SHEET 3 OF 3			L.C.	A.M.	INFRAS'T'R APP'D												
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE							DWG. No. 2000244 .049		A	

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				DESIGNED	PELTECH	04-20	J. PIGGOT OPERATIONS: HEAD OF WASTEWATER A. DEUTSCHLE PLANNING: HEAD OF WASTEWATER	COPYRIGHT This drawing, the design and concept, remain the exclusive property of Watercare Services Limited and may not be used without approval Copyright reserved.		WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER ASSEMBLY DETAILS	CAD FILE 2003160.002C		DATE 23-05-25	
				DRAWN	PELTECH	04-20					ORIGINAL SCALE A3		CONTRACT No.	
C 05-25 ACCESS COVER CHANGED											AS SHOWN		-	
B 08-11 COMPLETE LOCK UNIT REDESIGNED														
A 02-02 TITLE CHANGED														
ISSUE	DATE	AMENDMENT		BY	APPD.	DATE					DRAWING No.		ISSUE	
											2003160 .002		C	



ITEM 2 HATCH COVER
MATL: 5251 ALUMINIUM (UNLESS NOTED OTHERWISE)
SCALE:

						DESIGNED	PELTECH	04-20
						DRAWN	PELTECH	04-20
C	05-25	ACCESS COVER CHANGED	F.F.	P.H.				
B	08-11	SEAL BACKING MATERIAL CHANGED	G.S.			PROJECT LEADER	W. STRYDOM	05-25
A	02-02	TITLE CHANGED	B.M.			A.D. APPROVED		
ISSUE	DATE	AMENDMENT	BY	APPD.			BY	DATE

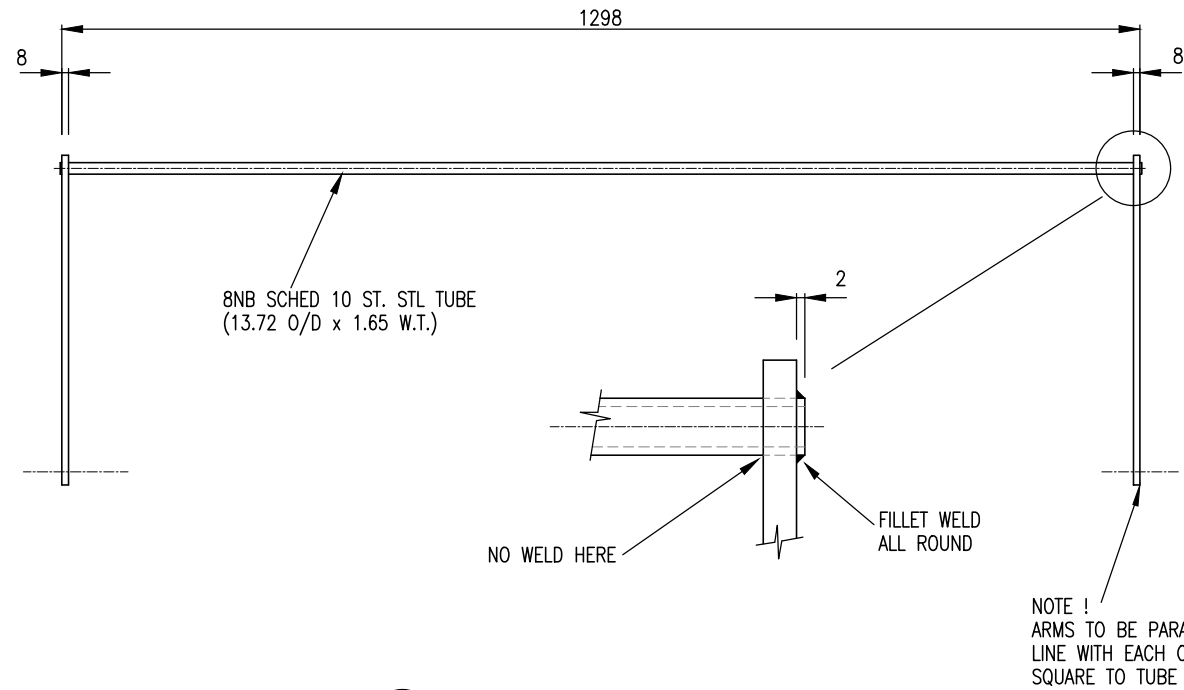
J. PIGGOT
OPERATIONS: HEAD OF WASTEWATER
A. DEUTSCHLE
PLANNING: HEAD OF WASTEWATER

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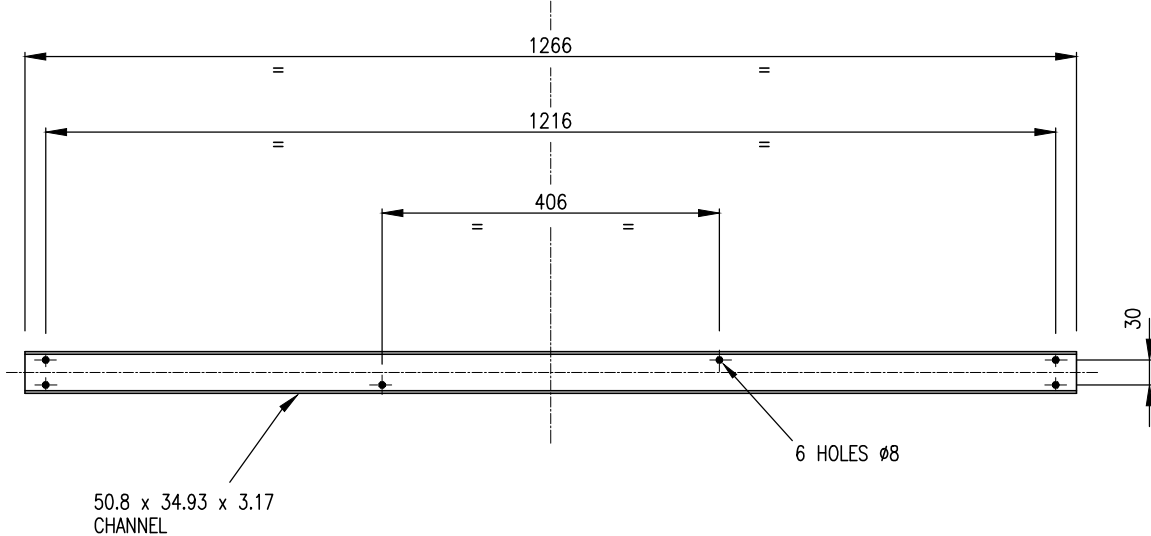
WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER COVER AND DETAILS

CAD FILE 2003160.004C		DATE 23-05-25	
ORIGINAL SCALE A3 AS SHOWN		CONTRACT No. -	
DRAWING No. 2003160		ISSUE .004 C	



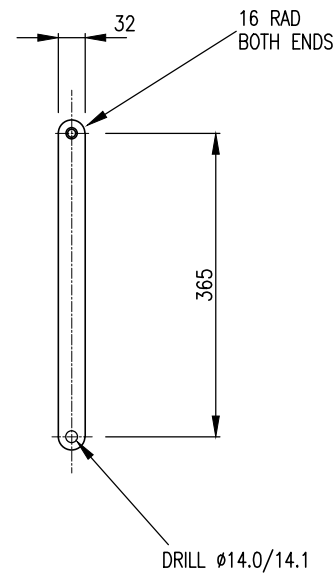
ITEM 10 TORSION STAY

MATERIAL :- 316 STAINLESS STEEL



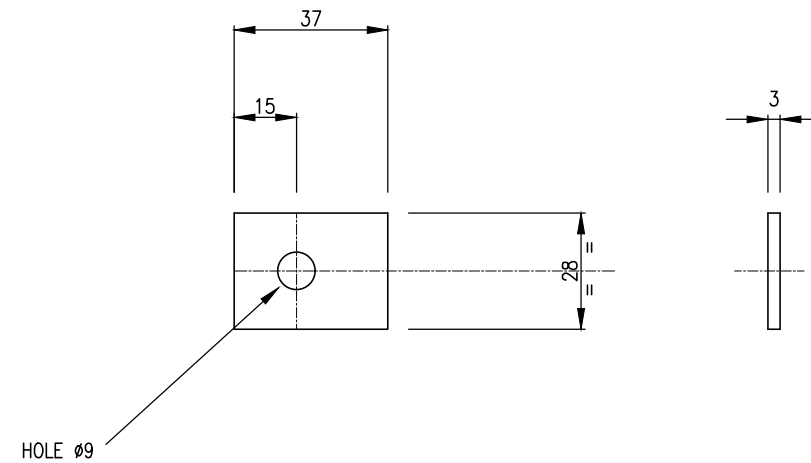
ITEM 14 TORSION STAY COVER

MATERIAL:- ALUMINIUM 6351



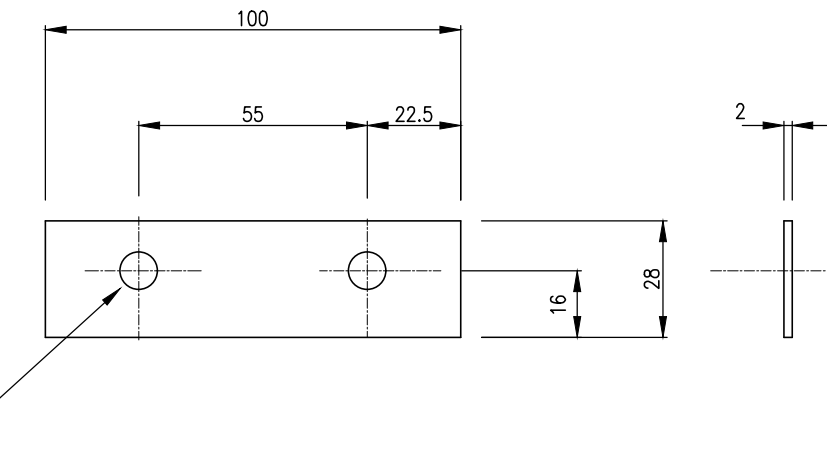
ITEM 7 CLAMP PACKER

MATERIAL :- NYLON



ITEM 8 HINGE PACKER

MATERIAL :- NYLON



ITEM 9 HINGE PACKER

MATERIAL :- NYLON

ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
C	05-25	ACCESS COVER CHANGED - UPDATED DETAIL	F.F.	P.H.	
B	08-11	ITEMS 7 & 10 REDESIGNED	G.S.		
A	02-02	TITLE CHANGED	B.M.		

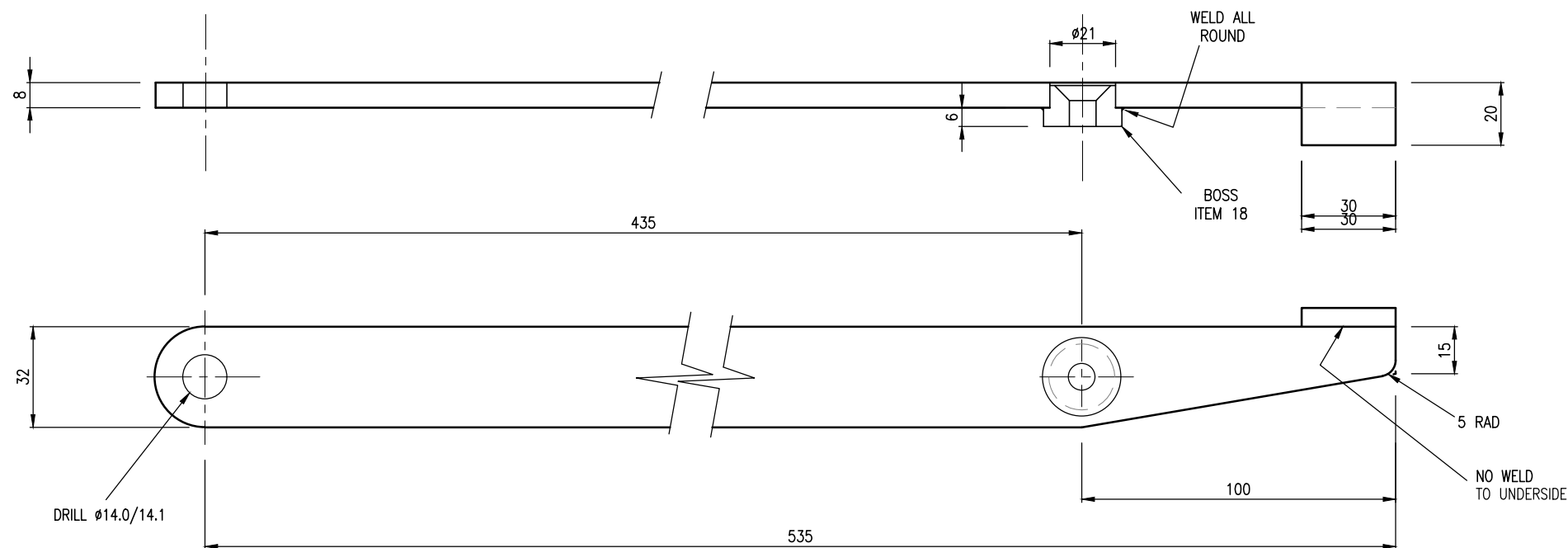
DESIGNED	PELTECH	04-20
DRAWN	PELTECH	04-20
PROJECT LEADER	W. STRYDOM	05-25
A.D. APPROVED		
PLANNING: HEAD OF WASTEWATER		

J. PIGGOT	OPERATIONS: HEAD OF WASTEWATER
A. DEUTSCHLE	PLANNING: HEAD OF WASTEWATER

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WASTEWATER RETICULATION	STAYS DETAILS
STANDARD ACCESS HATCH COVER	

CAD FILE 2003160.006C	DATE 23-05-25
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2003160 .006	ISSUE C

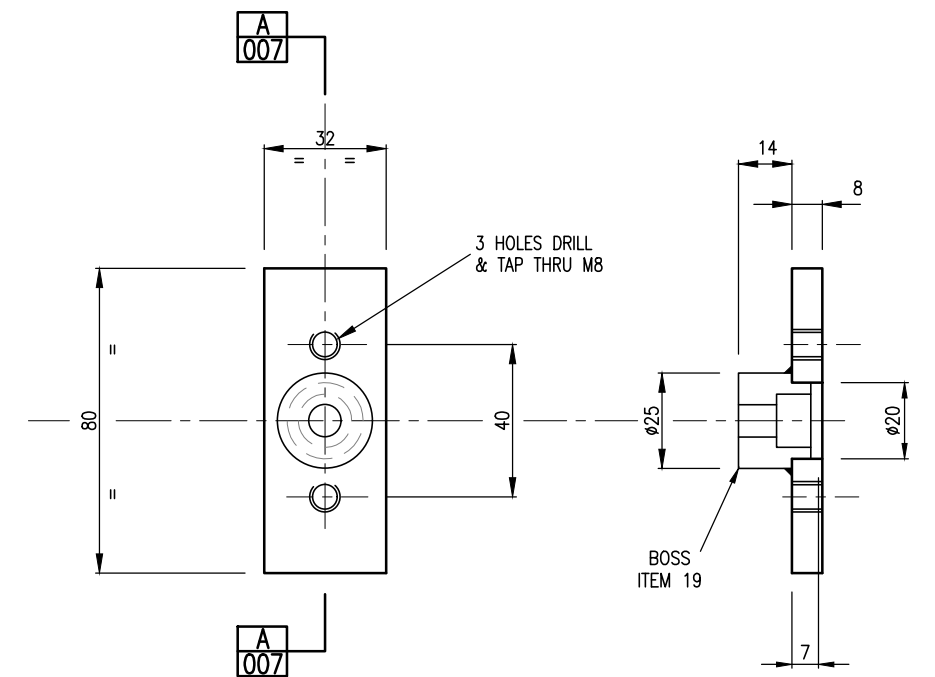


ITEM 11 LOWER STAY L.H. (AS DRAWN)

MATERIAL:- 316 STAINLESS STEEL

ITEM 12 LOWER STAY R.H. (OPPOSITE HAND)

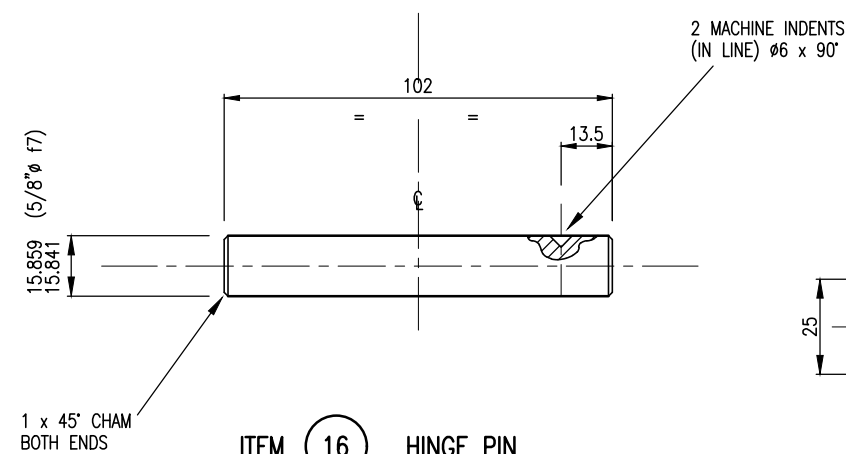
MATERIAL:- 316 STAINLESS STEEL



ITEM 13 LOWER STAY MOUNT

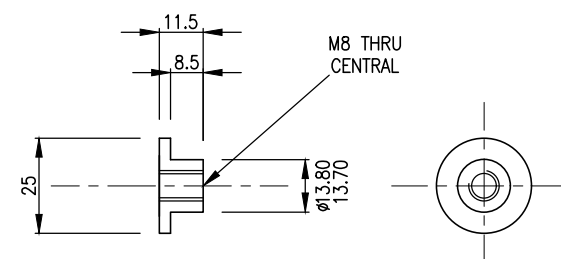
MATERIAL:- 316 STAINLESS STEEL

SECTION A 007



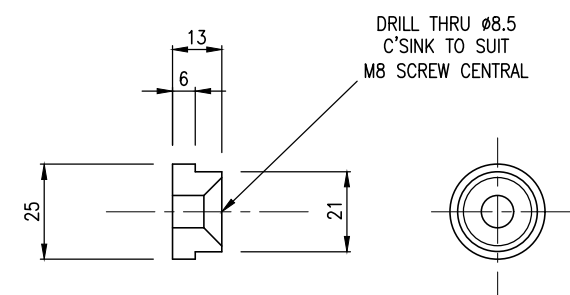
ITEM 16 HINGE PIN

MATERIAL:- BRASS



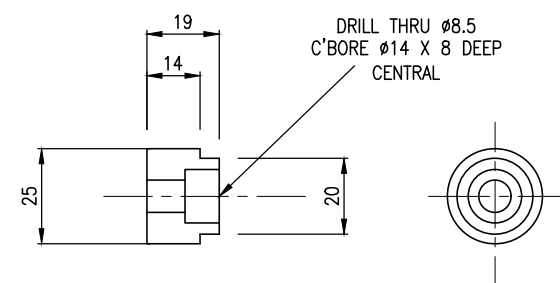
ITEM 17 FLANGED PIVOT BUSH

MATERIAL:- 316 STAINLESS STEEL



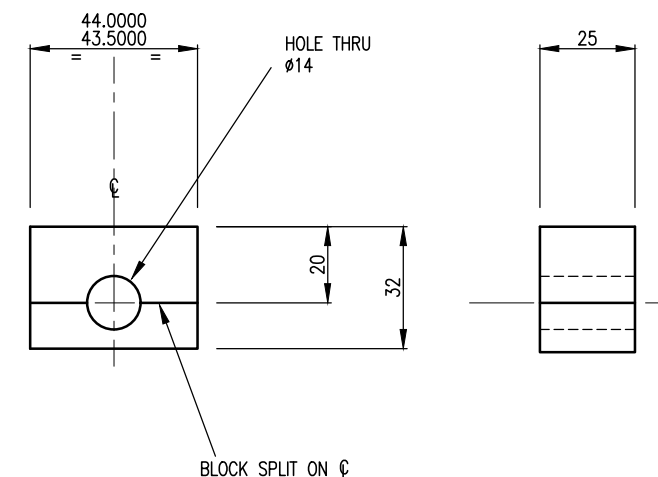
ITEM 18 BOSS

MATERIAL:- 316 STAINLESS STEEL



ITEM 19 BOSS

MATERIAL:- 316 STAINLESS STEEL



ITEM 20 TORSION BAR BEARING

MATERIAL:- U.H.W.M.P.E.

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
B	05-25	UPDATED STAY DETAILS	F.F.	P.H.	PROJECT LEADER	W. STRYDOM
A	02-02	TITLE CHANGED	B.M.	A.D.	APPROVED	

DESIGNED	PELTECH	04-20
DRAWN	PELTECH	04-20
OPERATIONS: HEAD OF WASTEWATER		
A. DEUTSCHLE		
PLANNING: HEAD OF WASTEWATER		

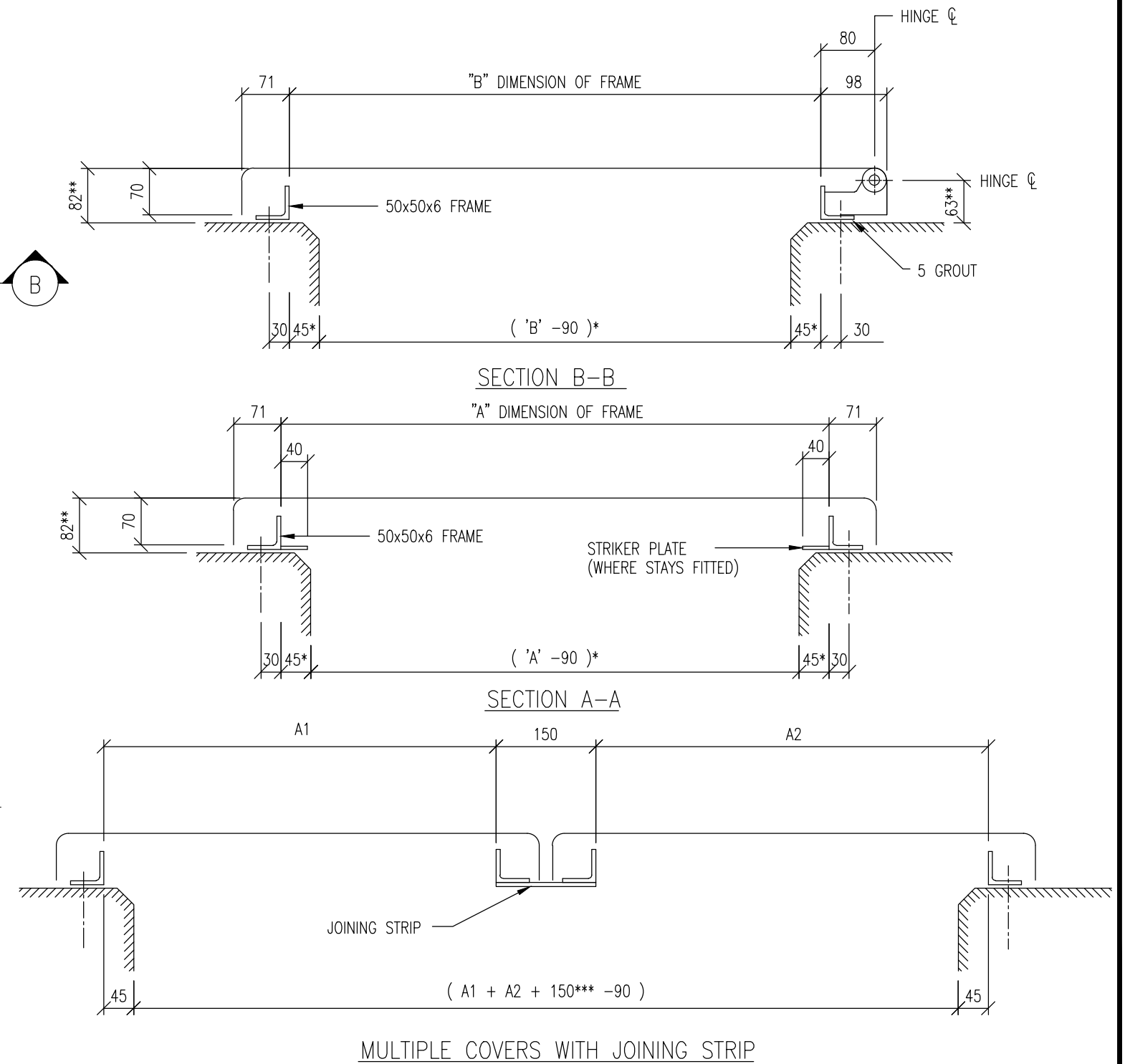
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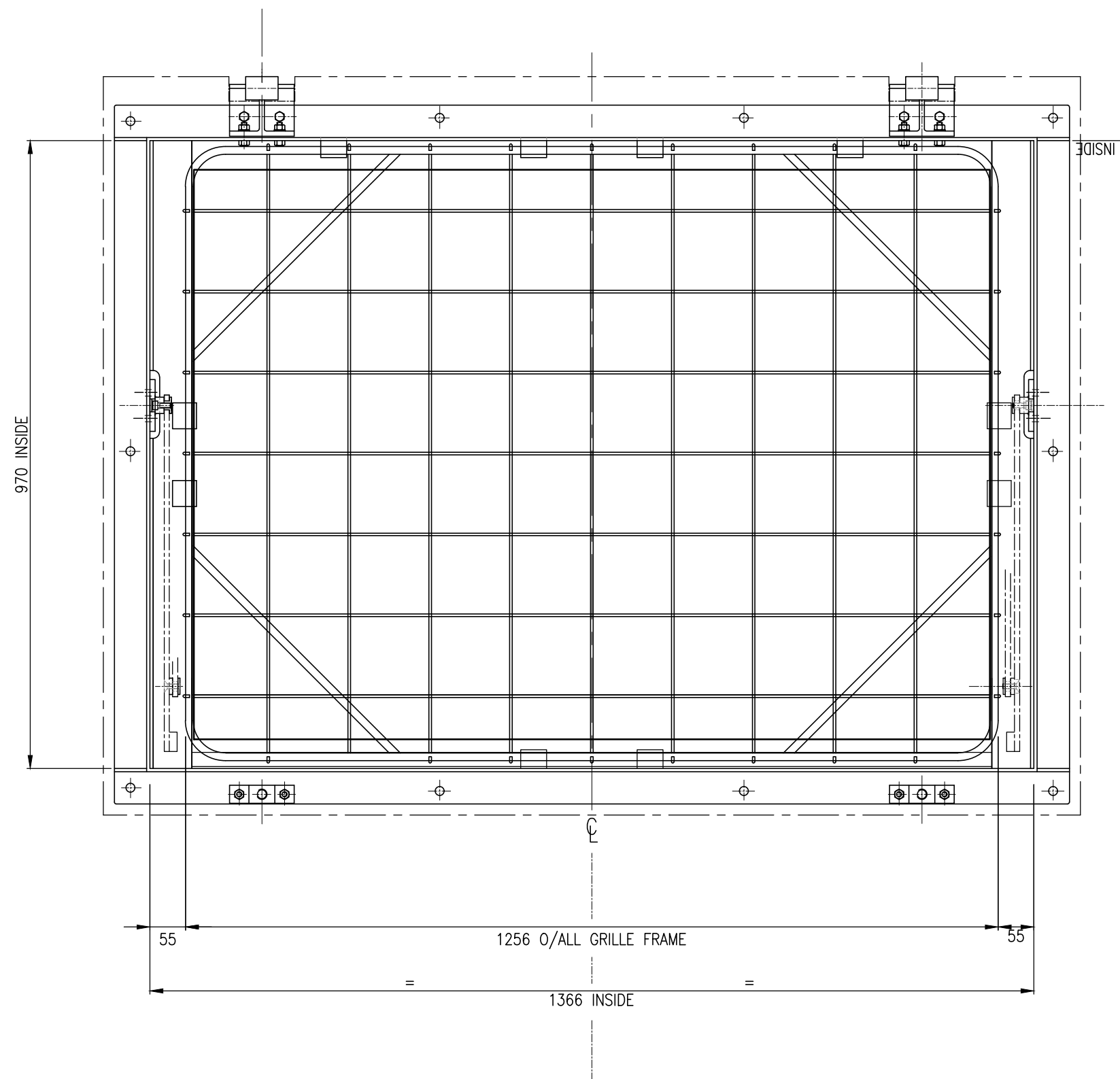
WASTEWATER RETICULATION STANDARD ACCESS HATCH COVER STAYS DETAILS - SHEET 2

CAD FILE 2003160.007B	DATE 23-05-25
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2003160	ISSUE B

* = UNLESS OTHERWISE SHOWN
 ** = ASSUMES 5mm GROUT UNDER FRAME
 *** = 150mm PER JOINING STRIP



					DESIGNED	PELTECH	04-20	J. PIGGOT	COPYRIGHT This drawing, the design and concept, remain the exclusive property of Watercare Services Limited and may not be used without approval Copyright reserved.		WASTEWATER RETICULATION ACCESS HATCH COVER	CAD FILE 2003160.008	DATE 23-05-25
					DRAWN	PELTECH	04-20	OPERATIONS: HEAD OF WASTEWATER				ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
A	05-25	ACCESS COVER CHANGED	F.F.	P.H.	PROJECT LEADER	W. STRYDOM	05-25	A. DEUTSCHLE				DRAWING No. 2003160 .008	ISSUE A
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE	A.D. APPROVED	PLANNING: HEAD OF WASTEWATER				



ISSUE	DATE	AMENDMENT	BY	APPD.	DATE
A	05-25	ACCESS COVER CHANGED	F.F.	P.H.	

DESIGNED	PELTECH	04-20
DRAWN	PELTECH	04-20
PROJECT LEADER	W. STRYDOM	05-25
A.D. APPROVED		
BY		DATE

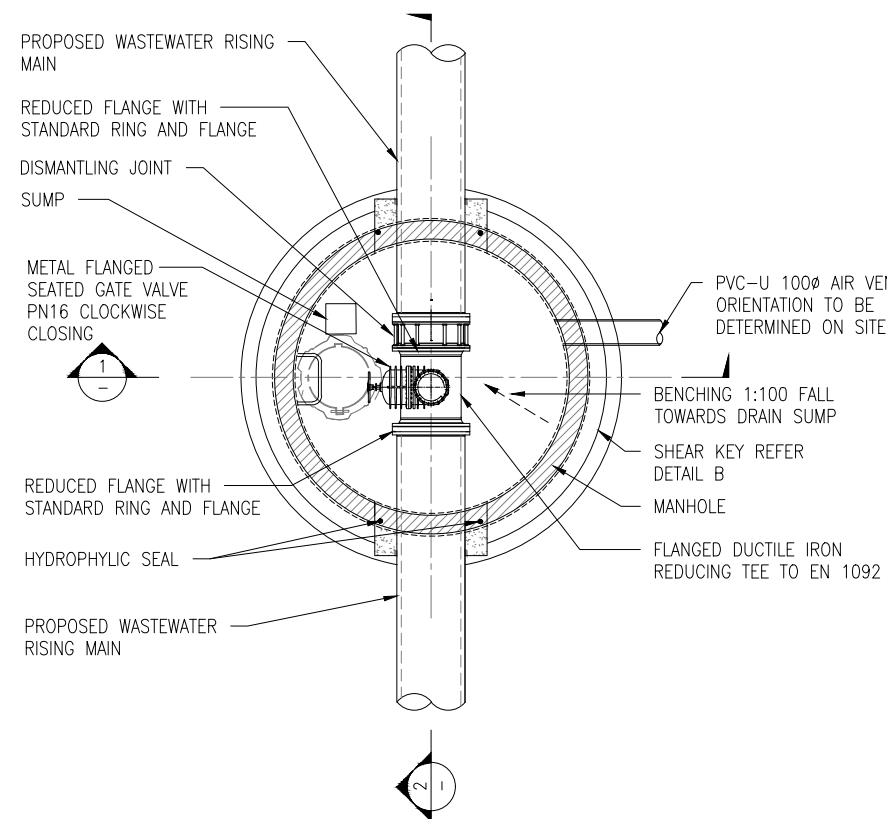
J. PIGGOT
 OPERATIONS: HEAD OF
 WASTEWATER

A. DEUTSCHLE
 PLANNING: HEAD OF
 WASTEWATER

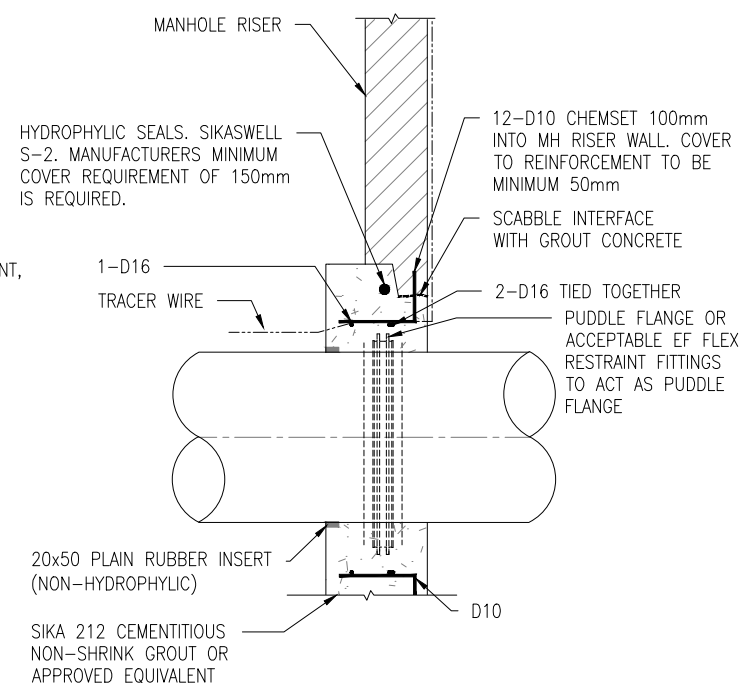


WASTEWATER RETICULATION
ACCESS HATCH COVER WITH SAFETY GRILLE
 GENERAL ASSEMBLY

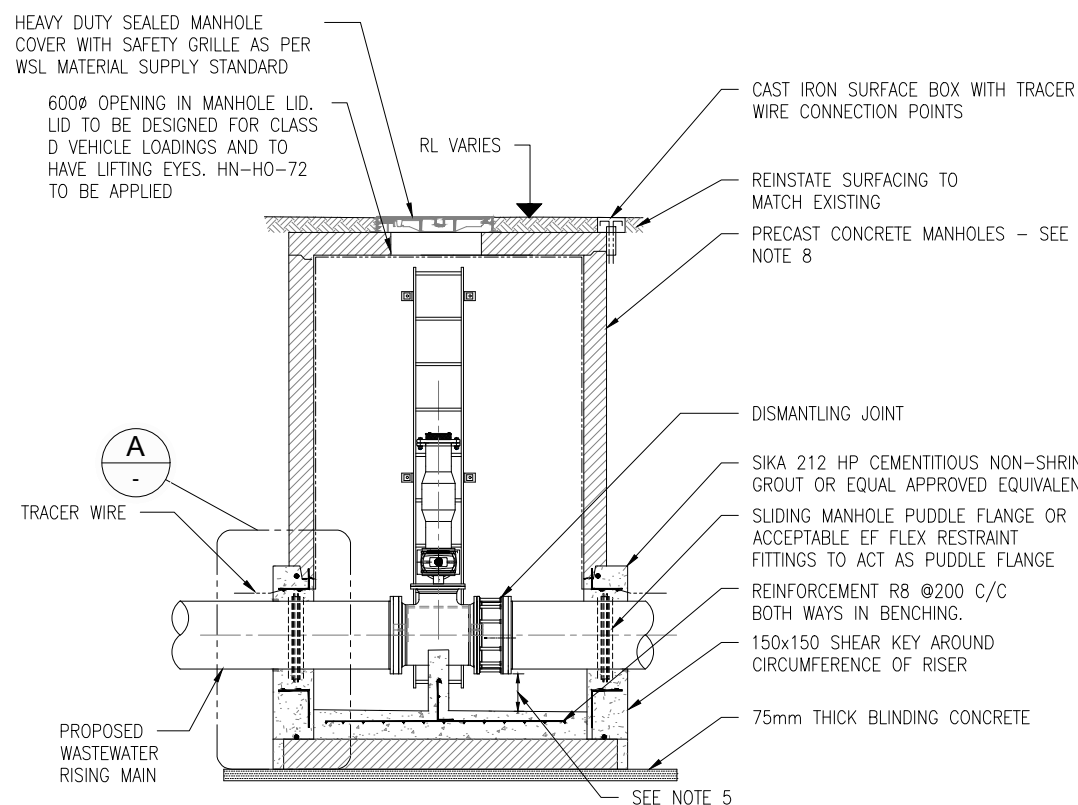
CAD FILE 2003160.009	DATE 23-05-25
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2003160 .009	ISSUE A



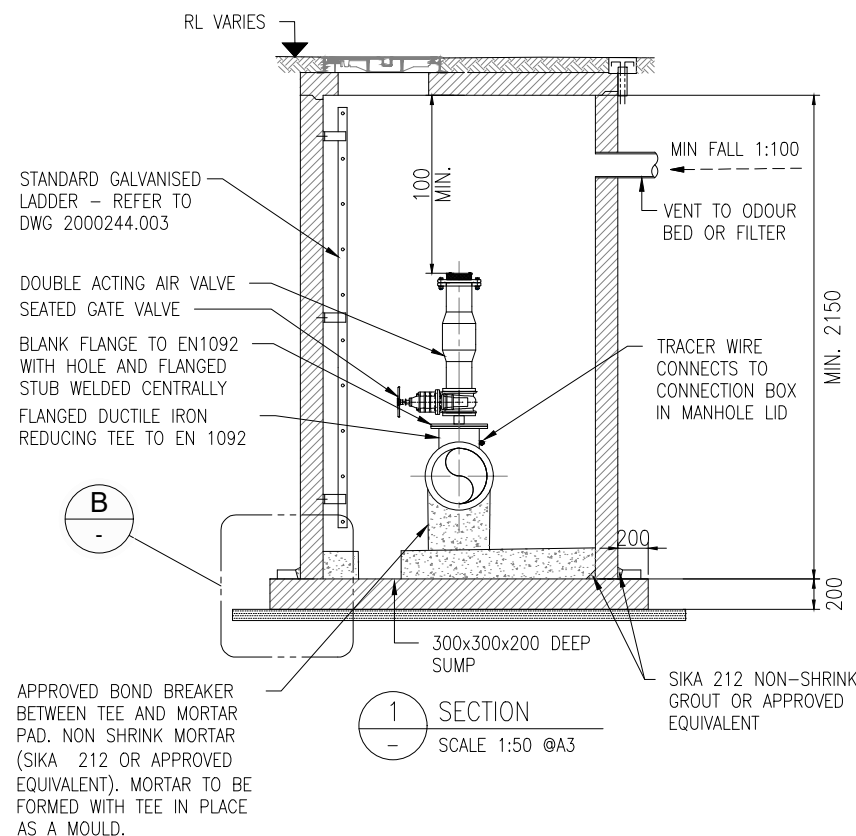
PLAN – AIR VALVE CHAMBER
SCALE 1:50 @A3



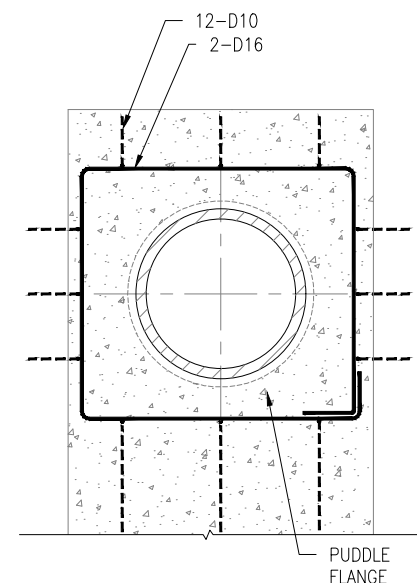
A DETAIL – PUDDLE FLANGE FIXING
SCALE 1:20 @A3



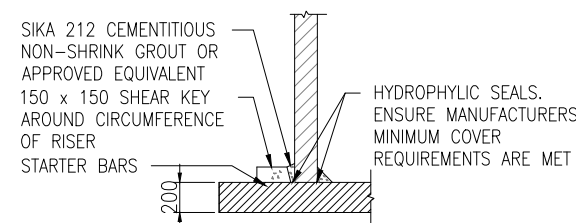
2 SECTION
SCALE 1:50 @A3



1 SECTION
SCALE 1:50 @A3



B DETAIL – SHEAR KEY DETAIL
SCALE 1:50 @A3



NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
- MINIMUM DEPTH OF CHAMBER TO BE 2150mm.
- ALL MILD STEEL TO HAVE BELZONA PROTECTIVE COATING APPLIED.
- AIR VALVE AS PER MATERIAL SUPPLY STANDARD.
- MINIMUM CLEARANCE OF 300mm BETWEEN BOTTOM OF FLANGE AND TOP OF FLOOR LEVEL.
- ALL FLANGES CONNECTED TO VALVES TO BE TO BS EN 1092 PN16 TYPE 01 WITH TYPE A FACING (16 BAR SLIP ON FLANGES) UNLESS APPROVED OTHERWISE BY THE ENGINEER. REFER TO WATERCARE MATERIAL SUPPLY STANDARD.
- SUMP TO BE LOCATED IN A POSITION WHERE IT'S ACCESSIBLE FROM ABOVE GROUND WITHOUT ENTERING THE CHAMBER.
- REFER TO WATERCARES MATERIAL SUPPLY STANDARD FOR ACCEPTABLE MATERIALS AND EQUIPMENT.

DESIGNED	TBC	05-25
DRAWN	F. FAROOK	05-25
PRINCIPAL ENG.	W. STRYDOM	05-25
A.D. APPROVED		
BY	DATE	

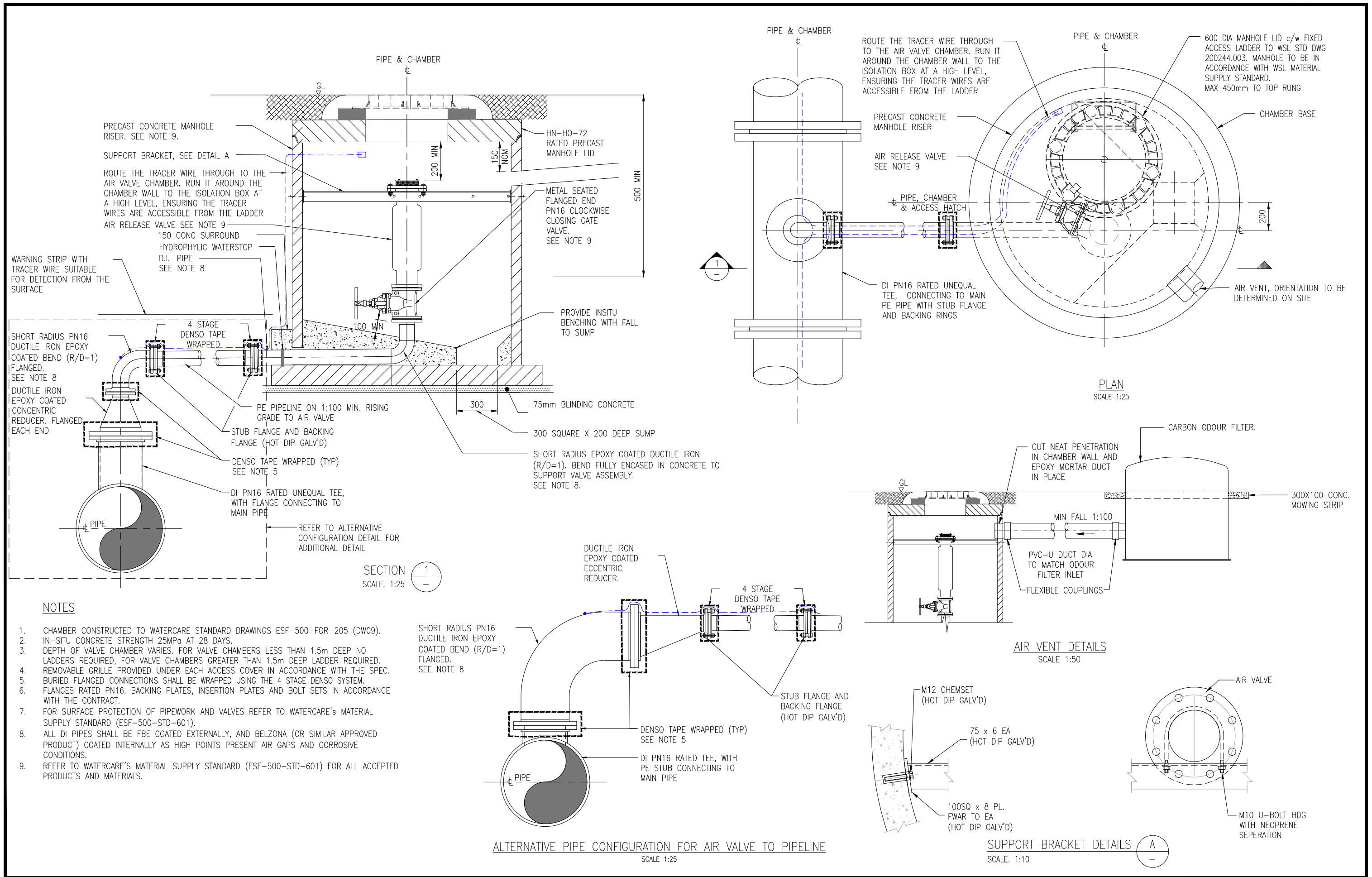
J. PIGGOT
OPERATIONS: HEAD OF WASTEWATER
A. DEUTSCHLE
PLANNING: HEAD OF WASTEWATER

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AIR VALVE & CHAMBER DETAILS (ON-LINE)

CAD FILE 2000244.051	DATE 23-05-25
ORIGINAL SCALE A3	CONTRACT No.
AS SHOWN	–
DRAWING No.	ISSUE
2000244 .051	A



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						DRAWN	F. FAROOK	05-25				A. DEUTSCHLE PLANNING: HEAD OF WASTEWATER	ORIGINAL SCALE A3		CONTRACT No.				
						PRINCIPAL ENG.	W. STRYDOM	05-25					AS SHOWN		-				
A	05-25	APPROVED FOR ISSUE			F.F.	P.H.	A.D. APPROVED					DRAWING No.		ISSUE					
ISSUE	DATE	AMENDMENT			BY	APPD.	BY		DATE			2000244		.052		A			

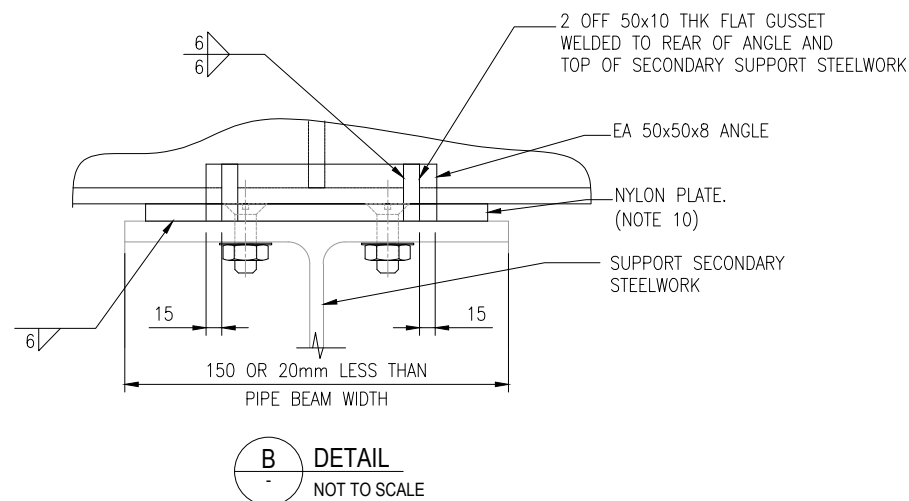
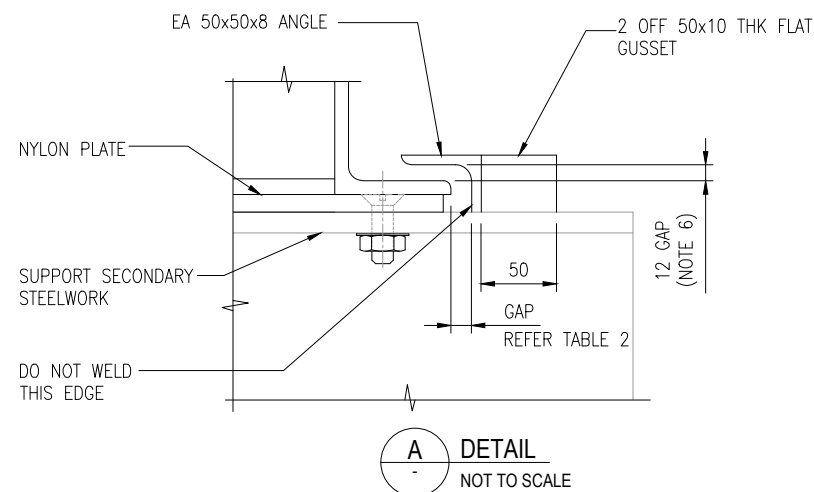
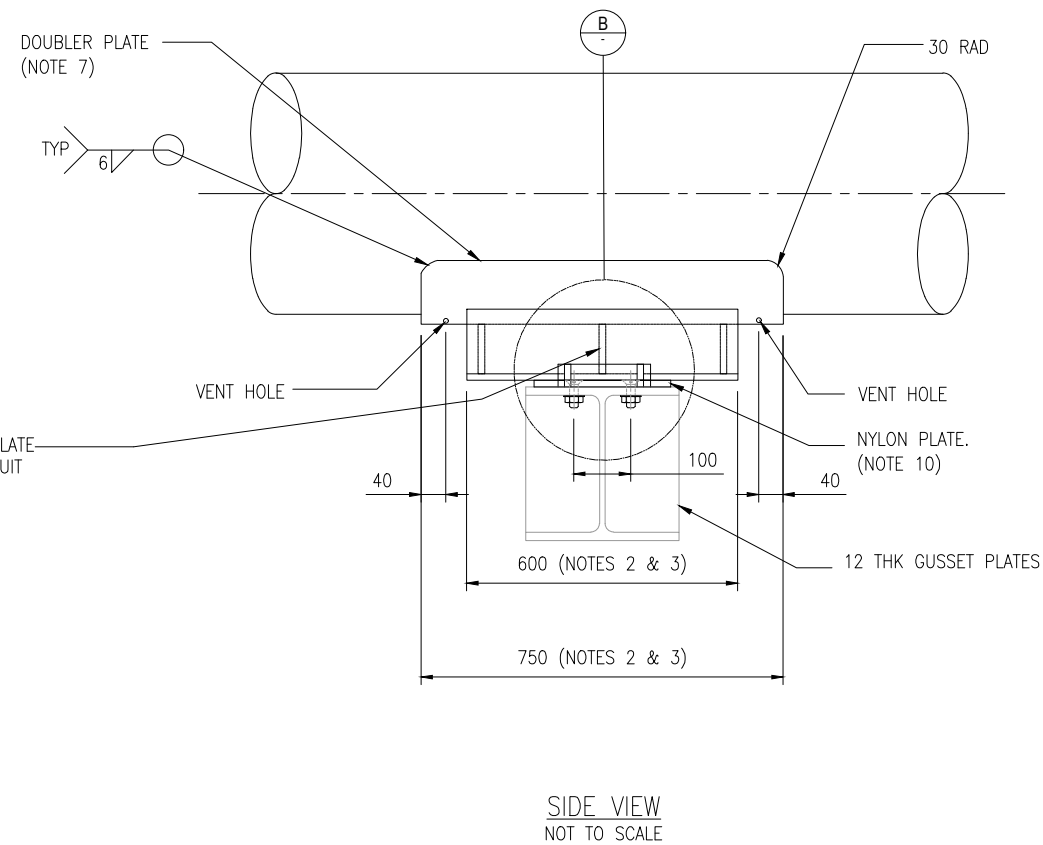
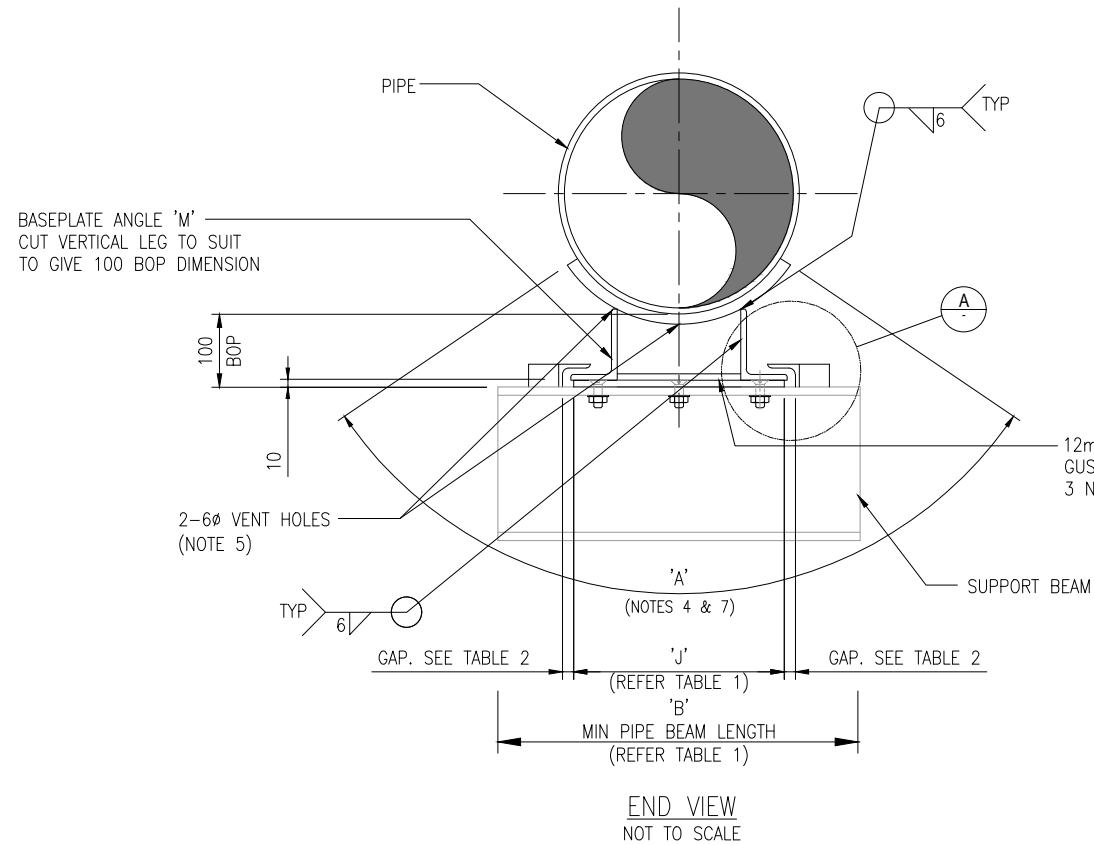


TABLE 1:

PIPE SIZE (DN)	'J'	'M'	'B'
200	300	125x75x12	600
250	320	125x75x12	620
300	340	125x75x12	640
350	360	125x75x12	660
400	380	125x75x12	680
450	400	125x75x12	700
500	420	125x75x12	720
600	440	125x75x12	740

TABLE 2:

PIPE SIZE (DN)	GAP WIDTH (mm)
200	5
250	5
300	5
350	5
400	5
450	5
500	5
600	20

NOTES

- ALL SUPPORTING STEEL SHALL BE GRADE 300 STEEL TO AS 1163, AS/NZS 3678, OR EQUIVALENT U.N.O
- LOCATE SHOE CENTRAL ON ALL SUPPORT STEELWORK.
- UNLESS SPECIFIED ON PIPING DRAWINGS, SUPPORT GAPS ARE AS SHOWN IN TABLE 2.
- DIMENSION 'A' IS 1/3 CIRCUMFERENCE OF RUN PIPE FROM WHICH DOUBLER PLATE IS CUT.
- VENT HOLES REQUIRED ON DOUBLER PLATE ONLY. FILL WITH GREASE AFTER TESTING.
- CUT GUIDE STOP ANGLE TO ENSURE VERTICAL 12mm GAP BETWEEN ANGLE 'M' AND GUIDE STOP ANGLE.
- DOUBLER PLATES TO BE SAME WALL THICKNESS AS PIPE.
- PAINT STEELWORK IN ACCORDANCE WITH WATERCARE MATERIAL SUPPLY STANDARDS AND MANUFACTURERS SPECIFICATION.
- DIMENSIONS IN mm UNLESS NOTED OTHERWISE
- 10mm THICK NYLON PLATE FIXED TO SECONDARY STEEL BENEATH BY 6 NO. M12 COUNTERSUNK FLATHEAD SCREW AND NUT FIXINGS. ALLOWS BASEPLATE TO SLIDE OVER ITS TOP SURFACE.
- FABRICATION SHALL COMPLY WITH AS/NZS 5131.
- REFER TO WATERCARES GENERAL MECHANICAL CONSTRUCTION STANDARD FOR STRUCTURAL STEEL AND MATERIAL GRADE REQUIREMENTS.

				DESIGNED	TBC	05-25
				DRAWN	F. FAROOK	05-25
				PRINCIPAL ENG.	W. STRYDOM	05-25
A	05-25	APPROVED FOR ISSUE	F.F.	P.H.	A.D. APPROVED	
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

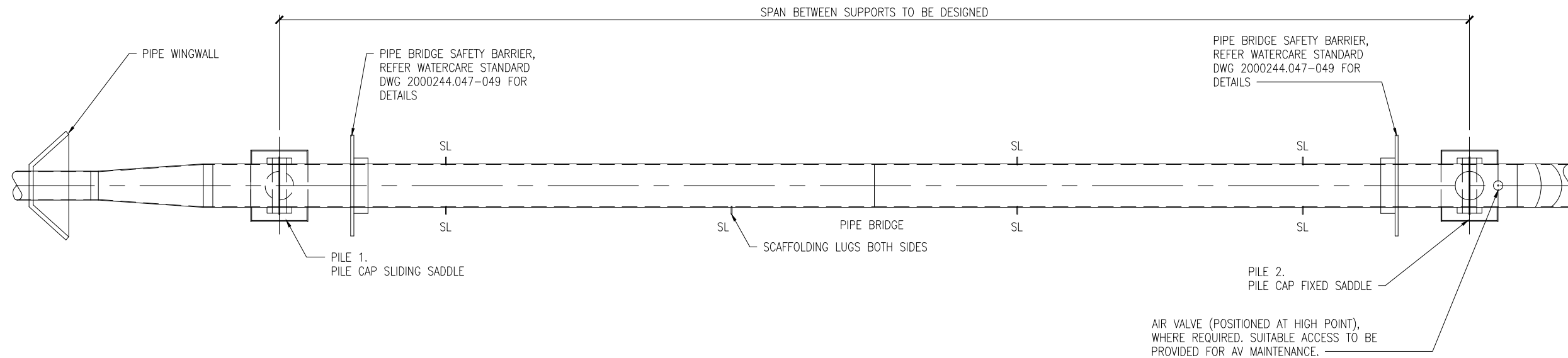
J. PIGGOT
OPERATIONS: HEAD OF
WASTEWATER
A. DEUTSCHLE
PLANNING: HEAD OF
WASTEWATER

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PIPE GUIDES FOR DN200 TO DN600 STEEL PIPES

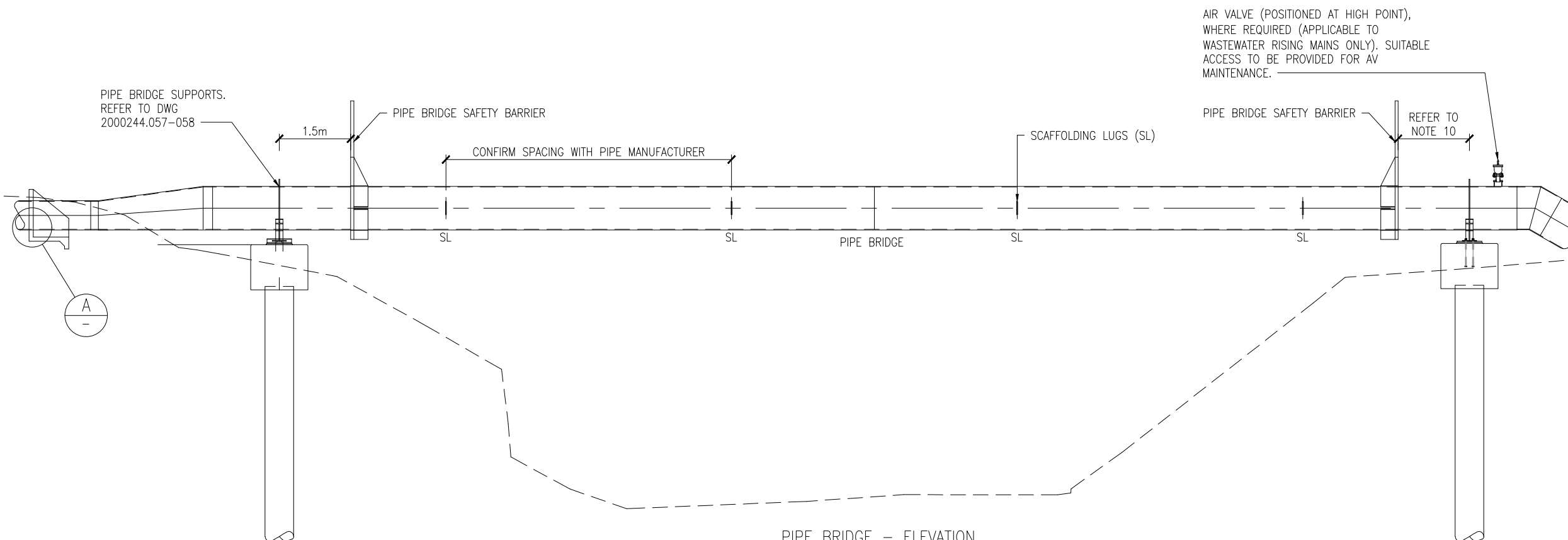
CAD FILE 2000244.054	DATE 23-05-25
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2000244 .054	ISSUE A



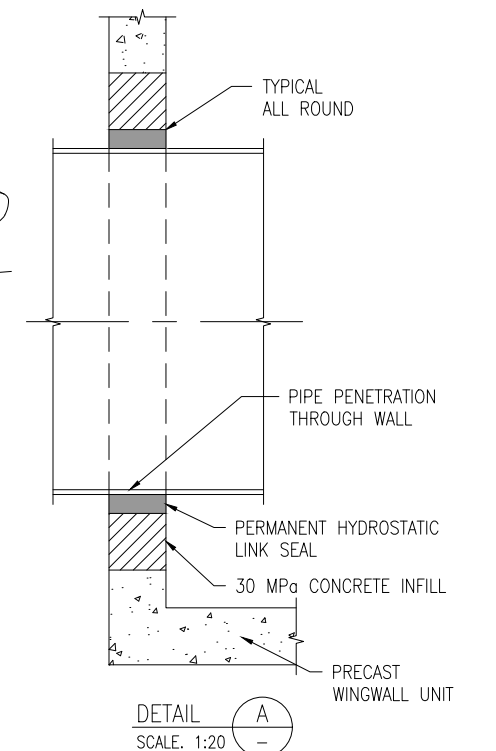
PIPE BRIDGE – PLAN
SCALE 1 : 100

NOTES

1. ALL SUPPORTING STEEL INCLUDING GUSSET PLATES, CLEATS AND STIFFENERS SHALL BE GRADE 300 STEEL TO AS 1163, AS/NZS 3678 OR EQUIVALENT U.N.O.
2. FABRICATION SHALL COMPLY WITH AS/NZS 5131
3. ALL WELDS TO STEEL SHALL BE DESIGNED AS CONTINUOUS FILLET WELD (CFW) OR FILLET WELD ALL ROUND (FWAR) AND BE MIN. 6mm.
4. PAINT STEELWORK IN ACCORDANCE WITH WATERCARE MATERIAL SUPPLY STANDARDS AND THE MANUFACTURERS SPECIFICATION.
5. PAINT COLOUR SHALL BE AS PER WATERCARES GENERAL CIVIL CONSTRUCTION STANDARD OR AGREED WITH ASSET OWNER WHERE PIPE BRIDGE IS INSTALLED ALONG AN EXISTING STRUCTURE.
6. PIPE BRIDGE CAMBER SHALL BE ACCOUNTED FOR IN DESIGN AS REQUIRED.
7. REFER TO WATERCARES GENERAL MECHANICAL CONSTRUCTION STANDARD FOR STRUCTURAL STEEL WELDING REQUIREMENTS.
8. REFER TO WATERCARE MATERIAL SUPPLY STANDARD FOR PIPE PROTECTION AT TRANSITIONING SECTIONS BETWEEN ABOVE AND BELOW GROUND.
9. THIS DRAWING IS AN EXAMPLE ONLY AND ILLUSTRATES THE MINIMUM FEATURES.
10. PIPE BRIDGE SAFETY BARRIER TO BE PLACED IN SUCH A POSITION THAT IT PREVENTS ACCESS FROM THE GROUND TO THE PIPE.



PIPE BRIDGE – ELEVATION
SCALE 1 : 100



DETAIL A
SCALE 1:20

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A	05-25	APPROVED FOR ISSUE	F.F.	P.H.	A.D. APPROVED				PLANNING: HEAD OF WASTEWATER	
ISSUE	DATE	AMENDMENT	BY	APPD.			BY	DATE		

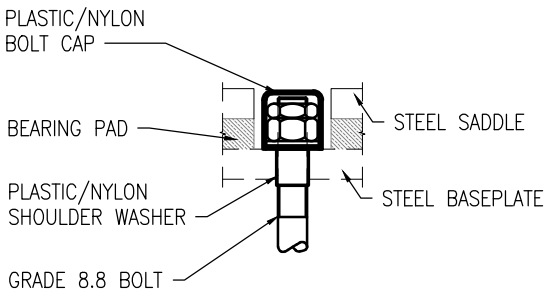


PIPE BRIDGE EXAMPLE FOR STEEL PIPES
PLAN AND ELEVATION, PIPE CAMBER

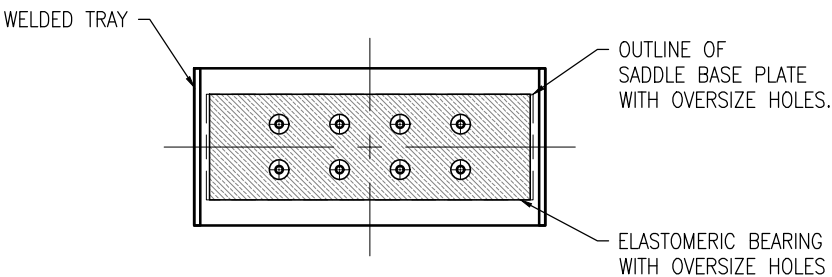
CAD FILE 2000244.055	DATE 23-05-25
ORIGINAL SCALE A3	CONTRACT No.
AS SHOWN	-
DRAWING No.	ISSUE
2000244 .055	A

NOTES

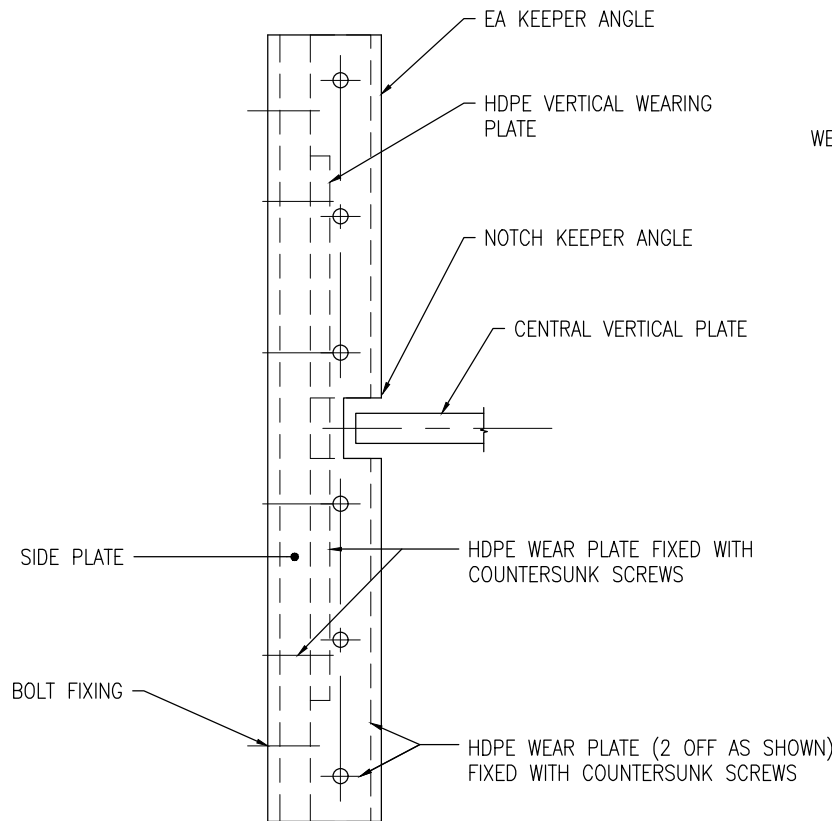
1. ALL PIPE SUPPORT ELEMENTS SHALL BE DESIGNED AND SIZED APPROPRIATELY FOR THE SIZE AND LANDING OF THE PIPE BRIDGE.
2. ALL SUPPORTING STEEL INCLUDING GUSSET PLATES, CLEATS AND STIFFENERS SHALL BE GRADE 300 STEEL TO AS 1163, AS/NZS 3678 OR EQUIVALENT U.N.O.
3. FABRICATION SHALL COMPLY WITH AS/NZS 5131
4. REFER TO WATERCARE'S GENERAL MECHANICAL CONSTRUCTION STANDARD FOR STRUCTURAL STEEL AND MATERIAL GRADE REQUIREMENTS.



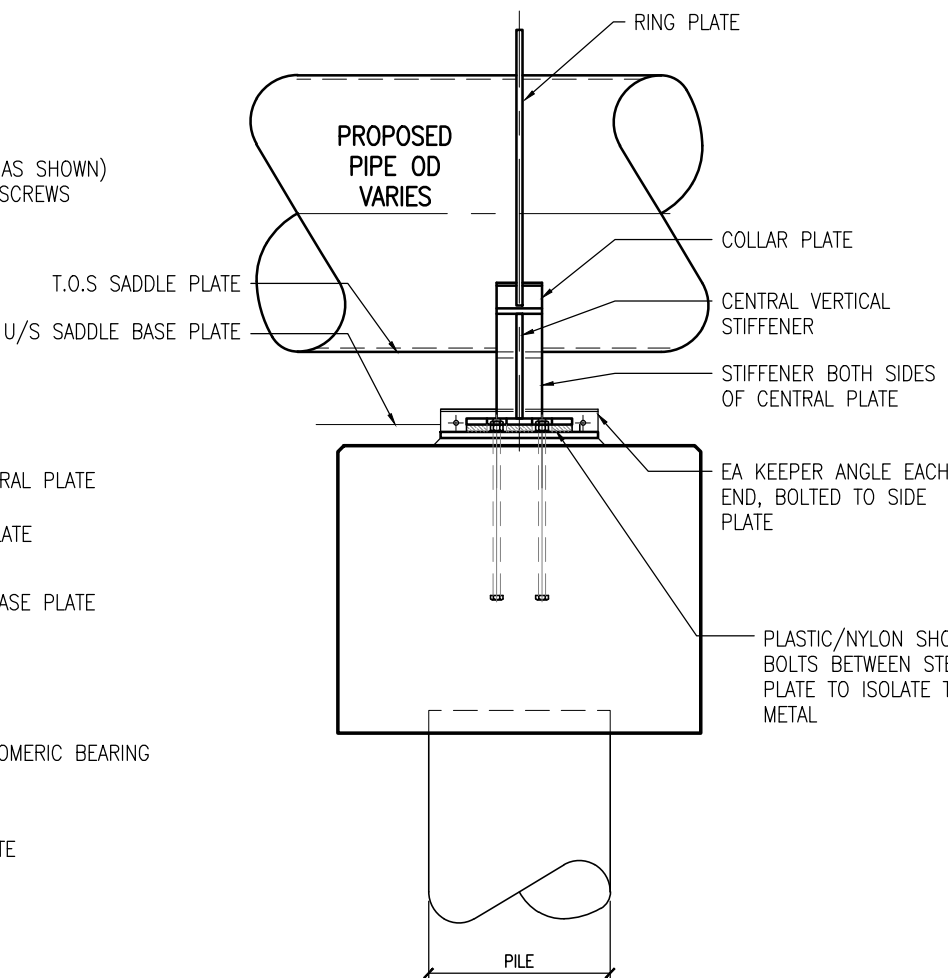
CATHODIC PROTECTION
TO BOLT HEADS



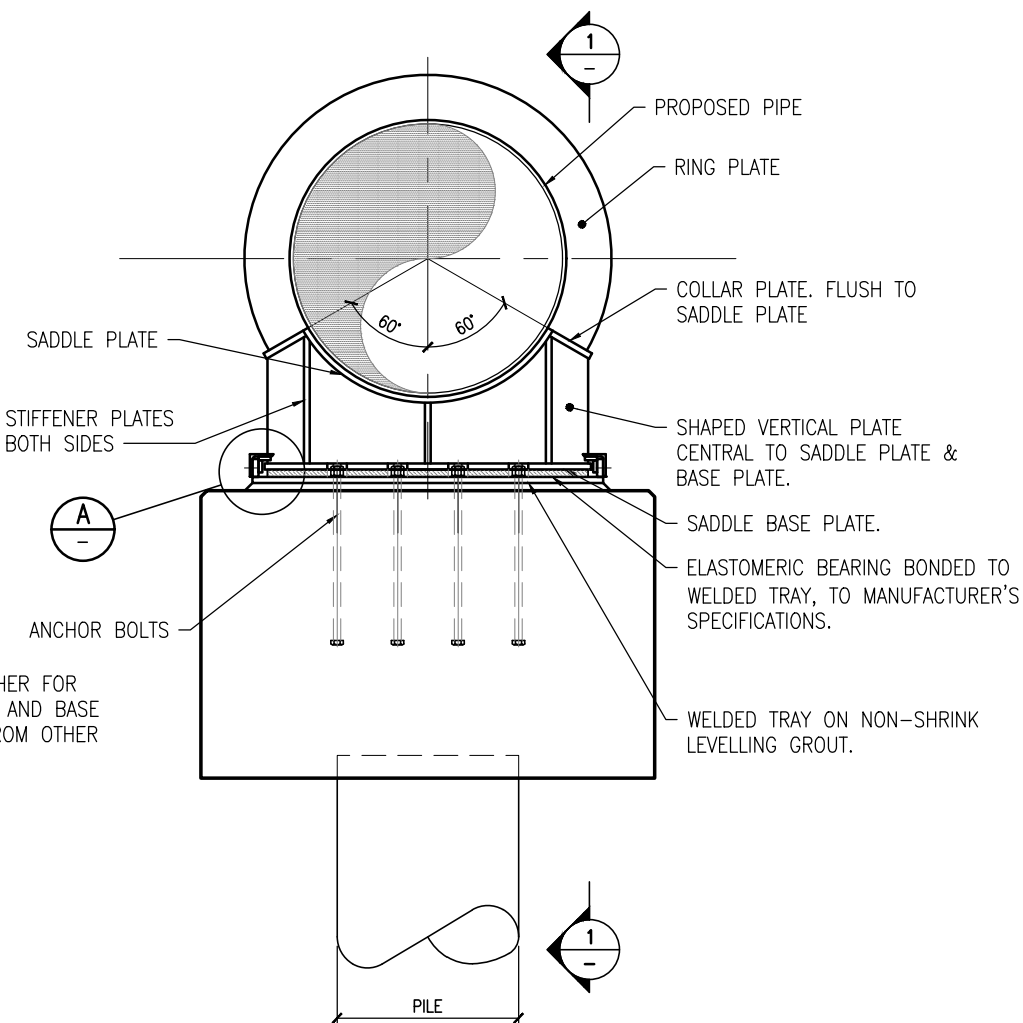
BASE PLATE & BEARING - LAYOUT PLAN



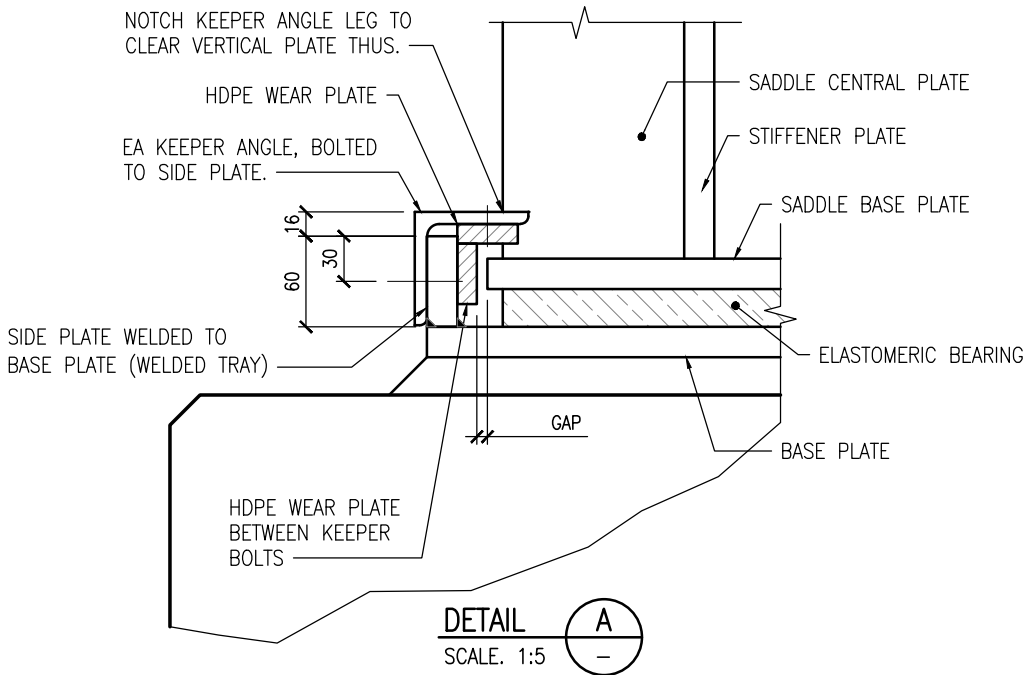
KEEPER ANGLE - PLAN VIEW



SECTION 1
SCALE. 1:25



PIPE SADDLE DETAIL - SLIDING
SCALE 1 : 25



DETAIL A
SCALE. 1:5

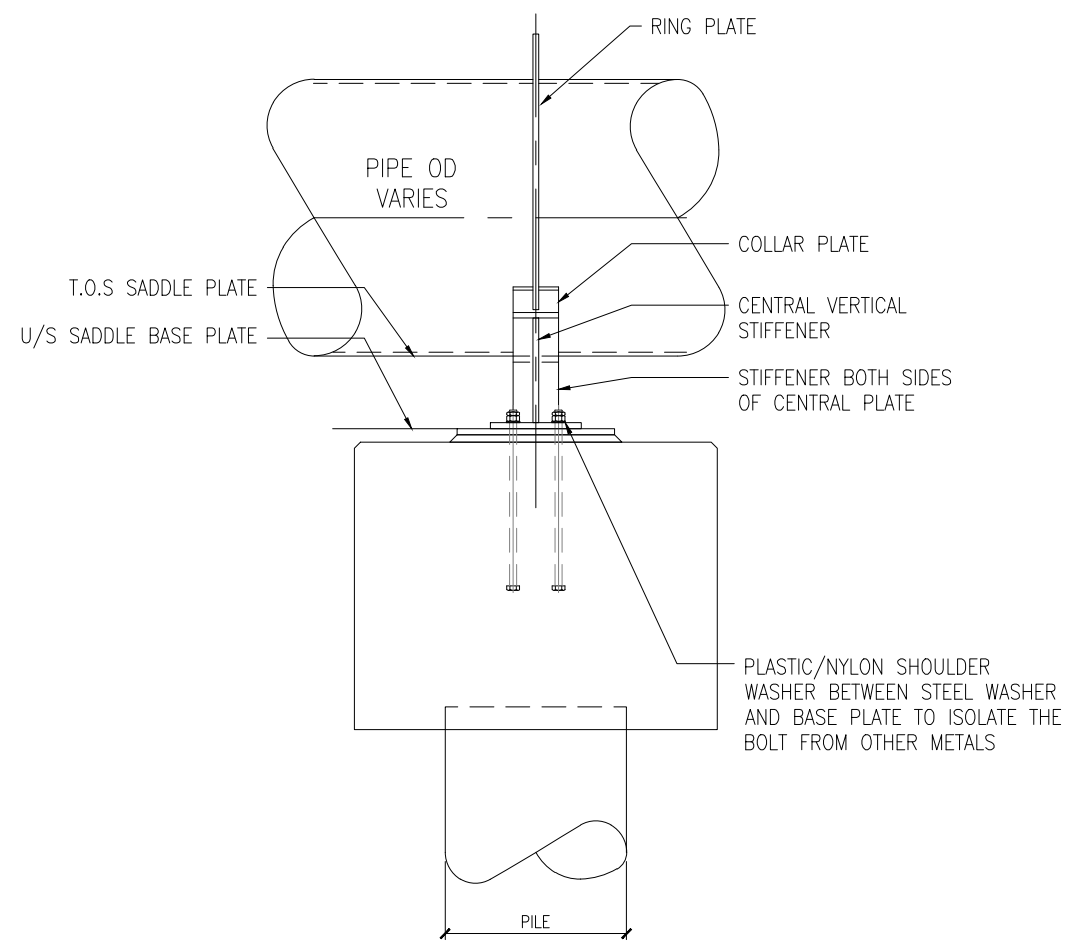
				DESIGNED	TBC	05-25	J. PIGGOT	COPYRIGHT
				DRAWN	F. FAROOK	05-25	OPERATIONS: HEAD OF WASTEWATER	This drawing, the design and concept, remain the exclusive property of Watercare Services Limited and may not be used without approval Copyright reserved.
				PRINCIPAL ENG.	W. STRYDOM	05-25	A. DEUTSCHLE	
				A.D. APPROVED			PLANNING: HEAD OF WASTEWATER	
A	05-25	APPROVED FOR ISSUE	F.F.	P.H.				
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE		

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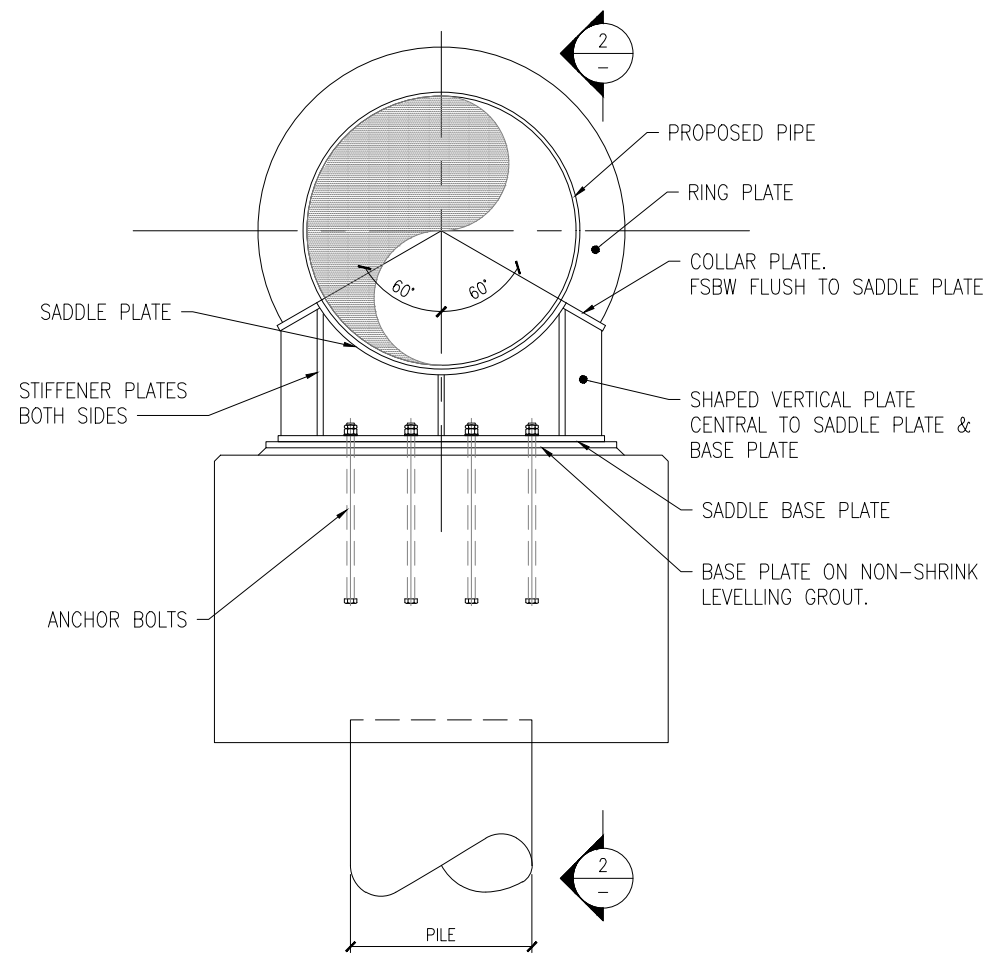


PIPE BRIDGE
PIPE SUPPORT SLIDING SADDLE EXAMPLE - STEEL PIPES
SECTIONS AND DETAILS

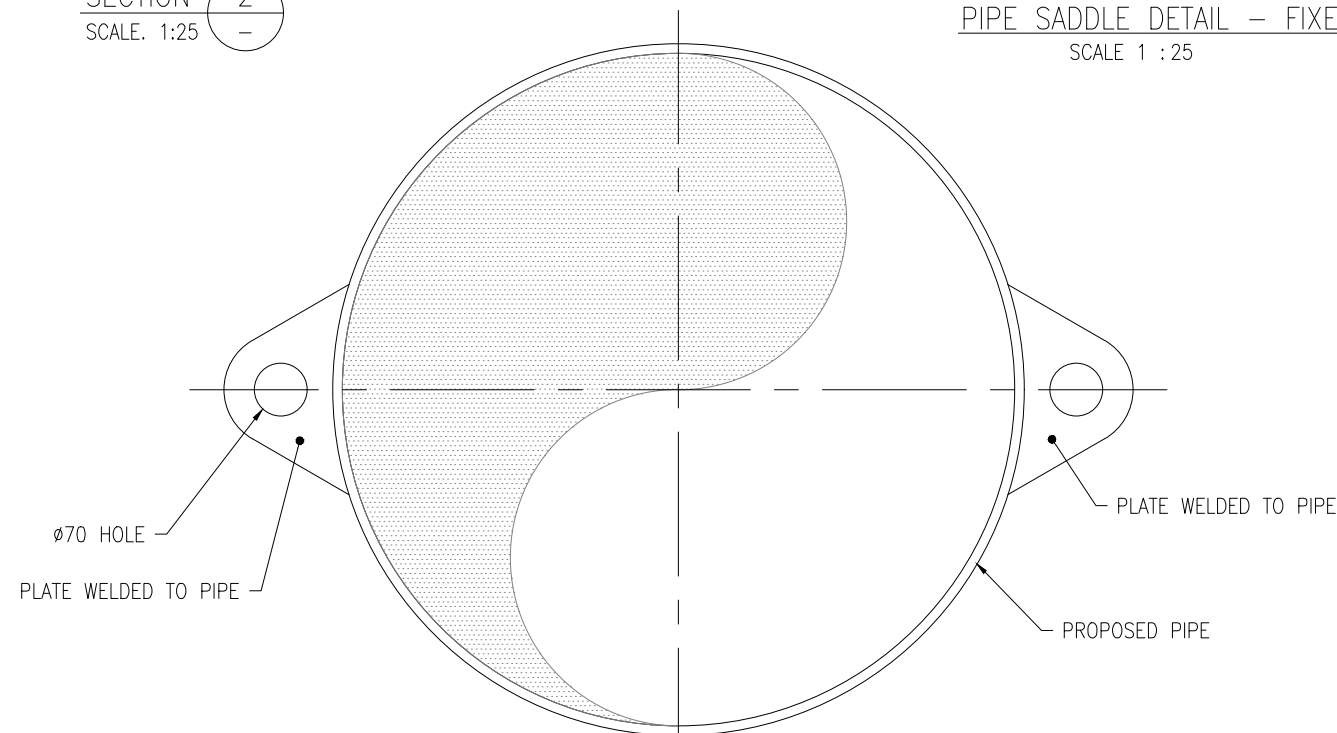
CAD FILE 2000244.056	DATE 23-05-25
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
DRAWING No. 2000244	ISSUE A
.056	



SECTION 2
SCALE. 1:25



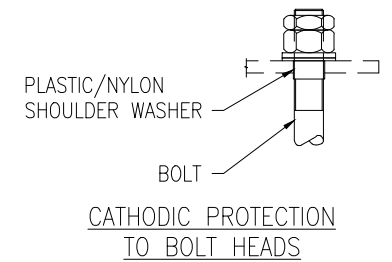
PIPE SADDLE DETAIL – FIXED
SCALE 1 : 25



DETAIL B
SCALE. 1:10
TYPICAL DETAIL OF SCAFFOLDING LUG

NOTES

- ALL SUPPORTING STEEL INCLUDING GUSSET PLATES, CLEATS AND STIFFENERS SHALL BE GRADE 300 STEEL TO AS 1163, AS/NZS 3678 OR EQUIVALENT U.N.O.
- FABRICATION SHALL COMPLY WITH AS/NZS 5131



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A	05-25	APPROVED FOR ISSUE	F.F.	P.H.	A.D. APPROVED		PLANNING: HEAD OF WASTEWATER	
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE		



PIPE BRIDGE
FIXED SADDLE & SECTIONS AND DETAILS – STEEL PIPE

CAD FILE 2000244.057	DATE 23-05-25
ORIGINAL SCALE A3	CONTRACT No.
AS SHOWN	-
DRAWING No. 2000244.057	ISSUE A