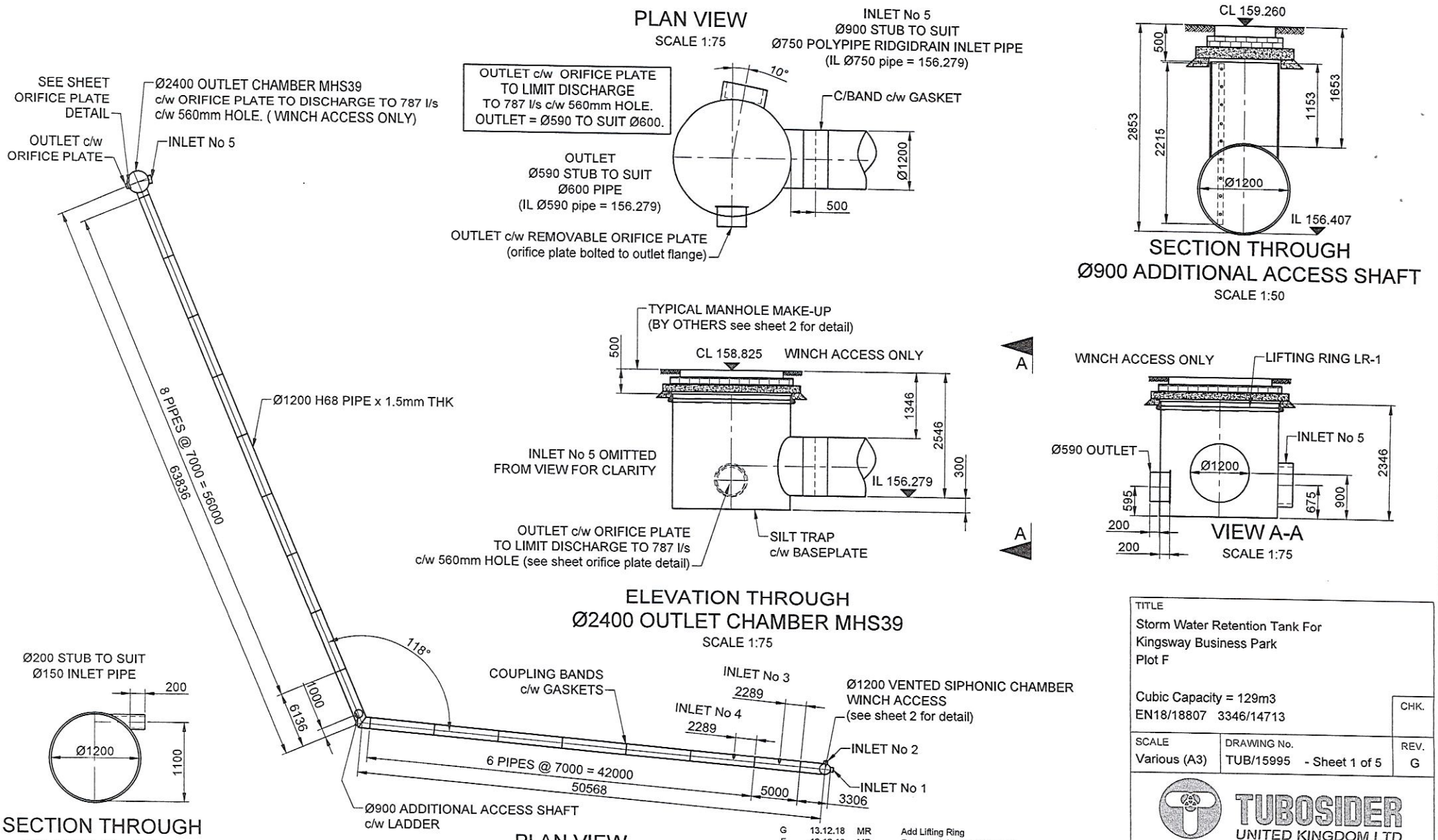


Rev.	Date	Drawn	Description
G	13.12.18	MR	Add Lifting Ring
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E	10.12.18	MH	Remove Ladder From Outlet Chamber
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C	5.12.18	MR	For Comment/Approval
B	21.11.18	MR	Amend Tank Lenght & Volume
A	19.11.18	MR	Amend Tank Length & Volume
-	1.11.18	MR	Sales Drawing

TITLE
Storm Water Retention Tank For
Kingsway Business Park
Plot F

Cubic Capacity = 129m3
EN18/18807 3346/14713

CHK.

SCALE	DRAWING No.	REV.
Various (A3)	TUB/15995 - Sheet 1 of 5	G

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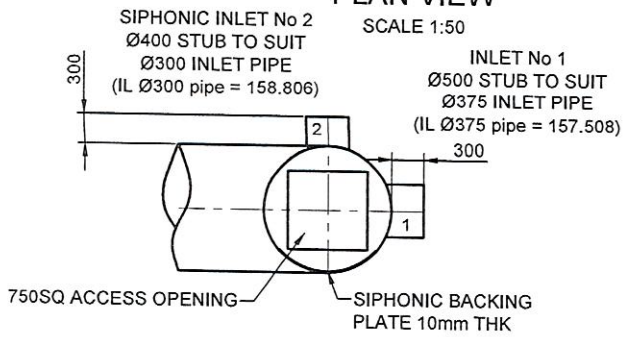
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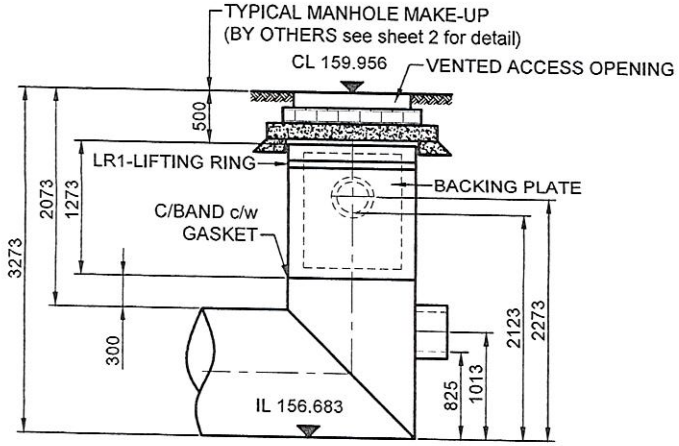
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PLAN VIEW

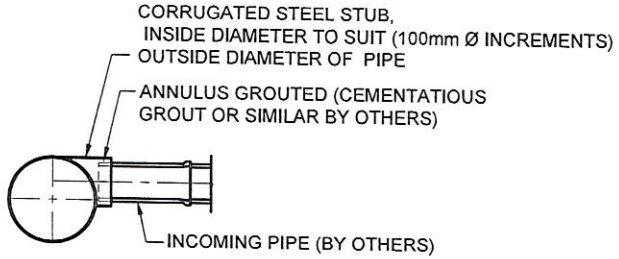
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ELEVATION THROUGH Ø1200 ACCESS SHAFT MHS37

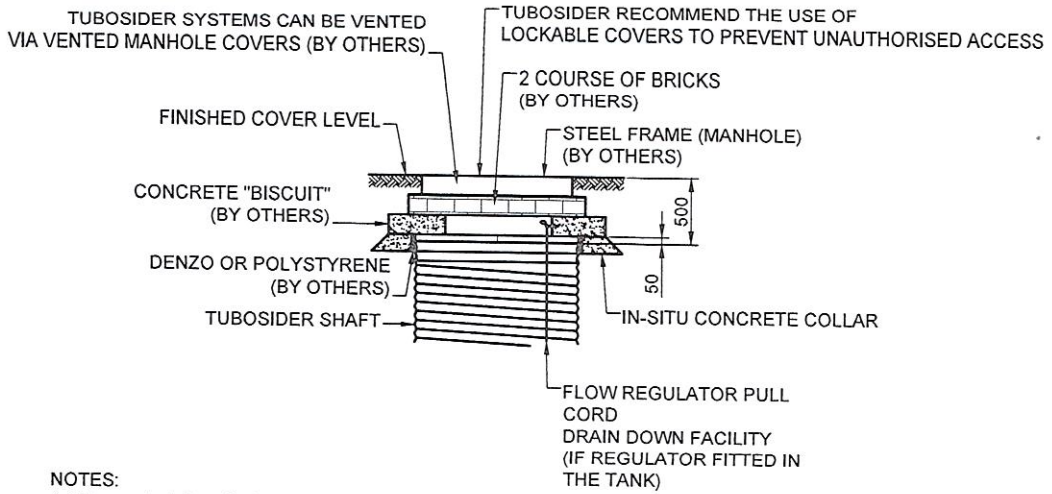
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TYPICAL SECTION THROUGH INLET CONNECTION

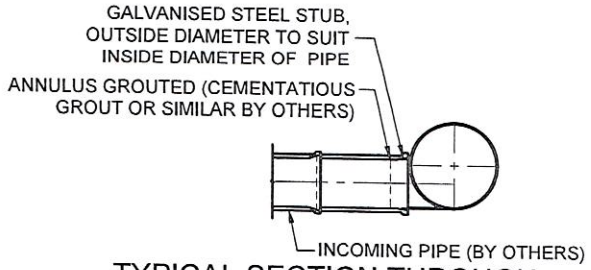
SCALE 1:100

TYPICAL ACCESS SHAFT AND MANHOLE FINISHING DETAIL



NOTES:

1. When calculating shaft heights Tubosider allow 500mm between finished cover level (FCL) and top of shaft.
2. The 500mm is typically made up of a concrete "biscuit" 2 courses of bricks and a steel manhole frame. Any discrepancy in levels can be taken up within the brickwork
3. Prior to placing the "biscuit" the top of the shaft should be wrapped with denzo or polystyrene and the concrete ring should be cast with the top approximately 50mm above the top of the shaft (the shaft must not become load bearing). The "biscuit" should then be bedded onto the concrete ring with sand and cement mortar.
4. Concrete "biscuit", bricks,cover and frame supplied by others.



TYPICAL SECTION THROUGH OUTLET CONNECTION

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TITLE

Storm Water Retention Tank For
Kingsway Business Park
Plot F

Cubic Capacity = 129m3
EN18/18807 3346/14713

CHK.

SCALE	DRAWING No.	REV.
Various (A3)	TUB/15995 - Sheet 2 of 5	G

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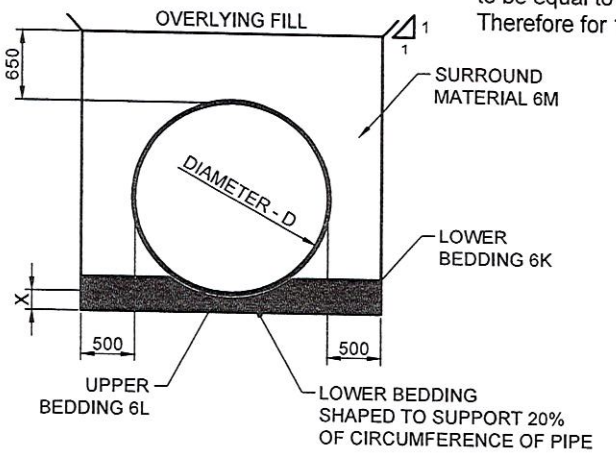
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EXCAVATION AND BACKFILL REQUIREMENTS
Single Pipe Run

Minimum depth (X) of Lower Bedding material to be equal to Diameter (D) divided by 10. Therefore for 1.8m pipe, X = 180mm etc.



Backfill & Bedding Materials Specification for Pipe

Lower bedding material	6K	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.
Upper bedding material	6L	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.
Surround material	6M	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.

The above information is drawn from the design manual for roads and bridges. The materials listed below are as described in series 600 MCHW1.

Material	PERCENTAGE BY MASS PASSING THE SIZE SHOWN									
	Size (mm) BS Series						Size (um) BS Series			
	75	20	10	5	2	1.18	600	300	150	63
Lower bedding 6K		100								0-10
Upper bedding 6L			100	89 - 100	60 - 100	30 - 100	15 - 100	5 - 70	0 - 15 except 0-20 for crushed rock	
Surround 6M	100									0 - 10

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TITLE
Storm Water Retention Tank For
Kingsway Business Park
Plot F

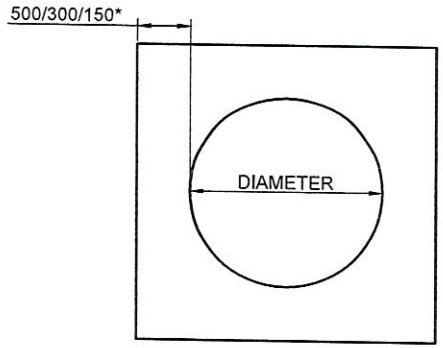
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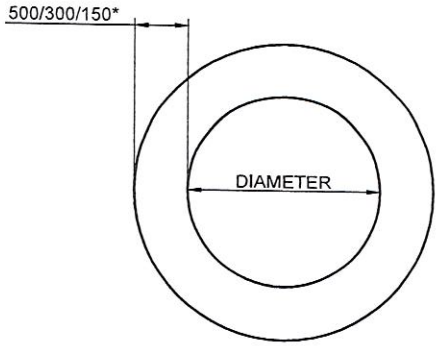
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SCALE: Various (A3)
DRAWING No.: TUB/15995 - Sheet 3 of 5
REV.: G

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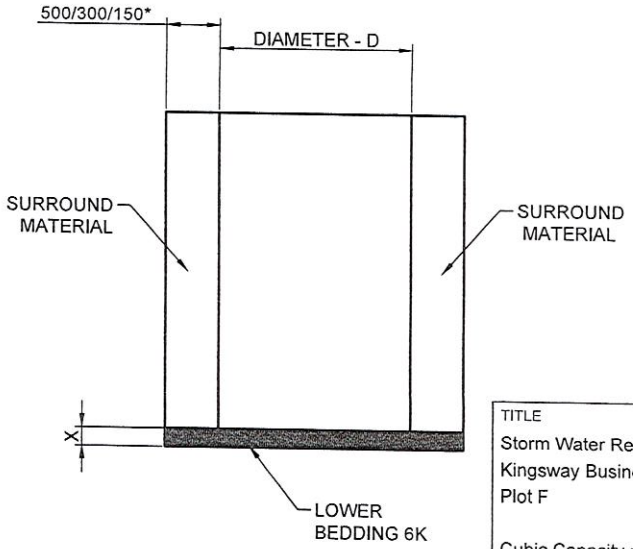
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Backfill & Bedding Materials Specification for Manholes

Lower bedding material 6K	(X) Depth	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.
Surround material 5mm - 15mm Pea Gravel	Backfill Width 300/500	Washed angular material
Surround material 6M	Backfill Width 300/500	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.
Concrete	Backfill Width 150*	As per Sewers for adoption (E6.4.4) Manholes chambers and wet wells shall be Grade GEN3 and the height of each concrete pour shall not exceed 2m and (E6.4.5) also states Cement to achieve BRE Digest Class 4 sulfate resistance



Minimum depth (X) of Lower Bedding material to be equal to Diameter (D) divided by 10. Therefore for 1.8m pipe, X = 180mm etc.

The size of the excavation is dependant on size of the chamber and type of backfill material. The preferred material 5mm-15mm pea gravel in an excavation with a 300mm minimum distance between chamber and the trench sides. For a chamber 3m diameter or above we recommend a distance of 500mm regardless of backfill material type.

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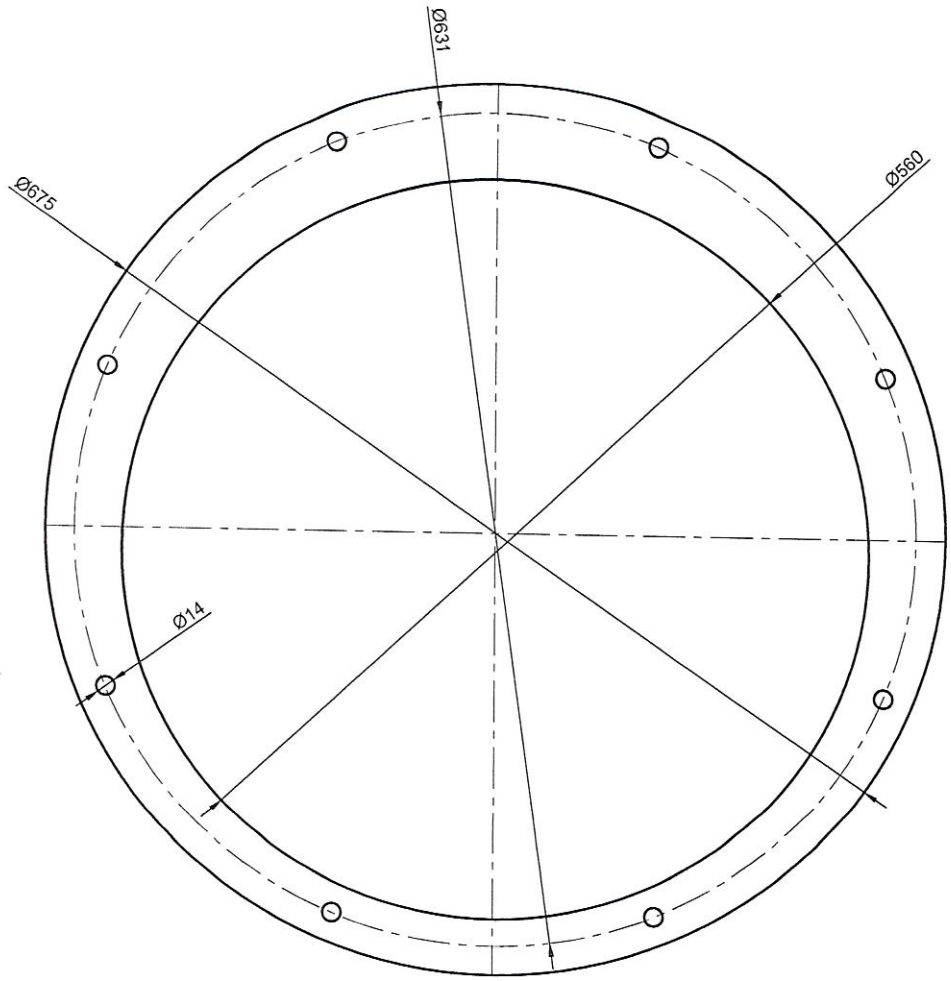
SCALE	DRAWING No.	REV.
Various (A3)	TUB/15995 - Sheet 4 of 5	G

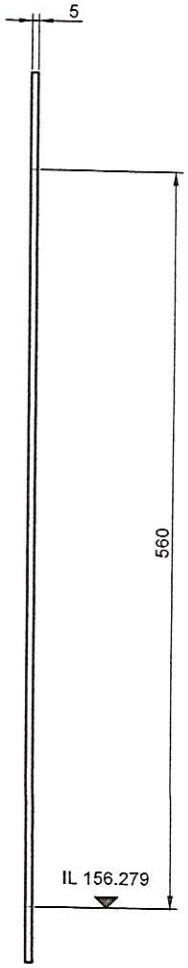
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MATERIAL 5mm THK GRADE 304
STAINLESS STEEL

ORIFICE PLATE
SCALE 1:4

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