

DRAINAGE LEGEND	
New SW Drain	
New Combined Sewer	
Existing SW Drain	
Existing Combined Sewer	
Rising Main	
Demolished/Abandoned	

DRAINAGE KEY		
	RWP	Rainwater Down Pipe
	RE	Rodding Eye
	S1	Surface Water Manhole Chamber
	FCM1	Flow Control Chamber (SW only)
		Storage or Attenuation Cells

ABBREVIATIONS	
IL	- Invert Level
CL	- Cover Level
S1	- Surface Water Manhole
FCM1	- Flow Control (SW Only) Manhole
RE	- Rodding Eye
RWP	- Rainwater pipe

- Notes :
- This Drawing is to be read in conjunction with all relevant Architect's Engineer's and specialists' drawings and specifications.
 - Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to the intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
 - Health & Safety : All specific drawing notes are to be read in conjunction with the project "Information Pack" and "Site Rules".
 - All drainage design and installation to be carried out in accordance with the following: BSEN 752: Drain and sewer systems outside buildings. BSEN 12056: Gravity drainage systems inside buildings. Building Regulations - Part H. Sewers for Adoption - 7th edition BS 8000 Pt.14 - Workmanship on building sites.
 - All pipework below slab to be Cast Iron All external pipework to be Vitrified Clay
 - All pipes to be laid in class 'S' bed, if cover is less than 600mm lay class 'Z' bedding.
 - All SVP and RWPs shown are indicative only, to be set out by others.
 - All Gullies on access road and service yard indicative only, subject to final road levels.
 - All gullies to be trapped and roddable.
 - All below ground branch pipes to main runs shall be 100mm diameter unless stated otherwise. Initial below ground 100mm diameter foul and surface water lateral pipes shall be laid no flatter than 1:40 and 1:60 respectively (unless stated otherwise). Where necessary, to avoid clashes, lateral connections may be laid to nominal falls and ramp at 45 degrees to manhole invert or pipe junction.
 - All drainage pipes to be cast in concrete when passing under foundations.
 - All bends in pipework shall be long radius.
 - Pipe connections not to inspection chambers shall be via preformed oblique junction swept in the direction of flow.
 - All internal manholes to have double sealed and bolted covers to stop the ingress of odours. Covers by Component Development. Series 4200 with recessed cover for infill to suit Architects floor finishes.
 - All connections to existing drainage to be confirmed on receipt of condition survey.
 - The location, size and depth of all existing drains/sewers and services shall be established by the contractor prior to the commencement of works on site. Any discrepancies from the information indicated on these drawings shall immediately be brought to the attention of the engineer.

P1	06.10.14	NF	NF	Issued for Comment
Rev	Date	Drawn	Eng	Amendment

ROYAL CENTRAL SCHOOL OF SPEECH & DRAMA

**PHASE 5
BELOW GROUND
DRAINAGE LAYOUT
GROUND FLOOR**

Drawn	DLa	Eng	NF
Scales	1:100 at A1	1:200 at A3	
Drawing No	22479-600	Rev	P1



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4. For general notes refer to Drawing No. 22479-600

DRAINAGE LEGEND

New FW Drain	
Rising Main	

DRAINAGE KEY

	FWP	Foul Waste Pipe
	FG	Floor Gully
	F1	Foul Water Manhole Chamber
	F1	Pumping Station Manhole Chamber

ABBREVIATIONS

IL	- Invert Level
CL	- Cover Level
F1	- Foul Water Manhole
FWP	- Foul Waste Pipe
FG	- Floor gully

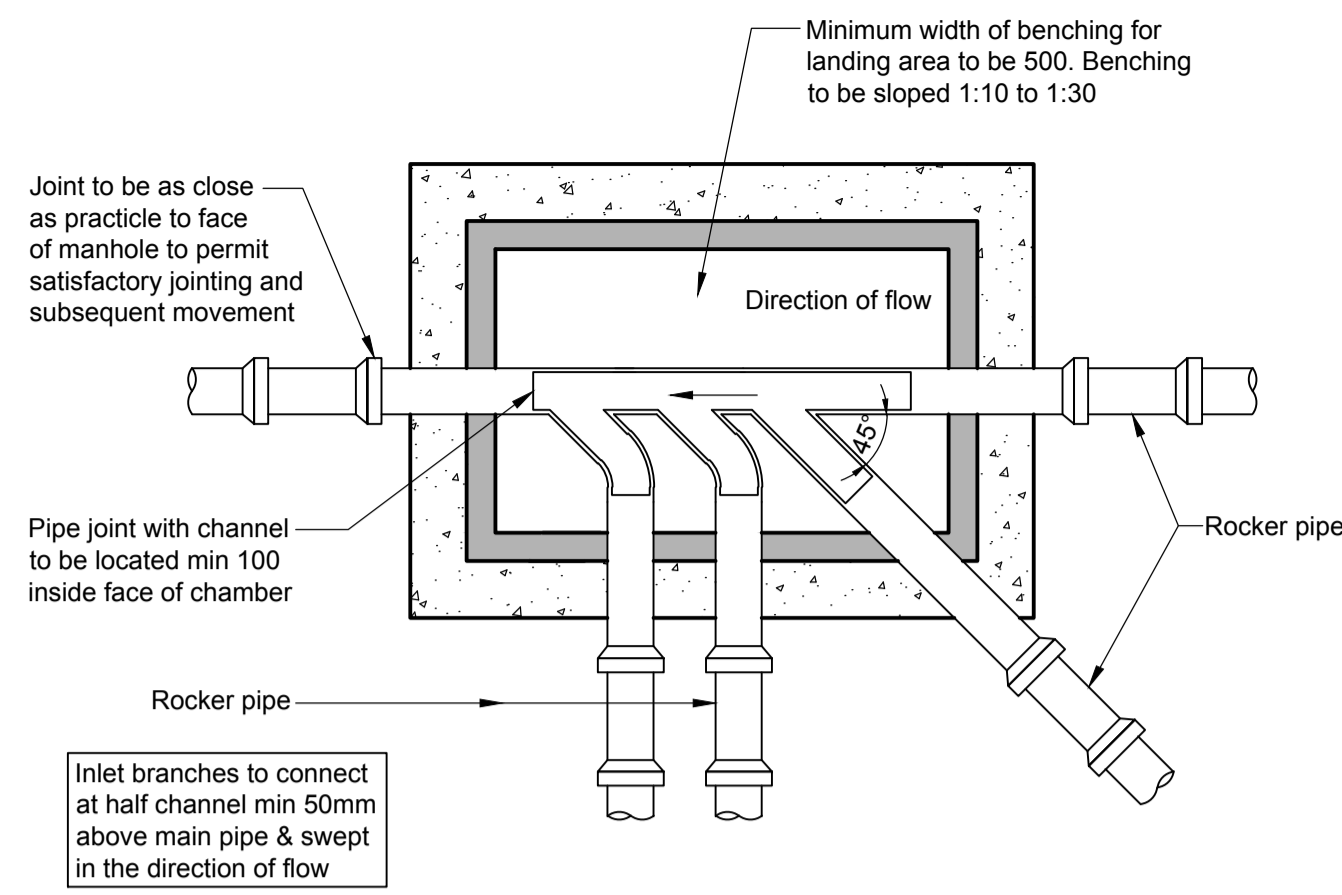
FOR INFORMATION
NOT FOR CONSTRUCTION

P1	02.10.14	NF	NF	Issued for Comment
Rev	Date	Drawn	Eng	Amendment

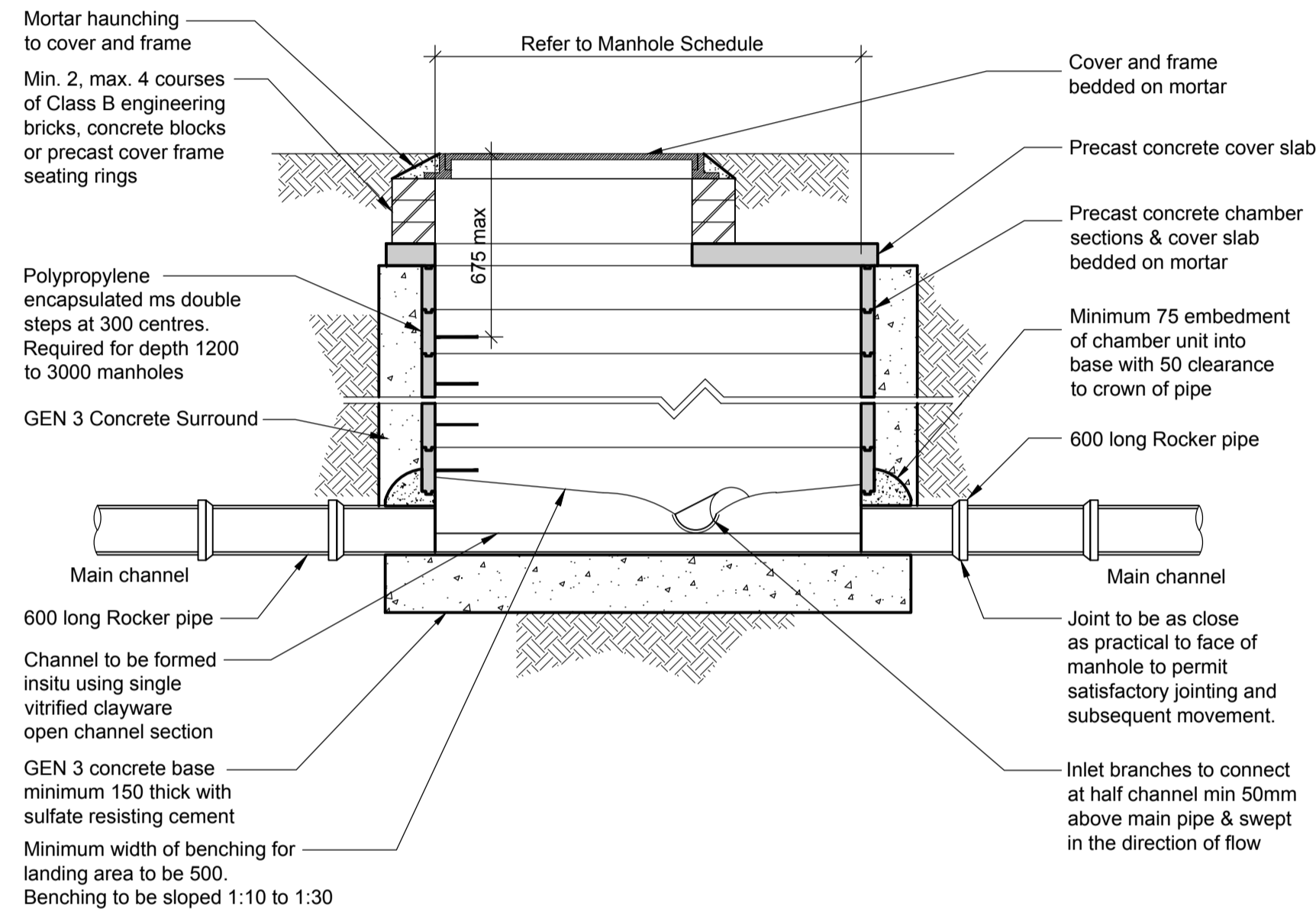
ROYAL CENTRAL SCHOOL
OF SPEECH & DRAMA

PHASE 5
BELOW GROUND
DRAINAGE LAYOUT
LOWER BASEMENT LEVEL

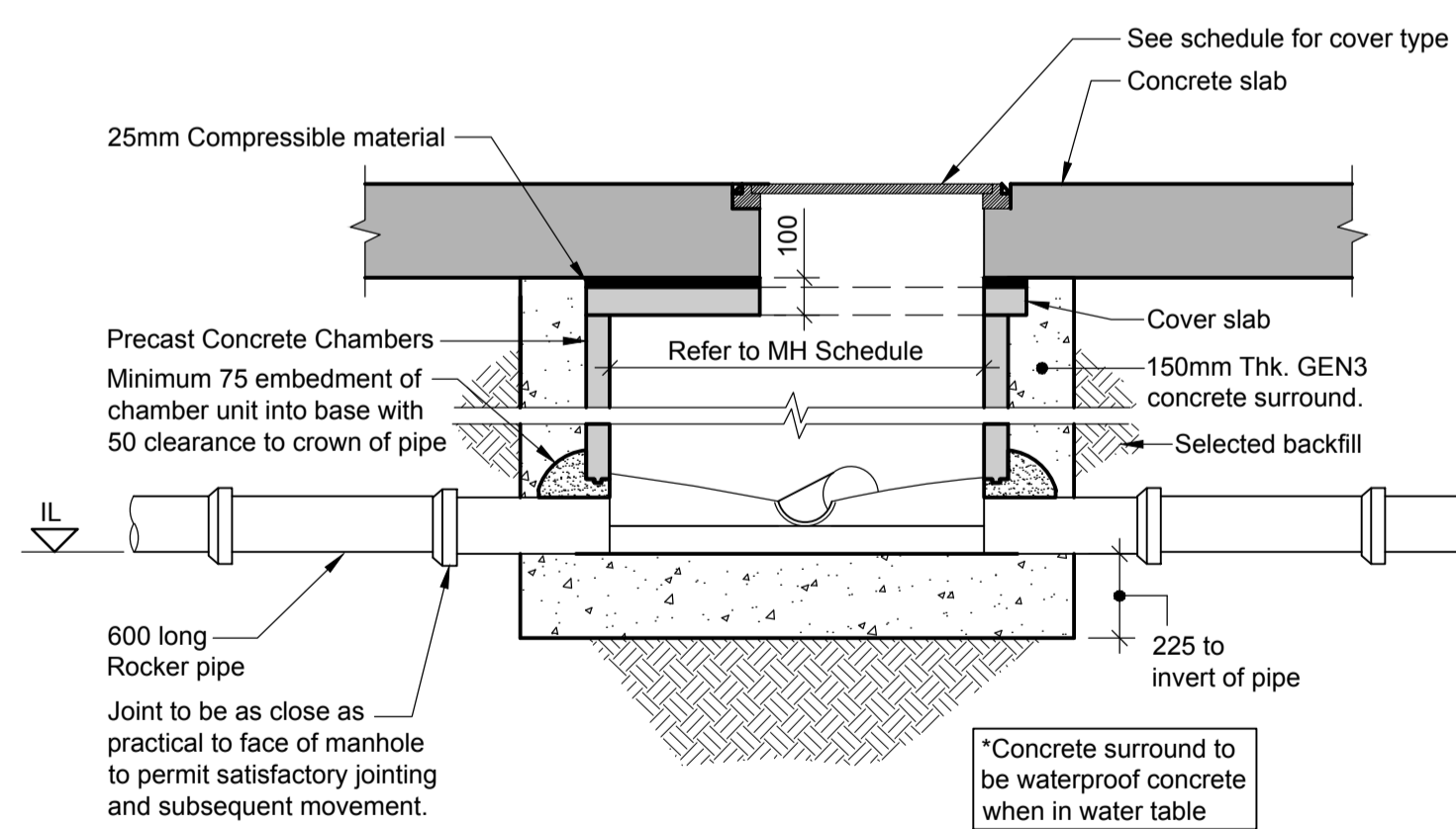
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Scales	1:50 at A1	1:200 at A3	
Drawing No	22479-601	Rev	P1



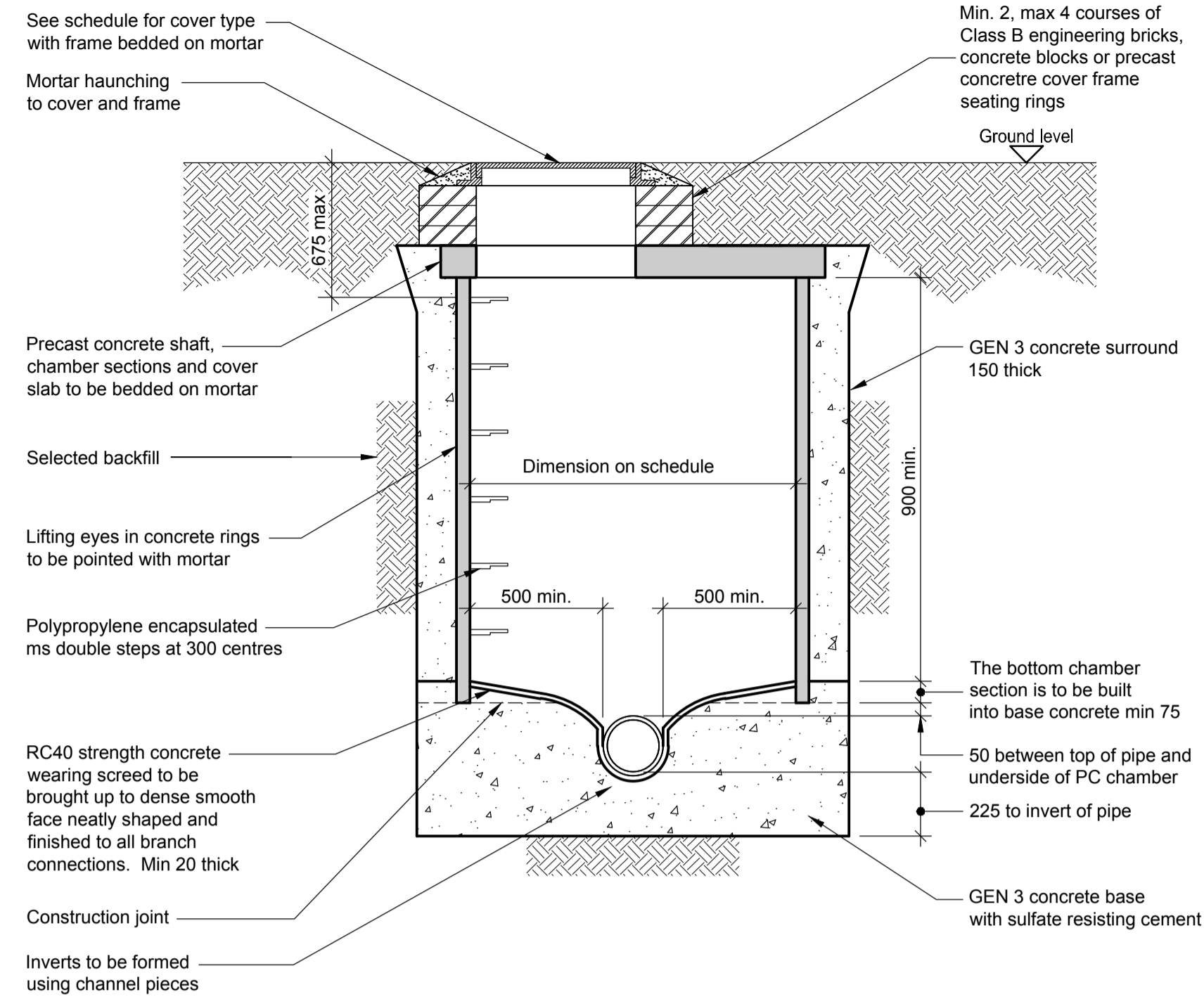
PCC RECTANGULAR INSPECTION CHAMBER - PLAN



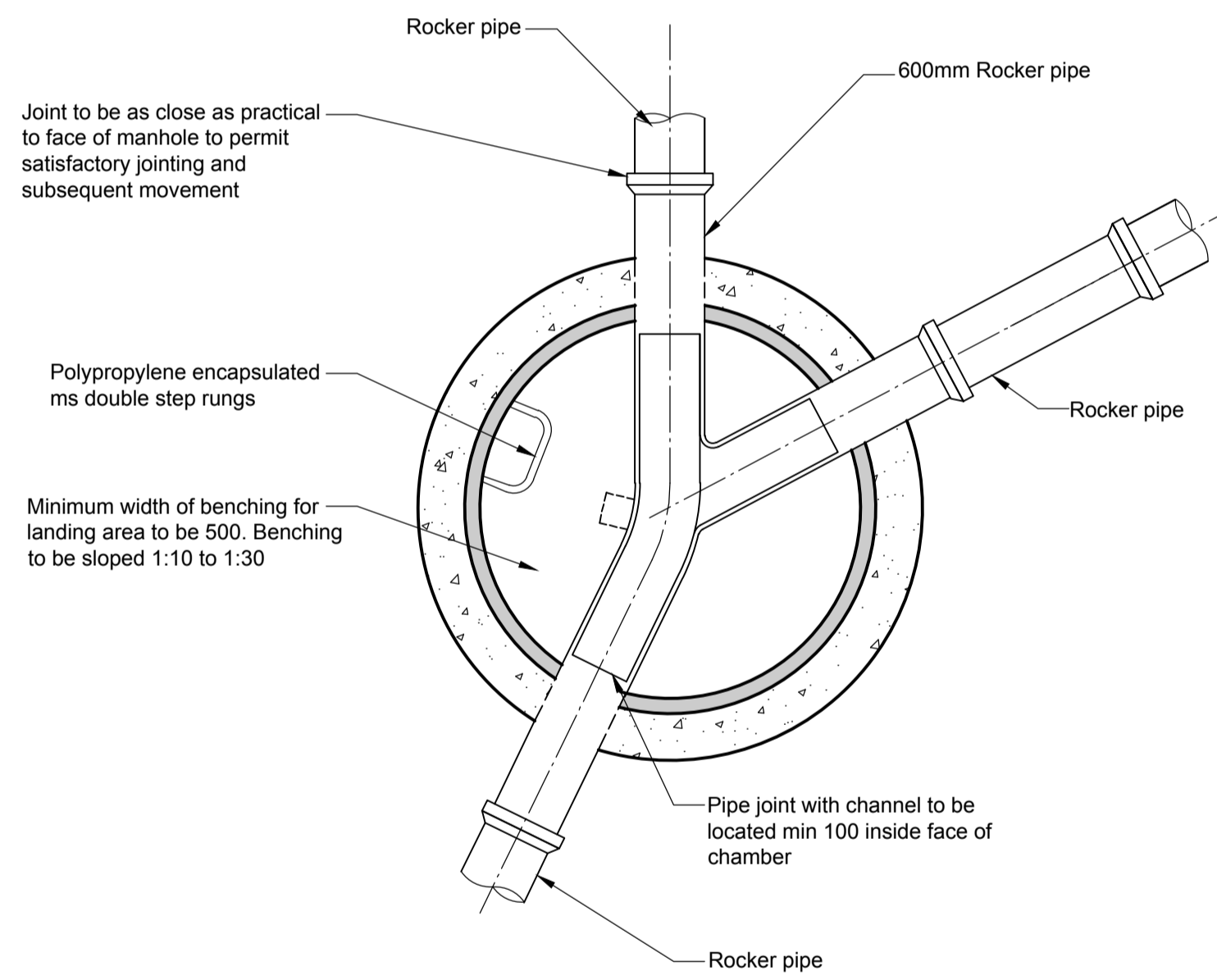
PCC RECTANGULAR INSPECTION CHAMBER - EXTERNAL
(Refer to Manhole Schedule for Size & Invert)



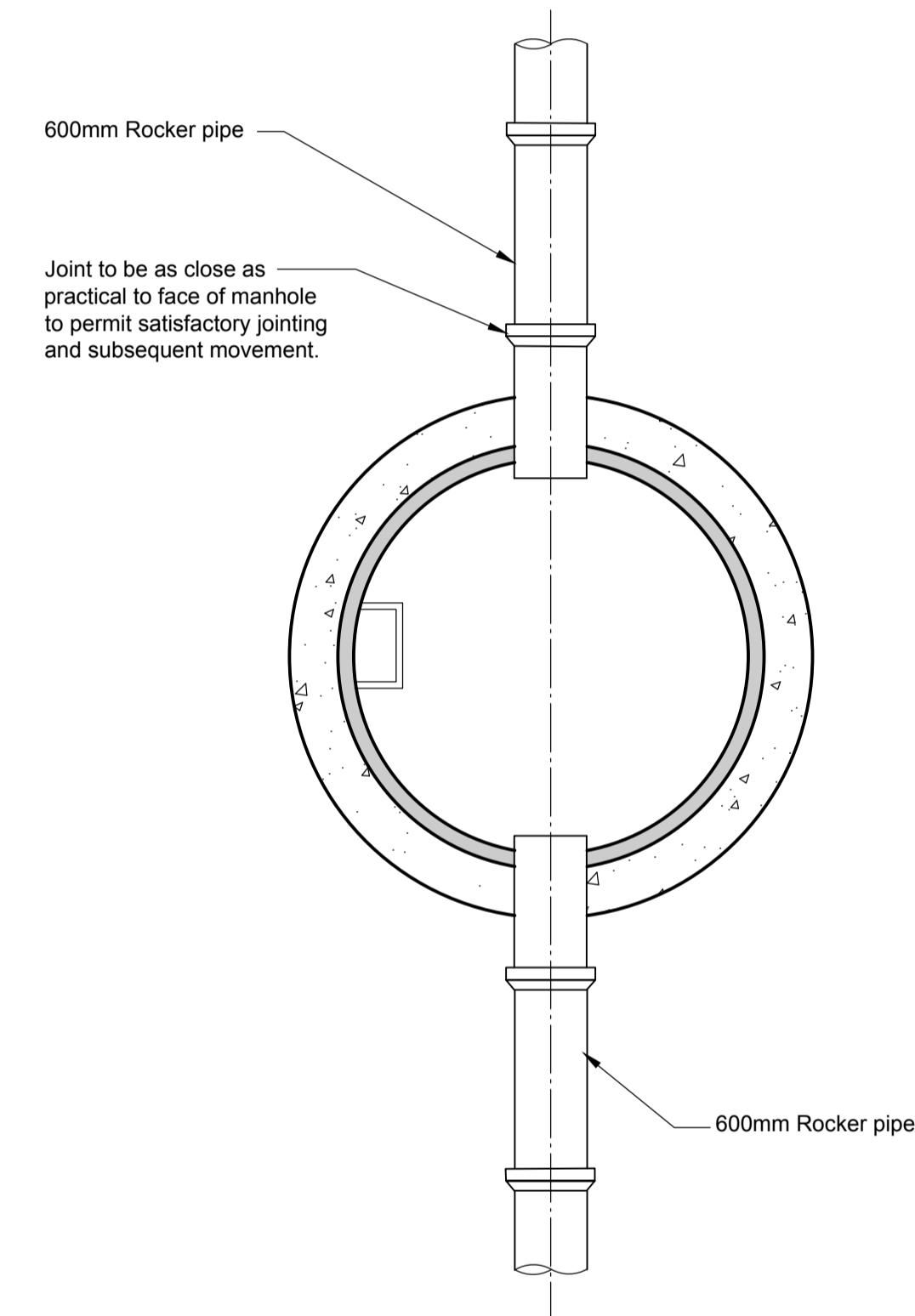
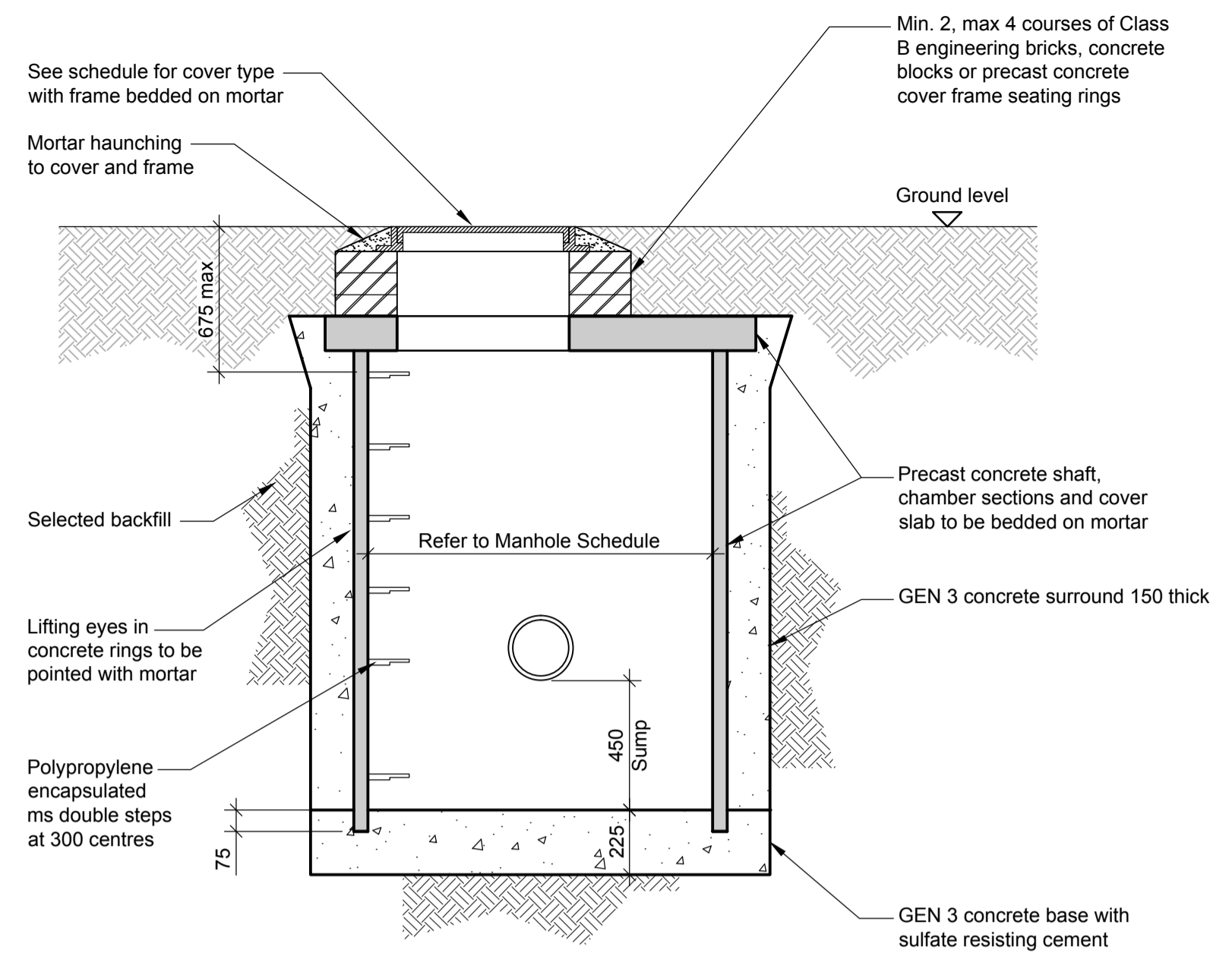
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(Refer to Manhole Schedule for Size & Invert)



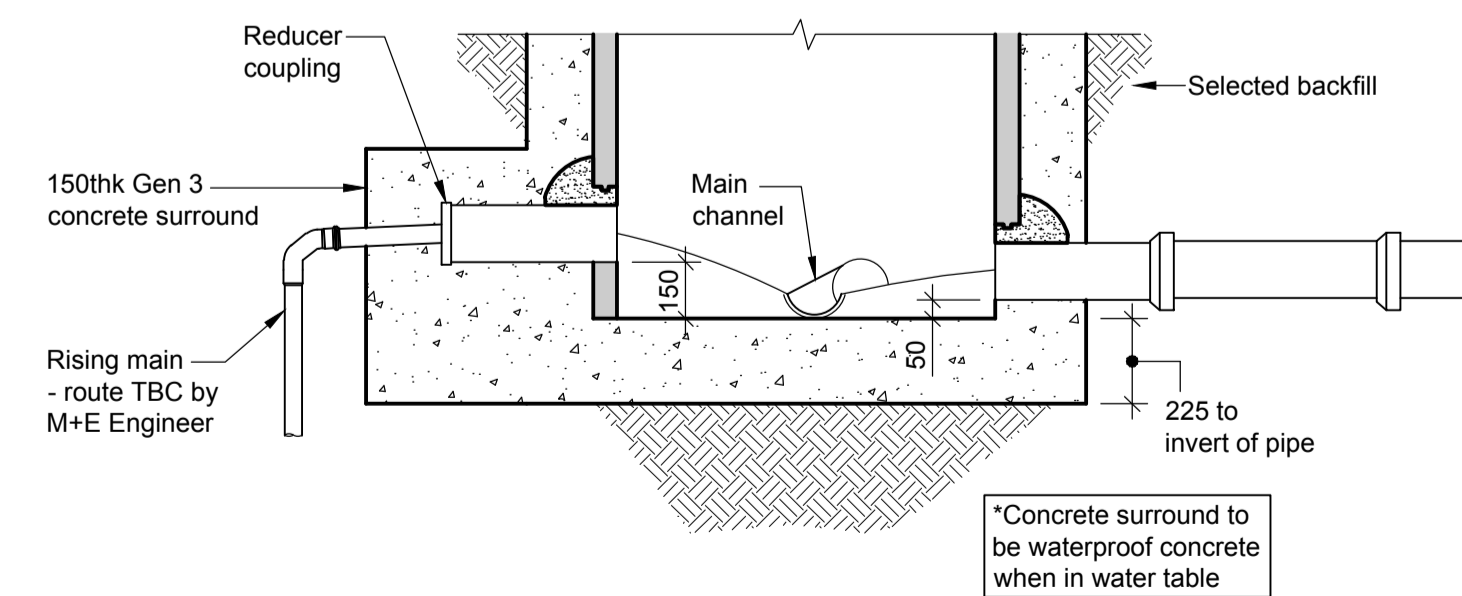
TYPE B MANHOLE - SECTION



TYPE B MANHOLE - PLAN



PRECAST CONCRETE CATCHPIT DETAIL



RISING MAIN CONNECTION TO MANHOLE DETAIL

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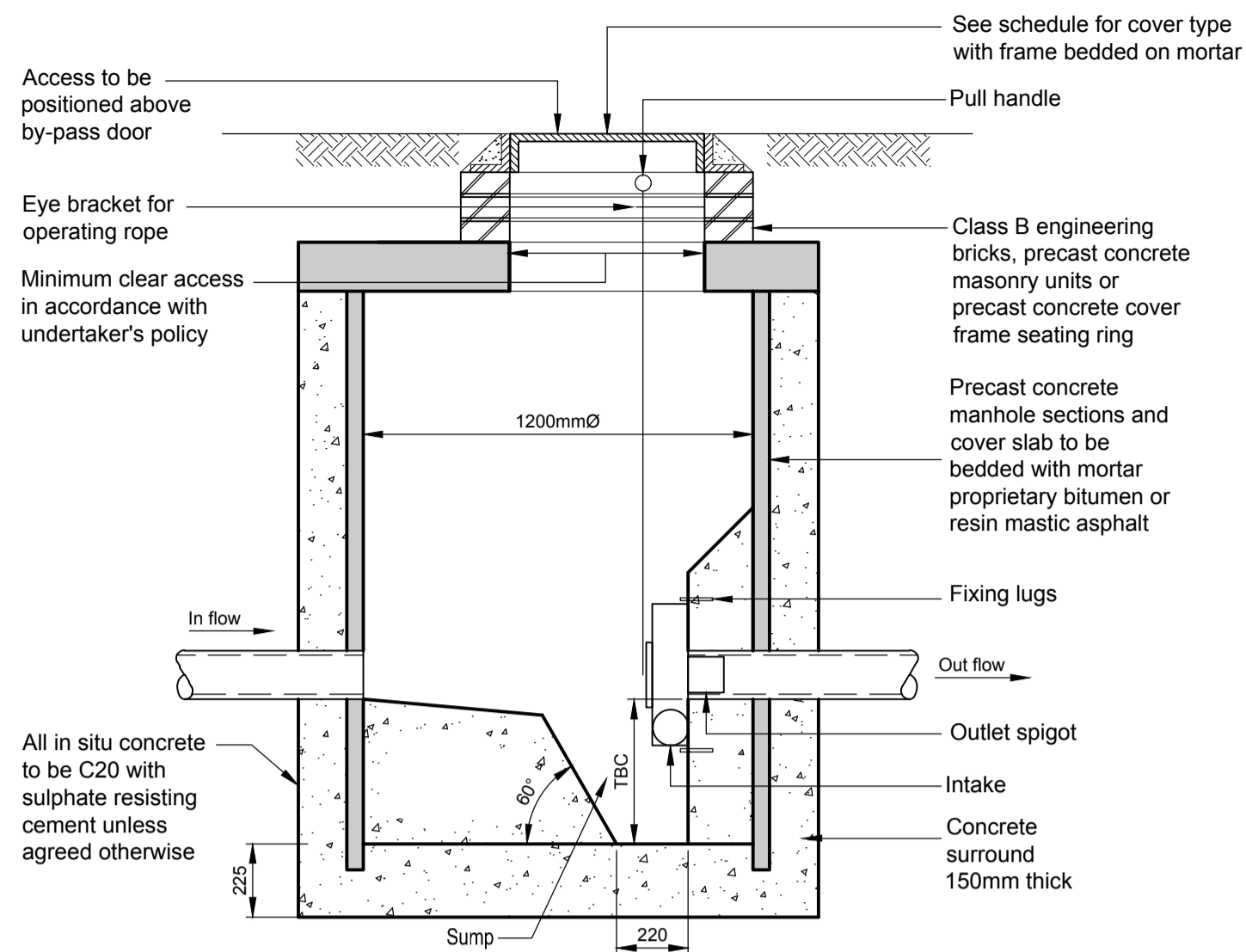
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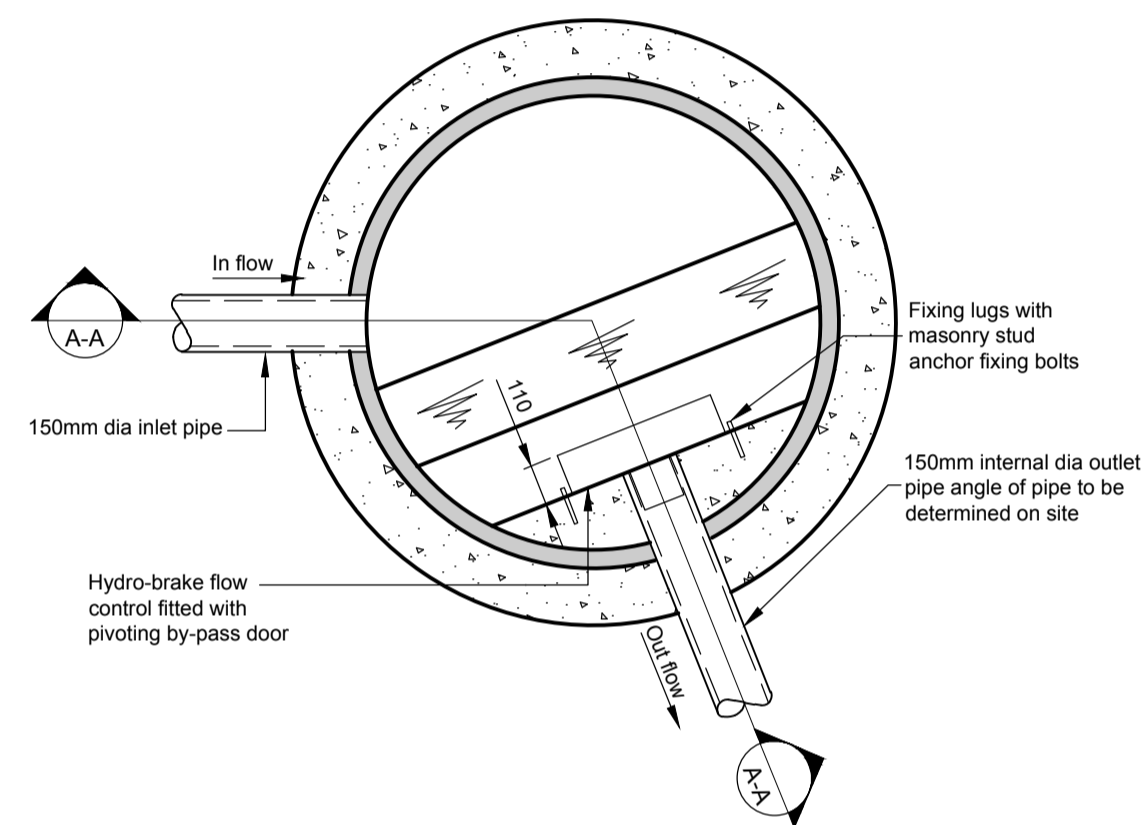
**ROYAL CENTRAL SCHOOL
OF SPEECH & DRAMA**

**PHASE 5
BELOW GROUND
DRAINAGE DETAILS**

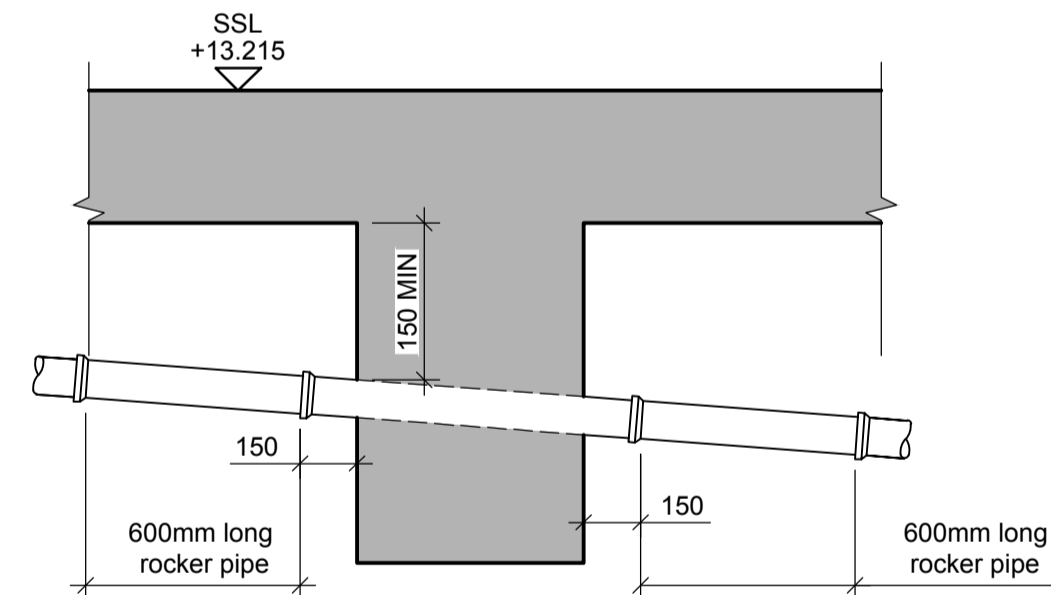
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Scales	1:20 at A1	1:40 at A3	
Drawing No	Rev		
22479-610	P1		



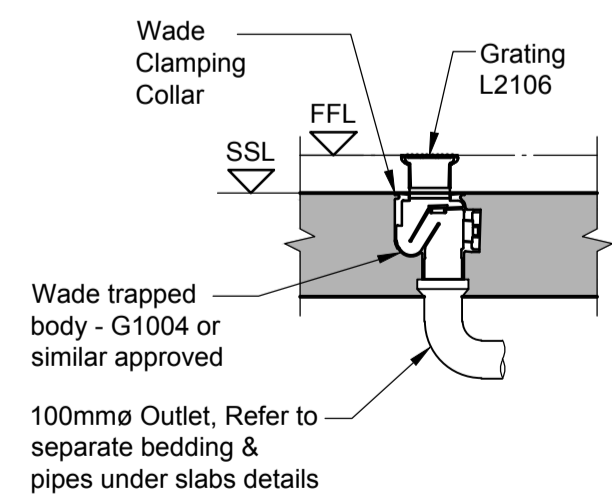
HYDROBRAKE CHAMBER - SECTION A-A



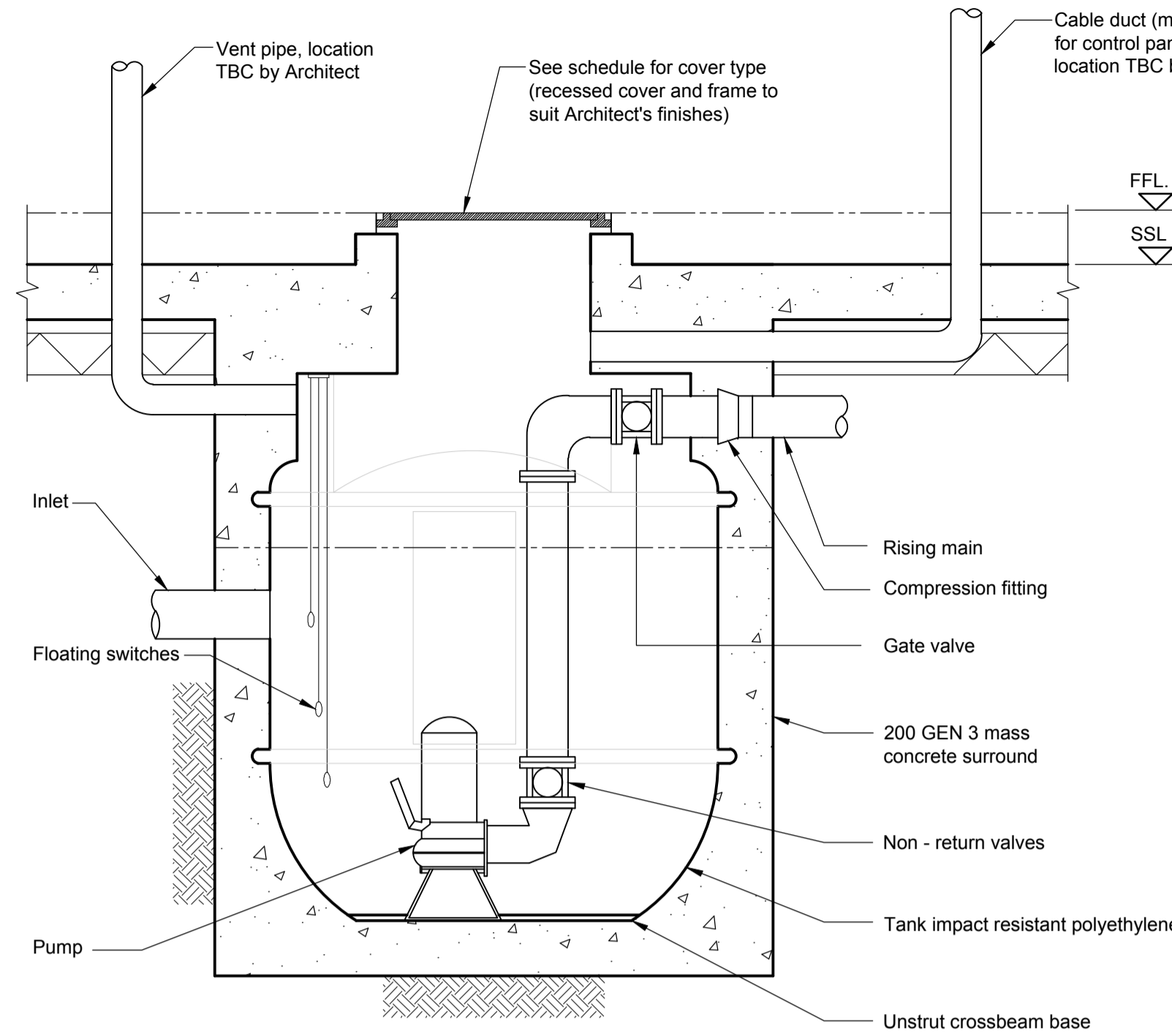
HYDROBRAKE CHAMBER - PLAN VIEW



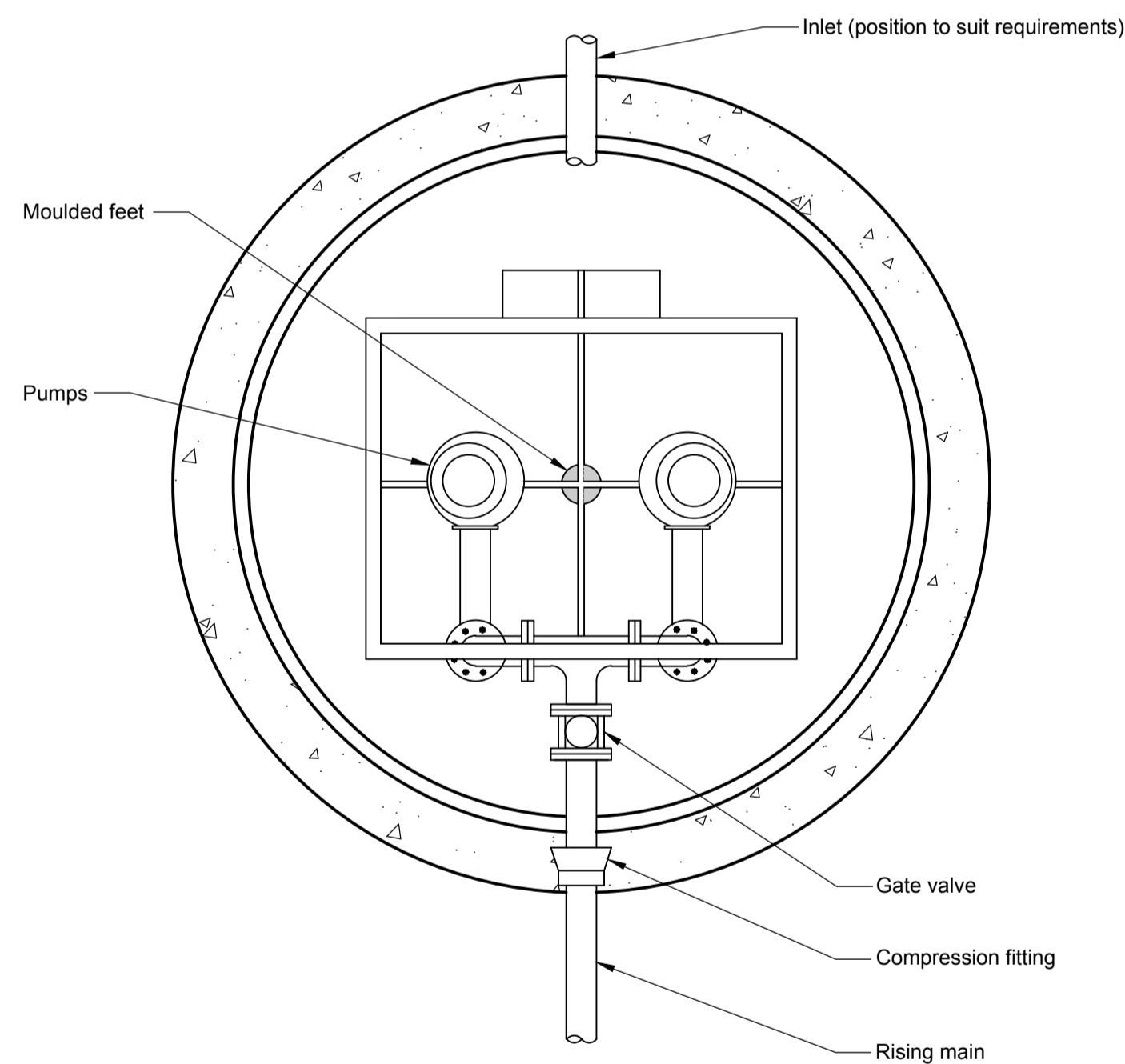
DRAIN CAST INTO GROUND BEAM



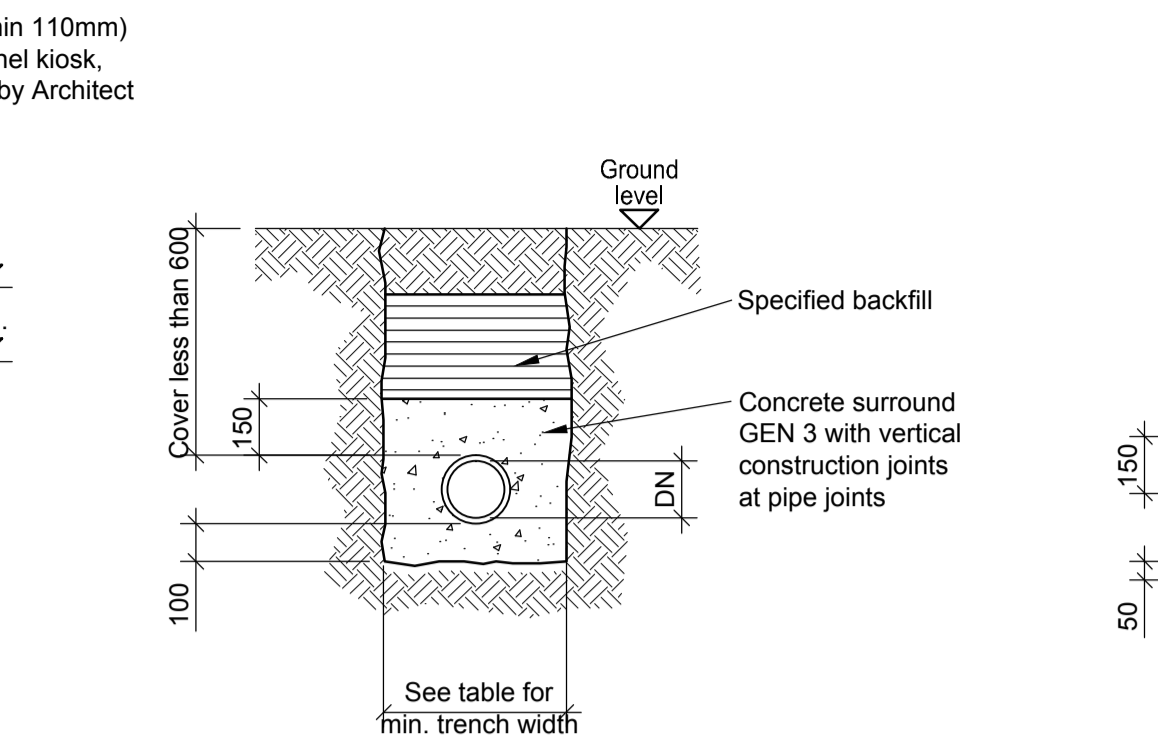
FLOOR GULLY DETAIL



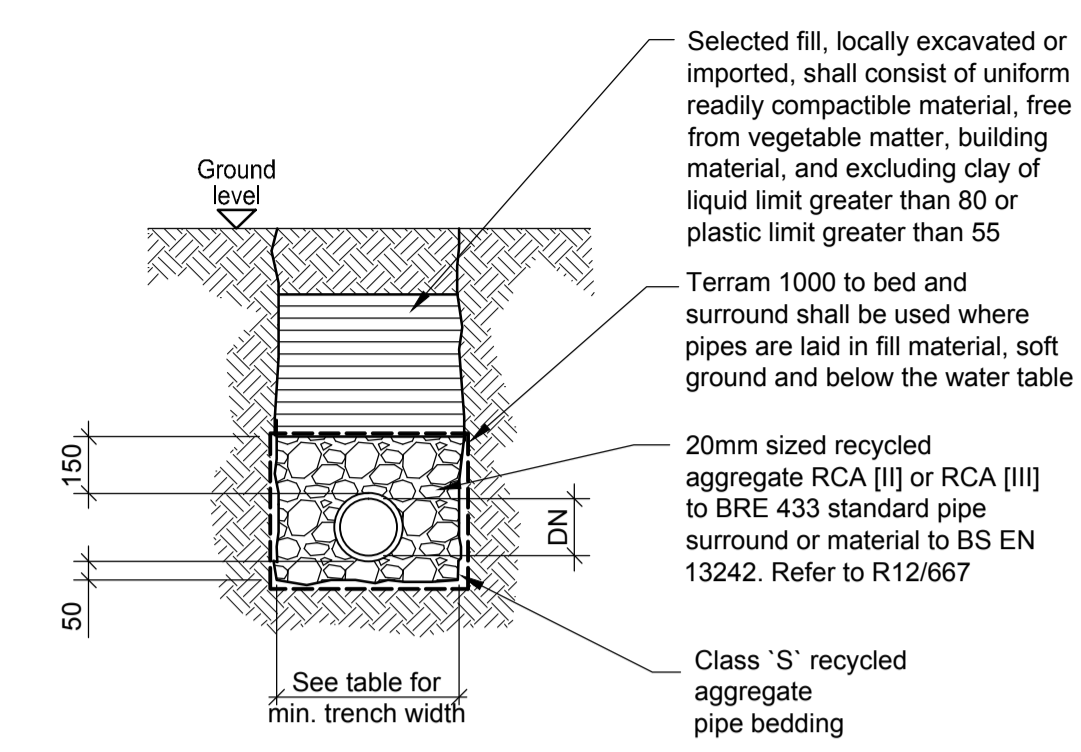
SECTION



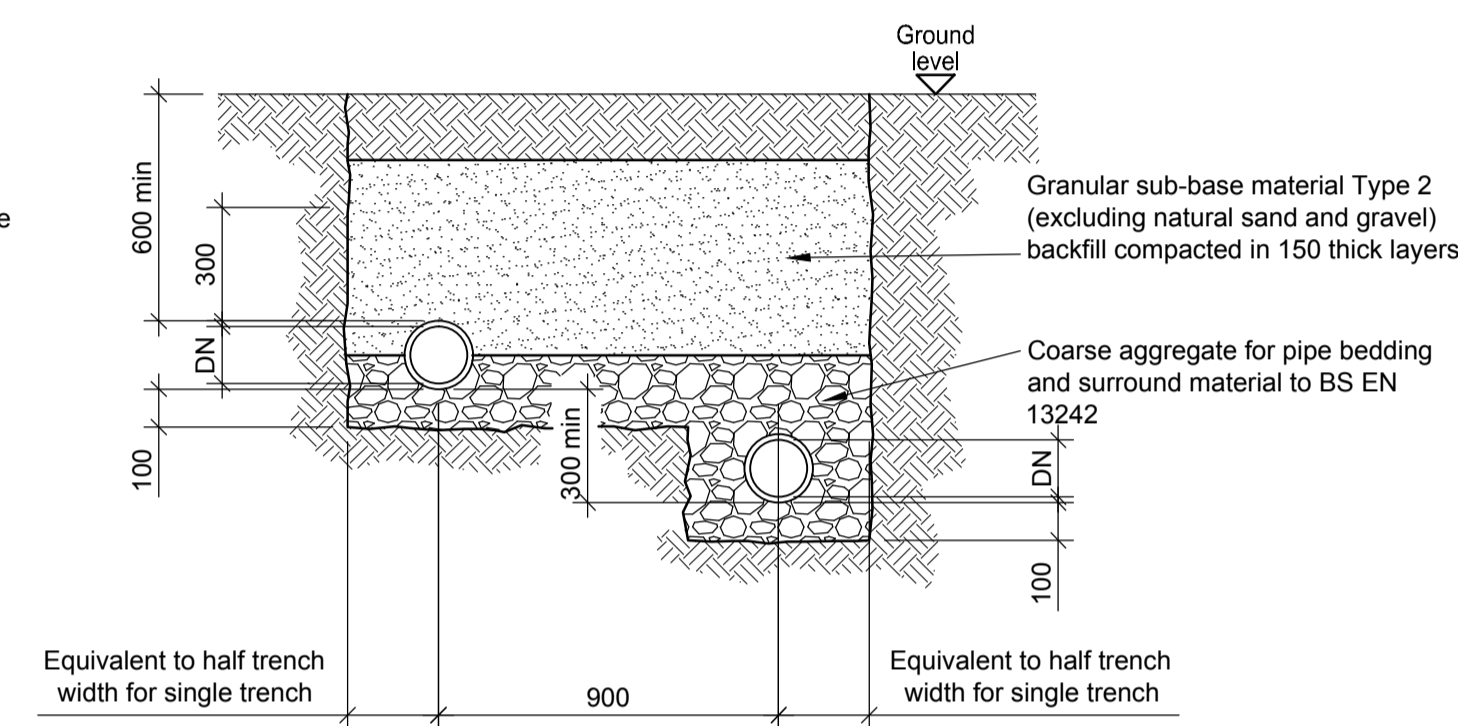
**PLAN
PRE-PACKAGED PUMP CHAMBER
FOR INTERNAL USE**



**CLASS Z BEDDING
CONCRETE PIPE BEDDING
SURROUND DETAIL**



**CLASS S RECYCLED AGGREGATE BEDDING
PIPE BEDDING & BACKFILL
UNDER VERGE DETAIL
[For Vitrified Pipes]**



**UNEQUAL PIPELINES IN
STEPPED TRENCH DETAIL**

TABLE 1

DN	Minimum trench width (OD + x)		
	Supported trench	Unsupported trench	
		# > 60°	# < 60°
less 225	OD + 400	OD + 400	OD + 400
225 to 350	OD + 500	OD + 500	OD + 400
350 to 700	OD + 700	OD + 700	OD + 400
700 to 1200	OD + 850	OD + 850	OD + 400
greater 1200	OD + 1000	OD + 1000	OD + 400

In the values OD + x, x/2 equals the minimum working space between the pipe and the trench wall or support, where:
OD is external diameter.
is angle of unsupported trench side measured to the horizontal.

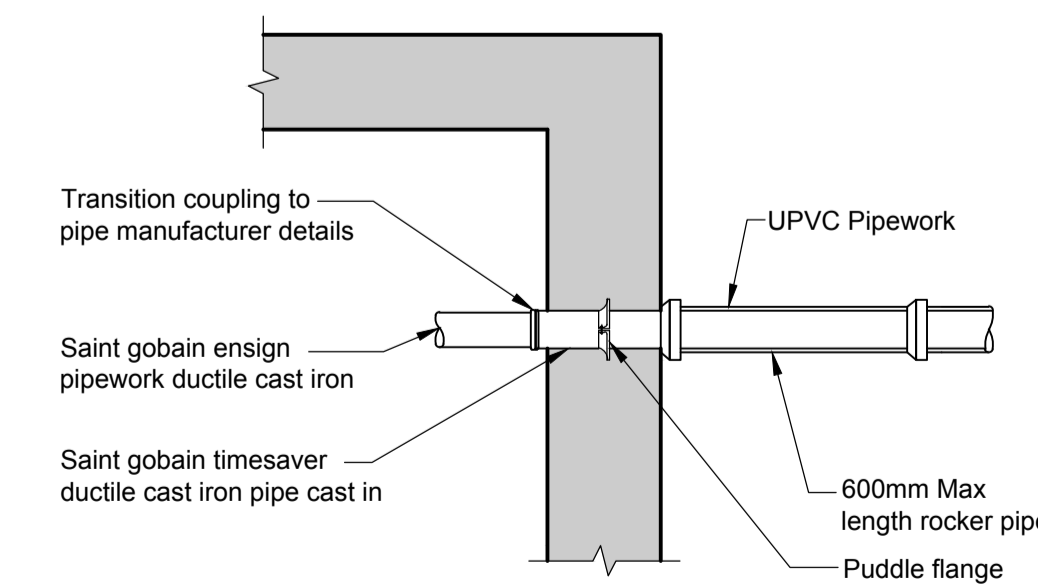
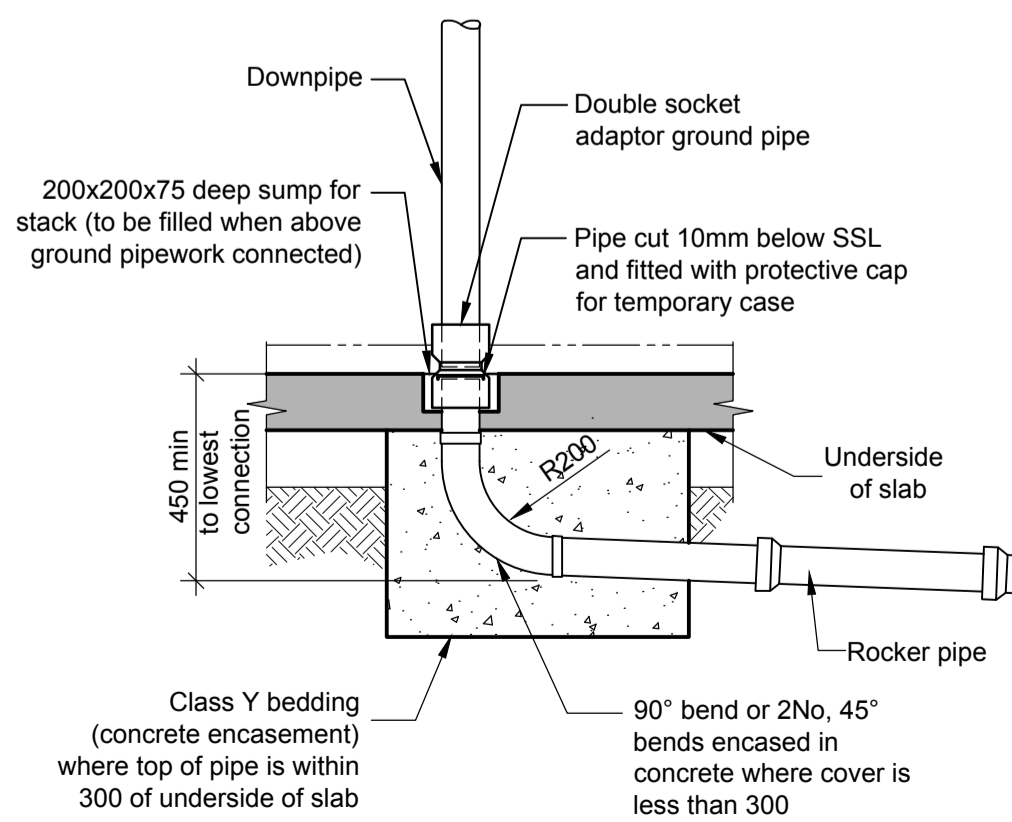
**MINIMUM TRENCH WIDTH IN
RELATION TO NORMAL SIZE DN**

TABLE 2

Trench depth	Minimum trench width
less 1000	No min. width required
1000 to 1750	800
1750 to 4000	900
greater 4000	1000

The minimum trench width shall be the greater of the values taken from tables 1 & 2.

**MINIMUM TRENCH WIDTH IN
RELATION TO TRENCH DEPTH**



**PIPE PENETRATING
BASEMENT WALL DETAIL**

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**ROYAL CENTRAL SCHOOL
OF SPEECH & DRAMA**

**PHASE 5
BELOW GROUND
DRAINAGE DETAILS**

Drawn DLa	Eng NF
Scales 1:20 at A1	1:40 at A3
Drawing No 22479-611	Rev P1