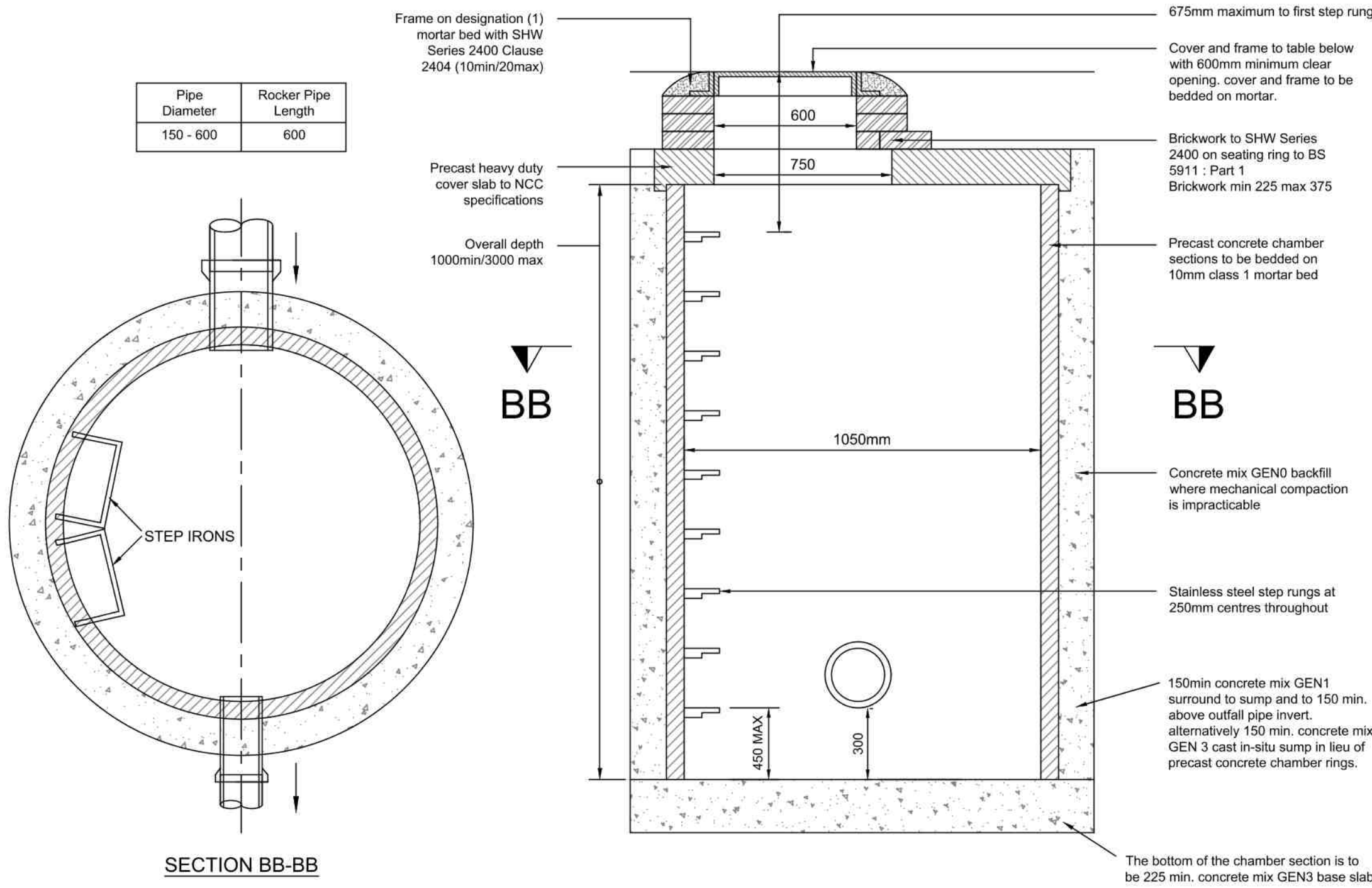


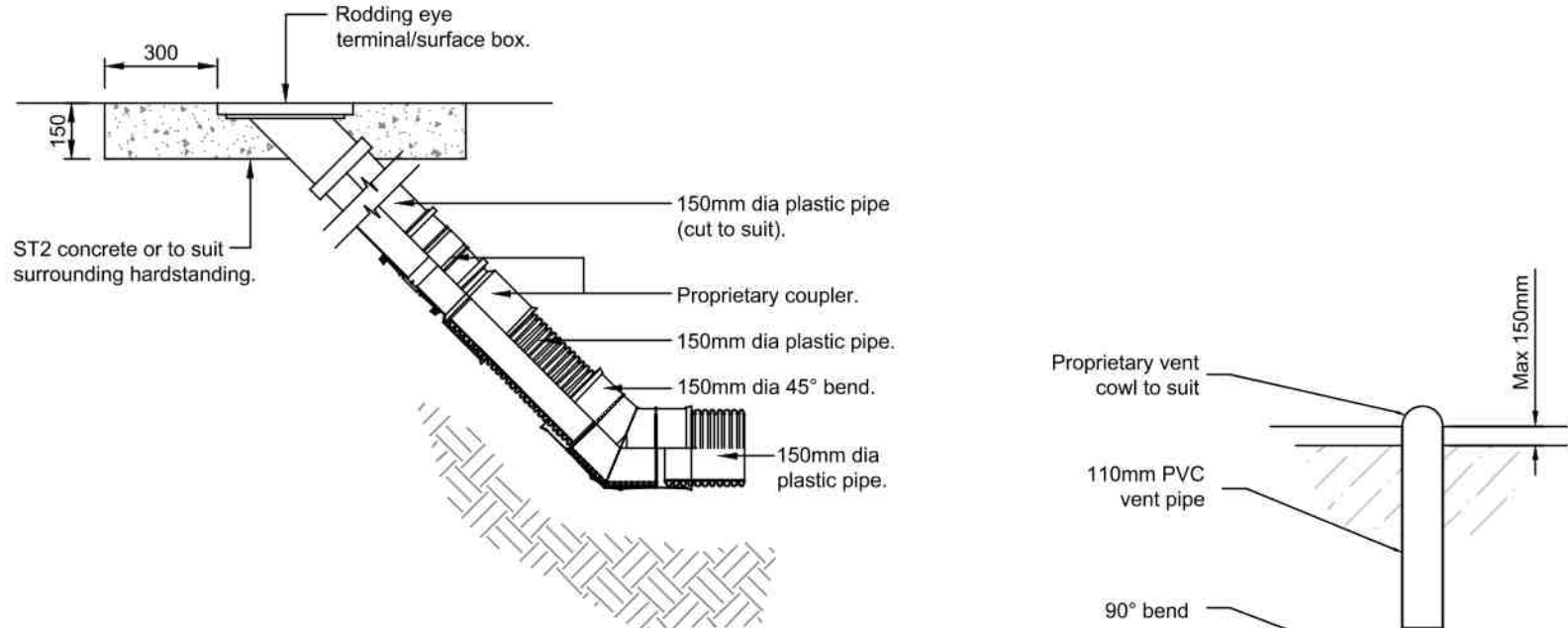
GENERAL NOTES

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2. This drawing should be read in conjunction with BHA Consulting Ltd engineering related drawings and all relevant drawings by the Architect and other specialists.
3. All dimensions are in millimetres unless stated otherwise.
4. All levels are in metres above ordnance datum (AOD) unless stated otherwise.
5. All co-ordinates are in metres to UK National Grid unless stated otherwise.
6. Do not scale from this drawing. All dimensions are to be checked and verified on site. Any discrepancy between this drawing and condition existing on site shall be reported to the Engineer.



Typical 1050mmØ Manhole with Sump

Scale 1:20

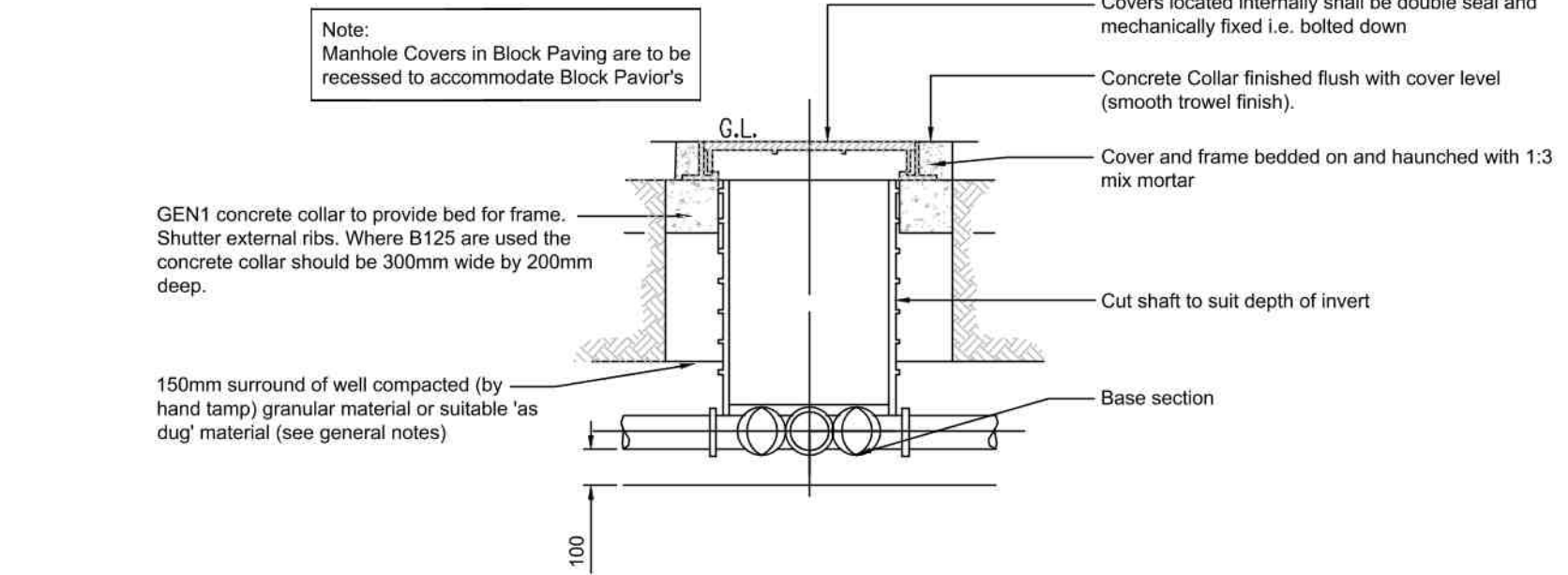


Typical Rodding Eye Detail

Scale N.T.S

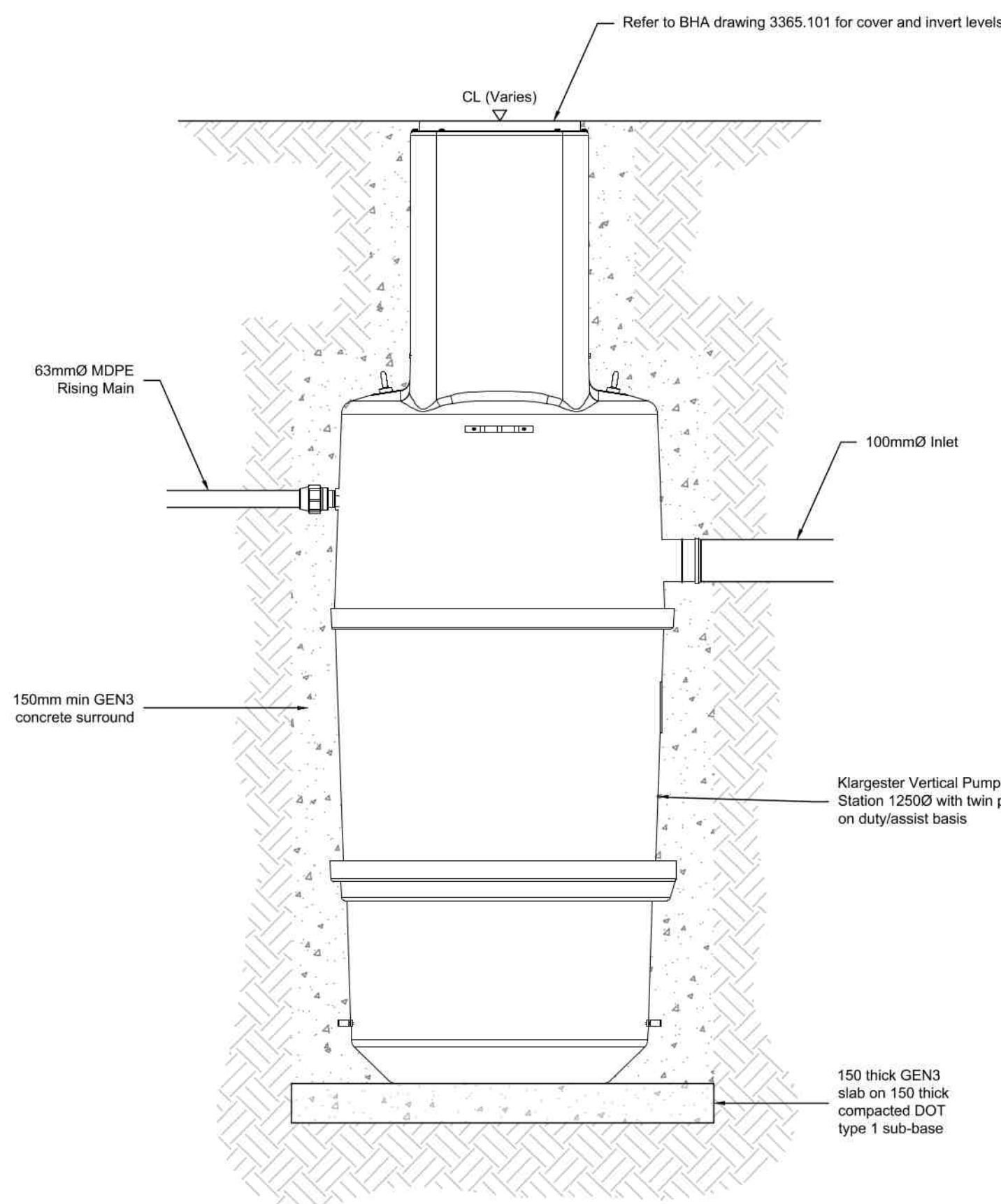
Minimum dimensions for inspection chambers and manholes (taken from BS EN752:2008)						
Type of Access	Depth to invert (m)	Minimum internal dimensions size		Minimum nominal cover		Remarks
		Rectangular length and width	Circular diameter	Rectangular length and width	Circular diameter	
Inspection chamber	<0.6	225 x 100	190	-	190	(a)
Manholes	0.6-1.2	450 x 450	450min	430 x 430	430	(b)
	>1.2	450 x 450	450max	300 x 300	300	
Manholes	1.0-1.5	750 x 675	1200	750 x 675	-	(c)
Manholes	>1.5	1200 x 1000	1200	600 x 600	600	(d)
Manhole Access Shaft	>3.0	1050 x 800	1050	600 x 600	600	(c) (d)

- (a) Drains up to 150 dia.
(b) Access must be restricted to 350mm max.
(c) Minimum height of chamber in access shaft manhole is 2.0m from crown of pipe
(d) Manholes for adoption to be constructed in accordance with the current publication 'Sewers for Adoption'. See Typical Sewer Details.



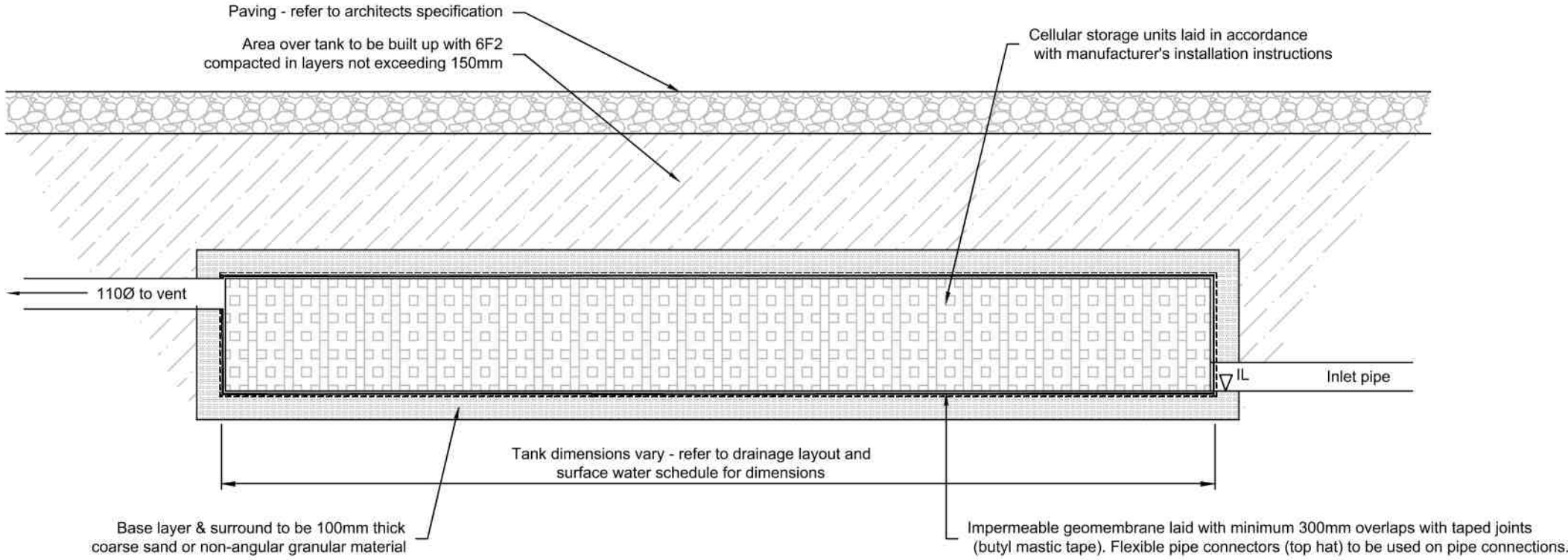
450mmØ Inspection Chamber Detail (IC) (Flexible material)

Max depth from cover level to soffit of pipe in areas subject to vehicle loading 1.2m, non entry.
Scale 1: 20



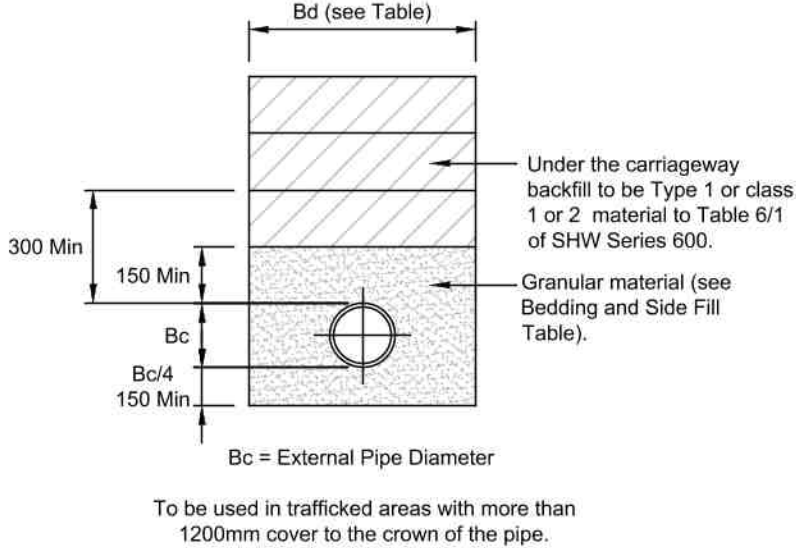
Pumping Station Construction Details

Scale 1:20



Typical Private Attenuation Tank Detail - Cellular Units

Scale 1:20



Type S

Trench Width Table

Pipe Bedding Specification

Scale 1:20

Pipe Dia (mm)	Trench Width Bd(mm) Max. Measure 300mm Above Pipe Soffit
100	550
150	600
225	700
300	750
375	1050
450	1150
525	1200
600	1350

Pipe Dia (mm)	Alternative Aggregate Sizes (mm)	
	Single-sized	Graded
100	10	-
150	10 or 14	14 to 5
225 - 300	10, 14 or 20	14 to 5 or 20 to 5
375 - 525	14 or 20	14 to 5 or 20 to 5
>525	14, 20 or 40	14 to 5, 20 to 5 or 40 to 5

Granular pipe bedding and side fill material shall consist of aggregates from natural sources or sintered pulverized-fuel ash complying with the relevant provisions of BS 882 and BS 3797, Part 2 respectively, sized in accordance with the table above.

Type S Bedding and Side Fill Table

Permitted Pipe Materials (private drainage)

Solid Wall Plastic Pipes

1. Pipes to conform to BS 4660 and BS EN 1401-1

Structured Wall Plastic Pipes

2. Pipes to conform with Clause 6.15 of WIS 4-35-01 (stiffness class 8), and BS EN 13476 Pt 2:2007 or Pt 3:2007

Approved systems

- Polysewer - 150mm, 225mm, 300mm
- Quantum (Marley) - 150mm, 225mm, 300mm
- Ultrarib (Uponor and Wavin) - 150mm, 225mm, 300mm

Vitrified Clay (100mm - 300mmØ)

5. Pipes for foul sewers and surface water sewers shall comply with the relevant requirements of BS EN 295 and BS 65 (surface water pipes only). Vitrified clay pipes and fittings for sewers shall have flexible mechanical joints.

Concrete (300 - 900mmØ)

6. Unreinforced and reinforced concrete pipes and fittings with flexible joints shall comply with the relevant provisions of BS EN 1916 and BS 5911: Part 1.

7. All pipes and fittings shall have gasket type joints of spigot and socket or rebated form.

Connections to Adoptable Sewers

Private drainage connections to any adopted surface or foul water sewers to be made with pipe materials approved by the adopting authority. Default materials approved by all sewerage undertakers are Vitrified Clay and Concrete according to size ranges given above. Alternative materials may be acceptable - any proposals to be checked with the Engineer.

Preliminary Drawing

This drawing is for preliminary purposes only and must not be read as a construction issue. It indicates design intent only and is subject to amendment during final design development

Rev	Description	Date	By	App
P1	First Issue	05/01/21	RB	KE

P - Preliminary
C - For Construction

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Client
K L Ringer groundworks Ltd.

Project Title
Doubledays Agricultural Engineers

Drawing Title
Drainage Construction Details

Drawn by RB	Checked by KE	Approved By KE
Size A1	Scale As Shown	Date JAN 2021

Drawing No. 3591.101	Rev P1
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