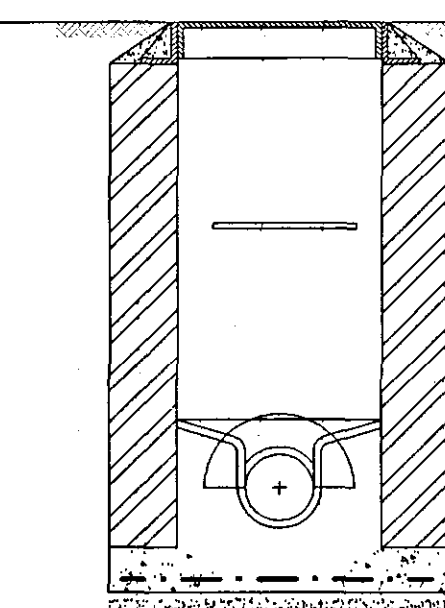
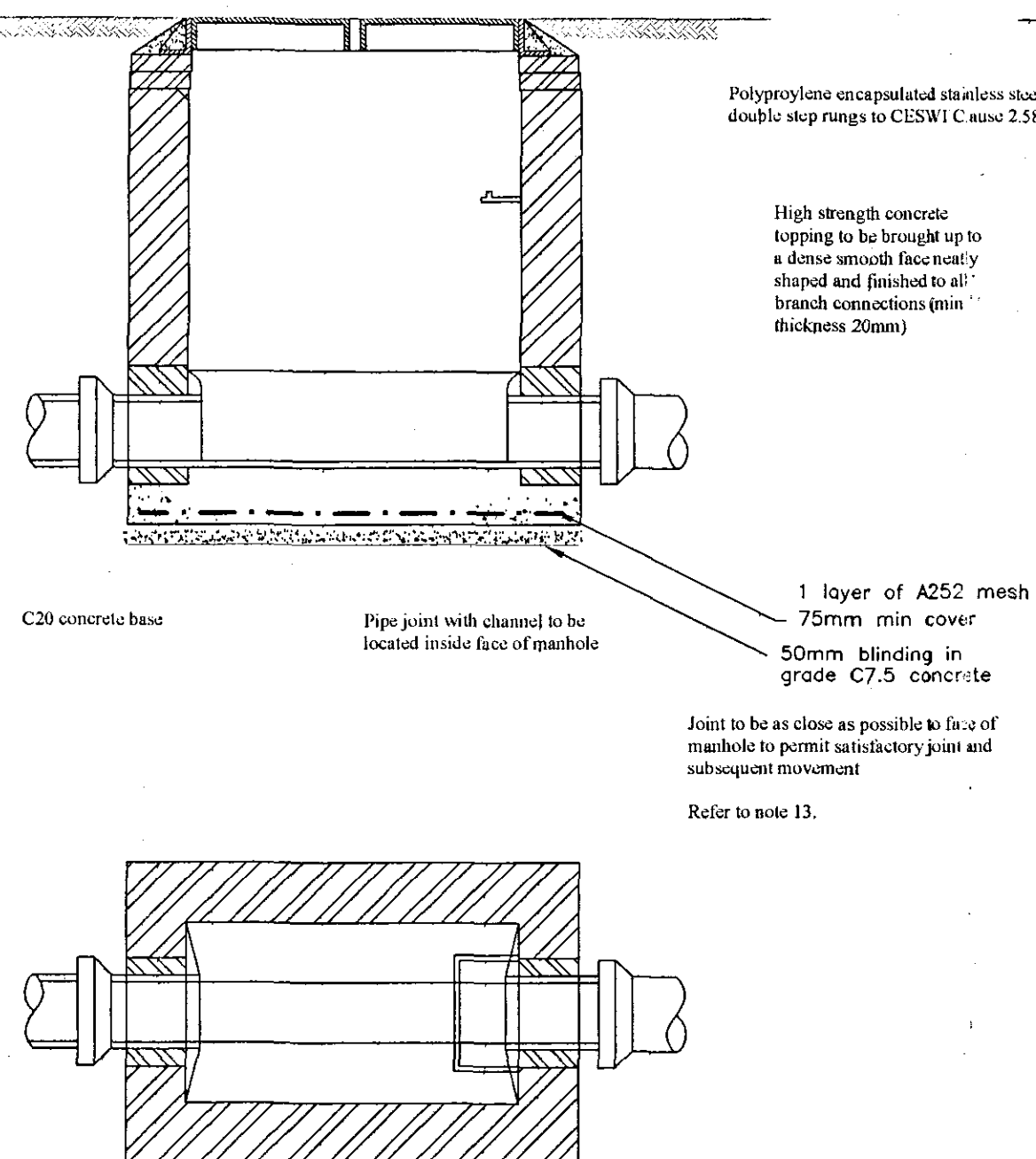


1220 x 685mm multiple ductile iron cover bedded on mortar

Brickwork or precast masonry units to be corbelled to suit cover



Mortar haunching to MH cover and frame

Class B solid engineering bricks or PCC masonry units 225mm thick

Arch over pipe

Benching slope to be 1 in 10 to 1 in 30

225mm to barrel of pipe

Inverts to be formed using channel pipes

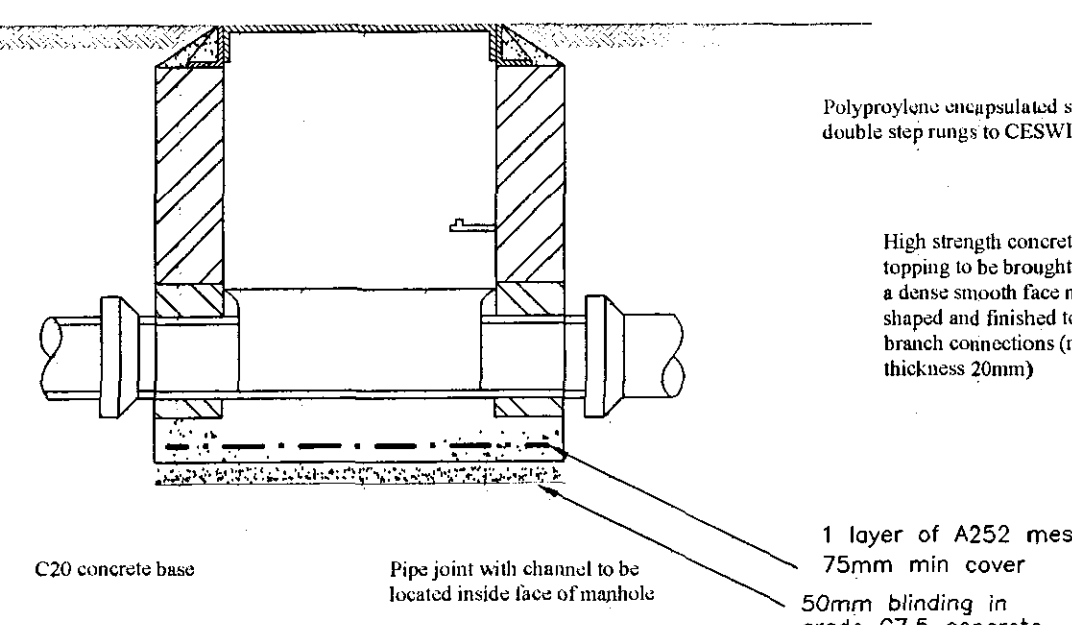
NOTE:-

Internal dimensions of manhole normally 1250 x 675mm but manhole width should be increased for pipes larger than 225mm Ø to give 225mm benching each side, with brickwork / masonry units corbelled down to suit cover

TYPICAL MANHOLE DETAIL - TYPE C
(Max Depth to Soffit 1.0 - 1.45m)

900 x 600mm multiple ductile iron cover bedded on mortar

Brickwork or precast masonry units to be corbelled to suit cover



Polypropylene encapsulated stainless steel double step rungs to CESWI Clause 2.58

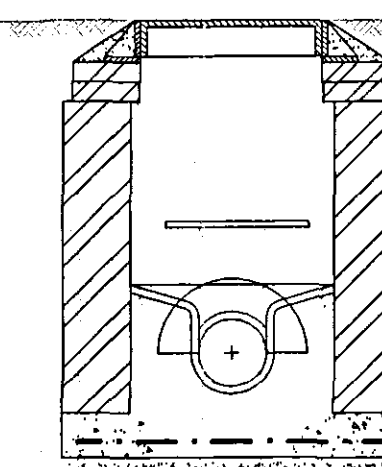
High strength concrete topped to be brought up to a dense smooth face neatly shaped and finished to all branch connections (min thickness 20mm)

1 layer of A252 mesh 75mm min cover

50mm blinding in grade C7.5 concrete

Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

Refer to Note 13.



Mortar haunching to MH cover and frame

Arch over pipe

Class B solid engineering bricks or PCC masonry units 225mm thick

Benching slope to be 1 in 10 to 1 in 30

225mm to barrel of pipe

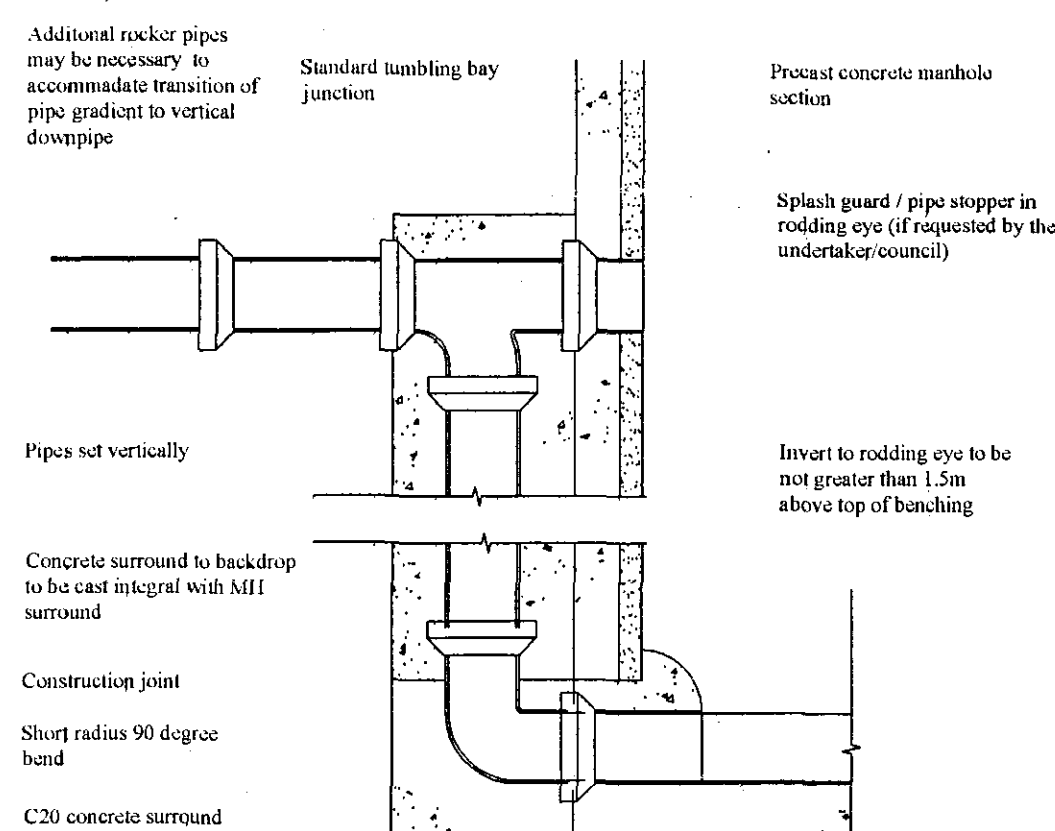
Inverts to be formed using channel pipes

NOTE:-

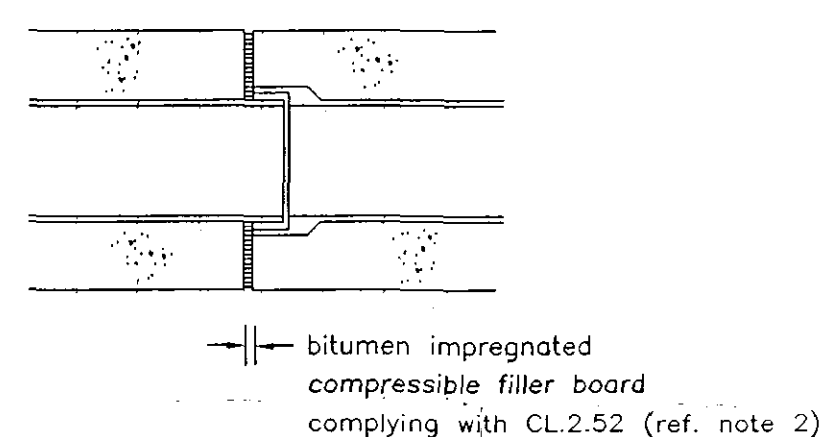
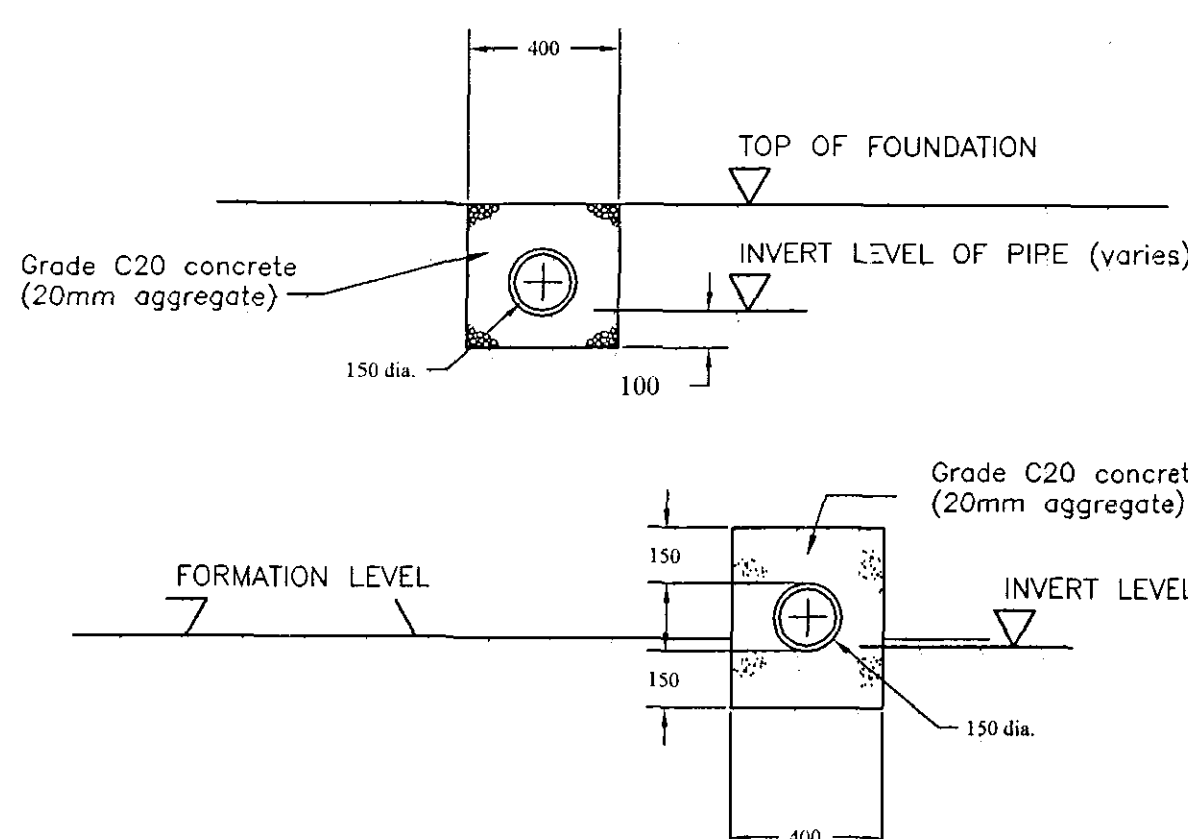
Internal dimensions of manhole normally 900 x 675mm but manhole width should be increased for pipes larger than 225mm Ø to give 225mm benching each side, with brickwork / masonry units corbelled down to suit cover

The use of precast rectangular concrete manhole units with 150mm C20 concrete surround is permitted.

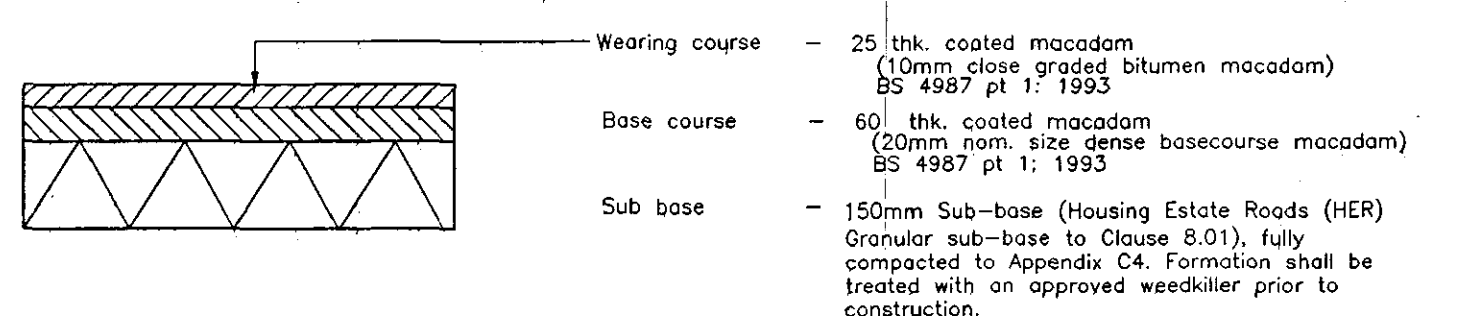
TYPICAL MANHOLE DETAIL - TYPE D
(Max Depth to Soffit less than 1.0m)



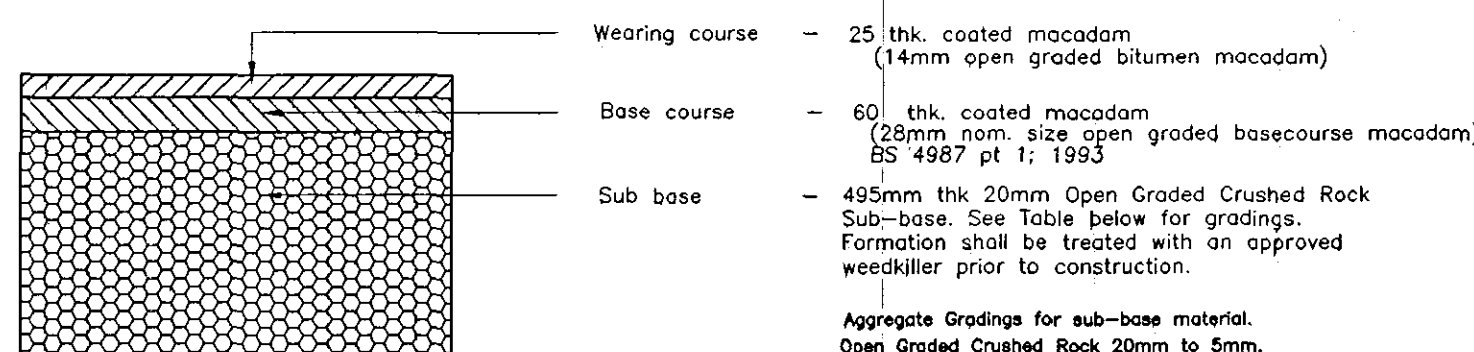
TYPICAL VERTICAL BACKDROP DETAIL
(Refer to Engineering Drawings for manholes where backdrop is required and depth of backdrop)



Section On Pipeline at Pipe Joints
Class Z Concrete Bed and Surround Conditions



FLEXIBLE PLOT DRIVEWAY CONSTRUCTION DETAIL



PERMEABLE FLEXIBLE SURFACING DRIVEWAY CONSTRUCTION DETAIL

Aggregate Gradings for sub-base material.

Sieve size, mm	%age passing
37.5	100
20	90-100
14	40-80
10	30-60
5	0-10
2.36	-

TRENCH WIDTHS	
PIPE (mmØ)	WIDTH (mm)
100	550
150	600
225	700
300	750
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
975	2000
1050	2300
1200	2300
OVER 1200	DIA. + 1000

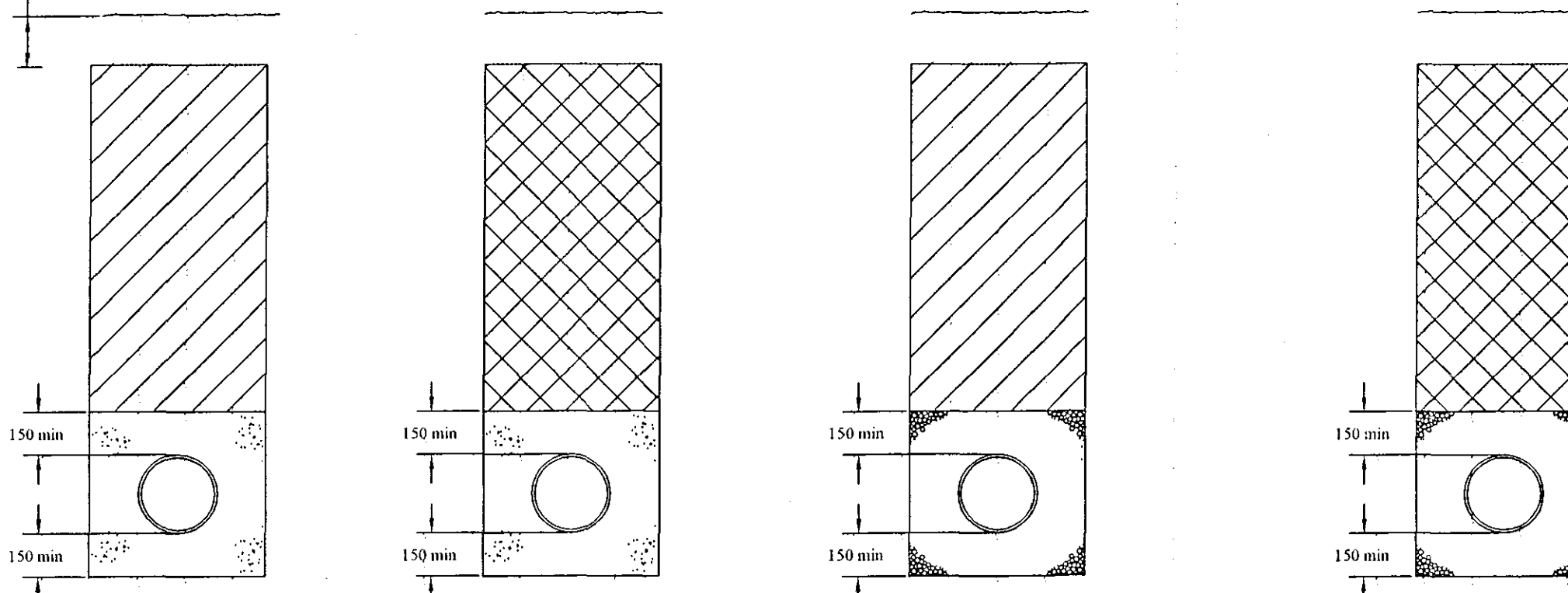
NOTES:-

- No mechanical compaction to occur within 300mm of crown of pipe.
- Where pipes are laid under buildings, refer to Engineer for further details.

KEY TO BEDDING AND BACKFILL:-

- Granular material complying with CESWI Clause 2.50.
- Selected clean excavated material complying with CESWI Clause 2.116 in layers not exceeding 225mm (refer to note 21.)
- Granular sub base material (DOT TYPE 1) deposited in layers not exceeding 225mm unconsolidated thickness and then fully compacted.
- Grade C20P concrete (min) (20mm aggregate)

Surface construction



Class Z
Concrete Bed & Surround

Class S
Granular Bed & Surround

Type (a)
Applicable under roads / service yards where drains have less than 900 cover (if adopted) or less than 600 cover (if not adopted)

Type (b)
Applicable under footpaths / verges and other non-trafficked areas where drains have less than 900 cover (if adopted) or less than 600 cover (if not adopted)

Type (a)
Applicable under roads / service yards where drains have more than 1200 cover (if adopted) or more than 600 cover (if not adopted)

Type (b)
Applicable under footpaths / verges and other non-trafficked areas where drains have more than 900 cover (if adopted) or more than 600 cover (if not adopted)
[NOTE: 100mmØ rigid pipe can have min. cover of 300mm].

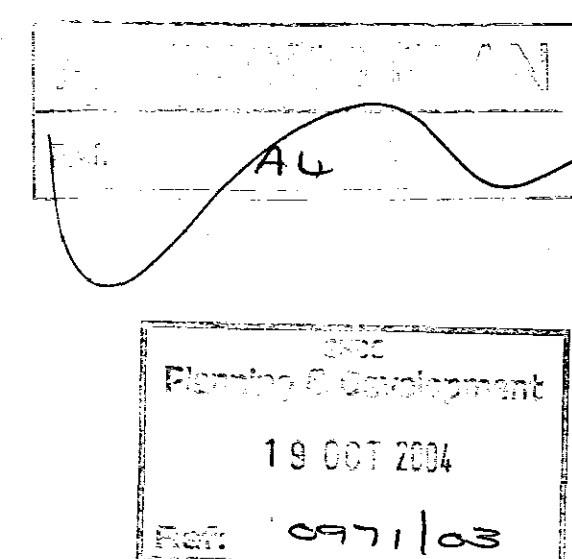
BEDDING & TRENCH DETAILS

DO NOT SCALE

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NOTES

- This drawing is to be read in conjunction with all other relevant Engineer's, Architect's and specialist's designs, drawings and details.
- All dimensions are in metres unless otherwise stated.
- Chainage are given in metres.
- All private drainage to be constructed in accordance with Building Regulations 1990 (Part H).
- Pipework up to and including 300mmØ to be 36 kN/m strength clayware to BS EN 295: 1991 with Joint Type D.
- Pipework above 300mmØ to be Class M (SRPC) concrete pipes to BS 5911 with spigot and socket flexible joints.
- Stub pipes from adoptable sewers to be 150mmØ.
- The Contractor shall be responsible for verifying the levels, sizes and position of all existing sewers. Any discrepancies should be reported to the Engineer before work commences.
- Refer to DW Dwg Nos 03/6382/100 and 101 for details of all adoptable pipework sizes, gradients & levels.
- All sewers referenced "S/F" to be adopted by Anglian Water Services Ltd (AWS) subject to approval. Except S1-S2 which is to be adopted by Lincolnshire County Council as Highway Drain.
- All gullies and the associated connections within the adoptable highway shall be adopted by Lincolnshire County Council.
- Refer to DWP Drawing 03/6382/110/1 & 110/2 for private plot drainage layout details.
- A vitrified clayware yard gully with associated proprietary cover and connecting pipework should be anticipated within each plot driveway. The location of the gullies to be confirmed by the Engineer upon completion of the external works levels.
- All Pipework shall be 100mmØ unless otherwise stated.
- Differential movement joints/intels where drains pass through all constructional elements. Brick manholes to be constructed in flush pointed English bond class B eng. bricks in cement mortar. P.C concrete lintels to be used over pipes and ducts passing through walls.
- All pipes entering & exiting manholes are to be connected with pipe soffits level unless otherwise stated.
- Drainage to BS 8301 with pipes of approved type drainage system on granular bed and surround and all in strict accordance with the Manufacturers instructions. Pipes with cover less than 600 under buildings and gardens, 800 under car parking areas, 1200 under roads to be surrounded in minimum 150 thick concrete (Class Z).
- All soft spots within pipe trenches shall be removed.
- No water shall be allowed to accumulate in trenches.
- All fill material shall be consolidated in layers not exceeding 225mm.
- Pipes shall be laid to their true line and level by laser or by boning each end and middle.
- All in situ concrete used in pipe protection to be min. Grade C20 P.
- Compressible filler for interruption of concrete pipe protection shall consist of bitumen impregnated insulating board to BS1142 Pt3 at each pipe joint; thickness in accordance with CESWI Clause 2.52.



Ref.	Revision	Date	By
Issue			
PRELIMINARY			
THE DIAMOND WOOD PARTNERSHIP Consulting Engineers			
The Old School Babey Road Enderby Leicester LE19 4AR T: 0116 284 5889 F: 0116 284 8898 E: mail@diamondwood.co.uk			
Project Title			
PROPOSED DEVELOPMENT EPIDGE ROAD, SUTTON BRIDGE, LINCOLNSHIRE. FOR CANNON KIRK (UK) LTD			
Drawn	MD	Date	03/04
Scale	N.T.S.	Checked	JK
Drawing Title			
PRIVATE PLOT DRAINAGE CONSTRUCTION DETAILS			
Project No.	Crawing No.	Revision	
03/6382	111		A