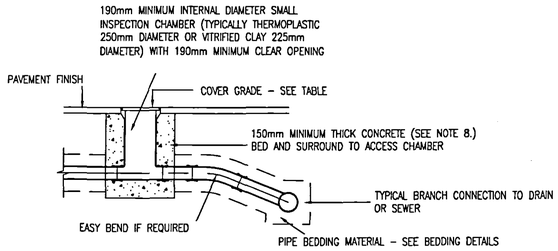
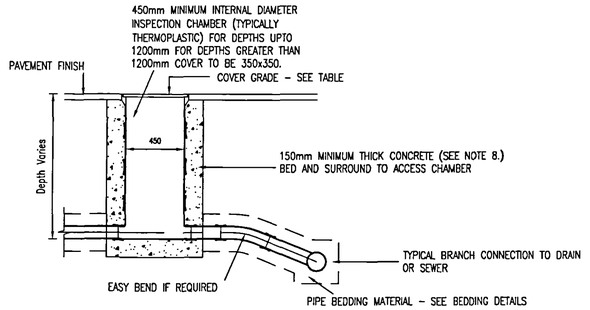
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WHERE INSPECTION CHAMBERS ARE LOCATED IN FIELDS AND GARDENS/LANDSCAPED AREAS, CONCRETE SURROUND CAN BE REPLACED WITH SUITABLE 'AS-DUG' MATERIAL OR GRANULAR MATERIAL SUBJECT TO MANUFACTURERS INSTRUCTIONS.

TYPICAL SHALLOW INSPECTION CHAMBER DETAIL FOR USE IN DRIVEWAYS/CAR PARKING AREAS (NOT SUBJECT TO HEAVY VEHICLE LOADING)

SCALE 1:25



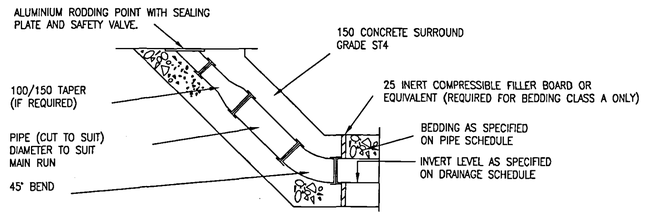
WHERE INSPECTION CHAMBERS ARE LOCATED IN FIELDS AND GARDENS/LANDSCAPED AREAS, CONCRETE SURROUND CAN BE REPLACED WITH SUITABLE 'AS-DUG' MATERIAL OR GRANULAR MATERIAL SUBJECT TO MANUFACTURERS INSTRUCTIONS.

TYPICAL MEDIUM DEPTH INSPECTION CHAMBER

(NOT SUBJECT TO HEAVY VEHICLE LOADING)

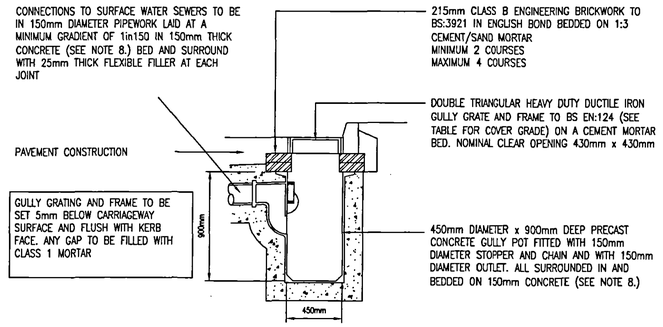
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DETAIL FOR USE IN DRIVEWAYS/CAR PARKING AREAS



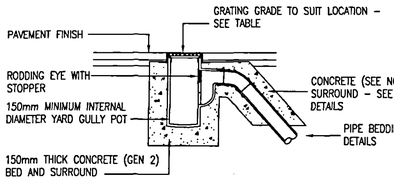
LIGHT DUTY RODDING EYE DETAIL

ON NON TRAFFICKED AREA
MEDIUM DUTY COVER IN CAR PARK (CLASS C250 TO BE EN 124)



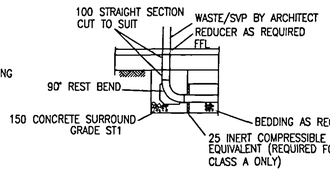
TYPICAL ROAD GULLY DETAIL

SCALE 1:25



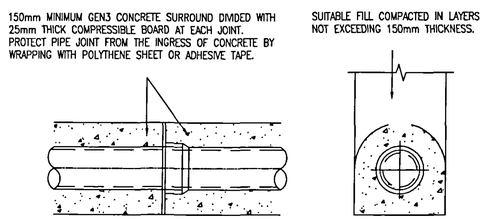
TYPICAL YARD GULLY DETAIL

SCALE 1:25



INTERNAL SVP OUTLET

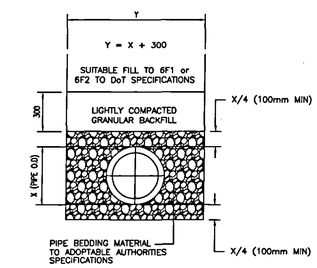
SCALE 1:25



TYPE Z BEDDING

(Concrete surround)

NOT TO SCALE

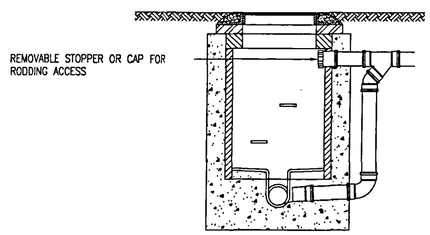


TYPE S PIPE BEDDING

(Granular bed & surround)

NOT TO SCALE

NOTE :
ALL PIPE BEDDING MATERIAL TO BE IMPORTED GRANULAR MATERIAL.



SEE PRIVATE MANHOLE DETAIL FOR CONSTRUCTION DETAILS

TYPICAL DETAIL OF EXTERNAL BACKDROP MANHOLE

NOT TO SCALE

MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS

TYPE OF ACCESS	DEPTH TO INVERT FROM COVER LEVEL (m)	MINIMUM INTERNAL DIMENSIONS m		MINIMUM CLEAR OPENING SIZE m	
		LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)
RODDING EYE	-	AS DRAIN BUT MINIMUM 100mm.	-	-	SAME SIZE AS PIPEWORK
ACCESS FITTING SMALL 150mm DIA. SMALL 150x100mm LARGE 225x100mm	0.6m OR LESS EXCEPT WHERE SITUATED IN A CHAMBER	 150 x 100 225 x 100	 150 225	 150 x 100 (1) 225 x 100 (1)	SAME SIZE AS ACCESS FITTING
INSPECTION CHAMBER					
SHALLOW	0.6m OR LESS	225 x 100	190 (2)		190 (1)
MEDIUM	1.2m OR LESS	450 x 450	450	MIN 430 x 430	430
DEEP	GREATER THAN 1.2m	450 x 450	450	MAX 300 x 300 (3)	ACCESS RESTRICTED TO MAX 350 (3)

NOTES:
(1) THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
(2) DRAINS UPTO 150mm DIAMETER.
(3) A LARGER CLEAR OPENING COVER MAY BE USED IN CONJUNCTION WITH A RESTRICTED ACCESS. THE SIZE IS RESTRICTED FOR HEALTH AND SAFETY REASONS TO DETER ENTRY.

MINIMUM DIMENSIONS FOR MANHOLES

TYPE OF ACCESS	SIZE OF LARGEST PIPE (DN)	MINIMUM INTERNAL DIMENSIONS m		MINIMUM CLEAR OPENING SIZE m	
		RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)	RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)
MANHOLE LESS THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 150	750 x 675 (7)	1000 (7)	750 x 675 (2)	N/A (3)
	225	1200 x 675	1200	1200 x 675 (2)	
	300	1200 x 750	1200		
	GREATER THAN 300	1800 x (DN+450)	THE LARGER OF 1800 or (DN+450)		
MANHOLE GREATER THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 225	1200 x 1000	1200	800 x 800	800
	300	1200 x 1075	1200		
	375-450	1350 x 1225	1200		
	GREATER THAN 450	1800 x (DN+775)	THE LARGER OF 1800 or (DN+775)		
MANHOLE SHAFT (4) GREATER THAN 3.0m DEEP TO SOFFIT OF PIPE	STEPS (5)	1050 x 800	1050	600 x 600	600
	LADDER (5)	1200 x 800	1200		
	WINCH (6)	900 x 800	900		

NOTES:
(1) LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS.
(2) MAY BE REDUCED TO 600x600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED.
(3) NOT APPLICABLE DUE TO WORKING SPACE NEEDED.
(4) MINIMUM HEIGHT OF CHAMBER IN SHAFTED MANHOLE 2m FROM BENCHING TO UNDERSIDE OF REDUCING SLAB.
(5) MINIMUM CLEAR SPACE BETWEEN LADDER OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900mm.
(6) WINCH ONLY - NO STEPS OR LADDERS, PERMANENT OR REMOVABLE.
(7) THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER (i.e. ANY DRAIN SERVING MORE THAN ONE PROPERTY) SHOULD BE 1200x750mm RECTANGULAR OR 1200mm DIAMETER.

TABLE SHOWING PRIVATE MANHOLE/INSPECTION CHAMBER COVER GRADES AND AREAS OF USE

COVER GRADE TO BS EN: 124	LOCATION
D400	FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGV'S.
C250*	FOR USE IN PRIVATE ROADS OR PARKING AREAS eg. CAR PARKS AND MINOR PRIVATE ROADS ACCESSIBLE TO REFUSE VEHICLES, FIRE APPLIANCES ETC WITH POSSIBLE OCCASIONAL HGV USE.
B125	FOR USE IN FOOTWAYS, PEDESTRIAN AREAS, DRIVEWAYS AND CAR PARKS ACCESSIBLE BY LIGHT VEHICLES ONLY.
A15	FOR USE IN AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS
* D400 MAY BE USED IN LIEU OF C250 IF PREFERRED.	

PERMITTED PIPE/BEDDING TYPES

	DEPTH OF COVER BELOW ROADS	
	1.2m-3.5m	1.2m-3.5m
PIPE BEDDING	TYPE S	TYPE S
PIPE TYPE	CONCRETE CLASS M TO BS:5911	VITRIFIED CLAY TO BS:65, WITH FLEXIBLE JOINTS SUPER STRENGTH CLASS FOR 225 AND 300mmø, EXTRA STRENGTH CLASS FOR ALL OTHER SIZES.
	0.9m-1.2m TYPE S + 150 CONC. SLAB CONCRETE CLASS M TO BS:5911 AND VITRIFIED CLAY TO BS:65	<0.9m TYPE Z CONCRETE CLASS M TO BS:5911 AND VITRIFIED CLAY TO BS:65

NOTES

1) ALL BUILDING DRAINAGE TO BE INSTALLED AND TESTED IN COMPLIANCE WITH THE BUILDING REGULATIONS 2000 DRAINAGE AND WASTE DISPOSAL APPROVED DOCUMENT H 2002 EDITION.

2) ALL COMPONENTS AND MATERIALS ARE TO BE MANUFACTURED AND SUPPLIED IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, AND LAID AND BACKFILLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND THE RELEVANT BRITISH STANDARDS.

3) THE CONTRACTOR SHALL, BEFORE COMMENCING THE WORKS, VERIFY ALL SITE AND SETTING OUT DIMENSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRUE AND PROPER SETTING OUT OF THE WORKS AND FOR THE CORRECTNESS OF THE POSITION, LEVELS, DIMENSIONS, AND ALIGNMENT OF ALL PARTS OF THE WORKS.

4) SMALL LIGHTWEIGHT ACCESS COVERS SHOULD BE SECURED (FOR EXAMPLE WITH SCREWS) TO DETER UNAUTHORISED ACCESS.

5) INSPECTION CHAMBERS AND MANHOLES IN BUILDINGS TO HAVE MECHANICALLY FIXED AIRTIGHT COVERS UNLESS THE DRAIN ITSELF HAS WATERTIGHT ACCESS COVERS.

6) MANHOLES DEEPER THAN 1m TO HAVE GALVANISED STEEL STEP IRONS OR FIXED LADDERS.

7) ALL ABOVE GROUND DRAINAGE TO INCORPORATE RODDING ACCESS FACILITIES.

8) INSITU CONCRETE FOR USE IN GENERAL DRAINAGE WORKS, GRADE TO BS: 5328, USE AS FOLLOWS:

CLASS 1 SULFATE CONDITIONS:	
ADOPTABLE STANDARD WORKS AND AREAS SUBJECT TO HEAVY LOADING	GEN 3 or ST4
AREAS SUBJECT TO LIGHT LOADING eg. HOUSING AND PRIVATE DRIVES, SMALL CAR PARKS.	GEN1 or ST2
FOR BURIED CONCRETE EXPOSED TO OTHER SULPHATE CONDITIONS:	
CLASS 2 CLASS 3 CLASS 4A CLASS 4B	FND 2 FND 3 FND 4A FND 4B

SHDC
Planning & Development
20 JUL 2007
Ref: 0982/07

REV	DATE	REMARKS

STATUS
PRELIMINARY

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PROJECT
Proposed Residential
Flaxmill Lane
Spalding

TITLE
Private Drainage Details

DETERMINED PLAN

DATE	March'07	SCALE	1:25 UNO
DRAWN	HP	CHECKED	
DESIGN	HP	FILENAME	22506-08

DRG No. 22506/08 REV

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