MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS

TYPE OF ACCESS	DEPTH TO INVERT FROM COVER LEVEL (m)	MINIMUM INTERNAL DIMENSIONS		MINIMUM CLEAR OPENING SIZE	
		LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)
RODDING EYE	-	AS DRAIN BUT 100mm MINIMUM	-	-	SAME SIZE AS PIPEWORK[1]
ACCESS FITTING SMALL 150mmØ SMALL 150mm/100mm LARGE 225mm/100mm	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 [1]		190 [1]
MEDIUM	1.2m OR LESS	450 x 450	450	MINIMUM 430 x 430	430
DEEP	GREATER THAN 1.2m	450 x 450	450	MAXIMUM 300 x 300 [2]	ACCESS RESTRICTED TO 350 MAXIMUM [2]

NOTES:
1. THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
2. DRAINS UP TO 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 [1]		MINIMUM CLEAR OPENING SIZE [1]	
		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 [2]	1000 [2]	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	600 x 600	600
	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	STEPS [5]	1050 x 800	1050	600 x 600	600
	LADDER [5]	1200 x 800	1200		
	WINCH [6]	900 x 800	900	600 x 600	600

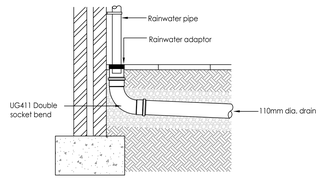
NOTES:
1. LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS
2. MAY BE REDUCED TO 600mm×600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED
3. NOT APPLICABLE DUE TO WORKING SPACE NEEDED
4. MINIMUM HEIGHT OF CHAMBER IN SHAFTED 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 1200mm×675mm RECTANGULAR OR 1200mm DIAMETER.

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

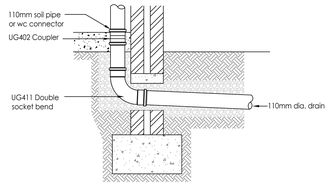
COVER GRADE TO BS EN 124	LOCATION
D400	FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGVs
C250*	FOR USE IN PRIVATE ROADS OR PARKING AREAS, e.g. CAR PARKS AND MINOR PRIVATE ROADS ACCESSIBLE TO REFUSE VEHICLES, FIRE APPLIANCES, etc. WITH POSSIBLE OCCASIONAL 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 BE USED ONLY BY PEDESTRIANS AND PEDAL CYCLISTS

* D400 MAY BE USED IN LIEU OF C250 IF PREFERRED

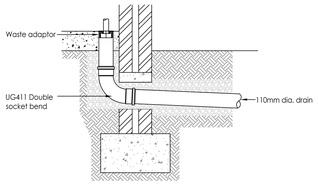
RAINWATER PIPE CONNECTION



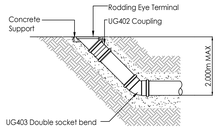
SOIL PIPE / WC CONNECTION



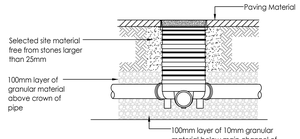
WASTE PIPE CONNECTION



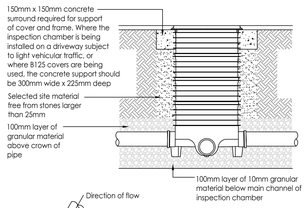
RODDING EYE DETAIL

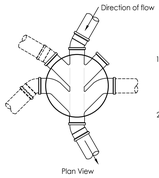


SHALLOW INSPECTION CHAMBER DETAIL



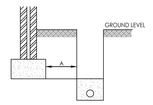
460mm dia. INSPECTION CHAMBER DETAIL



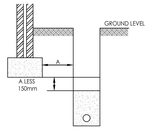


1. In all installations, the main channel of the inspection chamber should always be used. Where the chamber is being used as a change of direction for the drainage system, short radius bends of 11¼°, 15°, 30° and 45° can be used in the inlet and outlet to achieve the required angle.
2. Side inlet branch connections enter the inspection chamber approx. 55mm above the invert of the main channel

PIPES NEAR BUILDINGS

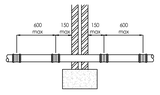


Where dimension A is less than 1.0m, concrete fill trench to level of underside of foundations.



Where dimension A is greater than 1.0m, concrete fill trench to this level

PIPES THROUGH WALLS

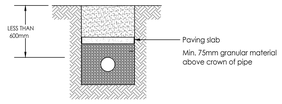


A. Short length of pipe bedded in wall with joints formed within 150mm of each wall face. Adjacent rocker pipes of 600mm max. length with flexible joints.

B. Arch or lintelled opening to give min 50mm space all round the pipe.
A. Mask opeing on both sides of the wall with rigid sheet material to prevent entry of fill or vermin.
Important Fill void with compressible material to prevent entry of gas.

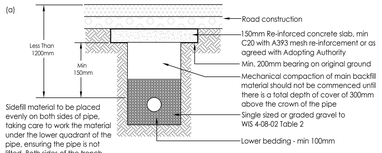
PROTECTION FOR PIPES

1. PIPES LAID AT SHALLOW DEPTHS IN NON TRAFFICKED AREAS

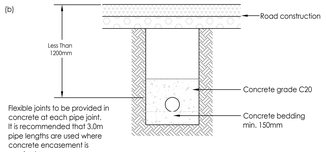


Pipes laid in non-trafficked areas, e.g. in gardens with less than 600mm of cover, should be protected against damage by placing paving slabs or similar over them across the whole width of the trench. A layer of granular material of 75mm min thickness must be laid between pipes and slabs.

2. PIPES LAID AT SHALLOW DEPTHS IN ADOPTABLE TRAFFICKED AREAS

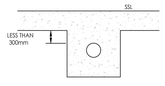


Sidefill material to be placed evenly on both sides of pipe, taking care to work the material under the lower quadrant of the pipe, ensuring the pipe is not lifted. Both sides of the trench should be filled simultaneously to avoid horizontal movement of the pipe



Flexible joints to be provided in concrete at each pipe joint. It is recommended that 3.0m pipe lengths are used where concrete encasement is required

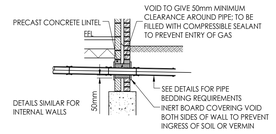
3. PIPES LAID AT SHALLOW DEPTHS UNDER BUILDINGS



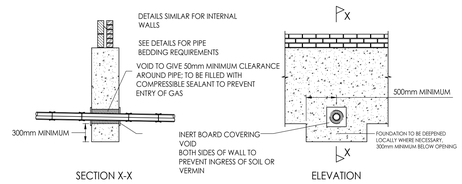
Where the crown of the pipe is within 300mm of the underside of the slab, the pipework should be surrounded with 150mm concrete as an integral part of the floor slab.

Where pipes are surrounded in concrete, an 18mm compressible board, e.g. fibreboard or polystyrene should be placed around the pipe at each joint.

PRECAST CONCRETE LINTEL DETAIL



TYPICAL DRAIN PASSING OVER FOUNDATION



TYPICAL DRAIN PASSING THROUGH FOUNDATION

NOTES

1) ALL BUILDING DRAINAGE TO BE INSTALLED AND TESTED IN COMPLIANCE WITH THE BUILDING REGULATIONS, 2000, DRAINAGE AND WASTE DISPOSAL APPROVED DOCUMENT H, 2015 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 THOSE STANDARDS, AND THE MANUFACTURER'S INSTRUCTIONS.
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 (e.g. WITH SCREWS) TO DETER UNAUTHORISED ACCESS.
5) MANHOLES DEEPER THAN 1m TO HAVE GALVANISED STEEL STEP IRONS OR FIXED LADDERS.
6) ALL ABOVE GROUND DRAINAGE TO INCORPORATE RODDING ACCESS FACILITIES.
7) INSITU CONCRETE FOR USE IN GENERAL DRAINAGE WORKS TO BE GEN3 GRADE.

ALL PRIVATE DRAINAGE TO BE SUPPLIED BY POLYPIPE OR SIMILAR APPROVED SUPPLIER

REV	DATE	AMENDMENT DETAILS	DRAWN	APPROVED

PROJECT: SHRUB END, ICENI WAY, COLCHESTER, ESSEX	DATE: 07.12.17	DRAWING STATUS: INFORMATION	
	SCALE(S): N.T.S.	DESIGNED: JPP	DRAWN: WL
		CHECKED: JPP	APPROVED: BWA
DRAWING TITLE: PRIVATRE DRAINAGE CONSTRUCTION DETAILS	JOB No: 1321		
CLIENT: MARITIME & COASTGUARD AGENCY	DRAWING No: 02/002	REVISION: -	

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DO NOT SCALE ORIGINAL SHEET SIZE - A0 Landscape