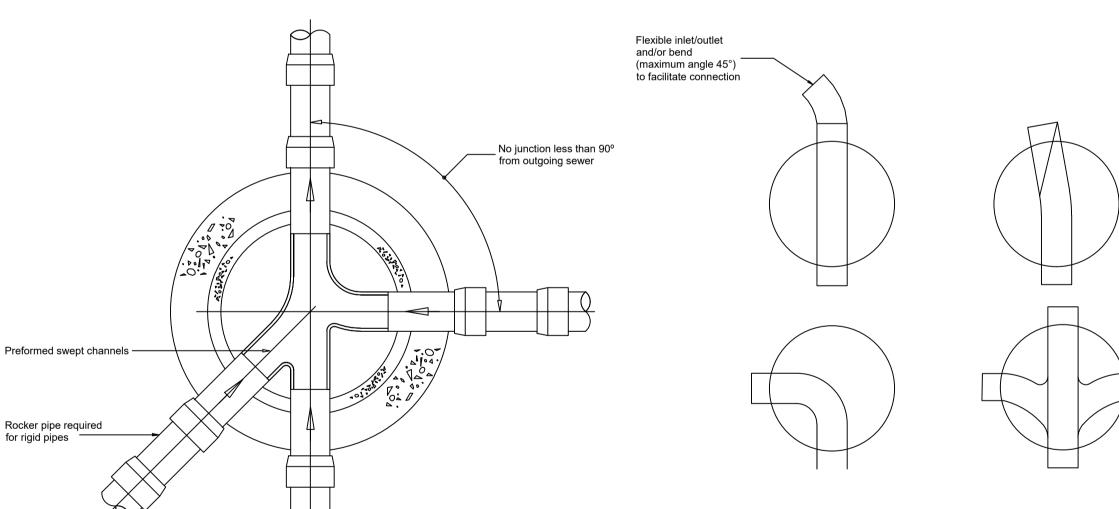
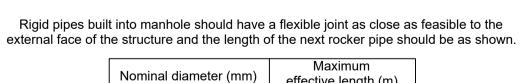
## Maximum depth from cover level to soffit of pipe 3.0 m Maximum depth from cover level to soffit of pipe in areas subject to vehicle loading 3 m, non-entry 600 mm x 600 mm clear opening Plastic chambers and rings shall comply with BS EN 13598-1 and cover complying with BS EN 13598-2 or have equivalent independent approval Mortar bedding and haunching Manhole cover to suit BS EN 124 loading BS EN 124 and BS 7903 to cover and frame Highways - Class D400 See Clause E2.32 to Clause E6.7 Mortar bedding and haunching to 600 mm clear opening cover and frame to Clause E6.7 Minimum 2 courses of Class B engineering bricks or precast Access opening restricted concrete cover frame seating rings to 350 mm diameter or Surface course -Minimum clear access 600 mm 300 mm x 300 mm if depth Binder course -675 mm maximum to first of chamber to invert is > 1 m step rung from cover level Base course — Precast concrete manhole Class B engineering Precast concrete slab sections and cover slab to be brickwork or precast support cover and frame bedded with mortar, plastomeric concrete cover frame Lifting eyes in concrete\_ or elastomeric seal conforming to seating rings rings to be pointed Clause B3.2.13 for BS EN 1917 and BS 5911-3 PC ring diameter ■ DOT Type 1 sub base Chamber wall to be minimum 125 mm (thickness varies) Temporarily cap shaft during construction Chamber height (not less than 900 mm) Surface of benching and channel formed monolithically with high-strength concrete base or a proprietary liner Benching slope to be 1:10 to 1:30 Self-cleaning toe holes to be provided where chan exceeds 600 mm wide Minimum internal dimensions - 450 mm diameter or 450 mm x 450 mm -150 mm to underside of channel DOT Type 1 sub base or concrete surround See Figure B.14 and Clause E6.6.2 Joint to be within chamber for rocker pipe details Joints between base and wall to permit satisfactory shaft and between shaft joint and subsequent movement Base unit to have all components to be fitted connections with soffit with watertight seals levels set no lower than that of the main pipe Double step rungs in accordance with BS EN 13101 Minimum width of Joint to be as close See Clause E2.33 for benching to be 225 mm **→**Granular bedding material as possible to face of double step details chamber to permit satisfactory joint and subsequent movement Invert of connecting pipe at least 50 mm above that of the main pipe edge of stepping Note: Where the access chamber is in the highway the Highway Authority can have specific requirements Not to scale Not to scale

## FIGURE B.14 TYPICAL ARRANGEMENT OF PIPE JUNCTIONS WITHIN MANHOLES

FIGURE B.13

TYPICAL MANHOLE DETAIL - TYPE 2 (Alternative construction detail)





Sectional Plan

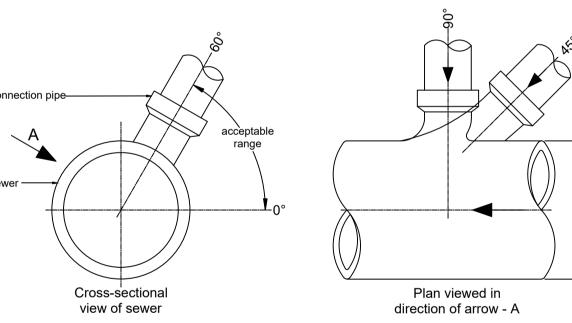
for rigid pipes

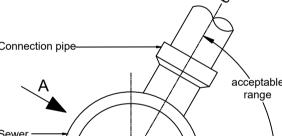
Nominal diameter (mm)	Maximum effective length (m)
150 - 600	0.6
601 - 750	1.00
over 750	1.25

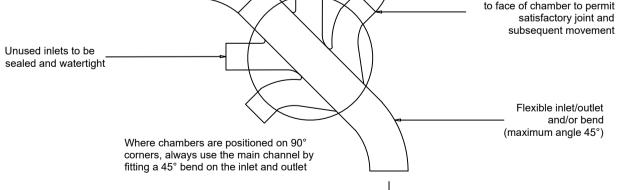
All pipes entering the bottom of the manhole to have soffits level.

FIGURE B.24

**CONNECTIONS TO SEWER** 







Main flow

Joint to be as close as possible

FIGURE B.20

**ALTERNATIVE BASE LAYOUTS FOR TYPE 3 CHAMBERS** 

FIGURE B.16

TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3 (Flexible material detail)

Note: Where a bend is used immediately outside the manhole, this may be used as the rocker pipe

Not to scale

30 LONGACRE LANE, HAWORTH, BRADFORD, BD22 0TE

<u>NOTES</u>

OF ANY DISCREPANCIES.

INVOLVING PUBLIC SEWERS.

TO COMMENCEMENT OF WORKS.

NOT EXCEEDING 140mm DIAMETER.

EXCEEDING 400mm DIAMETER.

BUILDING CONTROL INSPECTOR.

9. GRANULAR BEDDING:

BS EN 752.

DRAINAGE.

PIPE.

SUMPS.

WORKS 2009.

1. DO NOT SCALE FROM THIS DRAWING, UTILISE ONLY NUMBERED

2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT

3. UNLESS NOTED OTHERWISE, THIS DRAWING IS FOR PLANNING APPROVAL.

4. ALL DRAINAGE TO BE TO THE SATISFACTION OF THE LOCAL AUTHORITY

BUILDING CONTROL AND MAIN DRAINAGE SECTIONS ON MATTERS

5. ALL PIPEWORK, BENDS AND JUNCTIONS TO BE EXTRA STRENGTH

TO BE AGREED WITH RELEVANT AUTHORITY.

ARCHITECTS AND ENGINEERS DRAWINGS, NOTIFY ENGINEER IMMEDIATELY

VITRIFIED CLAY TO BS 65:1991, BS EN 295 OR PVCu TO BS EN 1401

6. INVERT LEVELS ON EXISTING DRAINS & OUTFALLS TO BE CHECKED PRIOR

7. TRENCH WIDTHS GENERALLY:- AS SMALL AS PRACTICABLE BUT NOT LESS

8. WHERE DRAINAGE PIPES HAVE LESS THAN 1.2m COVER IN TRAFFICKED

THAN PIPE DIAMETER +300mm OR LARGER IF SPECIFIED. TRENCH SIDES

AREAS AND LESS THAN 600mm UNDER LANDSCAPED AREAS PIPES SHALL

HAVE A FULL CLASS Z CONCRETE SURROUND. CONCRETE PROTECTION TO

BE DISCONTINUED AT EACH PIPE JOINT WITH COMPRESSIBLE MATERIAL.

ALL OTHER FLEXIBLE PIPES TO HAVE CLASS S GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED. ALL OTHER RIGID PIPES TO HAVE

CLASS B GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED.

10mm SINGLE SIZED COARSE AGGREGATE SHALL BE USED ON PIPES

• 2-14mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES

• 4-20mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES

• THE DEPTH OF GRANULAR BEDDING UNDER THE PIPES SHALL BE X/6

8. ADOPTABLE PUBLIC SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH

9. ALL PRIVATE DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH "THE

TRENCHES & PRIOR TO HANDOVER TO THE SATISFACTION OF THE

DRAINAGE SECTION PRIOR TO COMMENCEMENT OF WORK ON PUBLIC

250mm ONCE 300mm COVER HAS BEEN PROVIDED TO THE TOP OF

13. THE CONTRACTOR SHALL ALLOW IN HIS RATES FOR MAINTAINING FLOW IN

PUBLIC SEWERS AT ALL TIMES DURING DIVERSION WORKS INCLUDING

TEMPORARY PUMPING AND ALSO KEEPING EXCAVATIONS FREE FROM

GROUNDWATER INCLUDING PUMPING AND FORMATION OF TEMPORARY

14. THE CONTRACTOR SHALL MAKE PROVISIONS FOR AND LIAISE WITH ALL RELEVANT STATUTORY BODIES FOR THE MANAGEMENT OF TRAFFIC WHILE

15. THE CONTRACTOR IS TO SATISFY HIMSELF TO THE POSITION AND AND DEPTH OF THE PUBLIC UTILITIES AND ALLOW FOR TEMPORARY SUPPORT. PROTECTION AND DIVERSION WORKS AS NECESSARY. THE CONTRACTOR SHALL ALSO INCLUDE FOR ANY TRIAL PIT EXCAVATIONS NECESSARY.

16. BACKFILL TO EXCAVATIONS IN PUBLIC HIGHWAYS TO BE WELL COMPACTED GRANULAR TYPE 1 TO CL.803 OF THE DTp SPECIFICATION FOR HIGHWAY

17. ALL EXTERNAL GULLIES TO BE 375mm DIA. MINIMUM, PRECAST CONCRETE, HEAVY DUTY, KITE MARKED & ANTI-THEFT.

CARRYING OUT WORKS IN THE PUBLIC HIGHWAY.

10. ALL NEW DRAINAGE TO BE TESTED PRIOR TO BACKFILL OF THE

11. THE CONTRACTOR MUST LIAISE WITH THE LOCAL AUTHORITY MAIN

12. TRENCH BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING

OR 150mm, WHICHEVER IS GREATER, WHERE X=EXTERNAL DIAMETER OF

BUILDING REGULATIONS APPROVED DOCUMENT H" AND BRITISH STANDARD

EXCEEDING 140mm BUT NOT EXCEEDING 400mm DIAMETER.

SEWERS FOR ADOPTION, 7th EDITION, SEPTEMBER 2012.

MUST BE VERTICAL FROM BOTTOM UP TO 300mm ABOVE CROWN OF

PROPOSED DRAINAGE DETAILS SHEET 1 OF 2

AMENDMENT AUG '23 **WA-656** D-02



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