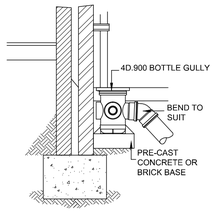
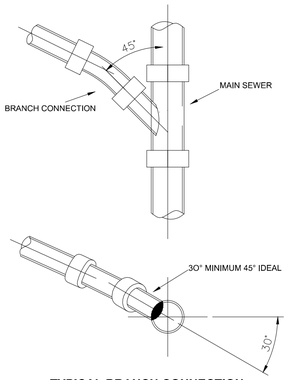


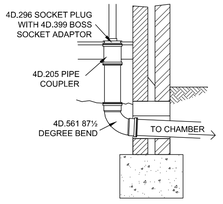
EXTERNAL R.W.P. TO DRAIN



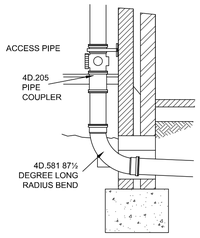
EXTERNAL R.W.P TO GULLY



TYPICAL BRANCH CONNECTION



INTERNAL WASTE PIPE CONNECTION



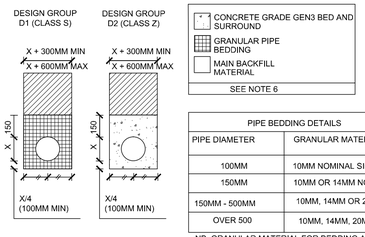
S.V.P./ INTERNAL R.W.P TO DRAIN

ROCKER PIPE LENGTH	
PIPE DIAMETER (MM)	ROCKER PIPE LENGTH (MM)
150 - 600	600
675 - 750	1000
825 AND OVER	1250

NOTE B:
RECOGNITION SHALL BE TAKEN OF THE MANUFACTURER'S RECOMMENDATIONS IN THE APPLICATION OF THE DETAILS SHOWN ON THIS DRAWING TO PROPRIETORY PRODUCTS.

BS 8301: 1985 CODE OF PRACTISE FOR BUILDING DRAINAGE
3/11.1.1
THE DESIGN OF BEDDING FOR PIPELINES IS BASED ON THE PRINCIPLE THAT THE ABILITY OF A PIPE TO CARRY A LOAD MAY BE INCREASED BY THE PROVISION OF SUITABLE BEDDING. A RIGID PIPE HAS INHERENT STRENGTH BUT BY PROVIDING A DEGREE OF ENCASEMENT HIGHER LOADS MAY BE CARRIED. A FLEXIBLE PIPE WILL DEFORM UNDER THE APPLICATION OF LOADS AND REQUIRES SUPPORT FROM SURROUNDING MATERIAL, AND THUS FROM THE SIDES OF THE TRENCH, IN ORDER TO AVOID EXCESSIVE DEFORMATION OF THE PIPE.

KEY



CARRIER / FOUL DRAIN PIPE DETAILS

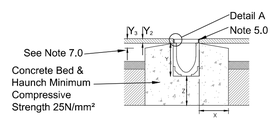
PIPE BEDDING DETAILS	
PIPE DIAMETER	GRANULAR MATERIAL SIZE
100MM	10MM NOMINAL SINGLE SIZE
150MM	10MM OR 14MM NOMINAL SINGLE SIZE
150MM - 500MM	10MM, 14MM OR 20MM NOMINAL SINGLE SIZE
OVER 500	10MM, 14MM, 20MM OR 40MM SINGLE SIZE

NB. GRANULAR MATERIAL FOR BEDDING AND SIDEFILL TO CONFORM TO SFA REQUIREMENTS

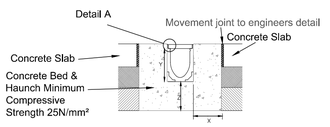
TABLE A - JOINT FILLER THICKNESSES	
NOMINAL DIAMETER OF PIPE (MM)	THICKNESS OF COMPRESSIBLE FILLER (MM)
LESS THAN 450	18
450 - 1200	36
EXCEEDING 1200	54

Installation Details - Channels with Traditional Gratings

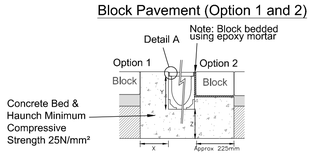
Asphalt Pavement



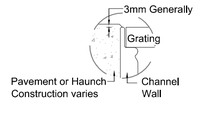
Concrete Pavement



Block Pavement (Option 1 and 2)



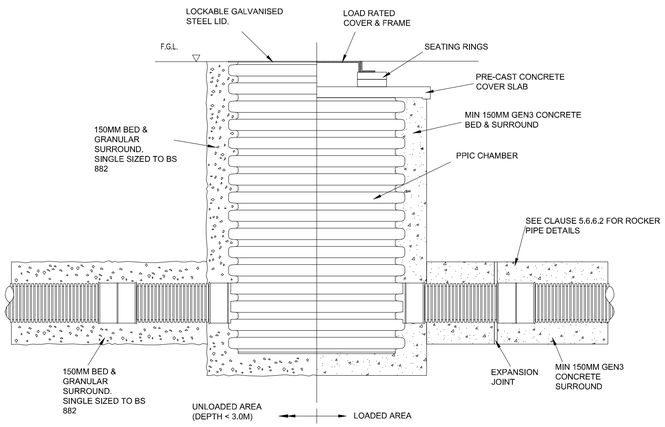
Detail A



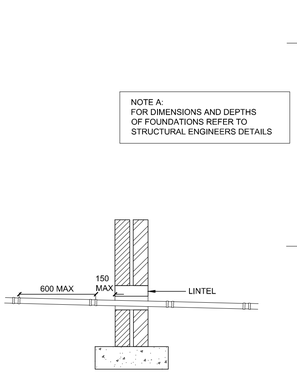
1. GROUND CONDITIONS: The customer should ensure that the minimum dimensions shown are suitable for the existing ground conditions. Engineering advice may be necessary.
2. BLOCK PAVEMENTS: THE CHANNEL MUST BE SUPPORTED LATERALLY and therefore blocks must be restrained from movement by bedding securely. e.g. by using an Epoxy or Polymer Modified Mortar for bed and perpendicular joints. (for example RONAFIX Mortar Mix C or similar: From Ronacrete Tel 01279 638700). Engineering advice may be required.
3. SURFACE CRACKS: Alternate crack control and movement joints transversely within bed and haunch may reduce unsightly surface cracking. Engineering advice may be required.
4. JOINT SEALANT: Where ACO Drain channel joints and fittings are to be sealed (where used in foul water applications or where impermeability is required, for example) contact a sealant specialist for guidance on the most appropriate sealing compound to use.
5. SURFACE PROTECTION: In asphalt pavements avoid contact between compaction equipment and channel/grating. This may be achieved by ensuring that the finished surface level lies above the grating level (by at least 3mm). Stones should be removed from grating prior to laying/rolling wearing course.
6. GENERAL INSTALLATION NOTES: See drawing E1-E01-003-3 for general notes on installation.
7. GRATING SECURITY LOCKS All the gratings are held in the channel units by the Drainlock fixing. In addition, gratings type 23405, 23161 & 23221 (Cast Iron) and 12680/12682 (Composite) can be locked in place with an optional security locking kit. See installation drawing E1-E01-040-3.
8. Minimum Dimensions of Concrete Surround

Load Class		A15	B125	C250	D400*
Minimum Dimensions (mm)	X	100	150	150	200
	Y	Full Channel Height(Less Y2 where necessary)			
	Z	100	150	150	200
Maximum Dimensions (mm)	Y_3*	35	35	35	35
	Y_3	100	60	60	60

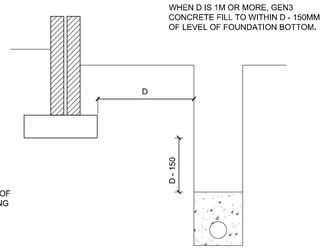
* e.g. parking areas for all types of road vehicle.
Not suitable for carriageway of roads or industrial areas.
^ Note dashed line printed on edge rails 35mm below top.



CHAMBER TYPE PPIC 450/600mm DIA POLYPROPYLENE INSPECTION CHAMBER DETAIL



PIPES PENETRATING WALL / FOUNDATIONS



CONCRETING OF DRAINS LAID NEAR FOUNDATIONS (AS BS EN 752)

NOTES:

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3. DO NOT SCALE THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.
4. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
5. MATERIALS AND WORKMANSHIP :- ALL WORK SHALL COMPLY WITH THE RELEVANT BRITISH STANDARDS, THE BUILDING REGULATIONS AND THE SPECIFICATIONS SHOWN.
6. WHERE DRAINS RUN CLOSE TO BUILDING, TRENCHES ARE TO BE BACKFILLED WITH CONCRETE TO LEVELS IN ACCORDANCE WITH BUILDING REGULATIONS PART H1.
7. ALL PIPE CONNECTIONS TO BE 100MM DIAMETER UNLESS OTHERWISE STATED.
8. SEWERS WITH LESS THAN 1200MM COVER IN ROADS AND CAR PARKING AREAS AND 600 IN NON-LOADED AREAS, TO BE PROVIDED WITH 150MM GEN3 CONCRETE SURROUND.
9. PIPEWORK :- PIPEWORK TO CONFORM TO THE FOLLOWING :- VITRIFIED CLAY DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS.65:1991; PRECAST CONCRETE DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS.5911; U.P.V.C. DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS.EN.13598-1:2010 OR BS.EN.1401-1:2009
10. FLEXIBLE JOINTS SHALL BE PROVIDED TO ALL PIPES WITHIN 600MM OF INNER FACE OF MANHOLE. PROJECTING PIPES SHALL BE SURROUNDED WITH 150MM GRADE GEN3 CONCRETE CAST MONOLITHICALLY WITH THE MANHOLE BASE.
11. WHERE PIPES ARE ENCASED IN CONCRETE THE FLEXIBILITY OF THE JOINTS ARE TO BE MAINTAINED THROUGHOUT THE ENCASEMENT. THIS SHOULD BE PROVIDED BY MEANS OF 20MM THICK FIBREBOARD (OR POLYSTYRENE) AND POSITIONED AROUND THE PIPE AT THE CENTRE OF THE JOINT.
12. PIPES SHALL HAVE GRANULAR BED AND SURROUND UNLESS OTHERWISE DETAILED. GRANULAR MATERIAL SHALL CONFORM TO BS.EN.12620:2002+A1:2008 AND SHOULD BE CAREFULLY PLACED AND CONSOLIDATED BY HAND IN THIN LAYERS.
13. MANHOLE COVERS SHALL BE CO-ORDINATED WITH THE SURROUNDING AREA AND SHALL BE AS SPECIFIED ON THE DRAWINGS.
14. TOLERANCES :- COVERS SHALL BE SET AT, OR NOT MORE THAN 5MM BELOW THE SURROUNDING LEVEL IN PAVED AREAS. INVERTS SHALL BE WITHIN 5MM OF GIVEN LEVEL, AND MAY NOT CAUSE THE AS-LAID GRADIENT OF THE PIPES TO VARY FROM THAT GIVEN ON THE DRAWING BY MORE THAN 10%.
15. GULLEY COVERS TO BE SINGLE PIECE, CAPTIVE HINGED STRAIGHT BAR.
16. MANHOLE COVERS IN ROADS TO BE HEAVY DUTY GRADE D TO BS.EN.124:1994
17. ALL GULLEY GRATINGS, MANHOLE COVERS AND FRAMES TO INCORPORATE BSI KITEMARK.
18. DIMENSION X ON CARRIER/FOUL DRAIN PIPE DETAIL IS THE EXTERNAL DIA OF SEWER.FOR LOCATION OF PIPES REFER DRAINAGE SCHEME PLAN.
19. SPECIFICATION CLAUSES ON CARRIER/FOUL DRAIN PIPE DETAIL REFER TO DOT SPECIFICATION FOR HIGHWAY WORKS - VOLUME 1 UNLESS STATED OTHERWISE.
20. DESIGN GROUP D2 ON CARRIER/FOUL DRAIN PIPE DETAIL. FLEXIBILITY AT JOINTS TO BE IN ACCORDANCE WITH CL 504.5 USING COMPRESSIBLE JOINT FILLER BOARD WITH THICKNESSES AS IN TABLE A
21. ALL NEW SEWERS TO HAVE SUITABLE MARKER TAPE LAID 300MM ABOVE TOP OF PIPE.
22. WHERE SEWERS ARE LOCATED BENEATH ADOPTABLE HIGHWAY THE BACKFILL MATERIAL SHALL BE ACCEPTED BY LOCAL AUTHORITIES' ENGINEER AND BE: I) MAIN BACKFILL - SUITABLE EXCAVATED SUB-SOIL MATERIAL TO DOT SPECIFICATION FOR HIGHWAYS WORKS VOLUME 1 CLAUSE 505 SERIES 600 CLASS 1,2 OR 3 LOWER TRENCH II) EXCAVATED GRANULAR FILLING MATERIAL WHICH IS EVENLY GRADED CRUSHED OR BROKEN WEATHERED UPPER ROCK OR SAND/GRAVEL OR BROKEN ROAD CONSTRUCTION MATERIALS. THE LARGEST PIECES SHALL SHALL HAVE A MAXIMUM DIMENSION NOT EXCEEDING 100MM. III) TYPE 1 OR TYPE 2 GRANULAR SUB BASE MATERIAL TO DOT SPECIFICATION FOR HIGHWAY WORKS - VOLUME 1 CLAUSE 803 OR 804.
23. ALL THESE MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH DOT SPECIFICATION FOR HIGHWAY WORKS VOLUME 1 CLAUSE 505

T2	LINEAR DRAIN DETAILS ADDED			
	REVISED BY: DZ	DATE: 16.01.17	CHECKED BY: PJS	DATE: 16.01.17
T1	ISSUED FOR TENDER			
	REVISED BY: DZ	DATE: 03.01.17	CHECKED BY: PJS	DATE: 03.01.17

SCALE BAR

PURPOSE OF ISSUE

FOR TENDER

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A1

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CLIENT
BARNSLEY METROPOLITAN BOROUGH COUNCIL

PROJECT
MILEFIELD PRIMARY SCHOOL - SCHOOL EXTENSION

TITLE
STANDARD CONSTRUCTION DETAILS

SCALES	DATE	DRAWN	CHECKED
N.T.S.	JAN 2017	DZ	PJS

FILE / DRAWING NAME

PROJECT NR	DRAWING FIELDS	UNIQUE NR	REV CODE
17-1-6008	NPS-DR-C	610	T2