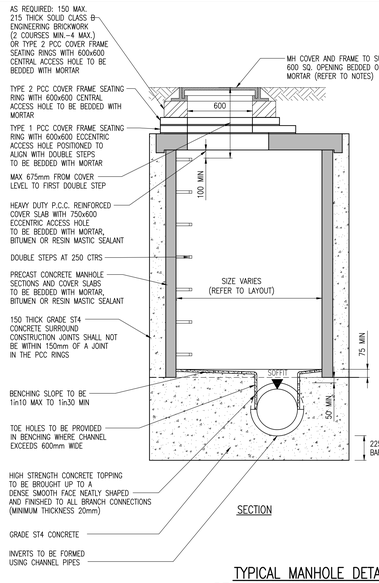
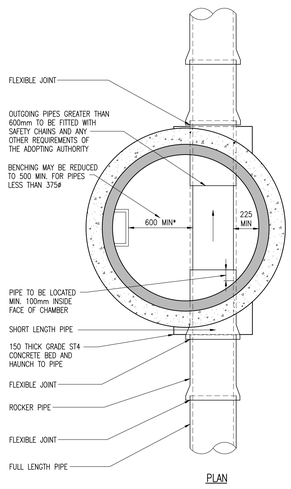


SECTION



PLAN

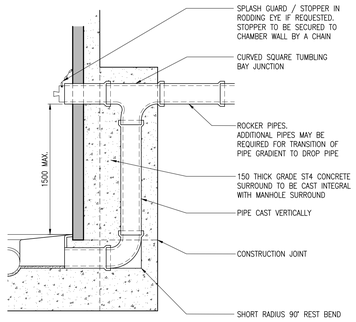
TYPICAL MANHOLE DETAIL – TYPE E DEPTH TO SOFFIT OF PIPE 1200 TO 6000

(NTS)

TABLE 1.

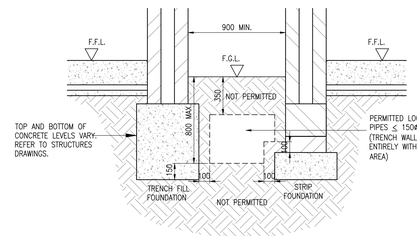
NOMINAL SIZE	EFFECTIVE LENGTH (mm)
150 AND BELOW	300
150 TO 600	600
675 TO 675	1000
825 AND ABOVE	1250

SHORT AND ROCKER PIPE LENGTHS TABLE APPLICABLE TO ALL MANHOLE TYPES



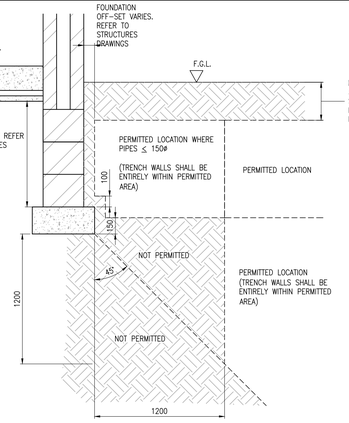
TYPICAL VERTICAL BACKDROP DETAIL

(SCALE 1:20)



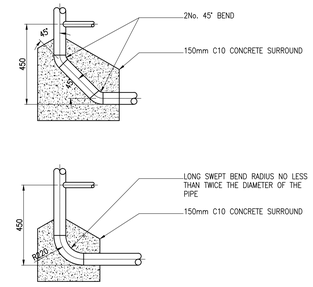
PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS BETWEEN BUILDINGS

(SCALE 1:20)



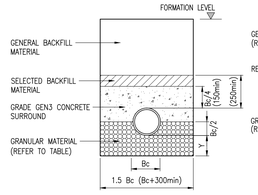
PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS IN PROXIMITY TO BUILDING

(SCALE 1:20)



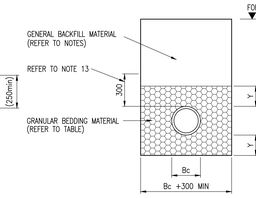
TYPICAL STUB STACK REST BEND DETAIL

(SCALE 1:20)



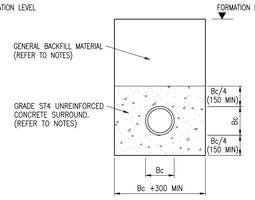
CLASS 'A' DETAIL

(REFER TO NOTES)



CLASS 'S' DETAIL

(REFER TO NOTES)



CLASS 'Z' DETAIL

(REFER TO NOTES)

NOTES

A) Bc = OUTSIDE DIAMETER OF PIPE BARREL.

B) Y = FOR UNIFORM SOILS:
SLEEVE JOINTED PIPES, MIN. 50mm OR 1/6Bc, WHICHEVER IS THE GREATER, SOCKETED PIPE, MIN. 100mm OR 1/6Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 50mm UNDER SOCKETS.
FOR ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, STONES OR OTHER IRREGULAR HARD SPOTS:
SLEEVE JOINTED PIPES, MIN. 150mm OR 1/4Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 200mm OR 1/4Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 150mm UNDER SOCKETS.

NOMINAL PIPE DIA (mm)	SINGLE SIZED (mm)	GRADED (mm)
150	10 OR 14	14 TO 5
200 TO 300	10,14 OR 20	14 TO 5 OR 20 TO 5
375 TO 525	14 OR 20	14 TO 5 OR 20 TO 5
GREATER THAN 525	14,20 OR 40	14 TO 5,20 TO 5 OR 40 TO 5

GRANULAR BEDDING MATERIAL

(ALL AGGREGATES TO TABLE 4 OF BS 882 :1983.)

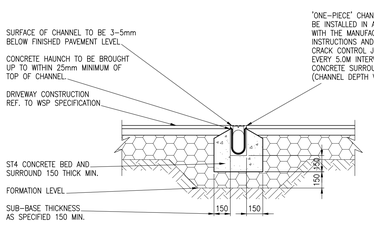
NOMINAL PIPE DIA (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 TO 1200	36
GREATER THAN 1200	54

COMPRESSIBLE FILLER TABLE

(BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142: PART 3)

RIGID PIPE TRENCH BEDDING DETAILS

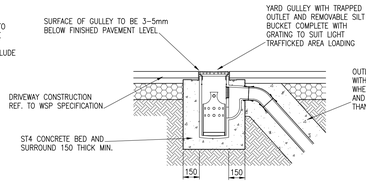
(NOT TO SCALE)



TYPICAL SECTION THROUGH DRAINAGE CHANNEL

("ACO PARKDRAIN" CHANNEL FOR UP TO LOAD CLASS GRADE C250)

(SCALE 1:20)



TYPICAL SECTION THROUGH YARD GULLEY

(SCALE 1:20)

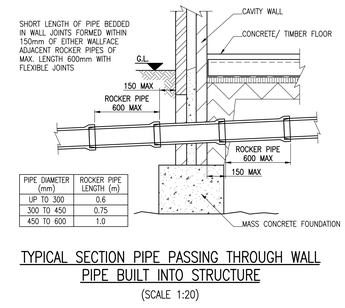
TYPICAL CATCHPIT MANHOLE DETAIL

(NOTE: CONSTRUCTION DETAILS AS STANDARD PPC MANHOLE.)

(SCALE 1:20)

CLASS 'Zx' DETAIL PIPE BED AND SURROUND FOR PIPES CONSTRUCTED IN FLOOR VOID

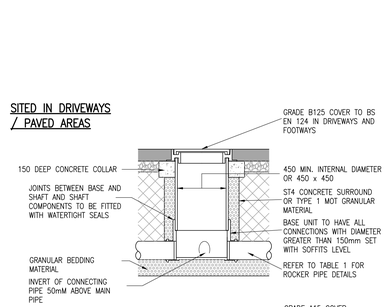
(NOT TO SCALE)



PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (m)
UP TO 300	0.6
300 TO 450	0.75
450 TO 600	1.0

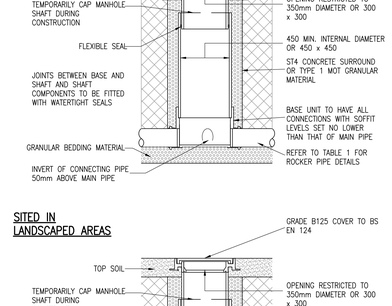
TYPICAL SECTION PIPE PASSING THROUGH WALL PIPE BUILT INTO STRUCTURE

(SCALE 1:20)



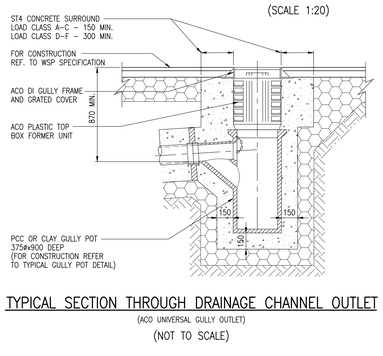
TYPICAL ACCESS CHAMBER DETAIL MAX. DEPTH FROM COVER LEVEL TO SOFFIT 1.0m, NON–ENTRY SITUATED IN LIGHT TRAFFICKED AREAS

(SCALE 1:20)



TYPICAL ACCESS CHAMBER DETAIL MAX. DEPTH FROM COVER LEVEL TO SOFFIT 3.0m, NON–ENTRY SITUATED IN LIGHT TRAFFICKED AREAS

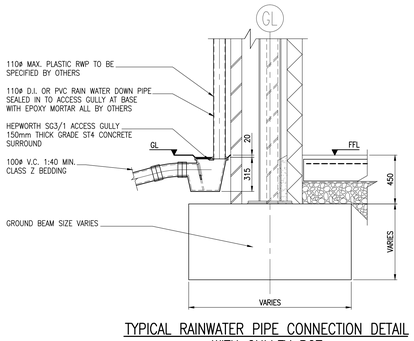
(SCALE 1:20)



TYPICAL SECTION THROUGH DRAINAGE CHANNEL OUTLET

(ACO UNIVERSAL GULLY OUTLET)

(NOT TO SCALE)

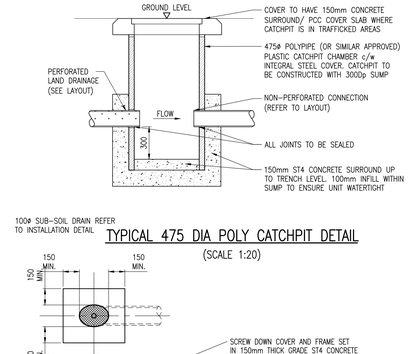


TYPICAL RAINWATER PIPE CONNECTION DETAIL WITH GULLEY POT

(SCALE 1:20)

SUB–SOIL DRAIN INSTALLATION DETAIL

(NOT TO SCALE)



TYPICAL 475 DIA POLY CATCHPIT DETAIL

(SCALE 1:20)

TYPICAL RODDING EYE DETAIL

(SCALE 1:20)

DO NOT SCALE

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT WSP, ARCHITECTS AND M&E CONSULTANTS DRAWINGS AND PROJECT SPECIFICATIONS.
2. ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN:752 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDING, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
3. ANY DRAINAGE AS DESIGNATED OUTSIDE OF THE SITE TO BE PUT FORWARD FOR ADOPTION SHALL BE CONSTRUCTED TO SEWERS FOR ADOPTION 7th EDITION' AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING AUTHORITY.
4. ALL INSITU AND PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS8500 AND BRE SPECIAL DIGEST 1 FOR SULPHATE EXPOSURE. FOR THE EXPOSURE CLASS REFER TO THE RECOMMENDATIONS OUTLINED IN THE SITE INVESTIGATION REPORT.
5. PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911:2002, BS EN 1916:2002, AND BS EN 1917:2002 AND BE KITEMARKED. CONCRETE PIPES TO BE CLASS 120 UNLESS NOTED OTHERWISE AND COMPLY WITH THE REQUIREMENTS OF NOTE 4 ABOVE.
6. VITRIFIED CLAY PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN295 AND BS 65 RESPECTIVELY AND BE KITEMARKED. ALL PIPES SHALL BE CLASS 120 TO BS EN295.
7. ALL PLASTIC PIPES AND FITTINGS UPTO AND INCLUDING 110mm DIA. SHOULD BE PVC–U OSMADRAIN WITH FLEXIBLE JOINTS AND SMOOTH BORE TO BS4660 AND BS EN 1401 AND BE KITE MARKED (FOR FW & SW USE). 160mm, 225mm AND 300mm DIA PIPE SHOULD BE ULTRARIB PVC–U TO WIS 4–35–01 SPECIFICATIONS WITH FLEXIBLE JOINTS AND SMOOTH BORE. PIPES SHOULD BE WATER INDUSTRY CERTIFIED AND KITEMARKED (FOR FW & SW USE) PLASTIC PIPES LARGER THAN 300mm DIA AND UP TO 600mm DIA SHOULD BE THERMOPLASTIC STRUCTURED WALL PIPES (TWIN WALL) TO WIS 4–35–01 SPECIFICATION AND BE KITEMARKED. (FOR SURFACE WATER USE ONLY)
8. GULLY GRATES AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN:124 AND BE OF NON–ROCKING DESIGN WITH CAPTIVE HINGE ACCESS AND BE KITEMARKED. LOAD CLASS D400 IN INDUSTRIAL ESTATE ROADS AND AREAS CARRYING REGULAR HEAVY TRAFFIC AND LOAD CLASS C250 IN ESTATE ROADS AND CAR PARKING AREAS. IN ALL ROAD LOCATIONS, THE GRATE SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND OPENING).
9. ALL EXTERNAL PIPEWORK TO BE LAID WITH A CLASS 'S' PIPE BEDDING DETAIL WITH 1.2m MINIMUM COVER TO THE PIPE BARREL UNDER VEHICULAR TRAFFICKED AREAS, 0.9m COVER UNDER FIELDS AND 0.6m COVER UNDER FOOTWAYS AND GARDENS, UNLESS OTHERWISE NOTED ON THE DRAWING. WHERE COVER IS LESS THAN THAT STATED ABOVE, A CLASS 'Z' PIPE BEDDING DETAIL SHALL BE USED.
10. WHERE CONCRETE PROTECTION IS REQUIRED TO PIPEWORK, THE CONCRETE SHALL BE DISCONTINUED AT EACH PIPE JOINT OVER THE FULL CROSS SECTION OF THE CONCRETE BY MEANS OF A SHAPED COMPRESSIBLE FILLER.
11. WHERE TWO PIPELINES CROSS WITH LESS THAN 300mm BETWEEN PIPES, EACH PIPE SHOULD BE SURROUNDED WITH A FULL CONCRETE BED AND SURROUND (CLASS 'Z' DETAIL) FOR NOT LESS THAN 1m CENTRED ON THE CROSSING AND EXTENDED AS REQUIRED TO WITHIN 150mm OF THE NEAREST FLEXIBLE JOINT.
12. NO MECHANICAL COMPACTION OF FILL MATERIAL SHALL BE PERMITTED WITHIN 300mm ABOVE THE BARREL/CROWN OF THE PIPE.
13. UNDER TRAFFICKED AREAS BACKFILL ABOVE THE PIPE BEDDING MATERIAL SHALL BE IMPORTED HARD CLEAN GRANULAR MATERIAL UP TO FORMATION LEVEL (I.E CRUSHED ROCK) ALL CRUSHED ROCK TO BE USED IN BACKFILL SHALL MEET THE FOLLOWING GRADING:–

    125mm SIEVE 100% PASSING
    100mm SIEVE 85–100% PASSING
    37.5mmSIEVE 0–10% PASSING

    IMPORTED GRANULAR BACKFILL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 225mm (LAYER THICKNESS TO BE DETERMINED BY THE CONTRACTOR TO SUIT COMPACTION PLANT, NUMBER OF PASSES, MATERIAL CLASSIFICATION AND LAYER THICKNESS ETC). EACH LAYER IS TO BE COMPACTED TO FORM A STABLE TRENCH BACKFILL.
14. UNDER LANDSCAPING AREAS BACKFILL ABOVE THE PIPE BEDDING MATERIAL SHALL BE SUITABLY SELECTED MATERIAL CONSISTING OF UNIFORM SOIL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, ORGANIC MATTER AND FROZEN SOIL. BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. SHOULD THE EXCAVATED MATERIAL BE UNSUITABLE OR WEATHER CONDITIONS AFFECT THE MATERIALS STABILITY, THEN A SUITABLE HARD GRANULAR MATERIAL SHALL BE USED UP TO FORMATION LEVEL. REFER TO NOTE 14

REV	DATE	BY	DESCRIPTION	CHK	APP
A	13.07.2018	MW	FIRST ISSUE	DV	NS

DRAWING STATUS: S3 - FOR REVIEW

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PROJECT: ST CATHERINES WALK, BARNSLEY RESIDENTIAL DEVELOPMENT

TITLE: PRIVATE DRAINAGE STANDARD CONSTRUCTION DETAILS

SCALE @ A0:	CHECKED:		APPROVED:
AS SHOWN	DV		NS
PROJECT No: 70042416	DESIGNED: MW	DRAWN: MW	DATE: July 18

DRAWING No: 70042416-SD-102 REV: P01

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