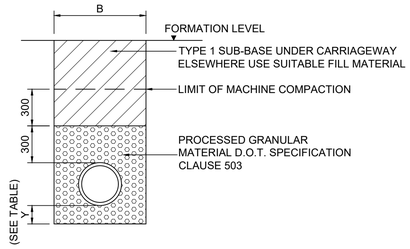
BEDDING FACTOR	
2.2	NARROW TRENCH
2.2 OR 2.5	NARROW TRENCH
2.2	EMBANKMENT

BEDDING FACTORS ARE DERIVED FROM A GUIDE TO DESIGN LOADINGS FOR BURIED RIGID PIPES" AND IGN 4-11-02 "REVISED BEDDING FACTOR FOR VITRIFIED CLAY DRAINS AND SEWERS".

B = EXT. DIA + 600MM MAXIMUM
EXT. DIA + 300MM MINIMUM

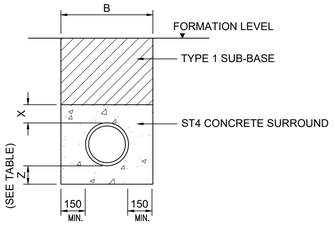


TYPE "S" BEDDING DETAIL

TYPE 'S' BEDDING TO BE USED FOR PIPES UNDER TRAFFICKED AREAS WITH MORE THAN 1.2m COVER.

THICKNESS OF COMPRESSIBLE FILL		
NOMINAL INTERNAL PIPE DIA	DIM 'X' mm	COMPRESSIBLE FILLER mm
< 400	160	18
400-700	200	36
725-1200	300	36
>1200	300	54

B = EXT. DIA + 600MM MAXIMUM
EXT. DIA + 300MM MINIMUM



DETAIL OF CLASS 'Z' CONCRETE SURROUND

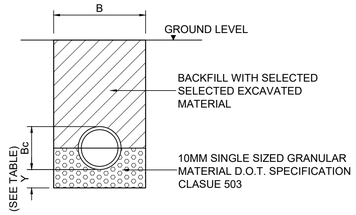
(FOR PIPES UNDER TRAFFICKED AREAS WITH LESS THAN 1.2m COVER.)

B = EXT. DIA + 600MM MAXIMUM
EXT. DIA + 300MM MINIMUM

THICKNESS OF GRANULAR BEDDING UNDER PIPE BARRELS.

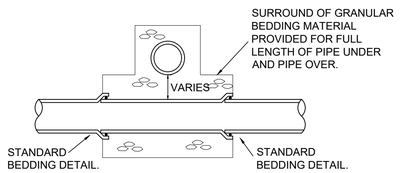
(1) ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, LARGE FLINTS OR STONES OR OTHER IRREGULAR HARD SPOTS. Y2=BC/4 (200MM MIN). THICKNESS OF GRANULAR BEDDING UNDER SOCKETS 150MM MINIMUM.

(2) IN UNIFORM SOILS Y1= BC/6 (100MM MIN). THICKNESS OF GRANULAR BEDDING UNDER SOCKETS 50MM MIMIMUM.

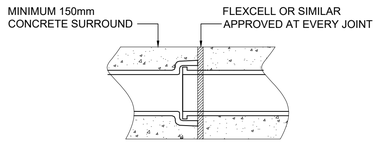


TYPE "B" BEDDING DETAIL

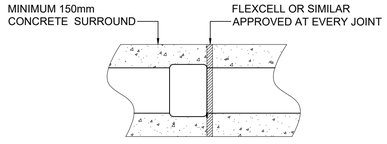
TYPE 'B' BEDDING TO BE USED FOR PIPES GENERALLY IN FOOTWAY AND LANDSCAPED AREAS.



PIPE CROSS OVER DETAIL



SOCKET & SPIGGOT TYPE

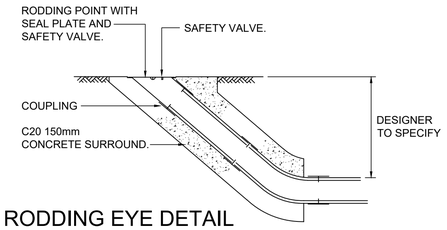


SLEEVE JOINTED TYPE

PLAN ON CONCRETE ENCASED PIPES

REQUIRED IN ROADWAYS & OTHER AREAS OF VEHICULAR TRAFFIC WHERE PIPE COVER IS LESS THAN 1200mm (TO SOFFIT OF PIPE)

EMBEDMENT DIMENSIONS FOR RIGID PIPES					
NOMINAL INT PIPE DIA	DIMENSION Y1 EVEN TRENCH BOTTOM (MIN)	DIMENSION Y2 ROCK OR UNEVEN TRENCH BOTTOM (MIN)	PROCESSED GRANULAR MATERIAL	DIMENSION Z (MIN)	MAX PERMITTED TRENCH WIDTH
150	100	200	10MM SINGLE SIZED OR 14MM TO 5MM GRADED	100	750
225	100	200		100	825
300	100	200		100	925
375	100	200		100	1050
450	150	200	14MM SINGLE SIZED OR 14MM TO 5MM GRADED	150	1150
525	150	250		150	1200
600	150	250		150	1350
675	150	250		225	1450
750	225	300		225	1500
825	225	300		225	1600
900	225	300	20MM SINGLE SIZED OR 20MM TO 5MM GRADED	225	1900
975	225	300		300	2000
1050	225	300		300	2100
1125	225	300		300	2200
1200	250	350		300	2300
1350	375	450		375	2500
1500	375	450		375	2700
1650	375	450		450	2800
1800	375	500		450	3100
1950	400	500	40MM SINGLE SIZED OR 40MM TO 5MM GRADED	525	3200
2100	425	650		525	3400
2400	450	675		600	3700



RODDING EYE DETAIL

MINIMUM DEPTH OF COVER TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:

350mm	DOMESTIC GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS
500mm	DOMESTIC DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES.
900mm	DOMESTIC DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS, WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES.
	AGRICULTURAL LAND AND PUBLIC OPEN SPACE
1200mm	HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS WEIGHT IN EXCESS OF 7.5 TONNES.

WHERE THE ABOVE COVER REQUIREMENTS ARE NOT MET, THE PIPE IS TO BE CONCRETE ENCASED.

DESIGN CONTINGENCY

FOR COST PURPOSES THE CONTRACTOR IS TO INCLUDE THE FOLLOWING CONTINGENCY (% OF PRIMARY CIVILS DESIGN COST) AT THE RELEVANT PROJECT STATUS INDICATED ON THE DRAWING.

S2 - CONCEPT DESIGN - 25%
S3 - SPATIAL COORDINATION - 15%
S4 - TECHNICAL DESIGN - 10%
A5 - PRODUCT INFORMATION - 5%

THE PURPOSE OF THIS DRAWING IS FOR TYPICAL CONSTRUCTION DETAILS ONLY. MANHOLES / PIPE DIAMETERS / SUMP DEPTHS ETC WILL VARY ON PLAN.

REFER TO DRAINAGE LAYOUT DRAWING FOR ALL PIPE SIZES, MANHOLE SIZES, PIPE LENGTHS, SUMP DEPTHS, STORAGE TANK CONFIGURATIONS, COVER LEVELS AND INVERT LEVELS

GENERAL NOTES

DO NOT SCALE OFF THIS DRAWING

THIS DRAWING TO READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR / FABRICATOR PRIOR TO COMMENCEMENT OF WORKS.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.

ALL WORKS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE ENGINEER'S SPECIFICATIONS, RELEVANT BRITISH STANDARDS AND WHERE APPLICABLE LOCAL AUTHORITIES REQUIREMENTS.

ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS, SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.

THE CONTRACTOR SHALL CONFIRM THE LOCATION AND LEVEL OF EXISTING DRAINAGE OUTFALLS PRIOR TO COMMENCEMENT OF THE DRAINAGE WORKS.

EXACT LOCATIONS OF PROPOSED MANHOLES AND INSPECTION CHAMBERS TO BE DETERMINED ON SITE

ALL PIPES BUILT INTO THE MANHOLE INVERTS SHALL BE INSTALLED WITH SOFFITS LEVELS UNO.

CONNECTIONS TO ROAD GULLEYS SHALL BE IN 150MM NOMINAL BORE. CONNECTIONS TO OTHER TERMINAL FITTINGS SHALL BE IN 100MM NOMINAL BORE PIPE UNO.

COVER LEVELS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED AND CONFIRM ON SITE BY THE CONTRACTOR.

THE CONTRACTOR SHALL PROTECT THE PIPELINE FROM DAMAGE BY SITE TRAFFIC DURING CONSTRUCTION.

PIPEWORK AND FITTINGS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE:

CLAYWARE PIPES TO BS 65

100 AND 150MM DIAMETER, MINIMUM CRUSHING STRENGTH 50KN/M ON CLASS F BEDDING.

TRENCHES IN HIGHWAYS AND CAR PARKING AREAS SHALL BE BACKFILLED WITH TYPE 1 GRANULAR SUB-BASE.

SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.

ROAD GULLEYS SHALL BE CONSTRUCTED USING A 900MM DEEP X 450MM DIAMETER GULLEY POT, SURROUNDED BY 150MM THICKNESS C20 CONCRETE, WITH RODDING EYE AND CHAINED STOPPER.

GULLEY COVERS SHALL BE GRADE B CAPTIVE HINGED DUCTILE IRON TO BS497 BLACK COATED.

UNLESS NOTED OTHERWISE MANHOLE COVERS SHALL BE DUCTILE IRON TO BS497 BLACK COATED WITH 600 X 600 GRADE A.

CONNECTIONS IN PIPES BETWEEN MANHOLES RUNS SHALL BE FORMED BY USING PURPOSE MADE CLAYWARE, 45° JUNCTION FITTINGS TO BS65. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO THE MAIN RUNS.

ALTERNATIVELY MAIN PIPES MAY BE DIAMOND CORED TO TAKE LATERAL CONNECTIONS WITH A SADDLE FITTING TO BS65 AND 150MM C20 CONCRETE SURROUND.

THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS BY TRIAL PITS PRIOR TO OPENING UP FOR THE WORKS.

Rev	Description	Date	By	Chkd
P01	PRELIMINARY ISSUE	06.02.25	AJB	DS

Drawing Status
S4 TECHNICAL DESIGN

Sutcliffe
Structural & Civil Engineering
Geotechnical & Environmental Investigations
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Client
MOSSCARE ST.VINCENTS HOUSING

Project
ALDERFORD PARADE
CHEETHAM HILL
MANCHESTER

Drawing Title
TYPICAL DRAINAGE DETAILS
SHEET 3

Date	Drawn By	Checked By
FEB. 2025	AJB	DS

Scale at A1	Project Number
AS SHOWN	33716

Sheet Number	Revision
33716-SUT-ZZ-XX-DR-C-6652	P01