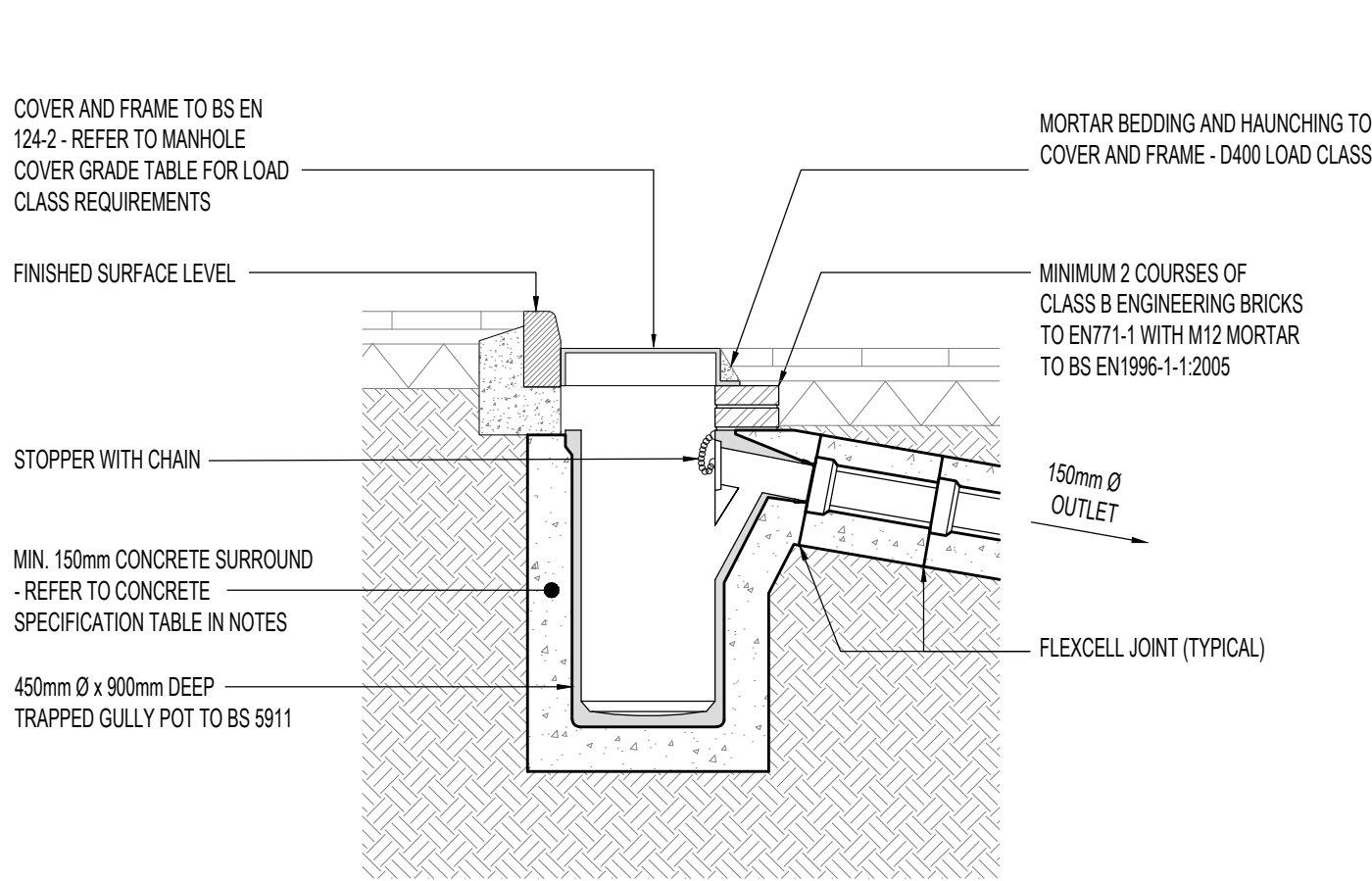
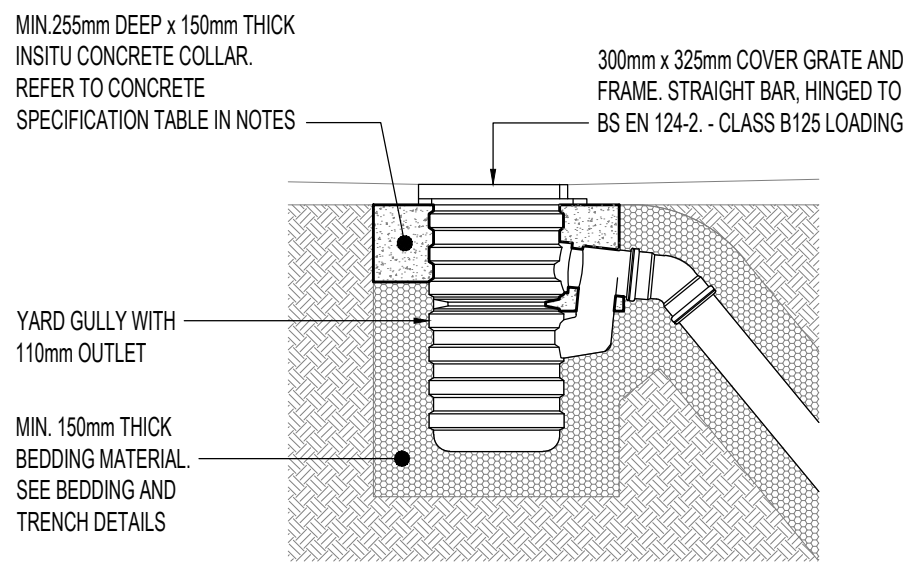
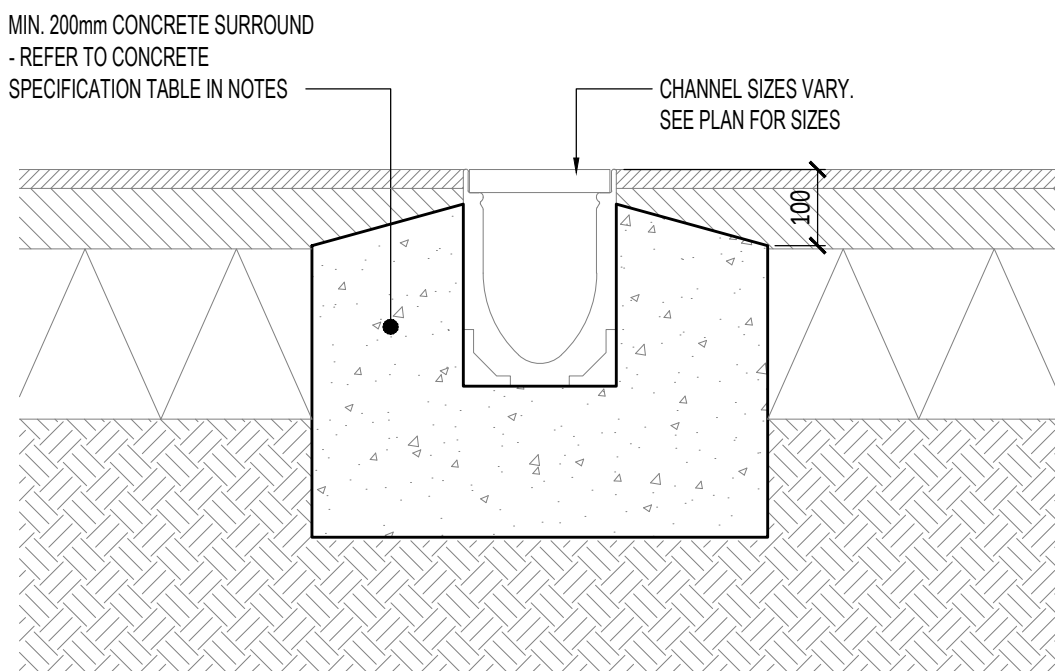




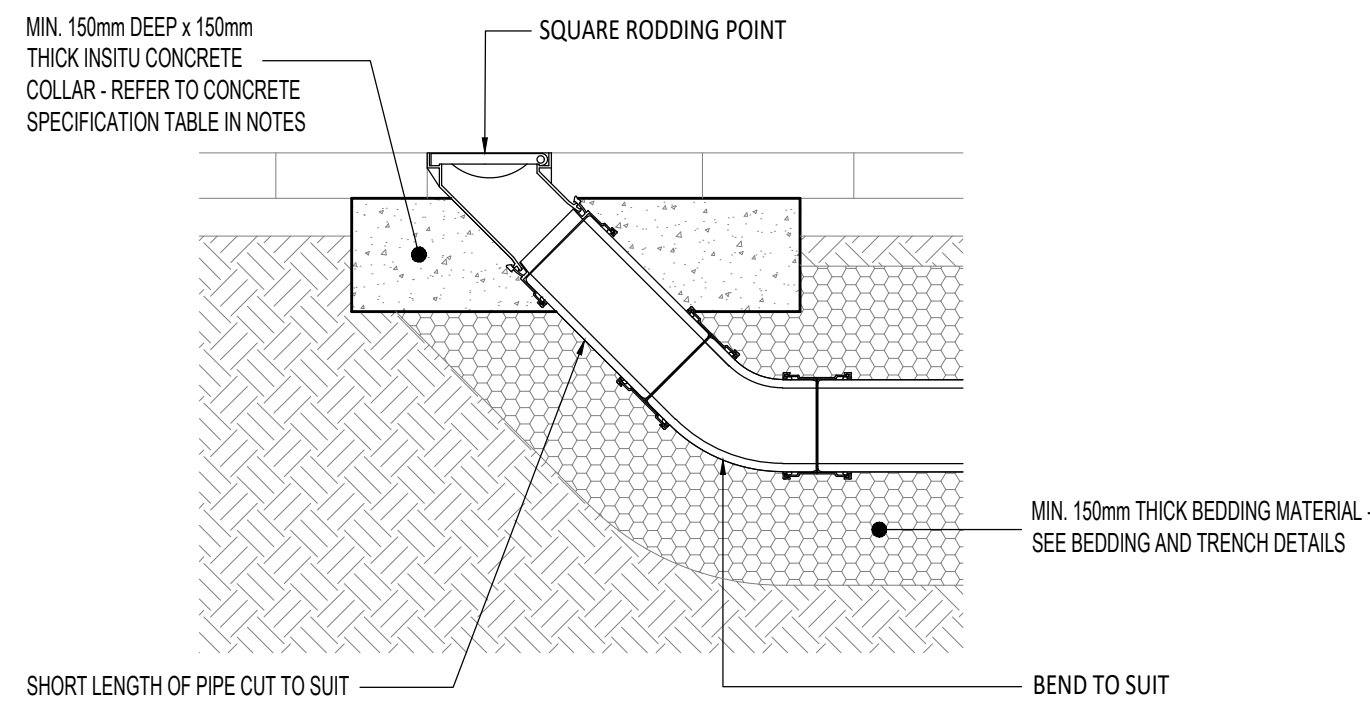
TYPICAL PRECAST CONCRETE TRAPPED GULLY DETAIL
(SCALE 1:25)



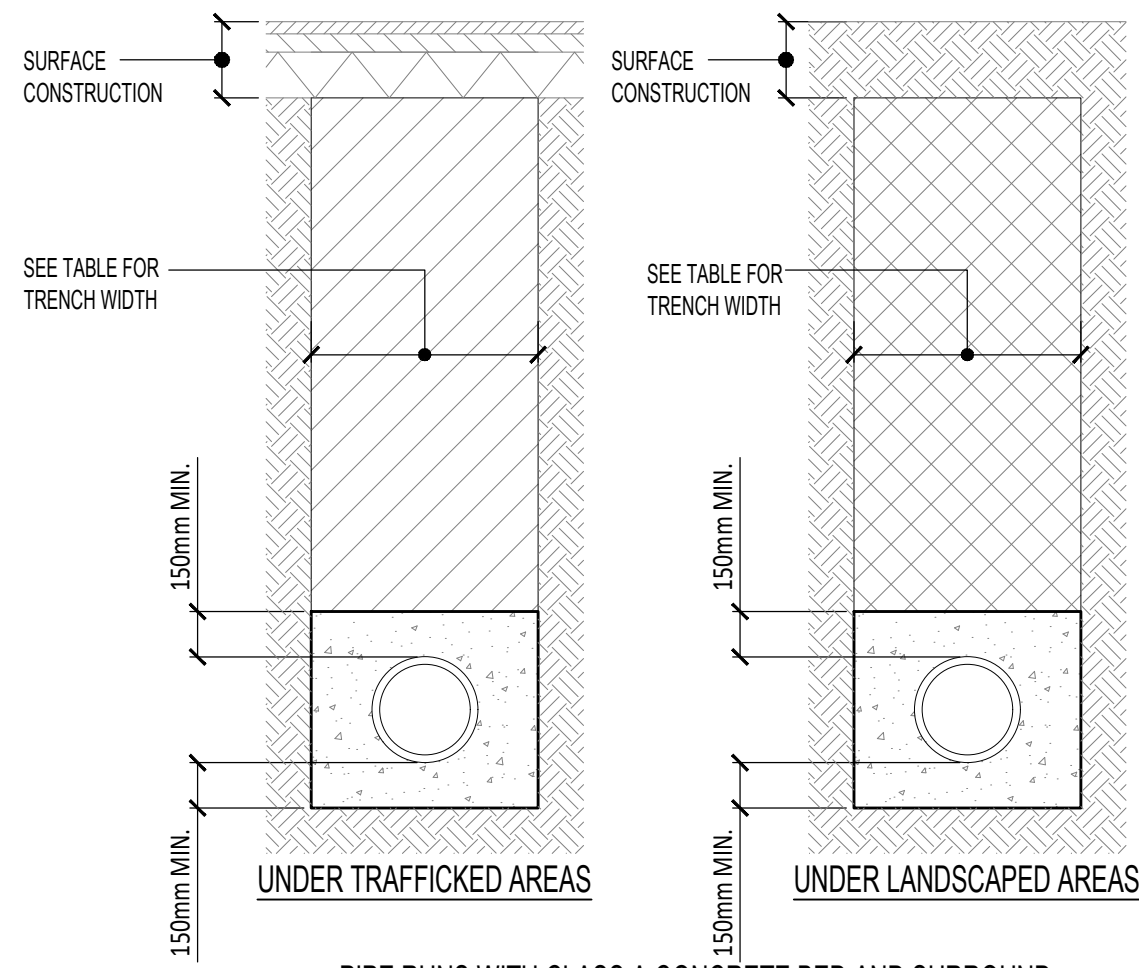
**TYPICAL YARD GULLY DETAIL
SITUATED WITHIN DRIVEWAYS**
(OSMA DRAIN YARD GULLY OR SIMILAR APPROVED)
(SCALE 1:25)



**TYPICAL SECTION THROUGH DRAINAGE CHANNEL
LOCATED WITHIN PAVED / TARMAC AREAS**
(MARSHALLS BIRCO RANGE OR SIMILAR APPROVED)
(SCALE 1:10)



TYPICAL RODDING EYE DETAIL
(SCALE 1:10)



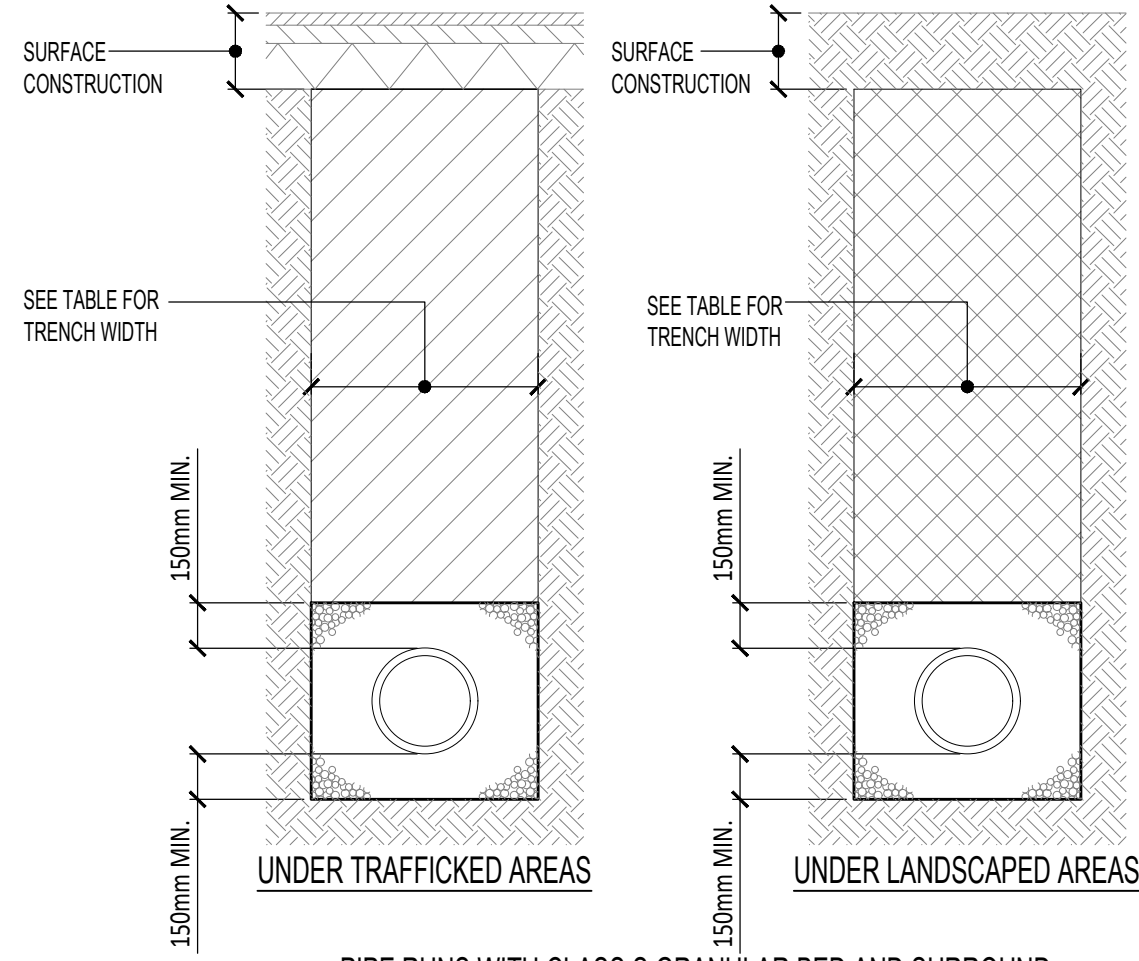
PIPE RUNS WITH CLASS A CONCRETE BED AND SURROUND

TYPE 'A'
APPLICABLE UNDER ROADS AND PARKING AREAS WHERE DRAINS HAVE LESS THAN 1200mm COVER

TYPE 'A'
APPLICABLE UNDER FOOTPATHS, VERGES AND OTHER NON-TRAFFICKED AREAS WHERE DRAINS HAVE LESS THAN 600mm COVER

TYPICAL PIPE BEDDING AND TRENCH DETAILS

NOTE: NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN OF PIPE.



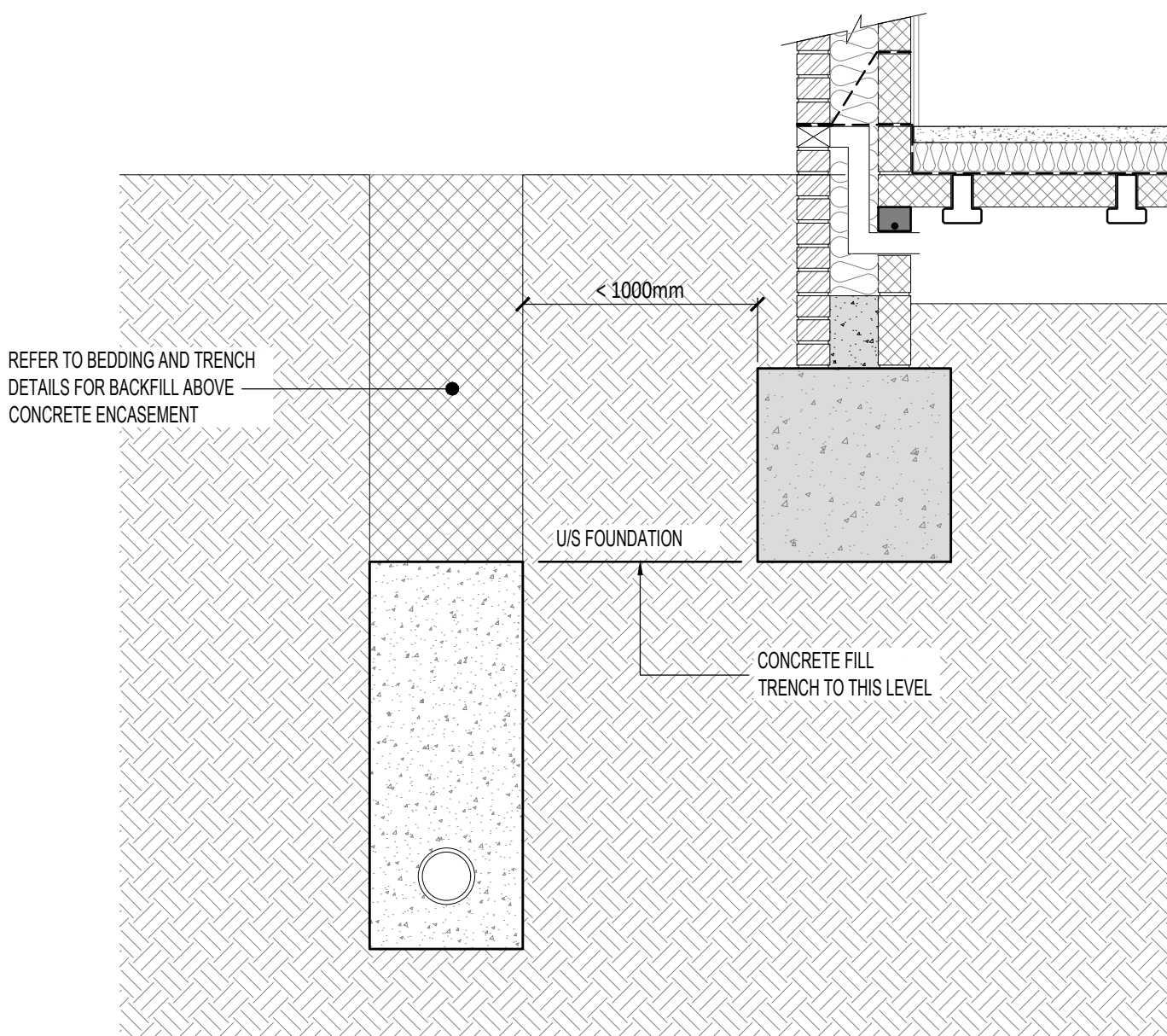
PIPE RUNS WITH CLASS S GRANULAR BED AND SURROUND

TYPE 'S'
APPLICABLE UNDER ROADS AND PARKING AREAS WHERE DRAINS HAVE MORE THAN 1200mm COVER

TYPE 'S'
APPLICABLE UNDER FOOTPATHS, VERGES AND OTHER NON-TRAFFICKED AREAS WHERE DRAINS HAVE MORE THAN 600mm COVER

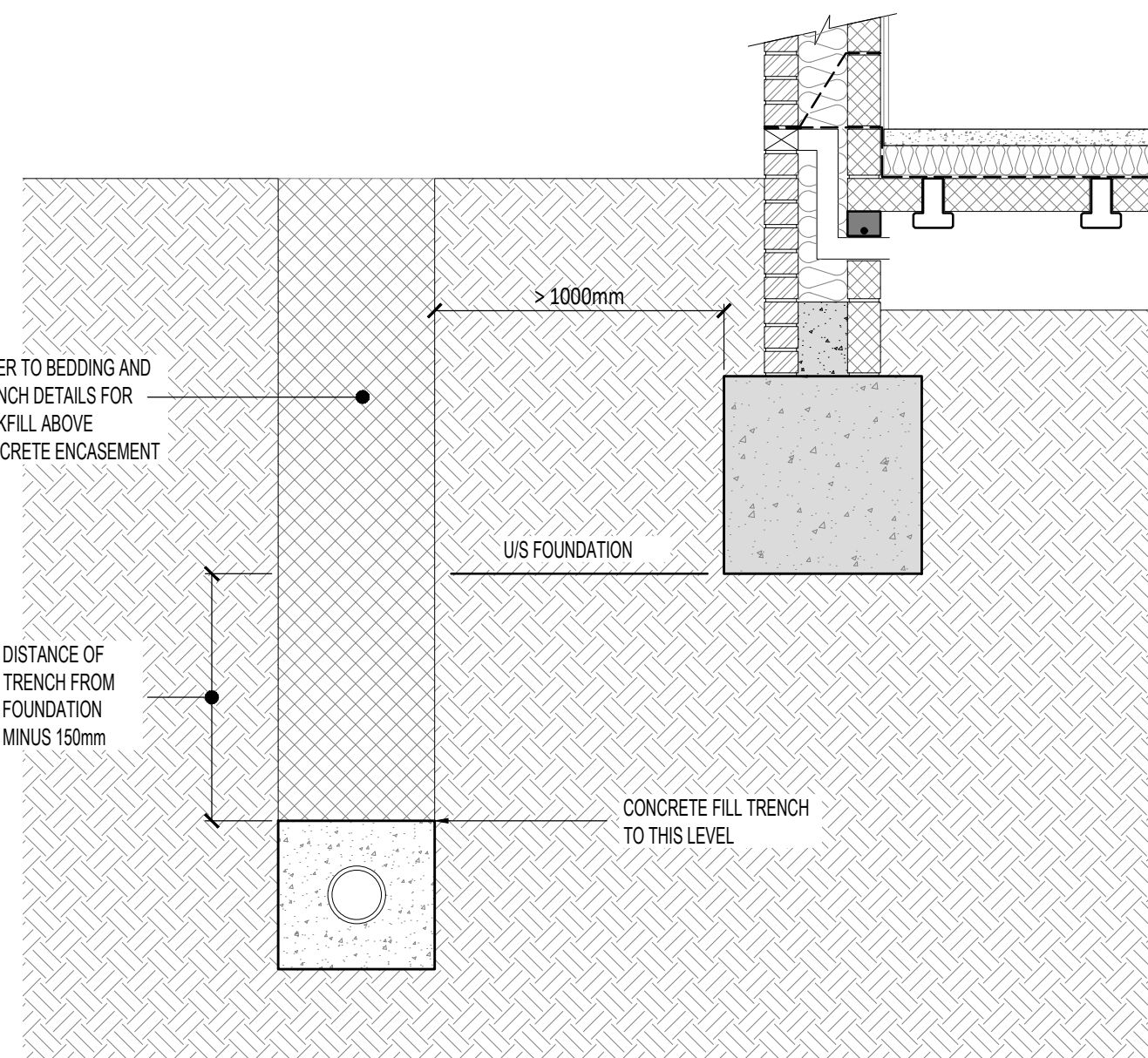
TYPICAL PIPE BEDDING AND TRENCH DETAILS

NOTE: NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN PIPE.



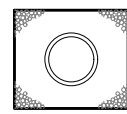
TRENCH CLOSER THAN 1m TO FOUNDATION

PIPE RUNS NEAR BUILDINGS
(SCALE 1:20)

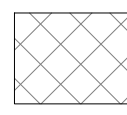


TRENCH GREATER THAN 1m FROM FOUNDATION

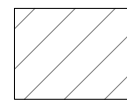
PIPE BEDDING AND TRENCH KEY



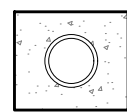
GRANULAR MATERIAL
COMPLYING WITH TABLE



SELECTED EXCAVATED MATERIAL COMPLYING WITH
CLAUSE 2.116 IN ACCORDANCE WITH 'THE CIVIL
ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY'
5TH EDITION IN LAYERS NOT EXCEEDING 225mm

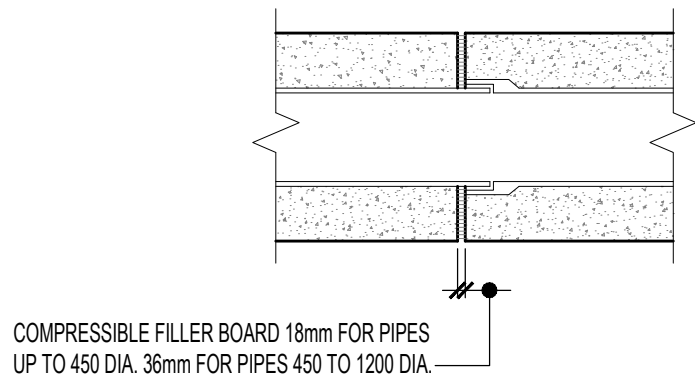


GRANULAR SUB-BASE MATERIAL (DOT TYPE 1)
DEPOSITED IN LAYERS NOT EXCEEDING 225mm
UNCONSOLIDATED THICKNESS THEN FULLY COMPACTED



CONCRETE SURROUND
FOR MIX SEE DRAINAGE NOTES

GRANULAR MATERIAL TABLE	
DIAMETER OF DRAIN (mm)	AGGREGATE
100	10mm SINGLE SIZE
150	10 OR 14mm SINGLE SIZE OR 14-5mm GRADED
150-500	10, 14 OR 20mm SINGLE SIZE OR 20-5mm GRADED
OVER 500	10, 14, 20 OR 40mm SINGLE SIZE OR 40-5mm GRADED
NOTE: NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN OF PIPE	



PRIVATE DRAINAGE DETAIL NOTES

ALL WORK TO PRIVATE SEWERS IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND EUROCODES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE EXISTING LINE, INVERT LEVEL AND PIPE DIAMETER OF THE EXISTING CONNECTION POINTS FOR BOTH THE Foul AND SURFACE WATER SYSTEMS, PRIOR TO UNDERTAKING INSTALLATION OF ANY NEW DRAINAGE WORKS. ANY DEVIATION TO THE LEVELS AND POSITIONS INDICATED ON THE DRAWING SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE PROJECT ENGINEER.

FOR DETAILS OF GROUND CONDITIONS REFER TO THE GROUND INVESTIGATION REPORT TO BE COMPLETED.

THE FOLLOWING PIPE STRENGTHS SHALL BE ADOPTED UNLESS NOTED OTHERWISE:-

PRIVATE PIPES UP TO AND INCLUDING 300mm DIAMETER TO BE CLAY WARE TO BS EN205 CLASS 160 OR PLASTIC TO BS EN 1401-1:2009 AND BS EN 13508.

PRIVATE PIPES OVER 300mm DIAMETER TO BE CONCRETE TO BS5911 CLASS M.

WHERE PIPES AND OTHER DRAINAGE COMPONENTS ARE TO RECEIVE TRADE EFFLUENT THE PRINCIPAL CONTRACTOR SHALL ENSURE THEY ARE ADEQUATE TO RECEIVE THE DISPOSAL OF CHEMICALS AS LISTED IN THE CONTRACT DOCUMENTS.

ALL PIPE RUNS TO BE LAID WITH FLEXIBLE JOINTS.

PIPES LOCATED IN HIGHWAYS TO BE LAID A MINIMUM OF 1m FROM THE KERB EDGE. THE OUTSIDE EDGE OF MANHOLES TO BE A MINIMUM OF 0.5m FROM THE KERB EDGE.

ALL PIPES ENTERING AND EXITING MANHOLES ARE TO BE CONNECTED WITH PIPE SOFFITS LEVEL UNLESS NOTED OTHERWISE.

ALL INVERTS SPECIFIED ARE OUTGOING (EXCEPT BACKCROP).

CONNECTIONS TO BE MADE BY PURPOSE MADE JUNCTIONS AS FAR AS PRACTICABLE, OR USING PIPE BENDS TO BE TURNED IN DIRECTION OF FLOW.

ALL DRAINS TO BE PRESSURE TESTED PRIOR TO BACKFILLING, AND UPON COMPLETION OF SURFACING. ALL DRAINS TO BE INSPECTED BY CCTV IMMEDIATELY PRIOR TO PRACTICAL COMPLETION.

PRE-FORMED CHANNELS ARE TO BE USED IN MANHOLES WHERE APPLICABLE.

GRANULITH CONCRETE BENCHING TO BE STEEL TRONNELLED TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS.

THE FIRST MANHOLE UPSTREAM FROM THE CONNECTION TO THE CONNECTION TO THE EXISTING DRAINAGE SHOULD BE FITTED WITH A SCREEN IN ORDER TO PREVENT DEBRIS ENTERING THE EXISTING SEWER/DRAIN. THE SCREEN SHOULD NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO THE OCCUPATION OF THE PREMISES TO BE SERVED BY THE SEWER.

ROAD GULLY CONNECTIONS TO BE 150mm DIAMETER LAID AT A MINIMUM GRADIENT OF 1:150 UNLESS NOTED OTHERWISE.

ALL PETROL INTERCEPTORS ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. ADDITIONAL MANUFACTURERS REQUIREMENTS FOR TRAFFICKED AREAS TO BE ACCOMMODATED.

ALL DRAINAGE WORKS WITHIN THE ZONE OF INFLUENCE OF TREES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE NHBC STANDARDS AND ARBORICULTURAL REPORT REF.

CONCRETE MIXES

THE FOLLOWING CONCRETE MIXES ARE TO BE USED (IN ACCORDANCE WITH BS 8500) :-

CONCRETE SPECIFICATION	
DC-CLASS	CONCRETE MIX
DC1	S14 / GEN 3
DC2	FND 2
DC2	FND 2
DC3	FND 3
DC3	FND 3
DC4	FND 4
DC4	FND 4
DC4	FND 4
DC4	FND 4
SUMP CLASS S3 FOR ALL DRAINAGE WORKS	

MANHOLE COVER REQUIREMENTS

ALL COVERS TO BE IN ACCORDANCE WITH BS EN 124. MATERIAL AND COVER TYPE TO SUIT ARCHITECTURAL FINISHES.

LOAD CLASS REQUIREMENTS	
LOCATION	CLASS
REAR GARDENS	A15
FRONT GARDENS	B125
FOOTPATHS / PRIVATE DRIVES	B125
PARKING AREAS / CARRIAGEWAYS	D400

ROCKER PIPE REQUIREMENTS

ROCKER PIPE TABLE	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150-600	600
675-750	1000
OVER 750	1250

MANHOLE CHAMBER DIAMETER

MANHOLE CHAMBER SIZES	
DIA. OF LARGER PIPE IN MH	INTERNAL CHAMBER DIA. (mm)
LESS THAN 375mm	1200
375mm-700mm	1500
750mm-900mm	1800
GREATER THAN 900mm	PIPE DIA. + 300

TRENCH WIDTH REQUIREMENTS

TRENCH WIDTHS TABLE	
DIAMETER OF DRAIN (mm)	TRENCH WIDTH (mm)
100	550
150	600
225	700
300	750

- DO NOT SCALE THIS DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS ON SITE PRIOR TO COMMENCING THE WORKS.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
- ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS IN METRES UNLESS NOTED OTHERWISE.
- ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.



CONTRACTUAL RESIDUAL CDM RISK

CROSS SITE SERVICES

LOCATE, DEMARK AND PROTECT OR MAKE SAFE ALL EXISTING ON SITE / CROSS SITE SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORKS

CLOSE PROXIMITY OF EXISTING HEDGEROW / TREES AND BUILDINGS
ALL NECESSARY PRECAUTIONS TO BE TAKEN WHEN CRANING

EXISTING BUILDINGS

CONTRACTOR TO NOTE CLOSE PROXIMITY OF ADJACENT BUILDINGS AND ENSURE THAT THE FOUNDATIONS ARE NOT SURCHARGED OR UNDERMINED.

WORKS ADJACENT TO HIGHWAY

CONTRACTOR TO GIVE CONSIDERATION TO THE CLOSURE OF THE FOOTPATH DURING WORKS IN CLOSE PROXIMITY TO IT TO ENSURE THE SAFETY OF THE GENERAL PUBLIC. APPROPRIATE MEASURES SHOULD ALSO BE TAKEN TO AVOID UNDERMINING EXISTING HIGHWAY AND FOOTPATH.

A4-C02	12.06.20	DETAILS UPDATED	C02	MPW
A4-C01	28.05.20	ISSUED FOR PLANNING	C01	MPW
Rev.	Date	Revision Description	Drawn	Auth'd

Client

BROOKLAND GROUP

Project Title

**WOODVILLE ROAD,
HARTSHORNE**

Description

**PRIVATE DRAINAGE DETAILS
SHEET 1**

Date	MAY 2020	Drawn	ST
Scale	VARIES @A1	Authorised	MPW
JPL Ref.	MHLD1826		

BIM Ref.	Project	Orig.	Vol.	Level	Type	Role	Number
001826	JPL	XX	XX	DR	D	4301	

Suitability	Revision
A4 - TECHINAL DESIGN	C02