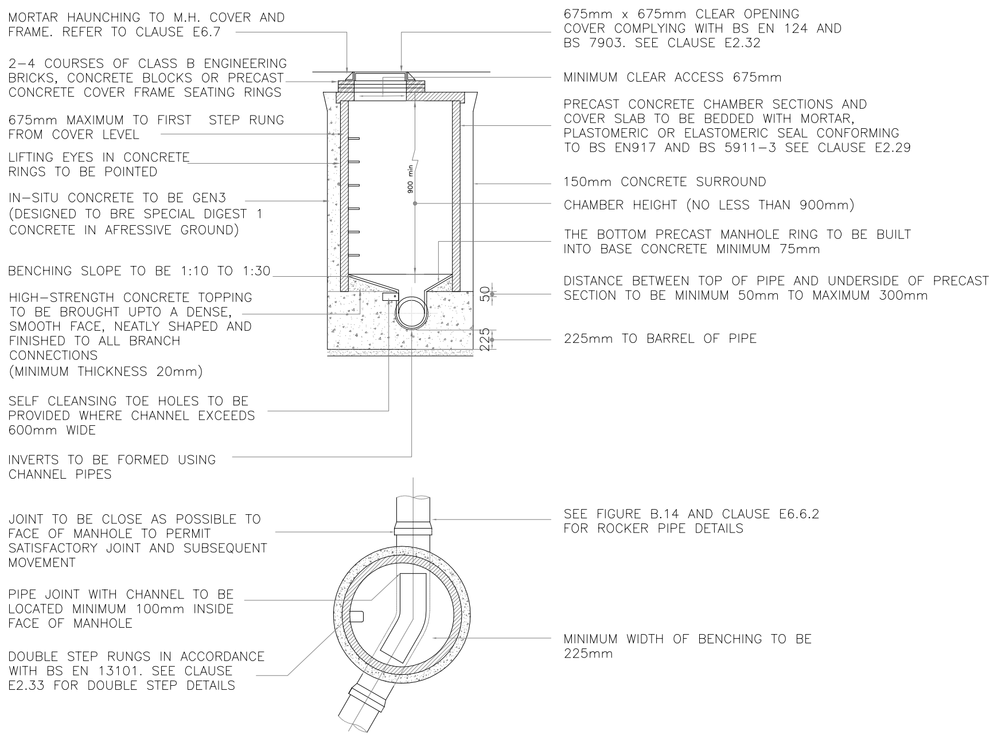
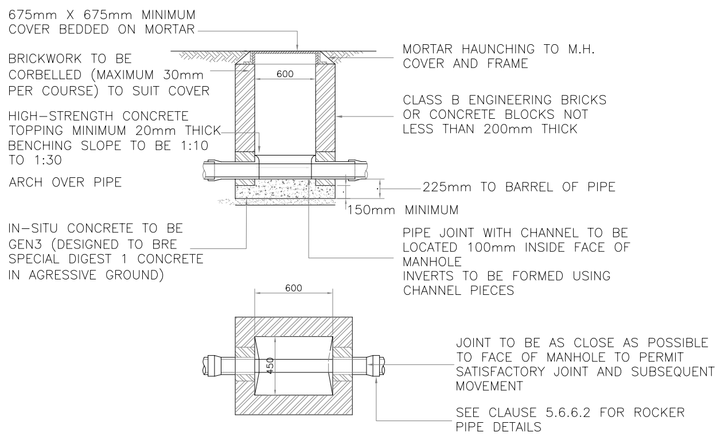
TYPICAL MANHOLE DETAIL– TYPE 2

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m

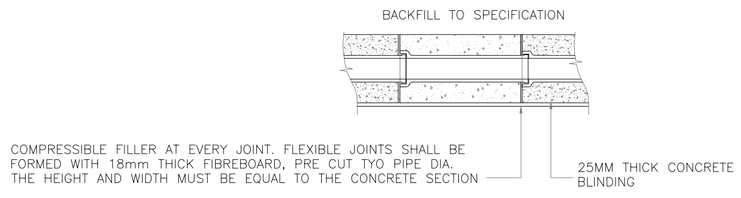


TYPICAL MANHOLE DETAIL– TYPE 4 RIGID

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE LESS THAN 1.0M



ELEVATION ON CLASS Z BEDDING



GUIDANCE ON POSITIONING OF SEWERS AND LATERALS

NEW SEWERS OR LATERAL DRAINS SHOULD NOT BE LOCATED CLOSER TO ANY BUILDING/STRUCTURE THAN THE MINIMUM OF THE DEPTH OF THE SEWER BELOW THE FOUNDATION OR 1.2m; EXCEPT THAT A SEWER OR LATERAL DRAIN WITH A NOMINAL DIAMETER OF 150mm OR LESS, WITH AN INVERT LEVEL AT LEAST 150mm
ABOVE THE BASE OF THE FOUNDATION AND NO MORE THAN 800mm DEEP, SHOULD BE NO LESS THAN 100mm FROM THE FOUNDATIONS (SEE FIGURE 1).

WHERE IT IS NOT POSSIBLE TO COMPLY WITH PARAGRAPH ABOVE BECAUSE ANOTHER BUILDING/STRUCTURE IS IN SUCH CLOSE PROXIMITY THAT THERE ARE NO PERMITTED LOCATIONS, NEW SEWERS OR LATERAL DRAINS MAY BE LOCATED BETWEEN BUILDINGS/STRUCTURES PROVIDED THAT:

A) THERE IS AT LEAST 900mm SEPARATING THE BUILDINGS/STRUCTURES;
B) THE SEWERS OR LATERAL DRAINS HAVE A NOMINAL DIAMETER OF 150mm OR LESS;
C) THE SEWERS OR LATERAL DRAINS HAVE AN INVERT LEVEL AT LEAST 150mm ABOVE THE BASE OF THE FOUNDATIONS AND NO MORE THAN 800mm DEEP;
D) THERE IS AT LEAST 350mm COVER ABOVE THE PIPE; AND
E) THERE IS AT LEAST 100mm BETWEEN THE PIPE WALL AND THE FOUNDATIONS (SEE FIGURE 2).

MANHOLES SHOULD NOT BE FURTHER APART THAN 150 m. ACCESS POINTS AND SEWERS SHOULD BE SITED WITH DUE REGARD TO PUBLIC UTILITY SERVICES. AN ACCESS POINT SHOULD BE BUILT:

A) AT EVERY CHANGE OF ALIGNMENT, GRADIENT OR PIPE MATERIAL;
B) AT THE HEAD OF ALL SEWERS;
C) WHEREVER THERE IS A CHANGE IN THE SIZE OF THE SEWER;
D) AT EVERY JUNCTION OF A PUBLIC SEWER WITH ANOTHER SEWER SERVING 3 OR MORE PROPERTIES (10 OR MORE PROPERTIES FOR A MANHOLE); AND
E) AT OR WITHIN 1 METRE OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF EACH LATERAL DRAIN (PREFERABLY INSIDE THE PROPERTY BOUNDARY).

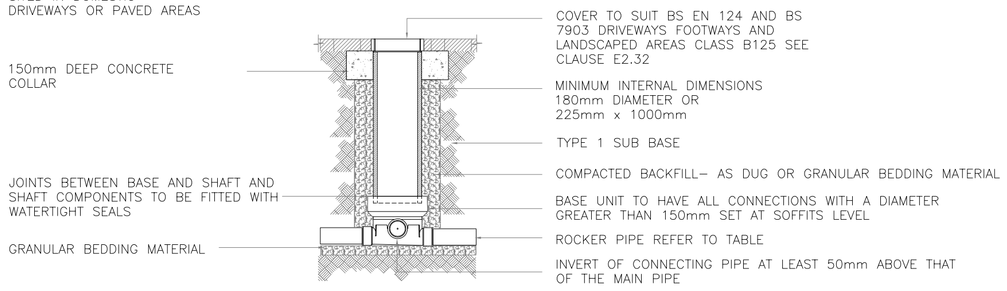
ACCESS POINTS SHOULD ONLY BE LOCATED IN GARDENS WHERE IT IS NOT PRACTICABLE TO LOCATE THEM ELSEWHERE (E.G. IN DRIVEWAYS OR FOOTPATHS).
SMALL BOUNDARY WALLS NOT GREATER THAN 1.0m HIGH ARE PERMITTED OVER SEWERS AS LONG AS APPROPRIATE LINTELS AND FOUNDATIONS ARE INCORPORATED

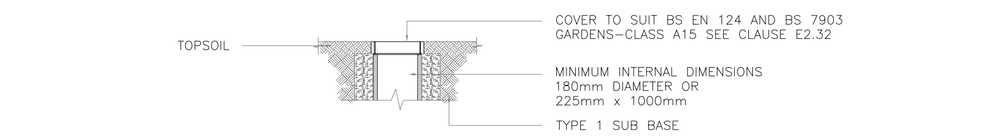
TYPICAL ACCESS CHAMBER DETAIL–TYPE 4 (FLEXIBLE MATERIAL DETAIL)

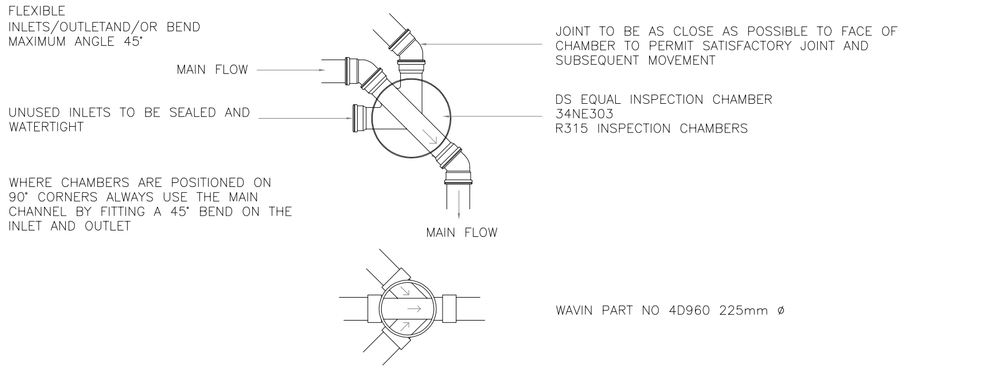
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 2.0m NON ENTRY

NOTE 225ø UNITS TO BE WAVIN PREFORMED SECTION WITH INTEGRAL BASE REF 4D960

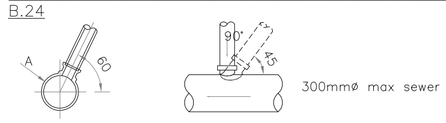
SITED IN DOMESTIC DRIVEWAYS OR PAVED AREAS







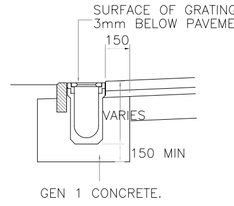
CONNECTION OF LATERAL TO SEWER AS SFA 7 DETAIL B.24



CROSS SECTIONAL VIEW OF SEWER

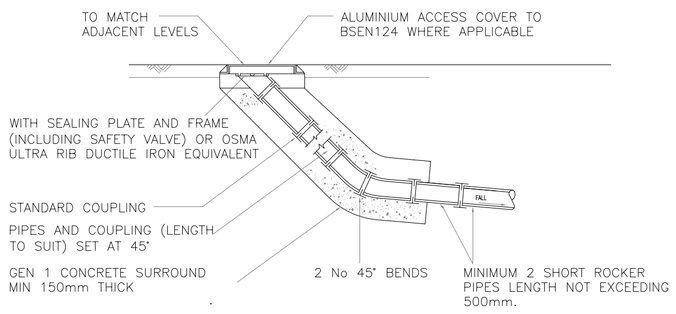
PLAN VIEW IN DIRECTION OF ARROW A

LINE DRAIN (PRIVATE)

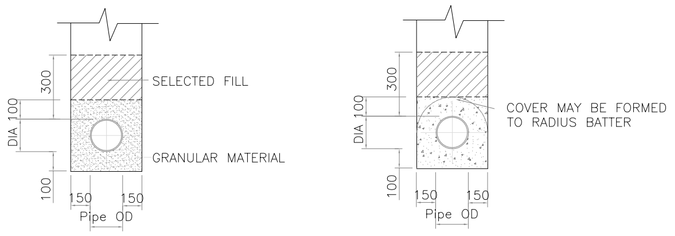


NOTES
1. DRAINAGE CHANNELS TO BE ACO DRAIN N10OKS CHANNELS AS SUPPLIED BY ACO POLYMER PRODUCTS LTD, OR SIMILAR APPROVED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS
2. GRATINGS TO BE HEEL GUARD LOAD CLASS C250, SLOTTED GREY CAST IRON, ACO PART No 508. FINISHED BY THE MANUFACTURER TO SUIT ARCHITECT REQUIREMENTS
3. FOUNDATION FOR CHANNELS TO BE LAID ON A ROLLED SUB–BASE OF 100mm MINIMUM THICKNESS.
4. OUTLETS TO BE ACO DRAIN DEEP GULLY PART No 822RE WITH A LOAD CLASS C250 GRATING

RODDING EYE (PRIVATE)



PIPE BEDDING DETAILS



CLASS S BEDDING
GRANULAR BED AND SURROUND
(BEDDING FACTOR = 2.5)
WHERE COVER IS MORE THAN1.2m

CLASS Z BEDDING
PLAIN CONCRETE BED AND SURROUND
(BEDDING FACTOR = 2.6)
WHERE COVER IS MORE THAN1.2m

SELECTED FILL	FREE FROM STONES LARGER THAN 40mm, LUMPS OF CLAY OVER 100mm, TIMBER, FROZEN MATERIAL, VEGETABLE MATTER.
GRANULAR MATERIAL	MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B.15 AND SHOULD BE SINGLE SIZE GRADED MATERIAL FROM 5mm UP TO A MAXIMUM SIZE OF 10mm FOR 100mm PIPES,14mm FOR 150mm PIPES, 20mm FROM 150mm TO 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

NOTES: (CLASS S & CLASS Z)

1. REFER TO LAYOUTS FOR LOCATIONS
2. BEDDING BENEATH AND AT SIDES OF THE PIPE TO BE WELL COMPACTED.
3. WHERE A CONCRETE CRADLE IS PROVIDED, THE FIRST 300mm OF FILL ABOVE THE CROWN OF THE PIPE IS TO BE LIGHTLY COMPACTED BY HAND. MECHANICCOMPACTION MAY BE USED ONLY ABOVE THIS LEVEL.
4. CONCRETE CRADLES AND ARCHES MAY BE EXTENDED TO THE SIDES OF THE TRENCH.
5. GEOTEXTILES MAY BE USED WHERE DIRECTED OR APPROVED BY THE ENGINEER TO CONTAIN BEDDING MATERIAL IN CERTAIN SOILS EG. RUNNING SAND.
6. IN VERY WET CONDITIONS, WHERE DIRECTED OR APPROVED BY THE ENGINEER A TEMPORARY LAND DRAIN MAY BE LAID WITHIN THE GRANULAR BED.

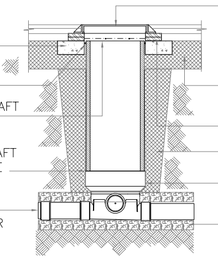
NOTES: (CLASS Z ONLY)

7. WHERE PIPES WITH FLEXIBLE JOINTS ARE USED, THE CONCRETE PROTECTION IS TO BE INTERRUPTED OVER ITS FULL CROSS SECTION AT INTERVALS NOT EXCEEDING 5 METRES (OR AS DIRECTED BY THE ENGINEER) BY A SHAPED FORMER OF BITUMEN IMPREGNATED COMPRESSIBLE FILLER. THESE INTERRUPTIONS SHALL COINCIDE WITH PIPE JOINTS. SEE DIMENSIONS FOR PIPE BEDDING TABLE FOR THICKNESS OF COMPRESSIBLE FILLER.
8. CONCRETE TO BE GEN 1
9. WHERE FLEXIBLE PIPES ARE USED. CARE MUST BE TAKEN TO PREVENT THE PIPES FROM FLOATING.

TYPICAL ACCESS CHAMBER DETAIL–TYPE 3 (FLEXIBLE MATERIAL DETAIL)

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT VEHICLE LOADING 3.0m NON ENTRY

SURFACE COURSE
BINDER COURSE
BASE COURSE



COVER TO SUIT BS EN 124 LOADING HIGHWAYS –CLASS D400 600mm CLEAR OPENING

COVER TO SUIT BS EN 124 AND BS 7903 DRIVEWAYS FOOTWAYS AND LANDSCAPED AREAS CLASS B125 LOADING HIGHWAYS –CLASS D400 600mm CLEAR OPENING

ACCESS OPENING RESTRICTED TO 350mm DIAMETER OR 300mm x 300mm IF DEPTH OF CHAMBER TO INVERT IS >1.0m

TYPE 1 SUB BASE

CLASS B ENGINEERING BRICKWORK, CONCRETE BLOCKS OR PRECAST CONCRETE COVER FRAME SEATING RINGS

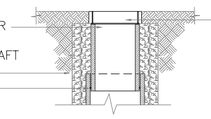
TYPE 1 SUB BASE

BASE UNIT TO HAVE ALL CONNECTIONS WITH SOFFIT LEVELS SET NOW LOWER THAN THAT OF THE MAIN PIPE

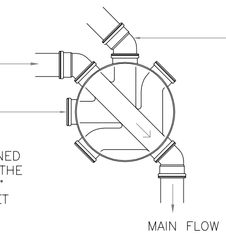
GRANULAR BEDDING MATERIAL

MINIMUM INTERNAL DIMENSIONS 450mm DIAMETER OR 450mm x 450mm

SITED IN SOFT DOMESTIC GARDENS



COVER TO SUIT BS EN 124 AND BS 7903 GARDENS–CLASS A15 SEE CLAUSE E2.32



JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CHAMBER TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT

BASE UNIT CONFIGURATIONS VARY

ROCKER PIPES

NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH (mm)
150–600	0.600
675–750	1.000
over 750	1.250

PERMITTED LOCATIONS OF SEWERS AND LATERAL DRAINS

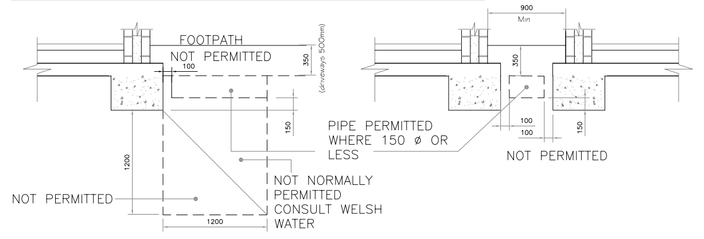
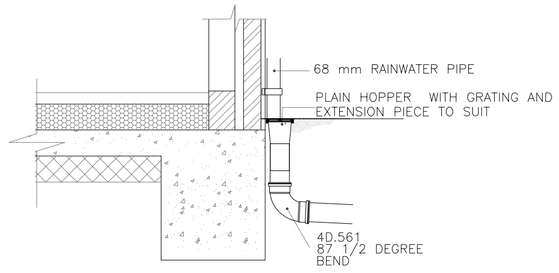


FIGURE 1 FIGURE 2

THE DEVELOPER MUST SELF CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED SECTION 104 WORKS IS IN ACCORDANCE WITH THOSE SET OUT IN SEWERS FOR ADOPTION 7th EDITION AND THE REQUIREMENTS OF DCWW AS THE STATUTORY SEWAGE UNDERTAKER

RWP CONNECTION (PRIVATE)



General Notes :

1.) Do not scale from this drawing.

2.) All dimensions are in millimetres.

3.) All levels are in metres relative to datum.

4.) All dimensions stated are to be confirmed on site prior to commencement of any works and any discrepencies found are to be reported to **S**teve **M**organ **A**ssociates **L**imited immediately.

REV.	By	Date	Description

Client

Keepmoat

Project Description

PROPOSED HOUSING DEVELOPMENT, HERBERT ROAD NEWPORT

Drawing Title

S104 DRAINAGE CONSTRUCTION DETAILS

Drawn TDJ	Date 27/01/16
Checked	Date
Drawing Status S104	
Scales NTS @ A1	

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Project Number 1155090

Drawing Number 512 Rev --