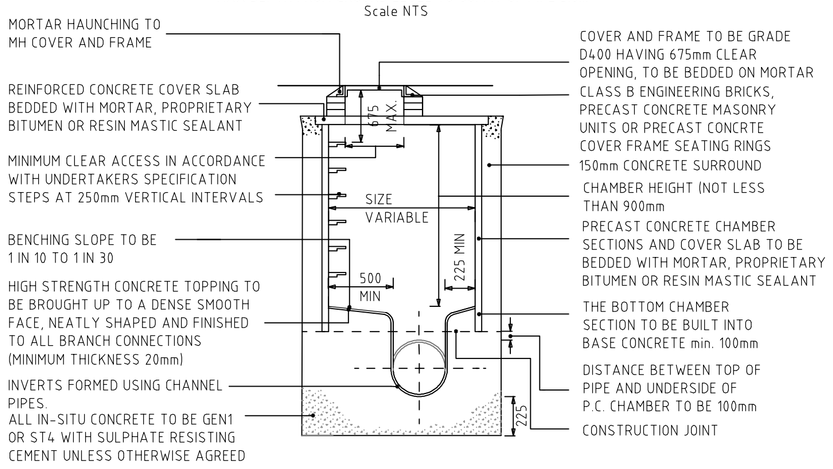
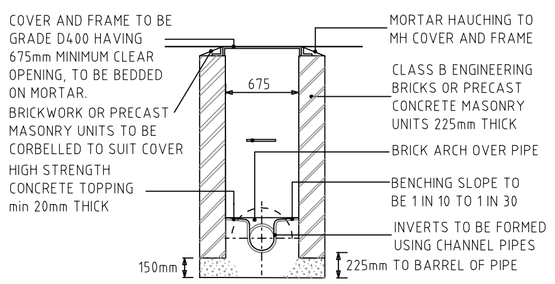
TYPICAL MANHOLE DETAIL - TYPE B

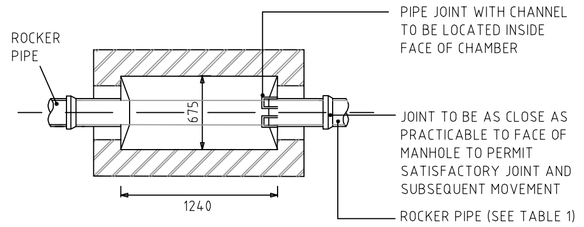
MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3.0m
Scale NTS



TYPICAL MANHOLE DETAIL - TYPE C

DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 1.0m TO 1.45m
Scale NTS





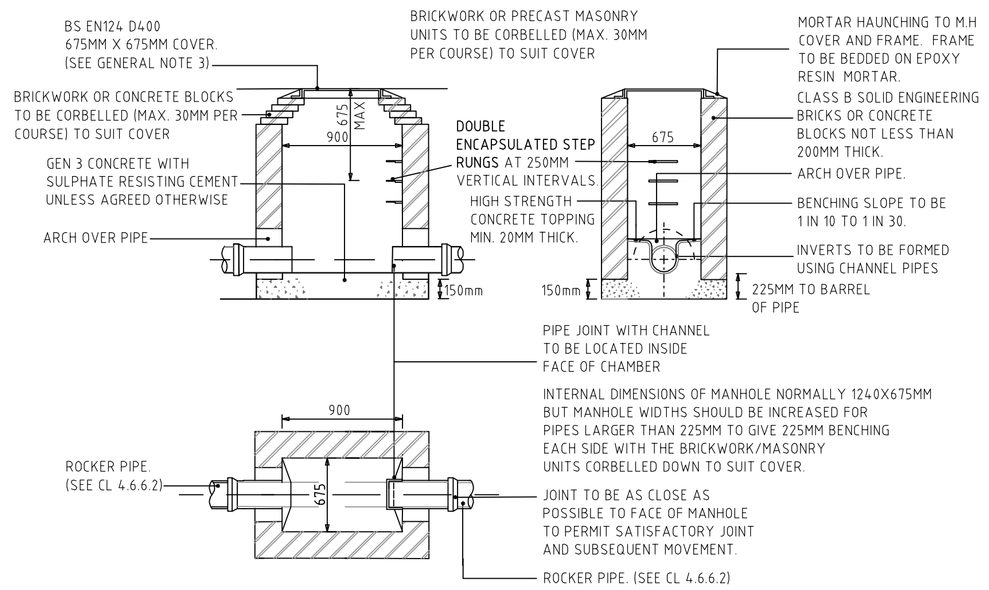
INTERNAL DIMENSIONS OF MANHOLE NORMALLY 1240x675m BUT MANHOLE WIDTHS TO BE INCREASED FOR PIPES LARGER THAN 225mm TO GIVE 225mm BECHING EACH SIDE WITH THE BRICKWORK / MASONRY UNITS CORBELLED DOWN TO SUIT COVER

TABLE 1 - ROCKER PIPE LENGTHS

PIPE DIA.	ROCKER PIPE LENGTH
150 - 600	600
675 - 750	1000
> 825	1250

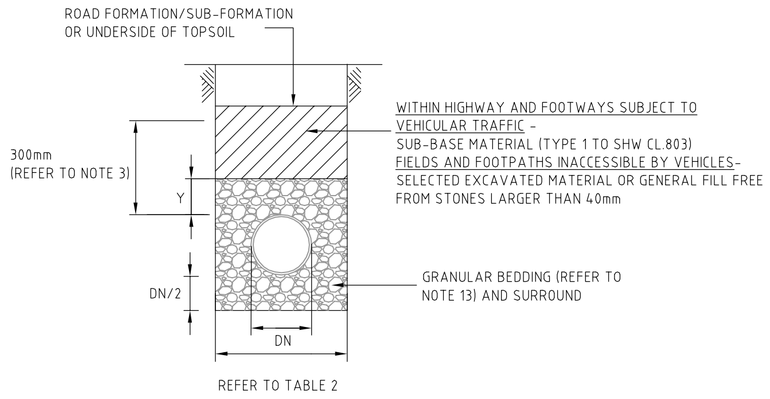
TYPICAL MANHOLE DETAIL - TYPE D

DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE LESS THAN 1.0m
Scale NTS



NOTES

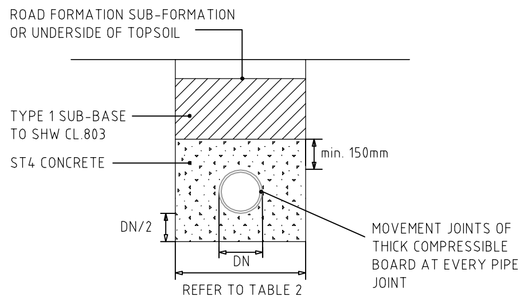
1. FOR BEDDING TRENCH DIMENSIONS REFER TO TABLE 2.
2. ALL BEDDING MATERIAL IS TO BE WELL COMPACTED.
3. THE FIRST 300mm OF FILL ABOVE THE CROWN OF THE PIPE IS TO BE LIGHTLY TAMPED BY HAND. MECHANICAL COMPACTION MAY BE USED ONLY ABOVE THIS LEVEL.
4. PIPES LAID IN FIELDS AND FOOTPATHS (INACCESSIBLE BY VEHICLES) AT COVER 0.6 - 3M TO BE CONSTRUCTED WITH CLASS S BEDDING; COVER LESS THAN 0.6M TO BE CLASS Z.
5. PIPES LAID IN ROADS AT MIN. 1.2M COVER TO BE AS CLASS S AND PIPES CONSTRUCTED BELOW 1.2M TO BE AS CLASS Z.
6. IN VERY WET CONDITIONS, WHERE DIRECTED OR APPROVED BY THE ENGINEER A TEMPORARY LAND DRAIN MAY BE LAID WITHIN THE GRANULAR BED
7. WHERE THE FORMATION OF THE PIPE TRENCH OR MANHOLE BASE IS DEEMED UNSUITABLE REMOVE WEAK SUBGRADE AND REPLACE WITH COMPACTED TYPE 1 (OR ROCK) SURROUNDED BY A GEOTEXTILE OVERLAYING A GEOGRID. REFER TO "PIPE BEDDING DETAIL IN WEAK GROUND". CONTRACTOR TO INFORM AND SEEK APPROVAL TO PROCEED FROM ENGINEER WHEN WEAK GROUND IS ENCOUNTERED.
8. WHERE PIPES HAVE A CONCRETE BED AND SURROUND, FLEXIBILITY OF ALL JOINTS IS TO BE MAINTAINED BY PROVIDING A FLEXIBLE JOINT THROUGH CONCRETE USING A COMPRESSIBLE BOARD. BOARD TO BE PRE-CUT TO PIPE DIAMETER AND TO PROVIDE A COMPLETE BREAK BETWEEN THE CONCRETE SURROUNDS. THE COMPRESSIBLE BOARD IS TO BE 18mm THICK FOR PIPE SIZES UP TO 450mm AND 36mm THICK FOR LARGER DIAMETER.
9. CONCRETE TO BE GRADE ST4 (GEN3).
10. WHERE FLEXIBLE PIPES ARE TO BE USED, CARE MUST BE TAKEN TO PREVENT THE PIPES FROM FLOATING.
11. GEOTEXTILE WRAPPING (TERRAM 1000 OR SIMILAR APPROVED) TO BE USED IN TRENCH IF GROUND CONDITIONS ARE DEEMED TO REQUIRE CONTAINMENT OF GRANULAR FILL.
12. DURING CONSTRUCTION PERIOD FILTER MATERIAL TO BE PROTECTED FROM CONTAMINATION.
13. GRANULAR MATERIAL FOR BEDDING AND SURROUND TO CONFORM TO BS EN1610 ANNEX B TABLE B.15. TO BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm UP TO A MAXIMUM SIZE OF 10mm FOR 100mm Ø PIPES, 14mm FOR 150mm Ø PIPES, 20mm FOR PIPES FROM 150mm Ø UP TO 600mm Ø AND 40mm FOR PIPES MORE THAN 600mm Ø.
14. ALL DIMENSIONS IN MILLIMETRES UNLESS INDICATED OTHERWISE.



NOTE: Y TO BE min. 225mm UNDER HIGHWAY

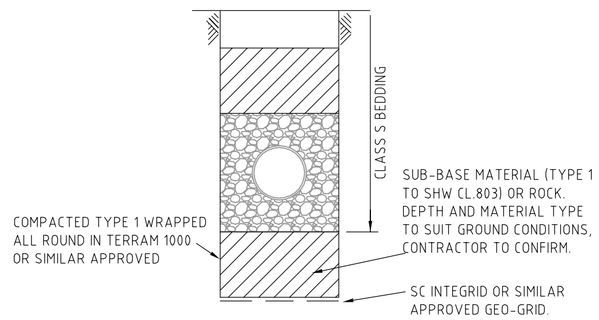
CLASS S BEDDING GRANULAR BED AND SURROUND

Scale 1:20



CLASS Z BEDDING

BEDDING WHERE COVER < 600mm IN FIELDS/FOOTPATHS AND IN ROADS <1200mm
Scale 1:20



PIPE BEDDING DETAIL IN WEAK GROUND

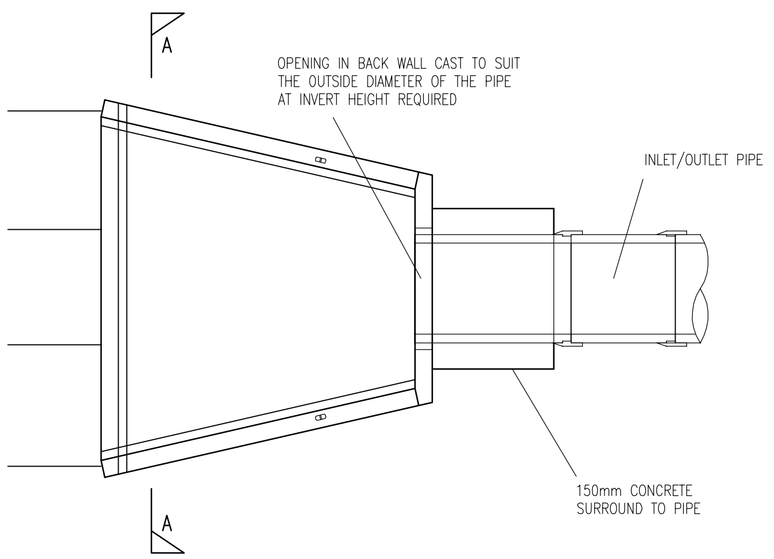
Scale 1:20

TABLE 2 - TRENCH DIMENSIONS

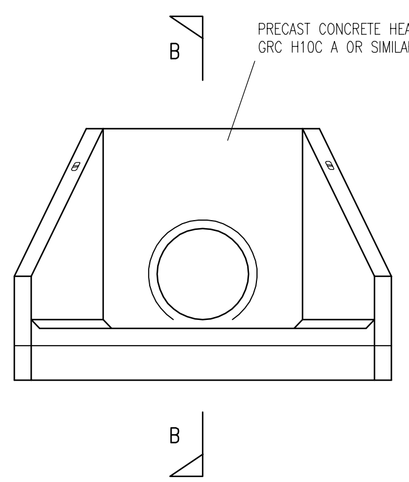
PIPE DIAMETER	Y minimum		MAXIMUM TRENCH WIDTH
	Y1 min.	Y2 min.	
100	100	200	700
150	100	200	750
225	100	200	825
300	100	200	925
375	100	200	1090
450	100	200	1175
525	100	250	1220
675	100	250	1450
750	225	300	1520

DIMENSION Y1 SHALL BE USED UNLESS Y2 IS SPECIFIED OR DIRECTED BY THE ENGINEER

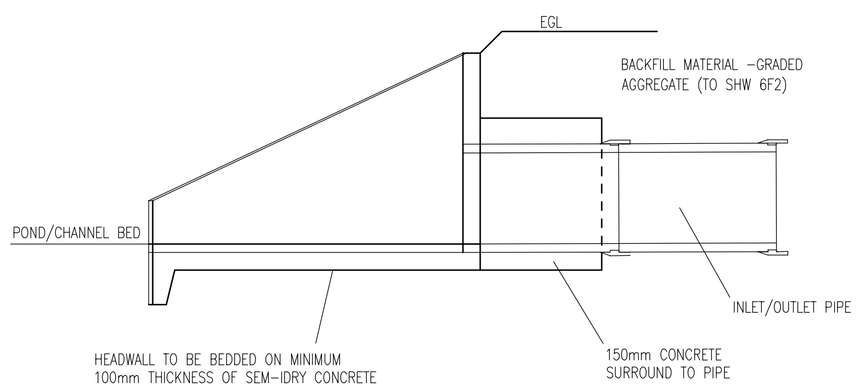
DIMENSION Y2 SHALL BE USED IN PLACE OF Y1 WHERE EXCAVATION IS IN ROCK OR IN MIXED SOILS CONTAINING ROCK BEDS, BOULDERS, LARGE FLINTS OR OTHER IRREGULAR HARD SPOTS



HEADWALL PLAN VIEW



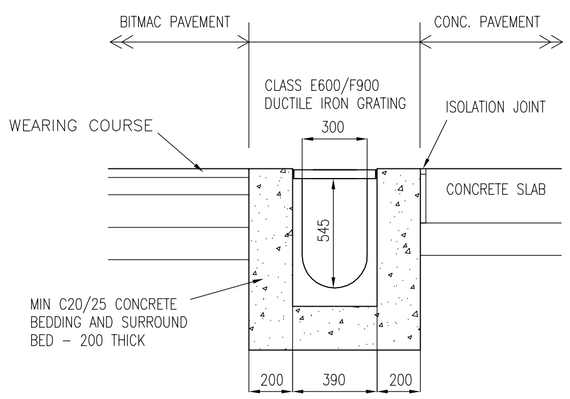
SECTION A-A (CROSS-SECTION)



SECTION B-B (ELEVATION)

TYPICAL HEADWALL DETAIL

SCALE 1:25



HAURATON CHANNEL

(SUPER 300-020 SHOWN)
Scale 1:20

A	FIRST ISSUE		15Nov13
Revision Details		By	Date

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Client: ENERGYBUILD LTD

Project: ABERPERGWM MINE PLANNING APPLICATION 2013

Title: PRELIMINARY DRAINAGE DETAILS

Scale at A3: As Shown

Drawn | Date: 13/5/2013

Checked | Date:

Project No: 2310

Drg No: FIGURE 9.32