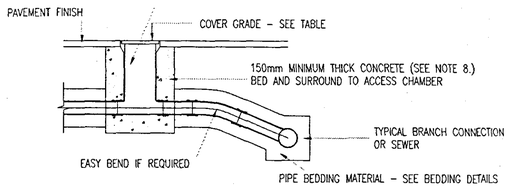
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190mm MINIMUM INTERNAL DIAMETER SMALL INSPECTION CHAMBER (TYPICALLY THERMOPLASTIC 250mm DIAMETER OR VITRIFIED CLAY 225mm DIAMETER) WITH 190mm MINIMUM CLEAR OPENING

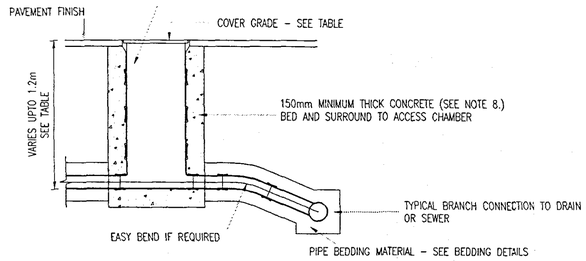



WHERE INSPECTION CHAMBERS ARE LOCATED IN FIELDS AND GARDENS/LANDSCAPED AREAS, CONCRETE SURROUND CAN BE REPLACED WITH SUITABLE 'AS-DUG' MATERIAL OR GRANULAR MATERIAL SUBJECT TO MANUFACTURERS INSTRUCTIONS.

## TYPICAL SHALLOW INSPECTION CHAMBER DETAIL FOR USE IN DRIVEWAYS/CAR PARKING AREAS (NOT SUBJECT TO HEAVY VEHICLE LOADING)

SCALE 1:25

450mm MINIMUM INTERNAL DIAMETER INSPECTION CHAMBER (TYPICALLY THERMOPLASTIC)

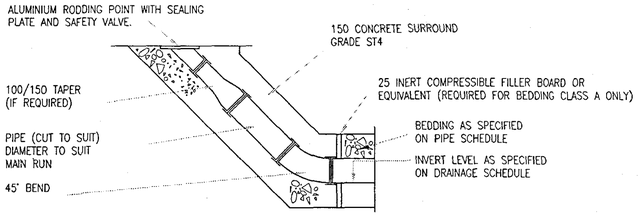



WHERE INSPECTION CHAMBERS ARE LOCATED IN FIELDS AND GARDENS/LANDSCAPED AREAS, CONCRETE SURROUND CAN BE REPLACED WITH SUITABLE 'AS-DUG' MATERIAL OR GRANULAR MATERIAL SUBJECT TO MANUFACTURERS INSTRUCTIONS.

## TYPICAL MEDIUM DEPTH INSPECTION CHAMBER DETAIL FOR USE IN DRIVEWAYS/CAR PARKING AREAS (NOT SUBJECT TO HEAVY VEHICLE LOADING)

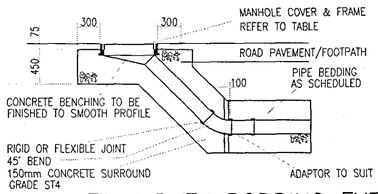
SCALE 1:25

ALUMINIUM RODDING POINT WITH SEALING PLATE AND SAFETY VALVE.




## LIGHT DUTY RODDING EYE DETAIL

ON NON TRAFFICKED AREA
MEDIUM DUTY COVER IN CAR PARK ( CLASS C250 TO BE EN 124)



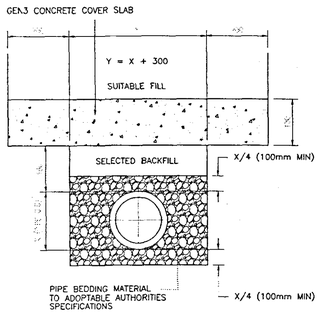

## HEAVY DUTY RODDING EYE DETAIL

IN TRAFFICKED AREA

| PERMITTED PIPE/BEDDING TYPES | | |
|---|---|---|
| | DEPTH OF COVER BELOW ROADS | |
| | 1.2m–3.5m | 1.2m–3.5m |
| PIPE BEDDING | TYPE S | TYPE S |
| PIPE TYPE | CONCRETE CLASS M TO BS:5911 | VITRIFIED CLAY TO BS:65, WITH FLEXIBLE JOINTS SUPER STRENGTH CLASS FOR 225 AND 300mmø. EXTRA STRENGTH CLASS FOR ALL OTHER SIZES. |
| | 0.9m–1.2m<br>TYPE S + 150 CONC. SLAB<br>CONCRETE CLASS M TO BS:5911 AND VITRIFIED CLAY TO BS:65 | <0.9m<br>TYPE Z<br>CONCRETE CLASS M TO BS:5911 AND VITRIFIED CLAY TO BS:65 |

SUITABLE FILL – THE SUITABLE FILL SHALL BE SUITABLE FOR THE LOCATION AND SHALL BE CAREFULLY COMPACTED TO PROVIDE A STABLE FILL WITHOUT DAMAGING THE PIPE. FILL UNDER CAR PARKING AREAS, SHARED DRIVES AND PRIVATE ROADS SHALL BE WELL COMPACTED GRADED GRANULAR MATERIAL. FILL UNDER ADOPTABLE ROADS MAY NEED TO BE TYPE 1 GRANULAR SUB-BASE MATERIAL – CHECK WITH LOCAL HIGHWAY AUTHORITY IF APPROPRIATE.

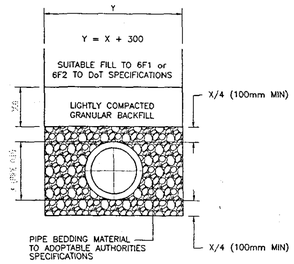
GRANULAR MATERIAL – FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN: 1610 Annex B Table B.15 AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm UPTO A MAXIMUM SIZE OF 10mm FOR 100mm DIAMETER PIPES, 14mm FOR 150mm DIAMETER PIPES.




## TYPE S PIPE BEDDING WITH CONCRETE SLAB PROTECTION

(Granular bed & surround)

NOT TO SCALE




## TYPE S PIPE BEDDING

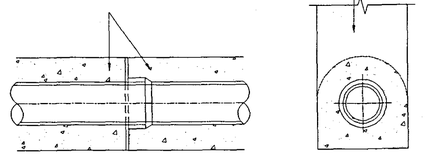
(Granular bed & surround)

NOT TO SCALE

NOTE :
ALL PIPE BEDDING MATERIAL TO BE IMPORTED GRANULAR MATERIAL.

150mm MINIMUM GEN3 CONCRETE SURROUND DIVIDED WITH 25mm THICK COMPRESSIBLE BOARD AT EACH JOINT. PROTECT PIPE JOINT FROM THE INGRESS OF CONCRETE BY WRAPPING WITH POLYTHENE SHEET OR ADHESIVE TAPE.

SUITABLE FILL COMPACTED IN LAYERS NOT EXCEEDING 150mm THICKNESS.



SIDE ELEVATION

CROSS SECTION

## TYPE Z BEDDING

(Concrete surround)

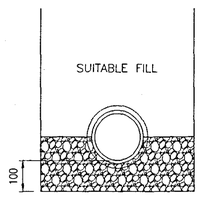
NOT TO SCALE

| MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS | | | | | |
|---|---|---|---|---|---|
| TYPE OF ACCESS | DEPTH TO INVERT FROM COVER LEVEL (m) | MINIMUM INTERNAL DIMENSIONS (1) | | MINIMUM CLEAR OPENING SIZE (1) | |
| | | LENGTH x WIDTH (mm x mm) | CIRCULAR (mm) | LENGTH x WIDTH (mm x mm) | CIRCULAR (mm) |
| RODDING EYE | – | AS DRAIN BUT MINIMUM 100mm. | – | – | SAME SIZE AS PIPEWORK |
| ACCESS FITTING<br>SMALL 150mm DIA.<br>SMALL 150x100mm<br>LARGE 225x100mm | 0.6m OR LESS EXCEPT WHERE SITUATED IN A CHAMBER | <br>150 x 100<br>225 x 100 | <br>150<br>225 | <br>150 x 100 (1)<br>225 x 100 (1) | <br>SAME SIZE AS ACCESS FITTING |
| INSPECTION CHAMBER | | | | | |
| SHALLOW | 0.6m OR LESS | 225 x 100 | 190 (2) | | 190 (1) |
| MEDIUM | 1.2m OR LESS | 450 x 450 | 450 | MIN 430 x 430 | 430 |
| DEEP | GREATER THAN 1.2m | 450 x 450 | 450 | MAX 300 x 300 (3) | ACCESS RESTRICTED TO MAX 350 (3) |

NOTES:
(1) THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
(2) DRAINS UPTO 150mm DIAMETER.
(3) A LARGER CLEAR OPENING COVER MAY BE USED IN CONJUNCTION WITH A RESTRICTED ACCESS. THE SIZE IS RESTRICTED FOR HEALTH AND SAFETY REASONS TO DETER ENTRY.

| MINIMUM DIMENSIONS FOR MANHOLES | | | | | |
|---|---|---|---|---|---|
| TYPE OF ACCESS | SIZE OF LARGEST PIPE (DN) | MINIMUM INTERNAL DIMENSIONS (1) | | MINIMUM CLEAR OPENING SIZE (1) | |
| | | RECTANGULAR LENGTH x WIDTH (mm x mm) | CIRCULAR DIAMETER (mm) | RECTANGULAR LENGTH x WIDTH (mm x mm) | CIRCULAR DIAMETER (mm) |
| MANHOLE LESS THAN 1.5m DEEP TO SOFFIT | LESS THAN OR EQUAL TO 150 | 750 x 675 (7) | 1000 (7) | 750 x 675 (2) | N/A (3) |
| | 225 | 1200 x 675 | 1200 | 1200 x 675 (2) | |
| | 300 | 1200 x 750 | 1200 | | |
| | GREATER THAN 300 | 1800 x (DN+450) | THE LARGER OF 1800 or (DN+450) | | |
| MANHOLE GREATER THAN 1.5m DEEP TO SOFFIT | LESS THAN OR EQUAL TO 225 | 1200 x 1000 | 1200 | 600 x 600 | 600 |
| | 300 | 1200 x 1075 | 1200 | | |
| | 375–450 | 1350 x 1225 | 1200 | | |
| | GREATER THAN 450 | 1800 x (DN+775) | THE LARGER OF 1800 or (DN+775) | | |
| MANHOLE SHAFT (4) GREATER THAN 3.0m DEEP TO SOFFIT OF PIPE | STEPS (5) | 1050 x 800 | 1050 | 600 x 600 | 600 |
| | LADDER (5) | 1200 x 800 | 1200 | | |
| | WINCH (6) | 900 x 800 | 900 | | |

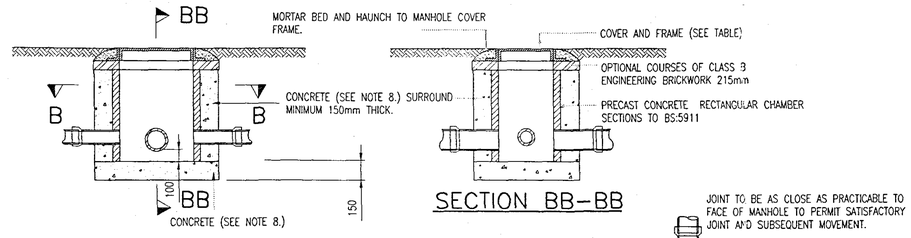
NOTES:
(1) LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS.
(2) MAY BE REDUCED TO 600x600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED.
(3) NOT APPLICABLE DUE TO WORKING SPACE NEEDED.
(4) MINIMUM HEIGHT OF CHAMBER IN SHAFTED MANHOLE 2m FROM BENCHING TO UNDERSIDE OF REDUCING SLAB.
(5) MINIMUM CLEAR SPACE BETWEEN LADDER OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900mm.
(6) WINCH ONLY – NO STEPS OR LADDERS, PERMANENT OR REMOVABLE.
(7) THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER (i.e. ANY DRAIN SERVING MORE THAN ONE PROPERTY) SHOULD BE 1200x750mm RECTANGULAR OR 1200mm DIAMETER.




## FOR RIGID PIPES: eg. CLAYWARE, CONCRETE

CLASS B PIPE BEDDING

| TABLE SHOWING PRIVATE MANHOLE/INSPECTION CHAMBER COVER GRADES AND AREAS OF USE | |
|---|---|
| COVER GRADE TO BS EN: 124 | LOCATION |
| D400 | FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGV'S. |
| C250* | FOR USE IN PRIVATE ROADS OR PARKING AREAS eg. CAR PARKS AND MINOR PRIVATE ROADS ACCESSIBLE TO REFUSE VEHICLES, FIRE APPLIANCES ETC WITH POSSIBLE OCCASIONAL HGV USE. |
| B125 | FOR USE IN FOOTWAYS, PEDESTRIAN AREAS, DRIVEWAYS AND CAR PARKS ACCESSIBLE BY LIGHT VEHICLES ONLY. |
| A15 | FOR USE IN AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS |
| * D400 MAY BE USED IN LIEU OF C250 IF PREFERRED. | |

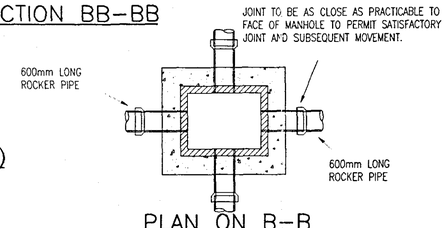



SECTION BB–BB

## TYPICAL CATCHPIT DETAIL (INTERNAL DIMENSION 750x675)

SCALE 1:25

NOTE: 215mm CLASS B ENGINEERING BRICKWORK MAY BE USED FOR CHAMBER WALLS IN LIEU OF PRECAST CONCRETE CHAMBERS AND SURROUND




PLAN ON B–B

## NOTES

1) ALL BUILDING DRAINAGE TO BE INSTALLED AND TESTED IN COMPLIANCE WITH THE BUILDING REGULATIONS 2000 DRAINAGE AND WASTE DISPOSAL APPROVED DOCUMENT H 2002 EDITION.

2) ALL COMPONENTS AND MATERIALS ARE TO BE MANUFACTURED AND SUPPLIED IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, AND LAID AND BACKFILLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND THE RELEVANT BRITISH STANDARDS.

3) THE CONTRACTOR SHALL, BEFORE COMMENCING THE WORKS, VERIFY ALL SITE AND SETTING OUT DIMENSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRUE AND PROPER SETTING OUT OF THE WORKS AND FOR THE CORRECTNESS OF THE POSITION, LEVELS, DIMENSIONS, AND ALIGNMENT OF ALL PARTS OF THE WORKS.

4) SMALL LIGHTWEIGHT ACCESS COVERS SHOULD BE SECURED (FOR EXAMPLE WITH SCREWS) TO DETER UNAUTHORISED ACCESS.

5) INSPECTION CHAMBERS AND MANHOLES IN BUILDINGS TO HAVE MECHANICALLY FIXED AIRTIGHT COVERS UNLESS THE DRAIN ITSELF HAS WATERTIGHT ACCESS COVERS.

6) MANHOLES DEEPER THAN 1m TO HAVE GALVANISED STEEL STEP IRONS OR FIXED LADDERS.

7) ALL ABOVE GROUND DRAINAGE TO INCORPORATE RODDING ACCESS FACILITIES.

8) INSITU CONCRETE FOR USE IN GENERAL DRAINAGE WORKS, GRADE TO BS: 5328, USE AS FOLLOWS:

| CLASS 1 SULFATE CONDITIONS: | |
|---|---|
| ADOPTABLE STANDARD WORKS AND AREAS SUBJECT TO HEAVY LOADING | GEN 3 or ST4 |
| AREAS SUBJECT TO LIGHT LOADING eg. HOUSING AND PRIVATE DRIVES, SMALL CAR PARKS. | GEN1 or ST2 |
| FOR BURIED CONCRETE EXPOSED TO OTHER SULPHATE CONDITIONS: | |
| CLASS 2<br>CLASS 3<br>CLASS 4A<br>CLASS 4B | FND 2<br>FND 3<br>FND 4A<br>FND 4B |

SHDC Planning & Development - 6 SEP 2005 Ref: 12381/05

| REV | DATE | REMARKS |
|---|---|---|
| STATUS | | PRELIMINARY |

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PROJECT
Proposed Residential Development at Cowley Road Donington

TITLE
PRIVATE DRAINAGE DETAILS SHEET 1 OF 2

| DATE | Jan 2005 | SCALE | AS SHOWN |
|---|---|---|---|
| DRAWN | SRC | CHECKED | |
| DESIGN | SRC | FILENAME | SRC 40304 |

DRG No. 40304/06 REV

DETERMINED PLAN

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