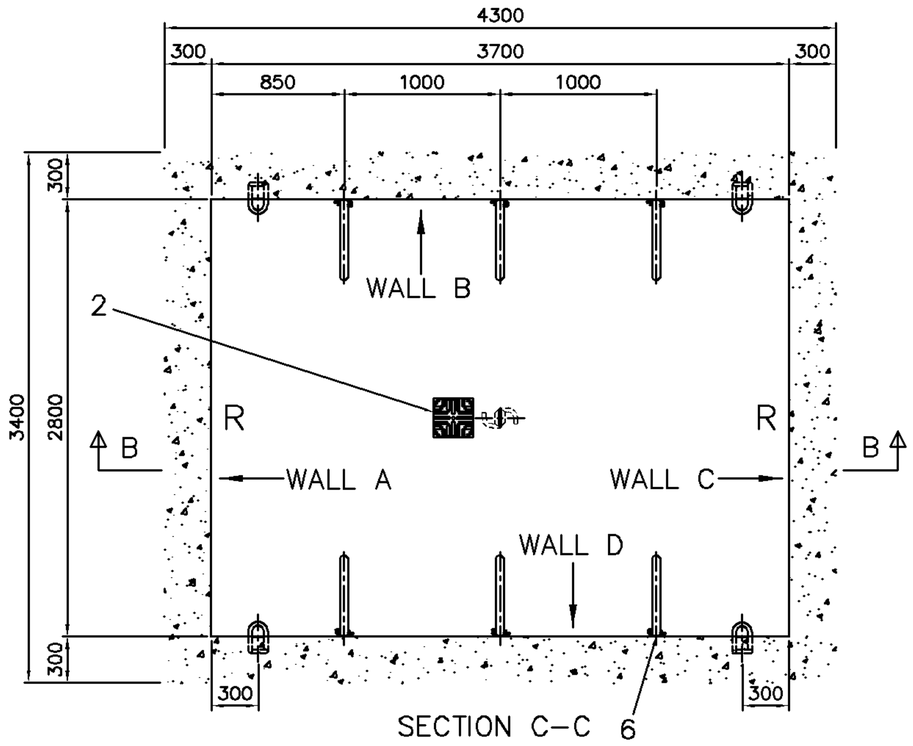
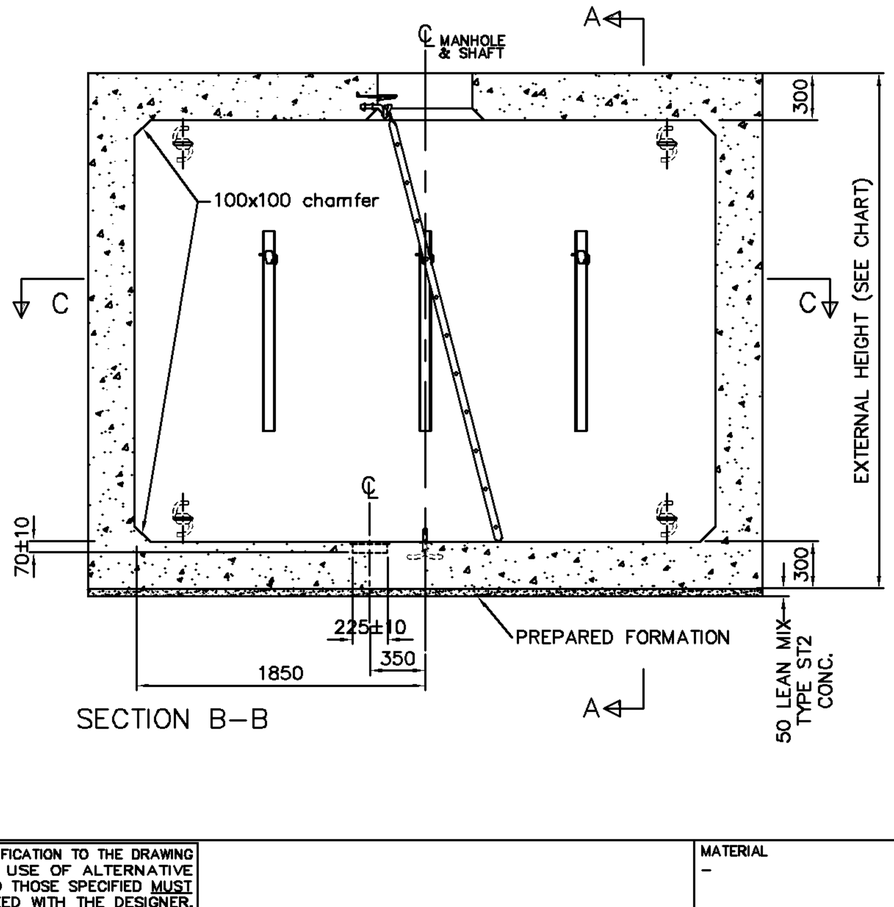
ORIGINAL FRAME SIZE 574mm X 821mm | PRODUCED BY CAD DO NOT MODIFY

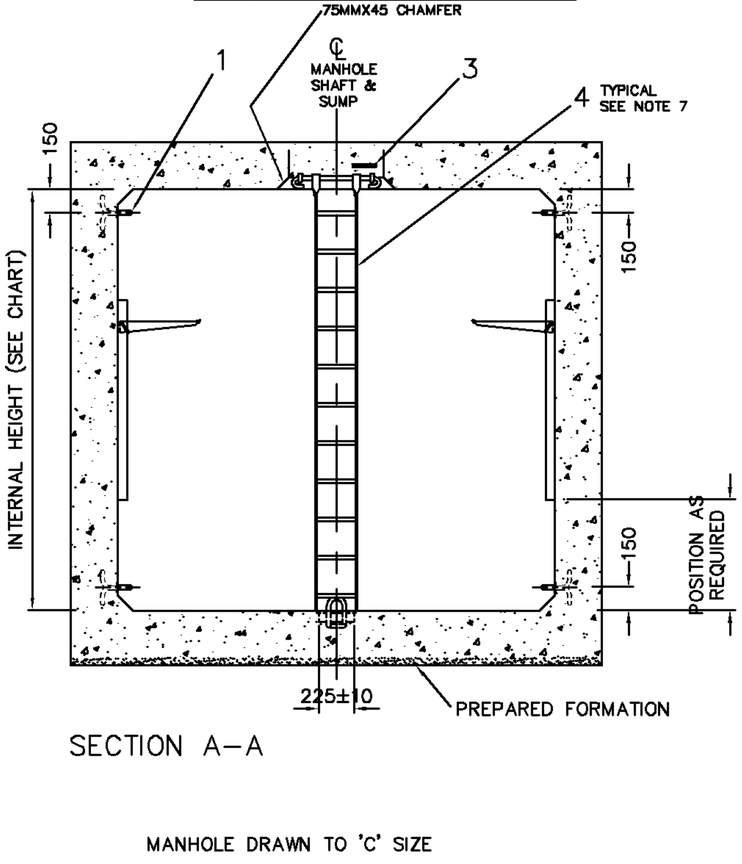
THIRD ANGLE PROJECTION




| SCHEDULE | | | | |
|---|---|---|---|---|
| ITEM | DESCRIPTION | | DRWG. NO. | NO. OFF |
| 1 | ANCHOR IRON NO. 4 | | CN 1162 | 9 |
| 2 | GRATING SUMP NO.2 | | CN 9165 | 1 |
| 3 | STEPS,MANHOLE,NO.1 | | CN 1961 | 1 |
| 4 | STEEL LADDER WITH HOOKS | | CN 1161 | 1 |
| | M'H SIZE | LENGTH | | |
| | A | 2250 | | |
| | B | 2550 | | |
| | C | 2850 | | |
| 5 | FRAME & COVER | | CN 1961 | 1 |
| 6 | CABLE BEARER NO.10 WALL TYPE | | CN 1059 | 6 |
| 7 | BOLTS, FOUNDATION, INDENTED ,NO.2 | | CN 1166 | 18 |
| 8 | BRACKET CABLE BEARER 18 | | CN 1069 | 6 |
| 9 | PIN LOCKING CABLE BEARER | | CN 1301 | 6 |
| 10 | FRAME & COVER | | CN 15572 | 1 |

| MANHOLE HEIGHT VARIATION AND No. OF DUCTS | | | |
|---|---|---|---|
| TYPE | INTERNAL HEIGHT | EXTERNAL HEIGHT (REF) | No. OF DUCTS IN POSITIONS |
| | | | R |
| A | 2100 | 2700 | 54 |
| B | 2400 | 3000 | 80 |
| C | 2700 | 3300 | 96 |




MANHOLE DRAWN TO 'C' SIZE

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, DOCUMENTATION AND SPECIFICATIONS RELATING TO THIS MANHOLE STRUCTURE TYPE CONSTRUCTION
2. WORKMANSHIP, MATERIALS AND METHOD OF CONSTRUCTION ARE TO COMPLY WITH ALL CURRENT RELEVANT CONTRACT DOCUMENTS, BRITISH STANDARDS, EUROCODES AND CODES OF PRACTICE (RELEVANT TO THE CONSTRUCTION INDUSTRY) AND ACCEPTED CONSTRUCTION PRACTICE.
3. ALL EXISTING SERVICES POSITIONS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR PRIOR TO STARTING THE WORKS.
4. ALL ACCEPTED SAFE DIGGING PRACTICES AND SAFE METHODS OF WORKING ARE TO BE EMPLOYED DURING THE INSTALLATION OF THE MANHOLE STRUCTURE.
5. CONCRETE TO BE GRADE C35/45 WITH A WATER CEMENT RATIO 0.4. MIN. CEMENT CONTENT 380kg/m³. AGGREGATE MAX. SIZE 20mm. ALL IN ACCORDANCE WITH BS8500 (BSEN 206).
6. DUCT ENTRIES CAN BE PLACED IN THE WALLS IN THE POSITIONS REQUIRED WITH MINIMUM CLEARANCE OF 150mm FROM ADJACENT WALL, 450mm FROM ROOF AND 350mm FROM FLOOR.
7. SHAFT TO BE CONSTRUCTED IN ACCORDANCE WITH CN1153 AND POSITIONED AS REQUIRED. STEPS AND LADDER TO BE ORIENTATED TO FACE THE ONCOMING TRAFFIC. DETAILS SHOWN ARE TYPICAL POSITIONS.
8. ANY BRICKS USED TO FORM SHAFT OR ADJUST FRAME AND COVER LEVEL TO BE (MINIMUM) CLASS B ENGINEERING BRICKS. MORTAR TO BE 1:5 CEMENT:SAND RATIO (MAXIMUM) OR 1:1:5 CEMENT:LIME:SAND CLASS (iii).
9. BRICKS AND MORTAR TO BE IN ACCORDANCE WITH BS EN1996.
10. REINFORCEMENT TO BE GRADE B500B OR B500C CONFORMING TO BS4449: 2005 (CLAUSE 1712 SHW).
11. BAR SCHEDULE AND BENDING TO CONFORM TO BS8666.
12. MINIMUM COVER 55mm TO ANY CONCRETE FACE PROPRIETARY APPROVED SPACERS TO BE UTILISED.
13. BARS INTERSECTING HOLES TO BE CUT ON SITE AND TRIMMED TO CN13916.
14. ADDITIONAL BARS MAY BE UTILISED TO TIE / SUPPORT MAIN BARS AS REQUIRED.
15. MAXIMUM SPACING OF REINFORCING BARS TO BE 150mm C/C.
16. SUMP TO BE POSITIONED BELOW SHAFT. TYPICAL POSITION SHOWN.
17. ANCHOR IRONS MUST BE POSITIONED AT LEAST 230mm FROM ANY DUCT OR WALL OPENING. ANCHOR IRONS MUST BE POSITIONED 150mm FROM ANY WALL, ROOF OR FLOOR. FLOOR ANCHOR IRONS SHOULD BE PLACED BELOW SHAFT.
18. STANDARD DEPTHS OF COVER TO THE TOP OF THE ROOF ARE:–
    - 150mm FOOTWAY
    - 450mm CARRIAGEWAY
19. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SHW) AND ALL SUBSEQUENT AMENDMENTS.
20. ALL BACKFILL MATERIAL IS TO BE CLASS 6N TYPE.
21. ALL CONSTRUCTION JOINTS TO BE AS PER CLAUSE 1710 SHW.
22. INTERNAL CORNER CHAMFER DETAILS TO BE AS PER APPENDIX D OF BD 31/01 THE DESIGN OF BURIED CONCRETE BOX AND PORTAL FRAME STRUCTURES.
23. CONTRACTOR TO PROVIDE A GENERAL ARRANGEMENT DRAWING SHOWING THE POSITION OF THE STRUCTURE IN RELATION TO THE HIGHWAY AND ITS FEATURES, INCLUDING RELATIVE LEVELS TO HIGHWAY SURFACE.
24. CONTRACTOR TO PROVIDE DETAILS; NUMBER AND POSITION OF DUCT ENTRY OPENINGS WITHIN THE CHAMBER.
25. CONTRACTOR TO PROVIDE PROGRAMME OF CONSTRUCTION SEQUENCE DETAILING TIMING OF POURS AND COMMENCEMENT OF BACKFILL.
26. CONCRETE TESTING TO BE UNDERTAKEN IN ACCORDANCE WITH BT SPECIFICATION.

TOLERANCES:– CN15456

ANCHOR IRON POSITION ±50mm
TOP OF DEPTH PLATE ±4mm

BEDDING MATERIAL ±5
CEMENT MORTAR –20mm

BRICKWORK MORTAR JOINTS ±5mm

VOIDAGE 0.5%

DUCT ENTRY POSITION ±25mm
DUCT FLUSH WITH WALL –10mm

WALL FLATNESS ±11mm

F & C LEVEL WITH HIGHWAY NIL
F & C ROCKING NIL
F & C SURROUND IN UNMADE ±5mm
F & C UNSUPPORTED OVER BOX +5mm

MANHOLE INTERNAL LENGTH & WIDTH ±25mm

MANHOLE INTERNAL HEIGHT ±15mm

SHAFT DIMENSIONS 610mm –10mm + 15mm
SHAFT POSITION IN ROOF ±100mm

STEEL BARS ALIGNMENT
VERT & HORIZ ±15mm
NEAR FACE TO FAR FACE ±15mm

STEEL CAGE GRID PATTERN ±10mm

STEEL DEPTH OF COVER ±5mm

STEEL DEPTH TO LUG ±5mm
STEP POSITION ±15mm
STEP HORIZONTAL ±5mm

SUMP POSITION ±25mm
SUMP DEPTH ±10mm
ROUND SUMP 230ø ±5mm

VERTICALITY OF WALLS ±15mm

SLAB THICKNESS –10 TO +150mm

BOLT FOUNDATION ±5mm

DIMENSIONS IN mm UNLESS OTHERWISE STATED



DO NOT SCALE ORIGINAL SCALE 1:20

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1 / A2 | DRN RFG C S<br>CKD M.S.<br>CERTIFICATION<br>DESIGNER<br>M DA RIOS<br>CLIENT<br>M DA RIOS<br>DATE 04/07/94 | ANY MODIFICATION TO THE DRAWING OR THE USE OF ALTERNATIVE ITEMS TO THOSE SPECIFIED MUST BE AGREED WITH THE DESIGNER. | MATERIAL<br>–<br>FINISH<br>– | OMS Drawing Review<br>Hatching added<br>Prepared formation note added<br>BT OMS 21.08.15<br>AMENDMENT | F<br>ISSUE | TOLERANCES TO SPECS BS8666, BS5606, BS EN1992 CN15456.<br>VARIOUS LOCATIONS<br>Openreach ALA944 | STANDARD MANHOLE 412A,412B,412C GENERAL ARRANGEMENT<br>CN 14937 SHT 01 OF 05 | REFERENCES SPEC: BS4449,BS8666, BS5606,BS EN1992,LN550. DRGS: CN1059,CN1153,CN1161, CN1162,CN1166,CN1961. | CN 14937S01 |