Supplementary Information

The following information is associated with Network Rail Standard:
**NR CIV/SD/502** Rev A

## Additional Content Access

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### CAD Drawing

- CIV/SD/502

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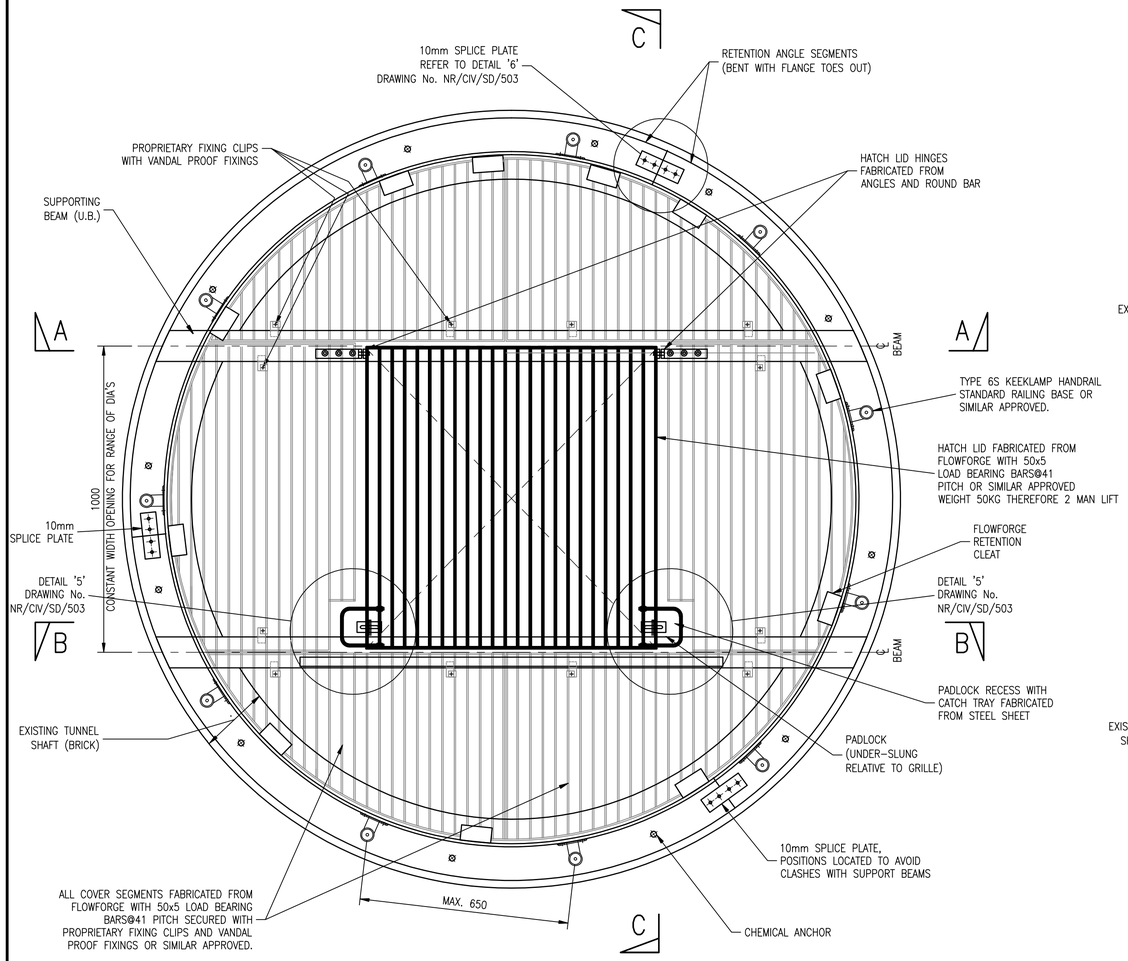
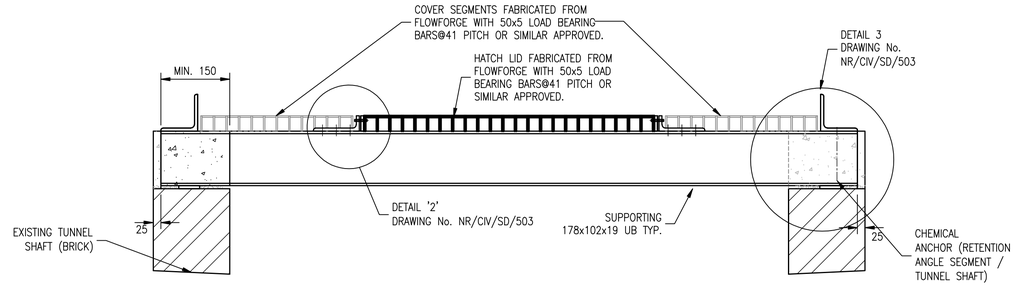


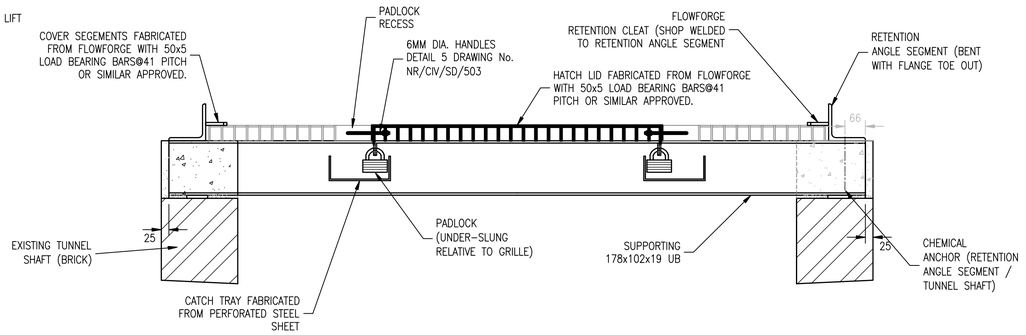

## GENERAL ARRANGEMENT PLAN

(TRANSVERSE BARS OMITTED FOR CLARITY)
SCALE 1:10



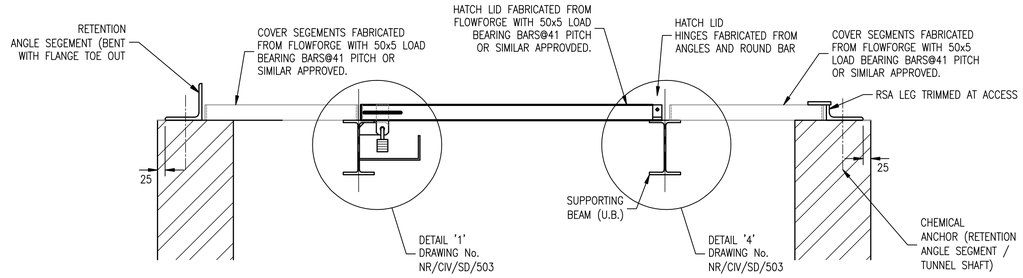

## SECTION A–A

SCALE 1:10




## SECTION B–B

SCALE 1:10




## SECTION C–C

SCALE 1:10

TABLE 1

| SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT | | |
|---|---|---|
| DESIGNER'S NOTE – CDM REG. 13(2)(b)<br><br>THE FOLLOWING ARE SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OUTLINED IN THIS SET OF DRAWINGS ON RAILWAY STRUCTURES OR THOSE AFFECTED BY THESE ACTIVITIES. A SITE SPECIFIC RISK ASSESSMENT SHALL ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY OF THE WORKS DESCRIBED ON SITE.<br><br>IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE RAILWAY ENVIRONMENT. | | |
| RISK | STAGE | MITIGATING MEASURES |
| FALLING FROM HEIGHT. | OP | ENSURE FULL HANDRAIL PROTECTION IS COMPLETE AND SECURE PRIOR TO OPENING HATCH LID. |
| FALLING FROM HEIGHT. | OP | EQUIPMENT FOR PERSONNEL ABSEIL ACCESS INTO SHAFT MUST NOT BE ANCHORED TO THE OPEN MESH FLOORING OR TO THE TEMPORARY HANDRAIL. |
| WORKING NEAR NETWORK RAIL M & E CABLES. | D/C | ENSURE ALL CABLES/SERVICES ARE IDENTIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. |
| WORKING OVER THE RUNNING LINE. | D/C | ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH NETWORK RAIL STANDARDS/RULE BOOK USING RIMINI PLANNING. |
| WORKING AT HEIGHT. | C | ENSURE SAFE METHOD OF WORKING. |
| FALLING ITEMS FROM HEIGHT. | C | ENSURE EDGE PROTECTION, HANDRAILS, TOE BOARDS/CATCH NETTING ARE USED WHEN APPROPRIATE. |
| DEBRIS FROM BREAKING OUT SHAFT FALLING DOWN SHAFT. | C | INSTALL DEBRIS NETTING OR WORKING PLATFORM IF NECESSARY PRIOR TO BREAKING OUT TO SUIT SPECIFIC SITE CONDITIONS |
| NOTE: C = CONSTRUCTION, D = DESIGN, OP = OPERATION. | | |

DRAWING No. NR/CIV/SD/502

NOTES

A GENERAL NOTES

A1 ALL DIMENSIONS IN MILLIMETRES.

A2 FOR DETAILS REFER TO DRAWING No. NR/CIV/SD/503.

A3 ALL WORKS SHALL BE IN ACCORDANCE WITH NETWORK RAIL COMPANY STANDARD NR/GN/CIV/008 MODEL CLAUSES

B SPECIFICATION

B1 SHAFT GRILLE TO BE GRADE S275N AND GALVANISED IN ACCORDANCE WITH BS EN ISO 1461.

B2 STEELWORK TO COMPLY WITH SPECIFICATION MODEL CLAUSES SECTION MC 140.

C DESIGN ASSUMPTIONS

C1 DETAILS TO BE APPLICABLE TO SHAFT DIAMETER 2m–4m.

C2 THE SCHEME DESIGNER SHALL BE RESPONSIBLE FOR THE CORRECT APPLICATION OF THE STANDARD DESIGN TO A SPECIFIC SCHEME. APPROPRIATE CONSIDERATION SHALL BE GIVEN BUT NOT BE RESTRICTED TO THE FOLLOWING:

- APPLIED FLOOR LOADING
- SHAFT DIAMETER
- TUNNEL SHAFT MASONARY INTEGRITY
- LOCATION AND CAPACITY OF ACCESS FIXINGS.

C3 DESIGN LIVE LOAD ON GRILLE 3.0 $kN/m^2$.

C4 NOTICES SHALL BE PROVIDED AT VISIBLE LOCATIONS, DEFINED BY SCHEME DESIGNER ON A SITE SPECIFIC BASIS, TO ADVISE OF THE PERMITTED LOADS ON THE COVER AND THE WEIGHT OF THE TRAP DOOR.

C5 WHERE ADDITIONAL DEBRIS NETTING OR MESH IS REQUIRED TO FURTHER MITIGATE THE RISK OF FALLING DEBRIS, SCHEME DESIGNER'S SHALL SPECIFY THE REQUIRED FIXING ARRANGEMENTS AND MESH/NETTING IN A PROJECT SPECIFIC FORM A/B SUBMISSION.

C6 SCHEME DESIGNERS SHALL INCLUDE SHAFT GRILLE COMPONENT WEIGHTS AND ANY ASSOCIATED MANUAL HANDLING ISSUES IN THE PROJECT SPECIFIC FORM A/B SUBMISISSION.

D INSTALLATION GUIDANCE

D1 SHAFT GRILLE TO BE FIXED IN SECTIONS TO SUIT CONTRACTOR'S PREFERRED METHOD, LIFTING CAPACITY CONSIDERATIONS AND SITE CONDITIONS.

D2 SCHEME DESIGNERS SHALL INCLUDE AN INDICATIVE SEQUENCE OF OPERATION FOR USING THE INSTALLED ACCESS COVER, INCLUDING THE INSTALLATION AND DISMANTLING OF TEMPORARY HANDRAIL, IN A PROJECT SPECIFIC FORM A/B SUBMISSION.

E RISK ASSESSMENTS

E1 FOR RISK ASSESSMENT SEE TABLE 1.

| Rev | Date | Description of revision | Design'd | C'kd |
|---|---|---|---|---|
| A | 17.10.07 | FIRST ISSUE | RMA | NGAY |
| P5 | 25.05.07 | FORM B APPROVAL | RMA | NGAY |
| P4 | 03.01.07 | FORM B APPROVAL | RMA | NGAY |
| P3 | 14.09.06 | FORM B APPROVAL | RMA | NGAY |
| P2 | 18.05.06 | FORM A APPROVAL | RMA | NGAY |
| P1 | 10.04.06 | FORM A APPROVAL | RMA | NGAY |

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| Authorised | A. DRAY | Director of Civil Engineering | AD | 06.09.07 |

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CIVIL ENGINEERING STANDARD DESIGN

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TUNNELS

SHAFT GRILLE FOR 2m TO 4m DIA. TUNNEL SHAFT

SHEET 1 OF 2

| Scale | 1:10 | |
|---|---|---|
| Drawing Number | NR/CIV/SD/502 | REV. A |

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