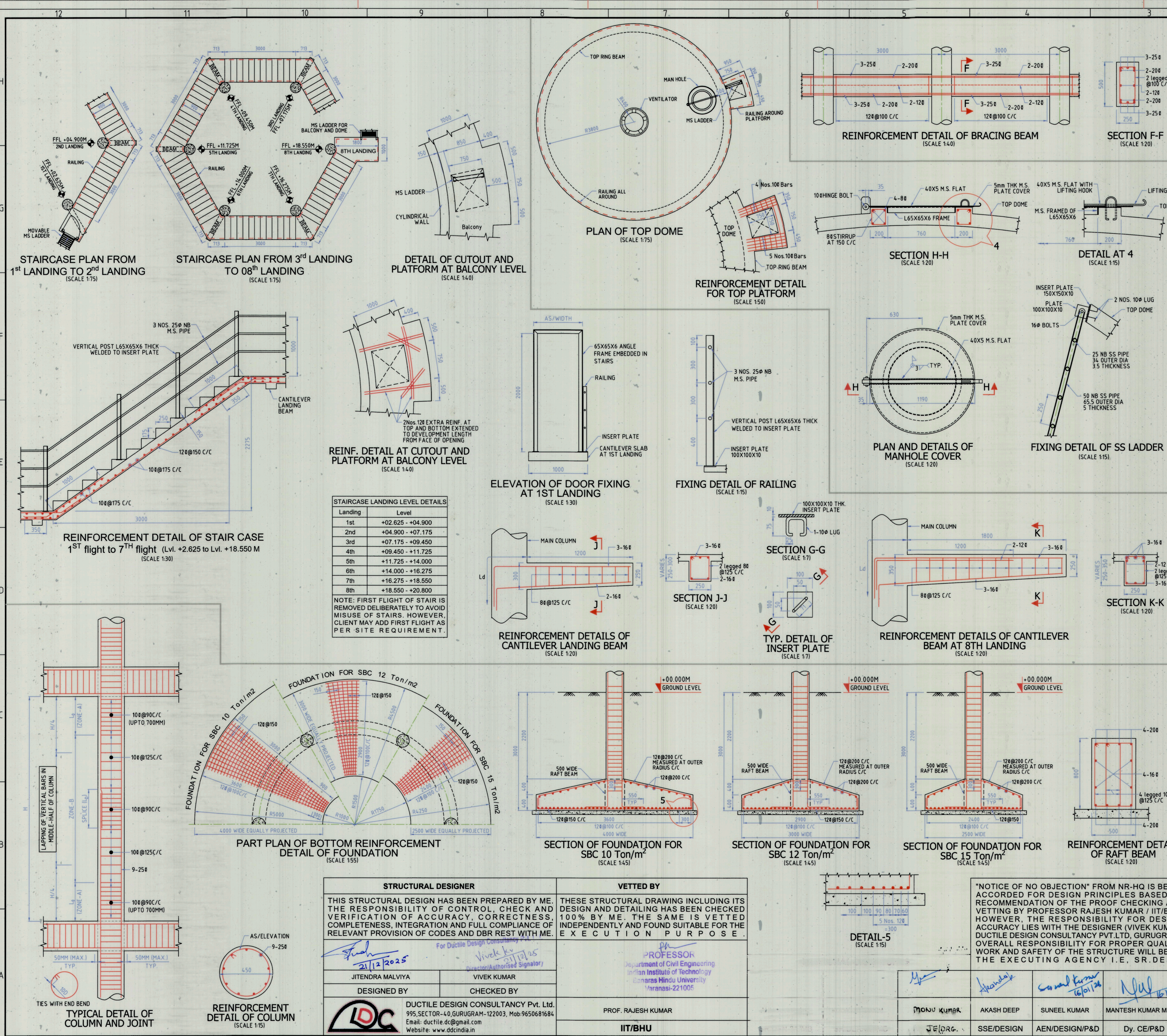




**TYPE PLAN NO.:** W-51

**N.R.H.Q.E. PLAN NO.:** HQ/01/01-2026

**CANCELLED PLAN NO.:**

**GENERAL NOTES:-**

- ALL DIMENSIONS ARE IN MILLIMETER AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.
- DO NOT SCALE THE DRAWING.
- ALL R.C.C. WORK SHALL BE IN DESIGN MIX CONCRETE M-35, AS PER IS 456-2000 (CODE OF PRACTICE FOR PLAIN AND REINFORCED CONCRETE).
- Fe 500/Fe 500D REINFORCEMENT BARS CONFORMING TO IS 1786-2008 TO BE USED.
- COVER TO REINFORCEMENT SHALL BE NO WHERE LESS THAN THAT SHOWN ON THE PLAN OR AS SPECIFIED IN IS 456-2000.
- NO SAG OCCURS IN THE REINFORCING BARS DURING CONSTRUCTION.
- STIRRUPS ARE EFFECTIVELY TIED WITH WIRE TO THE MAIN REINFORCING BARS.
- ALL R.C.C. WORK MUST BE CARRIED OUT UNDER THE PERSONAL SUPERVISION OF AN SSE/WORKS.
- PROPER CURING OF CONCRETE SHALL BE ENSURED TO ACQUIRE HARDNESS, STRENGTH AND OTHER PROPERTIES, ESSENTIAL FOR SATISFACTORY SERVICE.
- ALL CONCRETE SHALL BE MECHANICALLY MIXED AND VIBRATED.
- THE DESIGN HAS BEEN PREPARED FOR SEISMIC FORCES AS PER LATEST CODE IS 1893: PART 1 2016 & PART 2: 2016 FOR SEISMIC ZONE-IV.
- BASIC WIND SPEED IS CONSIDERED AS 50 M/SEC.
- ALL LAPS SHALL BE STAGGERED & LAP LENGTH SHALL BE 50D, WHERE D = DIA OF BAR.
- ALL DIMENSIONS ARE TO BE CHECKED & VERIFIED BEFORE EXECUTION IN CONSISTENCY IF ANY SHOULD BE BROUGHT TO THE NOTICE OF ENGINEER - IN CHARGE IMMEDIATELY, BEFORE EXECUTION.

**CONTAINER:**

- ALL EDGES SHALL BE ROUNDED OR CHAMFERED.
- HOOP BARS IN WALL, RING BEAM SHALL BE TWICE THE LAP LENGTH (2xLd).
- LAPS IN ALL CIRCULAR BARS IN CONTAINER PORTION SHALL BE 50 STAGGERED THAT NOT MORE THAN 1/2 OF THE TOTAL BARS ARE LAPPED IN ONE PLACE.
- STEEL CHAIRS SHALL BE PROVIDED TO KEEP TOP REINFORCEMENT IN PROPER AND CORRECT POSITION.
- CONTAINER PROPER SHOULD BE KEPT DAMP DURING CONSTRUCTION TO PREVENT SHRINKAGE.

**BEAMS NOTES:**

- Ld- DEVELOPMENT LENGTH OF THE BARS SHALL BE 50D.
- SPACER BAR SHALL BE PROVIDED OF 25Ø OR MAX. DIA OF BAR IN BEAM.
- SPACING OF SPACER BAR SHALL BE BETWEEN 100MM TO 150MM.

**GROUND LEVEL & SBC:**

- SBC IS CONSIDERED 10T/M<sup>2</sup>, 12T/M<sup>2</sup> AND 15T/M<sup>2</sup> AT 3M DEPTH FROM N.G.L. IF WATER TABLE IS FOUND OR SBC IS LESS, THE SAME SHALL BE INFORMED TO DESIGNER.
- IN CASE, SOIL AT SITE IS NOT SAFE FOR ASSUMED SOIL PRESSURE, SEPARATE DESIGN TO BE PREPARED.
- ANY SOFT OR LOOSE STRATUM MET WITH UNDER FOUNDATION, BASE SLAB ETC. SHALL BE EXCAVATED AND MADE GOOD WITH COMPACTED SOIL.
- BACK FILLING SHALL BE DONE IN UNIFORM LAYERS ALL AROUND THE STRUCTURE.
- FILLING UNDERNEATH THE STRUCTURE ELEMENTS, WHEREVER REQUIRED, SHALL BE DONE IN LAYERS NOT EXCEEDING 150MM THICK.

**IMPORTANT NOTE:**

- ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH WATER BARS FIXED CENTRALLY IN THE CONSTRUCTION JOINTS.
- PROPER WATER PROOFING SHALL BE DONE ON TANK BODY BY APPLYING SUITABLE ADMIXTURES TO CONCRETE.
- EXTRA REINFORCEMENT SHALL BE PROVIDED AROUND ALL OPENINGS SUCH AS MANHOLES, INLET/OUTLET PIPES, AND OTHER CUTOUTS.
- THREE TYPES OF FOUNDATION (FOR 10T/M<sup>2</sup>, 12T/M<sup>2</sup> AND 15T/M<sup>2</sup> AT 3M DEPTH) HAS BEEN PROVIDED IN SHEET 02/03. SUITABLE FOUNDATION TO BE PROVIDED CONSIDERING SOIL DATA OF SITE BY CONCERNED SR.DEN/DY.CE.
- FOR INSULATION OF LIGHTNING CONDUCTOR IS 2309-1989 (CODE OF PRACTICE OF BUILDING AND ALLIED STRUCTURE AGAINST LIGHTNING) MAY BE REFERRED. DETAILS MAY BE WORKED OUT WITH THE CONSULTATION OF LOCAL ELECTRICAL OFFICE.
- THE PIPE DIAMETERS ARE TENTATIVE AND TO BE FINALIZED ON APPROVAL OF HYDRAULICS.
- FOR GENERAL REQUIREMENTS AND OTHER INFORMATION, IS 3370-2009, 2021 (PART-1 & PART-2) SHALL BE FOLLOWED.
- DETAILING OF REINFORCEMENT BARS TO BE AS PER IS 13920-2016, IS 456-2000 & IS 11682-1985.
- CONSTRUCTION SHALL BE STRICTLY IN ACCORDANCE WITH IS 456-2000.
- THE FIRST LANDING LEVEL IS KEPT HIGHER BY ELIMINATING THE LANDING & STAIRCASE BELOW IT TO PREVENT INTERACTION OF LOCAL PEOPLE WITH THE TANK AND TO ENSURE THEIR SAFETY.
- PORTABLE LADDER TO BE PROVIDED FROM GROUND LEVEL TO FIRST LANDING (RL 2.625 M).
- FEASIBILITY OF STRUCTURE SHALL BE CHECKED BY ENGINEER-IN-CHARGE BEFORE EXECUTION OF WORK.
- ADEN/XEN/AXEN SHOULD PERSONALLY INSPECT THE REINFORCEMENT AND SHUTTERING, IT NEEDS TO BE ENSURED THAT SHUTTERING IS WATER-PROOF.
- SCAFFOLDING AND SHUTTERING ARRANGEMENT SHOULD BE AS PER THE DRAWING No.-

**NRHQE - HQ/03/02-2026**

**CLEAR COVER TO MAIN REINFORCEMENT SHALL BE:**

- TOP DOME (WATER FACE) = 45MM
- TOP DOME (OUTER FACE) = 45MM
- BOTTOM DOME (WATER FACE) = 45MM
- BOTTOM DOME (OTHER FACE) = 45MM
- CYLINDRICAL/VERTICAL WALL (WATER FACE) = 45MM
- CYLINDRICAL/VERTICAL WALL (OUTER FACE) = 45MM
- CONICAL WALL (WATER FACE) = 45MM
- CONICAL WALL (OUTER FACE) = 45MM
- RING BEAM (WATER FACE) = 45MM
- RING BEAM (OUTER FACE) = 45MM
- BEAM ABOVE GROUND = 40MM
- BEAM BELOW GROUND = 40MM
- COLUMNS = 40MM
- WALKWAY = 30MM
- FOUNDATION = 75MM

**REFERENCES:**

- IS 456-2000- PLAIN AND REINFORCED CONCRETE.
- IS 1893-2016- EARTHQUAKE RESISTANCE DESIGN OF STRUCTURE
- IS 13920-2016- DUCTILE DESIGN AND DETAILING OF REINFORCED CONCRETE STRUCTURE
- IS 11682-1985- CRITERIA FOR DESIGN OF RCC STAGING FOR ESR
- IS 3370 - 2009, 2021- CONCRETE STRUCTURES FOR STORAGE OF LIQUID
- IS 11089-1984- PRACTICE FOR DESIGN AND CONSTRUCTION OF RING FOUNDATION

**NORTHERN RAILWAY**

**PROJECT**

TYPE PLAN OF INTZE RCC OVERHEAD TANK OF CAPACITY 110KL WITH 20M HIGH STAGING FOR SEISMIC ZONE IV (SBC OF 10,12 & 15 Ton/m<sup>2</sup>)

**TITLE**

DETAILS OF FOUNDATION, STAGING AND STAIRCASE

**SCALE:** AS MENTIONED

**SHEET SIZE:** A1

**N.R.H.Q.E. PLAN NO.** HQ/01/01-2026

**SHEET NO. - 02/03**

|                                          |                    |             |                    |
|------------------------------------------|--------------------|-------------|--------------------|
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