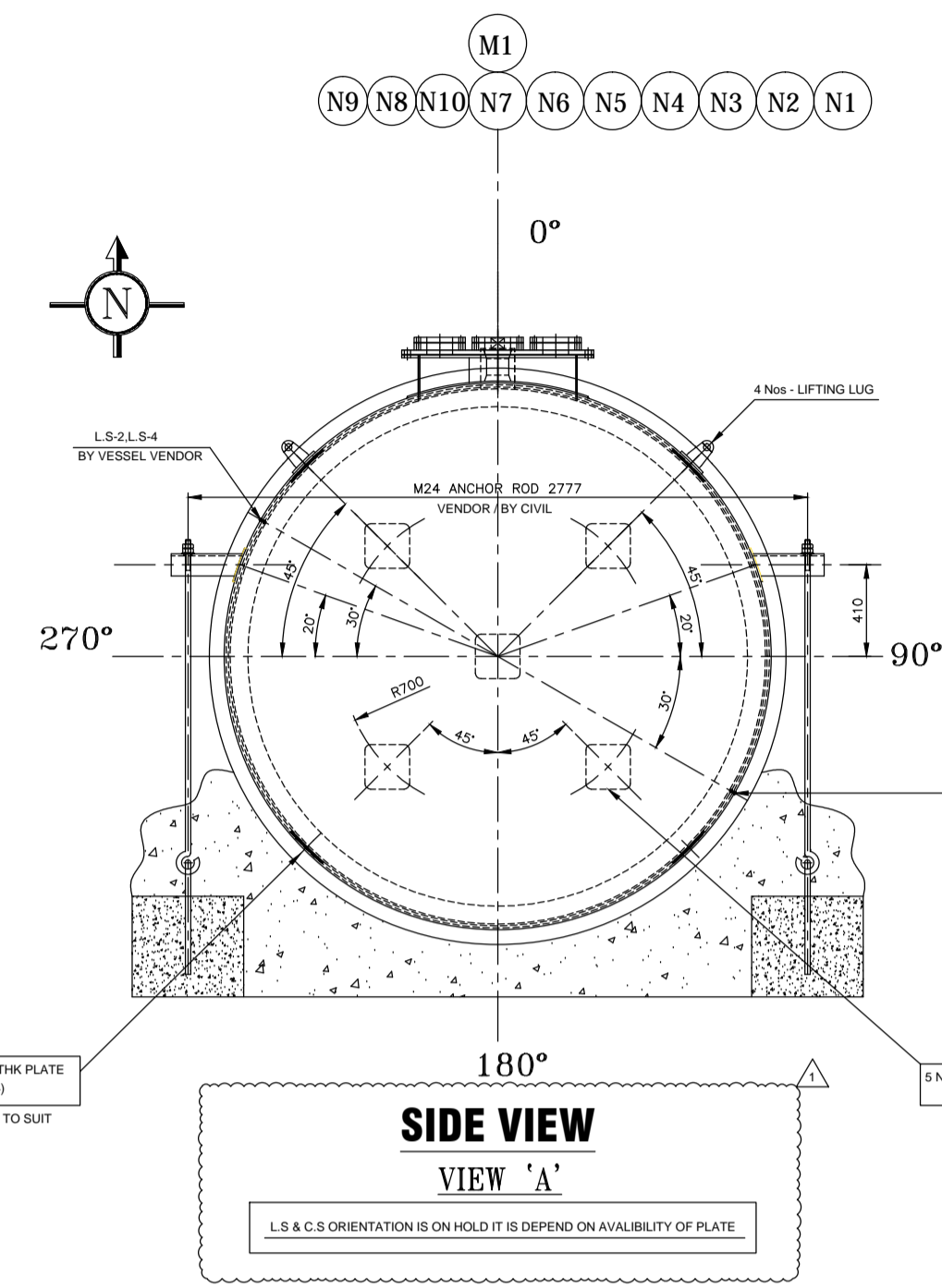


**GENERAL ARRANGEMENT FOR DOUBLE WALL UNDERGROUND STEEL STORAGE TANK**



**SIDE VIEW VIEW 'A'**

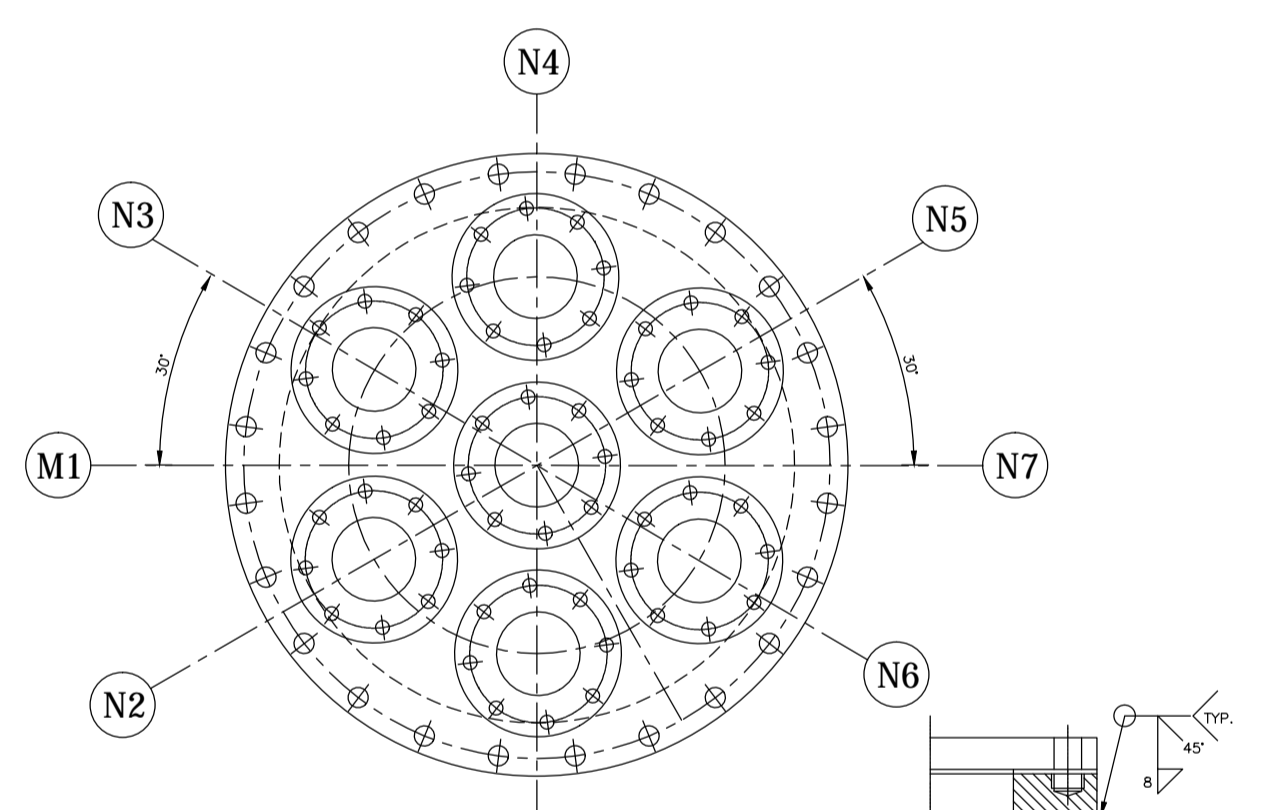
**DESIGN DATA / (HOLD)**

DESIGN CODE	ASME SECTION VIII DIV 1, EN-12285-1 B4.2018	SHELL SIDE
DESIGN PRESSURE (INT/EXT)	Kg/cm <sup>2</sup> (g)	0.35/0.071
DESIGN TEMPERATURE (INT/EXT)	°C	5/55
MAXIMUM ALLOWABLE WORKING PRESSURE	Kg/cm <sup>2</sup> (g)	AS PER CODE
OPERATING PRESSURE	Kg/cm <sup>2</sup> (g)	ATM
SPECIFIC GRAVITY	-	0.754-0.84
OPERATING TEMPERATURE	°C	AMBIENT
M.D.M.T @ DESIGN PRESSURE	°C	-5
UNALLOWABLE EXTERNAL WORKING PRESSURE	Kg/cm <sup>2</sup> (g)	-
HYDROTEST PRESSURE SHOP	Kg/cm <sup>2</sup> (g)	1.1 (PROTOTYPE) EXT. 0.6 (PROTOTYPE) INT.
HYDROTEST PRESSURE SHOP	Kg/cm <sup>2</sup> (g)	0.75 (REGULAR) EXT. 0.3 (REGULAR) INT.
HYDROTEST POSITION	-	HORIZONTAL
HYDROTEST TEMPERATURE	°C	(MAX.) (MIN.)
PNEUMATIC TEST PRESSURE	NA	-
CORROSION ALLOWANCE	mm.	SHELL 1.5 / HEAD 1.5
JOINT EFFICIENCY (SHELL/DISH)	-	0.7
RADIOGRAPHY (SHELL/DISH)	-	NIL
HEAT TREATMENT	-	NA
IMPACT TEST	-	EXEMPTED AS PER CODE
(UG-22) LOADINGS	-	NA
HEAT TRANSFER AREA	m <sup>2</sup>	NA
INSULATION (HOT/COLD) (BY OTHERS)	mm.	NA
FIRE PROOFING (THK./TYPE) (BY OTHERS)	mm.	NA
PAINTING	-	AS PER SPEC./CODE
LETHAL SERVICES	-	NA
PROCESS FLUID/DENSITY	kg/L	1.1 (FOR CLASS A)
SEISMIC DESIGN CODE / ZONE	-	ISI893 Part-1 and Part-4 Latest Edition/5
WIND DESIGN CODE / WIND SPEED	-	NA
NB REGISTRATION	-	NOT REQUIRED
ASME CERTIFICATION MARK	-	NOT REQUIRED
INSPECTION BY	-	CLIENT / TPI
TOTAL CAPACITY	m <sup>3</sup>	50 KL
WEIGHTS (REMARK)	Kg	-
FABRICATED	Kg	-
OPERATING	Kg	56950
HYDROTEST (SHOP/SITE)	Kg	67650
EMPTY WEIGHT	Kg	14950

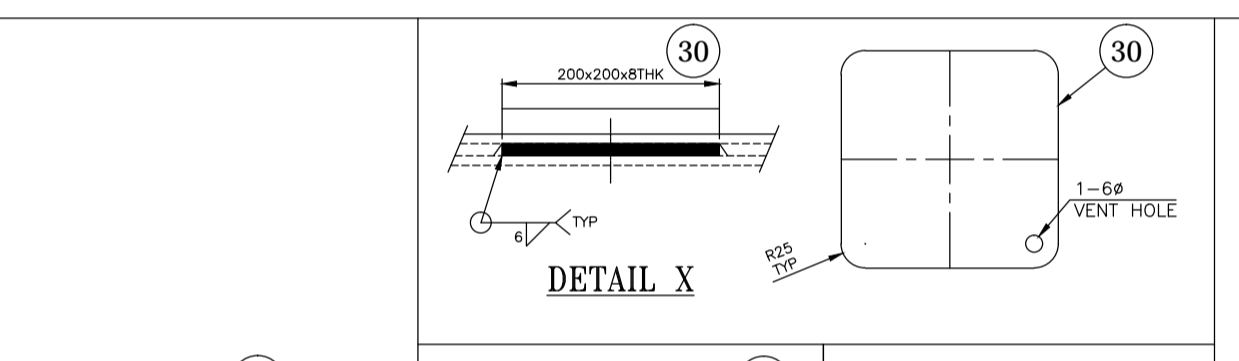
- NOTES:**
- ALL DIMENSIONS ARE IN MM EXCEPT SPECIFIED OTHERWISE.
  - COLLAR IS IN VENDOR'S SCOPE AND CONTINUOUS FILLET WELD ON INNER AND OUTSIDE OF COLLAR TO BE TESTED AT SHOP.
  - SERVICE FLUID- ETHANOL BLENDING GASOLINE / BIODIESEL / MS / HSD / HIGH STAINC W/MS WITH ADDITIVES / HSD WITH ADDITIVES.
  - ALL APPLICABLE REQUIREMENTS AS PER APPLICABLE CODES / SPEC. / GUIDE LINES SHALL BE COMPLIED BY VENDOR.
  - FLANGE BOLT HOLES SHALL STRADDLE THE MAIN AXIS OF THE VESSEL UNLESS OTHERWISE INDICATED.
  - POST APPROVAL SHALL BE IN REM. TEAM'S SCOPE.
  - TOLERANCE ON THICKNESS SHALL BE POSITIVE ONLY.
  - DIP STICK LEVEL MARKING SHALL BE IN CENTIMETER.
  - DIP ROD AND DIP CAP WITH LOCKING ARRANGEMENT SHALL BE PROVIDED ON TANK, DIP ROD SHALL BE OF ALUMINUM DIP CAP SHALL BE OF CAST ALUMINUM.
  - ALL BOLTS SHALL HAVE 3mm DRILLED HOLE AT THE END FOR SEALING WIRE.
  - ALL FILLETS WELDS SHALL BE 100% PT EXAMINED.
  - INTERNAL STIFFENER TO BE PROVIDED WITH A NOTCH AT TOP AND BOTTOM FOR FLUID FLOW.
  - PAINTING SHALL BE DONE AS PER SPECIFICATION SS-NM-1003.
  - 95% OF NOMINAL CAPACITY+ LICENSED CAPACITY-LENGTH OF TANK IS BEDDED ON THE NOMINAL CAPACITY OF TANK.
  - THE TANKS ARE DESIGNED FOR FOLLOWING PARAMETERS:  
INTERNAL PRESSURE FOR INNER TANK : 0.35 kg/cm<sup>2</sup> + STATIC HEAD + INTERSTITIAL SPACE VACUUM OF 5 psi  
EXTERNAL PRESSURE FOR INNER TANK : 0.071 kg/cm<sup>2</sup> (or per CODE OF 201)  
INTERNAL PRESSURE FOR OUTER TANK : DESIGNED FOR STATIC HEAD IN CASE OF INNER TANK LEAKAGE  
EXTERNAL PRESSURE FOR OUTER TANK : A) BURIAL DEPTH SHALL BE 2100mm WHICH INCLUDES 200mm CONCRETE PAD. (DENSITY OF 1800 kg/m<sup>3</sup> + LIVE LOAD (9 T PER FT<sup>2</sup>) + INTERSTITIAL SPACE VACUUM OF 5 psi.  
B) BACKFILL LOAD DUE TO SOIL LOAD FROM BURIAL DEPTH OF 1200 mm to 2100 mm (DENSITY OF 1800 kg/m<sup>3</sup>) + INTERSTITIAL SPACE VACUUM OF 5 psi.
  - IMMEDIATE AFTER HYDROTEST, THE VESSEL SHALL BE DEMATERED, DRAINED AND THOROUGHLY CLEANED AND DRIED AS PER APPROVED CLEANING AND DRYING PROCEDURE.
  - SUCTION PIPE / FILL PIPE WHEREVER REQUIRED WILL BE IN SCOPE OF VENDOR ONLY. BIDDER TO PROVIDE OPTIONAL PRICE FOR SAME IN THEIR OFFER. THE BOLT LENGTH WILL INCREASE ACCORDINGLY DUE TO ADDITIONAL FLANGE FOR THESE PIPES.
  - DURING TRANSPORTATION ALL FLANGED OPENING SHALL BE PROTECTED BY USING 4 TO 6mm CS OR WOODEN COVER WITH M4 X NOS BOLTS.
  - NOZZLE 2" NPS & BELOW SHALL BE STIFFENED WITH 2 NOS 40 x 6 THK STIFFENERS AT 90° A PART.
  - NOZZLE PROJECTION IS FROM C.L FROM VESSEL TO GASKET FACE OF FLANGE UNLESS OTHERWISE SPECIFIED.
  - ALL NOZZLE REINFORCING PAD SHALL HAVE 1/4" NPT TELL TALE HOLE & TO BE PNEUMATICALLY TESTED AT LEAST IS PSG.
  - APPLY LIQUID SOAP SOLUTION ON ALL WELDS, TELL TALE HOLE SHALL BE FILLED WITH GREASE AFTER HYDROTEST.
  - ALL FLANGE / BOLTING / LIFTING LUG / BACKING RING / ANCHOR RODS HAVE TO BE HDG (HOT DIP GALVANISED)

	EMPTY	14950	kg
OPERATING (MAX.)	56950	kg	
TEST	67650	kg	

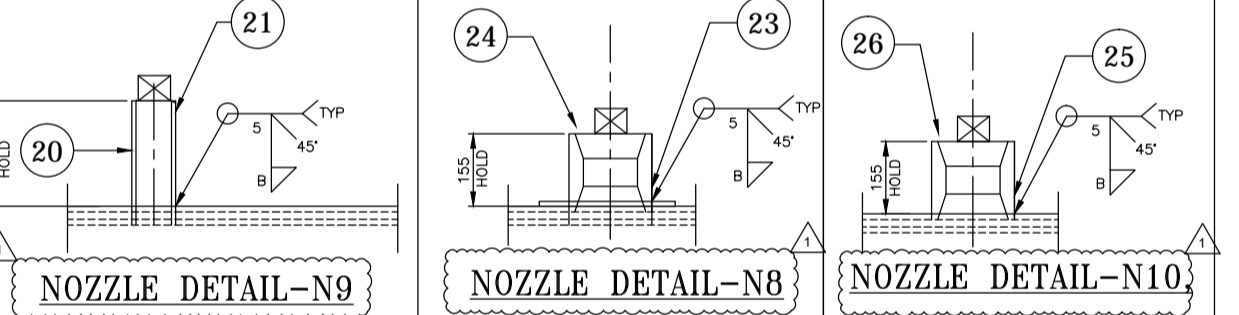
**WEIGHTS INNER & OUTER TANKS BOTH COMBINED FOR 50KL**



**PLAN MANHOLE COVER DETAIL**



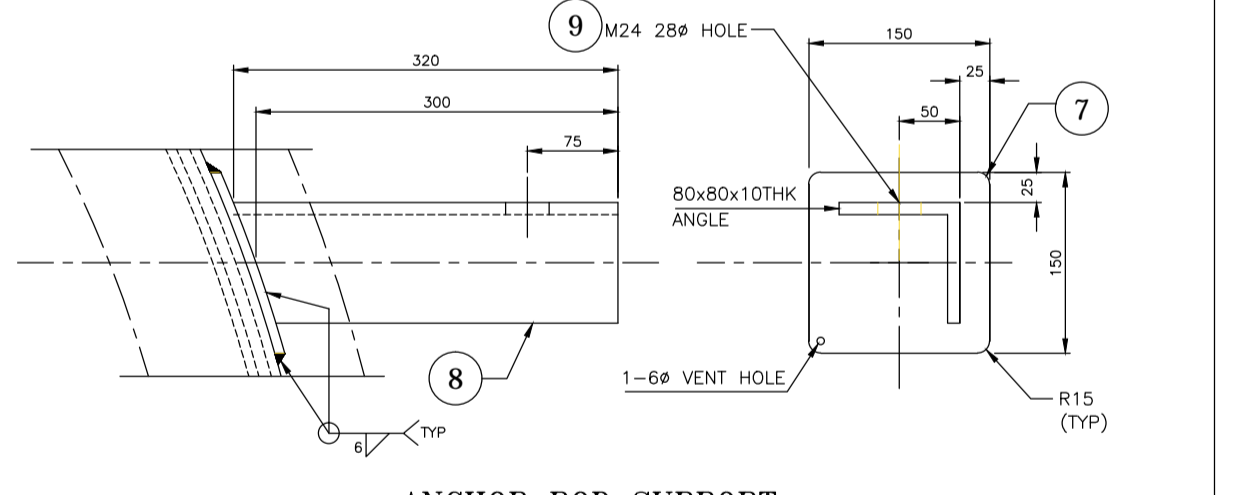
**DETAIL X**



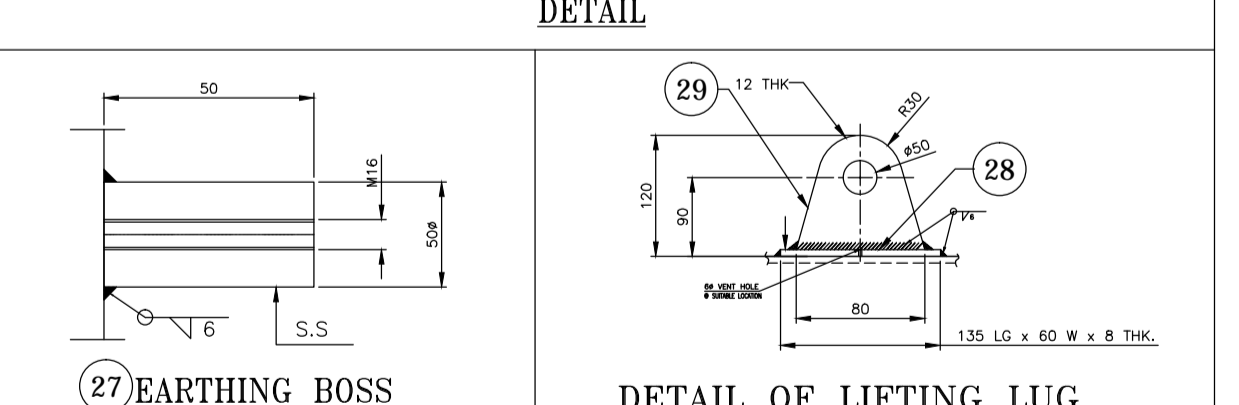
**NOZZLE DETAIL-N9**

**NOZZLE DETAIL-N8**

**NOZZLE DETAIL-N10**



**ANCHOR ROD SUPPORT DETAIL**

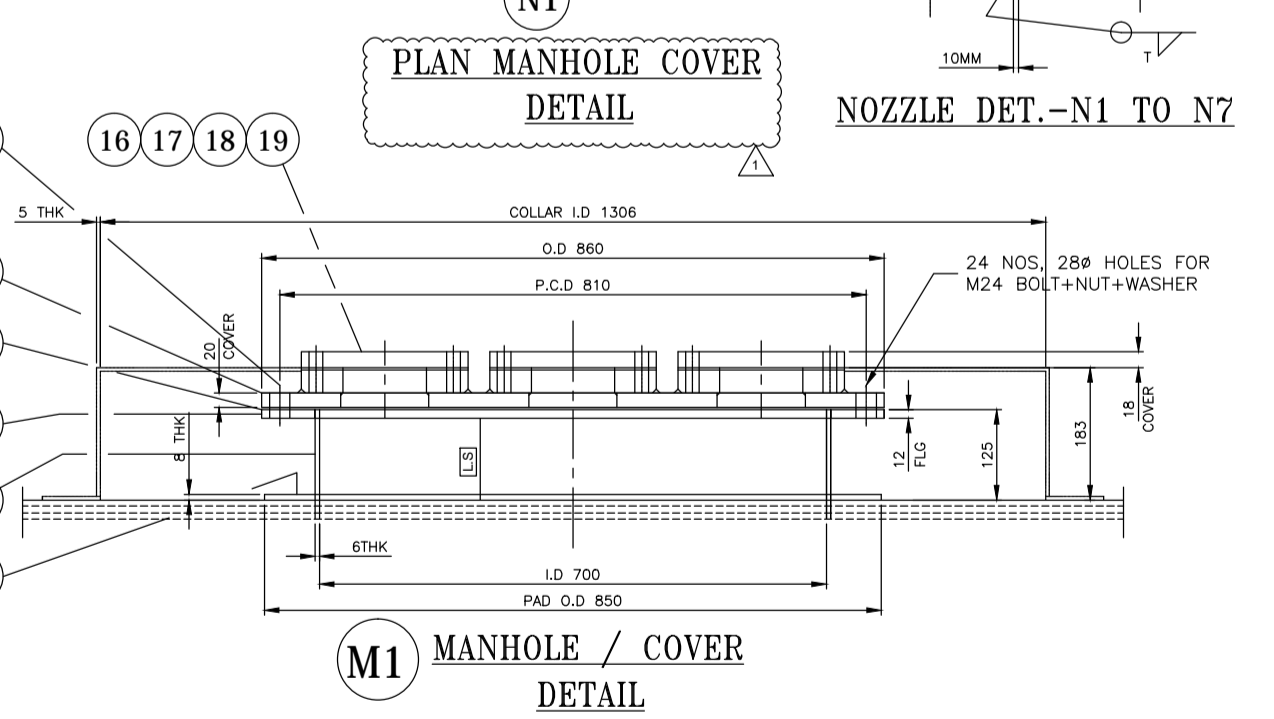


**27) EARTHING BOSS**

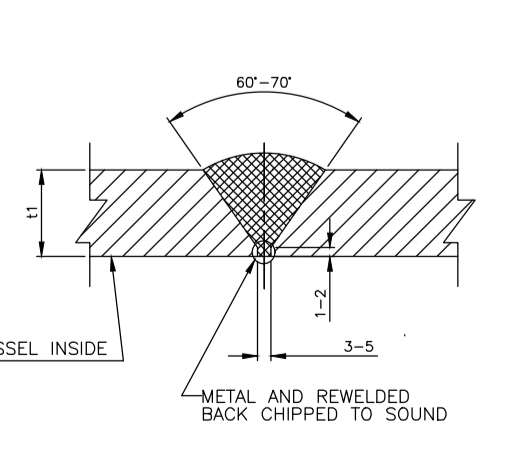
**DETAIL OF LIFTING LUG**

**NOZZLE SCHEDULE**

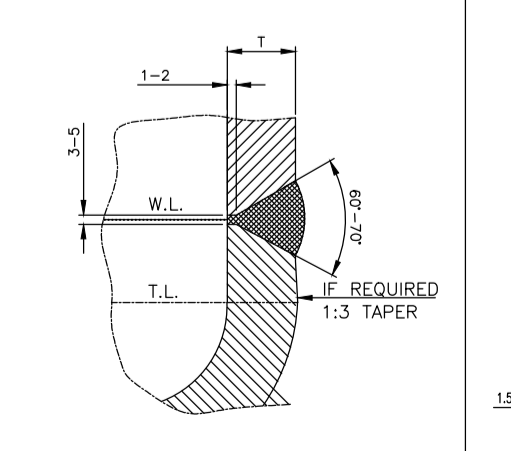
TAG	QTY	SERVICES	NOZZLE NECK	FACE	REMARKS
N10	1	LEAK DETECTION SYSTEM	4" 100	-	SOCKET NP (F) BSP THREADED (NOZZLE ON OUTER SHELL INSIDE MANHOLE SUMP)
M1	1	MANWAY	28" 700	6	SORF MANHOLE I/O/OD =700 / 860 MM MANHOLE FLANGE THK=12 MM BOLT NOS X HOLE SIZE X BCD= 24 X 28 MM X 810 MM COLLAR ID= 1306MM
N9	1	MANUAL DIP	2" 50	-	SORF
N8	1	ATG	4" 115	-	SORF (R.F PAD 250 X 8 THK)
N7	1	SPARE	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N6	1	VENT	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N5	1	FILL LINE	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N4	1	VENT	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N3	1	STP/SPARE /SUCTION	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N2	1	SPARE /SUCTION	4" 115	-	SORF WITH BLIND FLANGE = 18mm
N1	1	STP/SPARE /SUCTION	4" 115	-	SORF WITH BLIND FLANGE = 18mm
		NPS	MIN ID THK / PWT	SCH. RATING	FACE



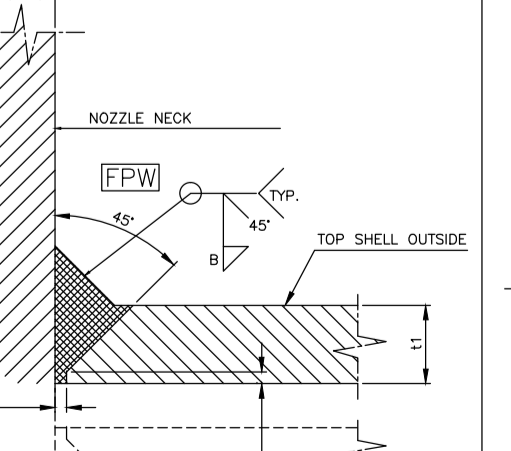
**M1 MANHOLE / COVER DETAIL**



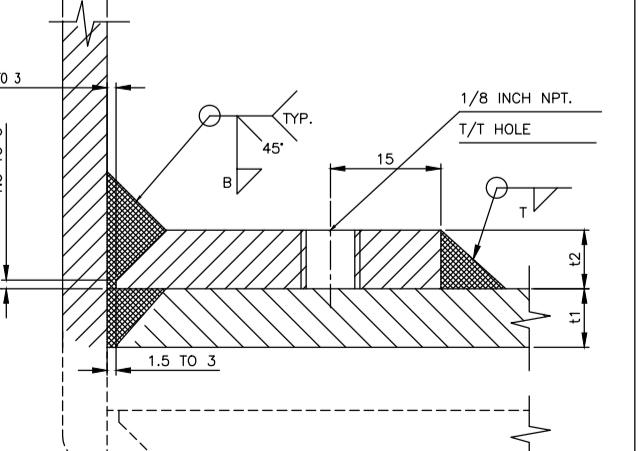
**DETAIL 'W1' SHELL TO SHELL WELD DETAIL**



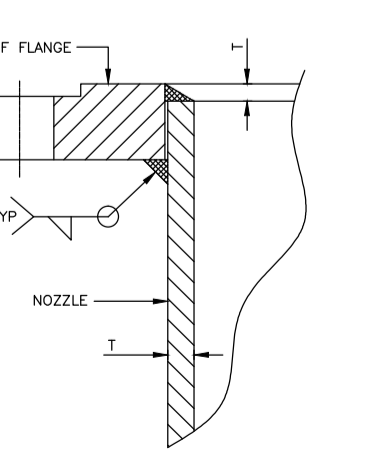
**DETAIL 'W2' SHELL TO DISHED END WELD DETAIL**



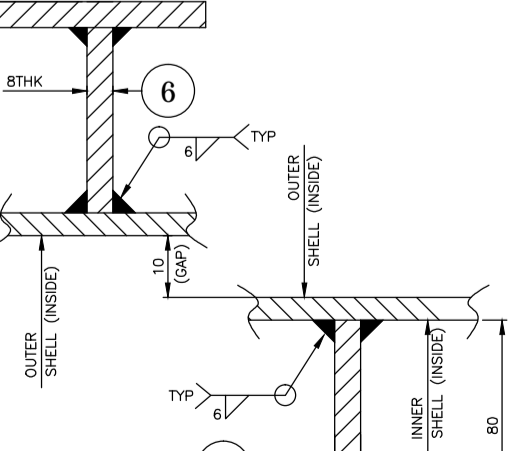
**WELDING DETAIL 'W3' OF VESSEL TO NOZZLE NECK**



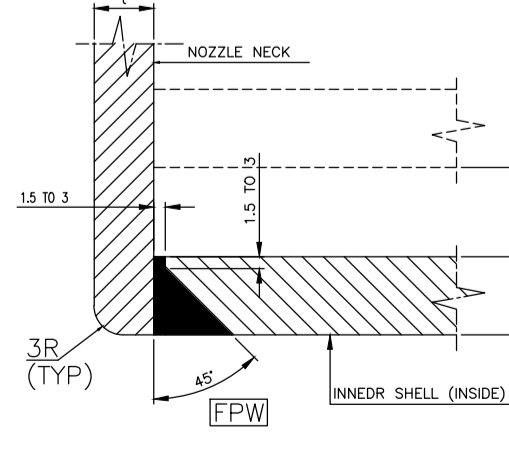
**WELDING DETAILS 'W4' SHELL TO NOZZLE NECK WITH RF PAD**



**TYP NOZZLE TO SORF FLANGE WELD JOINT DETAIL 'W5'**



**STIFFENER RING DETAIL DETAIL 'W6'**



**WELDING DETAIL 'W7' OF VESSEL TO NOZZLE NECK**

**BILL OF MATERIAL**

REV NO	DATE	PURPOSE	PERP BY	REV BY	APPD BY

**TITLE :- GENERAL ARRANGEMENT DRAWING FOR 50 KL TANK, DOUBLE WALL, STEEL**

DRAWN	CHECKED	APPD

**SHEET NO. 1**  
SCALE 1:1 QTY :- 5nos