

LIGHTENING ARRESTER (LA)

AVIATION LIGHT

MW ANTETENNA MOUNTING
ARRANGEMENT

GSM ANTETENNA MOUNTING
ARRANGEMENT

LADDER/CABLE PLAN

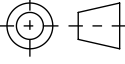
HORIZONTAL
CABLE GANTRY

FOUNDATION PLAN

SECTION A-A
SCALE 1 : 45

SECTION C-C
SCALE 1 : 85

NOTE:-
ALL DIMENSIONS ARE IN MM

	NAME	SIGNATURE	DATE	TOLERANCE:	SCALE:1:110	DRW. NO:	DRW. NAME:
DRAWN BY:	PRAM	PRAM	29-11-2025	ISO 2768-m		IPS-35M-3L-BT-6G2M	35 METER TOWER
DESIGNED BY:	SUJITH	SUJITH	29-11-2025			REV 0	PROJECT NAME:
CHECKED BY:	SUJITH	SUJITH	29-11-2025			SHEET NO: 1 OF 1	BHUTAN TELECOM
						SIZE: A3	

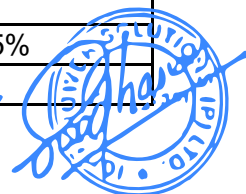
ICON POWER SOLUTIONS(P) LTD.
112-113,Sector-5,IMT Manesar,
Gurugram,Haryana,INDIA-122050
TEL : +91 124 4120600/01/02

ICON POWER SOLUTIONS PVT LTD

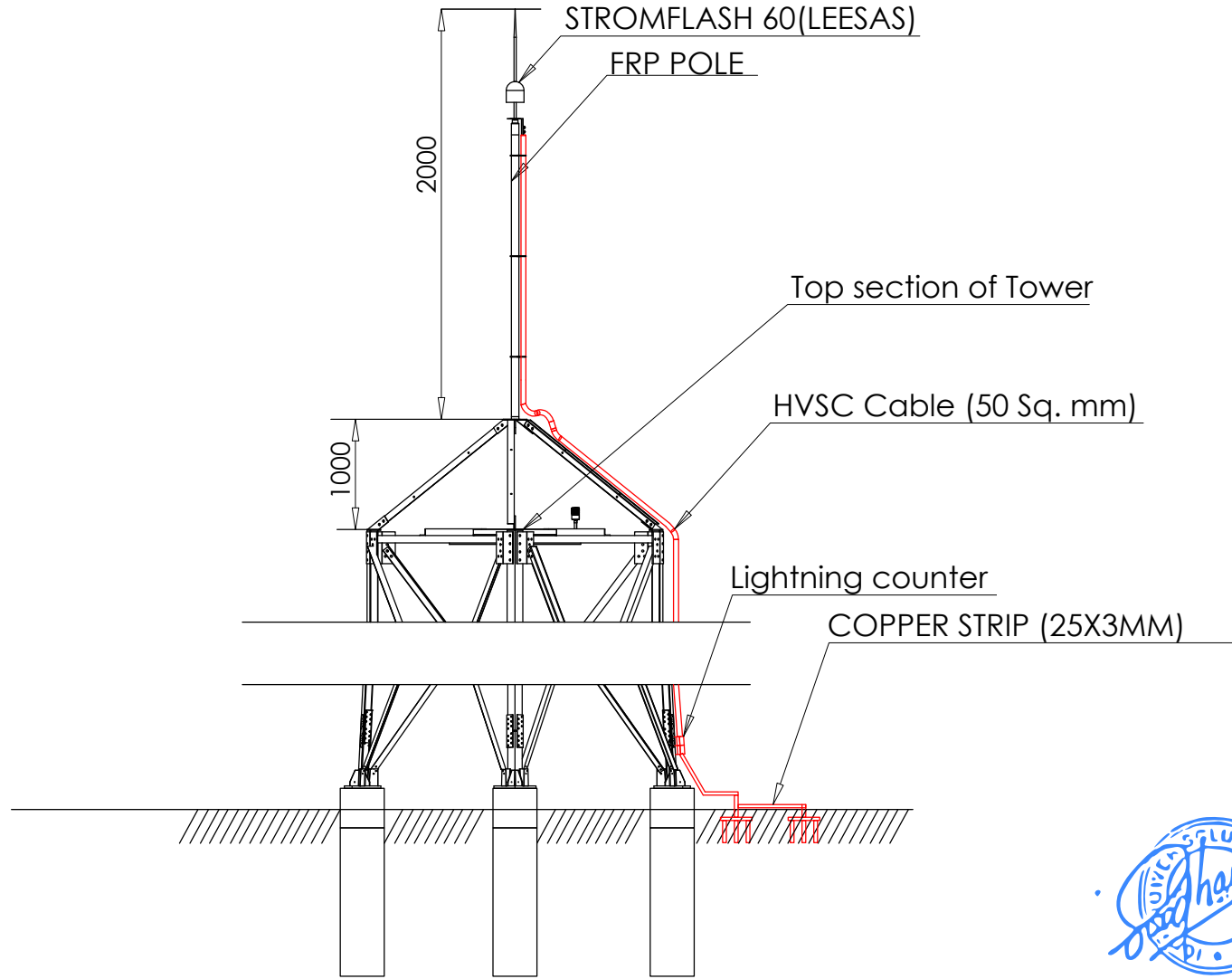
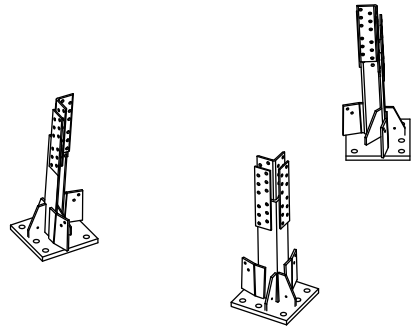
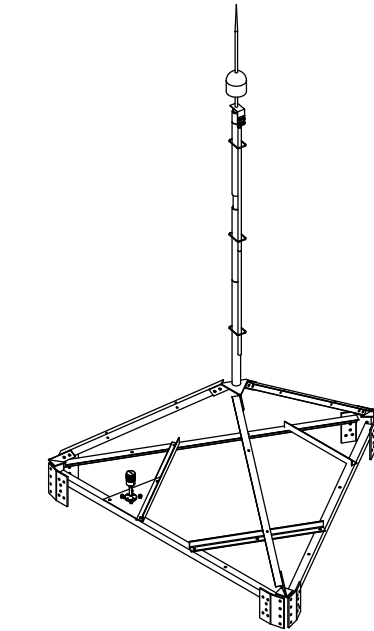
112 113, Sector 5, IMT Manesar, Gurgaon - 122050, Haryana

Technical Specification sheet of 35MTR 3 Legged Triangular Tower

S.No.		DESCRIPTION	DETAILS	REMARK
1		<u>DESIGN SPECIFICATION</u>	(ANSI/TIA-222G)	
	1.1	Design Wind Velocity		
		Survival	150 KMPH	
		Operational	105 KMPH	
	1.2	Twist & Sway	Less than <.5 degree	
	1.3	Factor of Safety	1.2 For Dead Load	
			1.6 For Wind Load	
	1.4	Antenna Loading		
		GSM Antenna	6 nos.	200 Kg
		RRU	6 nos.	90 Kg
		1.2 Dia MW Antenna	2nos.	100 Kg
	1.5	Antenna Pole Mount stand	As per requirement	
2		Obstruction Light System		
	2.1	No .Of Obstruction Light Lamp&Watts	1 No. LED Type	
	2.2	Power Cable Type&Length	2.5 Sqmm x 45 mtr. Length	2 core armoured
3		Lighting Protection & Earthing System(Grounding system)		
	3.1	Lightning Arrestor	Lightning Arrestor (ESE) STORMFLASH 60 (LEESAS)	1 nos with FRP mast and HVSC cable & Counter
4	4.1	Structure Of Tower	Self Suppprtng 3 legged Angular construction with vertical ladder in the center intergrated with cable tray & horizontal cable tray from tower to Building	
	4.2	Main Leg	90 Degree Angle	
	4.3	Bracing	90 Degree Angle	
	4.4	Climbing Ladder	450 mm Rung Width, 300mm Rung space & 700mm Hoop	
	4.5	Cable Tray Verticle	450 mm Width	along the tower Height
	4.6	Cable Tray Horizontal	450 mm Width	6 MTR.
	4.7	Steel Type	Mild Steel - E 250	
	4.8	Platforms		
		Working	2 Nos	27.5 & 32.5 Mtr
		Rest	1 Nos.	15 mtr
5	5.1	Foundation bolt & Template	As Per Tower Design	Included
	5.2	Bolts & Nut with spring &	Hot Dipped Galvanized Property Class 5.6	Extra 2%
		Plane washer	As per Standard ASTM A 153	
	5.3	Size	As per Design Specs.	
6	6.0	Hot Dipped Galvanization	As per Standard ISO 1461	85 Microns
7		<u>Others to be specified</u>		
	7.1	Weight Per Tower	6150 Kg	(+/-) 5%
	7.2	Drawing No.	IPS-35M-3L-BT-6G2M	



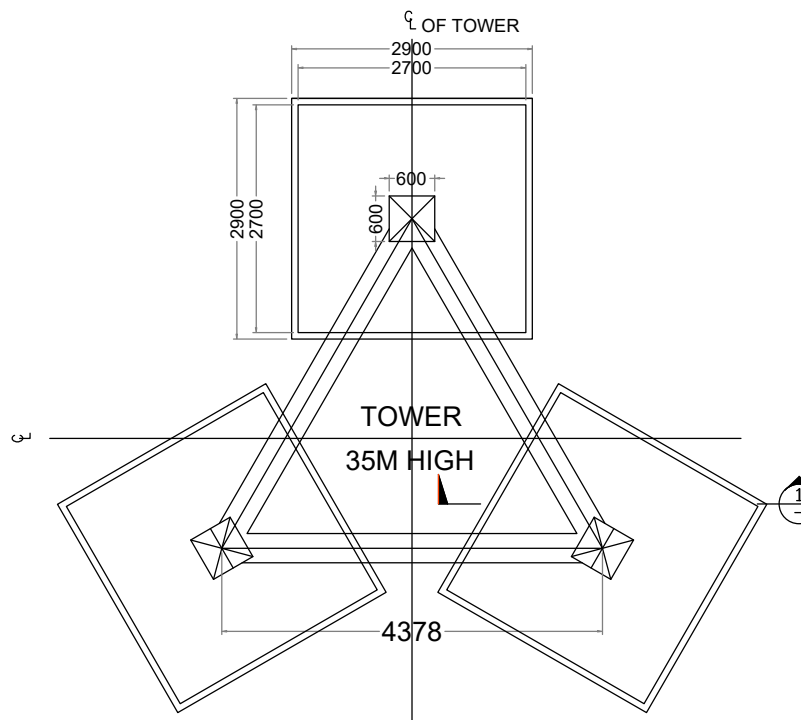
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF ICON POWER SOLUTIONS (P) LTD.
AND MAY NOT BE REPRODUCED, COPIED, DISCLOSED OR UTILIZED IN ANY WAY, IN WHOLE OR
IN PART, WITHOUT THE PRIOR WRITTEN CONSENT OF ICON POWER SOLUTIONS (P) LTD.



	NAME	SIGNATURE	DATE	CHANGES	NAME	SIGNATURE	DATE	NO:	TOLERANCE:	SCALE: 1:50	DRW. NO:	DRW. NAME:
DRAWN BY:	PANKAJ	PANKAJ	03-12-2025						X ±		LA-ASSY-3LEG TOWER	LIGHTING ARRESTOR MOUNTING ARRANGEMENT-3LEG
DESIGNED BY:	SUJITH	SUJITH	03-12-2025						X.X ±		REV 0	PROJECT NAME:
CHECKED BY:	SUJITH	SUJITH	03-12-2025						X.XX ±			BHUTAN TELECOM LTD 2026
									X.XXX ±			
									ANGLES ±			



ICON POWER SOLUTIONS(P) LTD.
112-113, Sector-5, IMT Manesar,
Gurugram, Haryana, INDIA-122050
TEL : +91 124 4120600/01/02



LOCK NUT

NUT

PLAN WASHER

BASE PLATE TOP

BOLT-M32X1050
6NOS. IN EACH LEG

MS PLATE
PL80X80X8

ANCHOR BOLT

600

600

TIES
B8@150C/C

12 -B20

SECTION 2

COLUMN 600X600

Technical drawing of a tie beam showing cross-section and elevation views with dimensions and reinforcement details.

Cross-section (Left):

- Overall width: 230
- Overall height: 350
- Reinforcement: 2-B16 (top and bottom)

Elevation (Right):

- Overall height: 250
- End flange width: 50
- Span lengths: S1 = 980, S2 = 980
- Reinforcement: 3-11 (top)

SECTION 3

TIE BEAM (TYP DETAILS)

STIRRUP DETAILS

- S1-2 LEGGED Y8 @ 100 C/C
- S2-2 LEGGED Y8 @ 200 C/C

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. USE M20 GRADE CONCRETE AND Fe 415 GRADE FOR STEEL.
3. CLEAR COVER TO MAIN REINFORCEMENT:-
 - (a) 50MM FOR FOUNDATION
 - (b) 25MM FOR BEAMS
 - (c) 40MM FOR COLUMNS
4. PRIOR TO AND DURING CONCRETING ALL BOLTS SHALL BE SECURELY HELD IN POSITION BY USE OF TEMPLATE.
5. BEFORE COMMENCEMENT OF CONSTRUCTION USING THIS DESIGN, CLIENT/CONTRACTOR SHALL CARRY OUT DETAILED SOIL INVESTIGATION OF EVERY SITE.
6. THIS FOUNDATION DESIGN SHALL NOT BE USED IN CASE HIGHLY SOIL ARE FOUND AT ANY DEPTH DURING SOIL INVESTIGATION.
7. CONCRETE SHALL BE MECHANICALLY MIXED & VIBRATED.
8. SPLICING OF BARS SHALL NOT BE MORE THAN 50% AT ANY LOCATION.
9. PROPER CURING OF CONCRETE SHALL BE DONE.
10. TENDING OF BARS SHALL BE PER S-260.
11. ANY DISCREPANCY SHOULD BE BROUGHT TO THE CONSULTANT'S ATTENTION.

S.No	DESCRIPTION	DETAILS
1	SOIL BEARING CAPACITY	10.00 T/SQM
2	DRY DENSITY OF SOIL	1.8 T/SQM
3	ANGLE OF REPOSE	30.00 DEGREE

ITEM	UNIT	TOTAL
EXCAVATION	CUM	78.32
PCC-(1:4:8)	CUM	2.52
RCC-M20	CUM	12.96
STEEL-Fe415	KG	1111.07

CHAIRS SHALL BE PROVIDED WHEREEVER REQUIRED

REV. NO.	DESCRIPTION		DATE
DRAWN	CHECKED	APPROVED	SCALE
HEMANT	SUJITH	SUJITH	01-12-2025
			NTS

CLIENT:

BHUTAN TELECOM

DESIGN BY: ICON POWER SOLUTIONS PVT. LTD.
GURGAON

PROJECT:	NETWORK EXPANSION 2025
----------	------------------------

TITLE : FOUNDATION DETAILS FOR 35M HIGH TRIANGULAR TOWER
SBC : 10 T/SQM

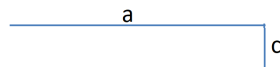
	DRAWING No.	SH. NO.	REV.
	IPS-35M-3L-BT-6G2M	1 OF 2	01

IPS-35M-3L-BT-6G2M Tower Bar Bending Schedule



Type A

Type C

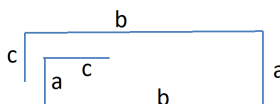


Cover Slab 50 mm



Type B

Type D



Column 40 mm

Beam 25 mm

Item	Position	Type	Dia. Of Rebar	Size	Size	Size	Length	Qty in Nos both ways or total	Unit wt (kg/m)	Total Weight of (kg)
				a	b	c				
				(mm)	(mm)	(mm)	(mm)			
Raft Slab	Top	B	B10	2600	250	250	3100	120	0.62	230.64
	Bottom	B	B10	2600	250	250	3100	120	0.62	230.64
Tie Beams	Top	B	B16	4378	250	250	4878	6	1.58	46.24
	Bottom	B	B16	4378	250	250	4878	6	1.58	46.24
	Strips	D	B8	180	300	80	1120	87	0.40	38.98
Column	Main	C	B20	3100	0	650	3750	36	2.47	333.45
	Ties	D	B8	512	512	80	2208	63	0.40	55.64
		D	B8	512	200	80	1584	126	0.40	79.83
		Total								1111.07

* Chairs Shall be Provided whenever required

Notes :

1. Dimensions of Bars are along the Center Lines.
3. Splicing of Bars should not be more than 50%. Length of splice as per Standards.



REVISION NOTES				
REV. NO.	DESCRIPTION		DATE	SIGN.
DRAWN	CHECKED	APPROVED	DATE	SCALE
HEMANT	SUJITH	SUJITH	01-12-2025	NTS
CLIENT: BHUTAN TELECOM				
DESIGN BY: ICON POWER SOLUTIONS PVT. LTD. GURGAON				
PROJECT: NETWORK EXPANSION 2025				
TITLE : FOUNDATION DETAILS FOR 35M HIGH TRIANGULAR TOWER SBC : 10 T/SQM				
DRAWING No.		SH. NO.	REV.	
IPS-35M-3L-BT-6G2M		2 OF 2	01	