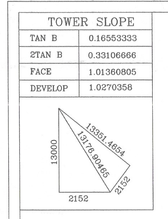
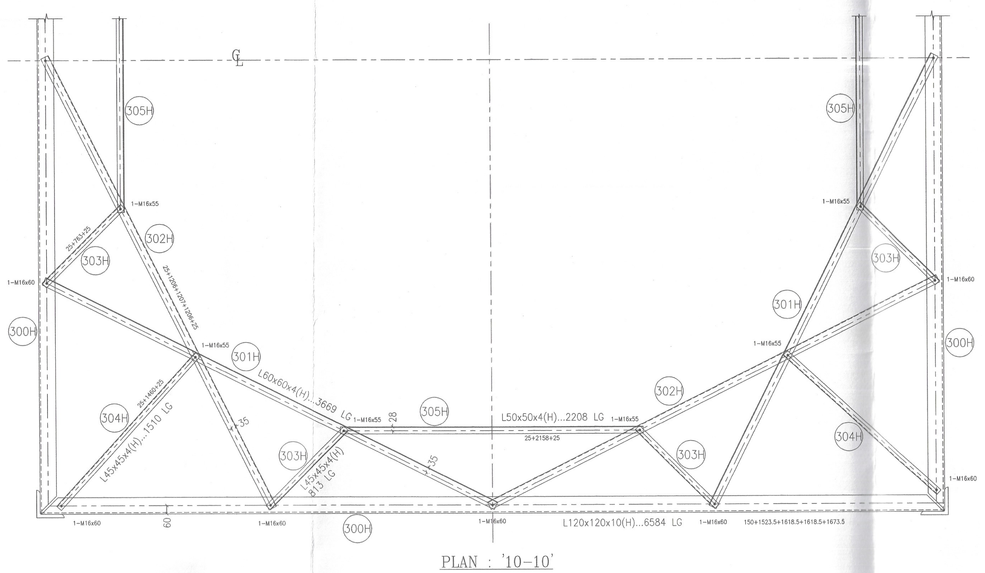
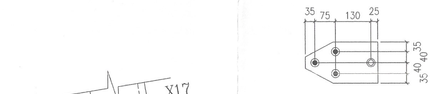
TOWER SLOPE	
TAN B	0.16583333
DTAN B	0.33106666
FACE	1.01360805
DEVELOP	1.0270358

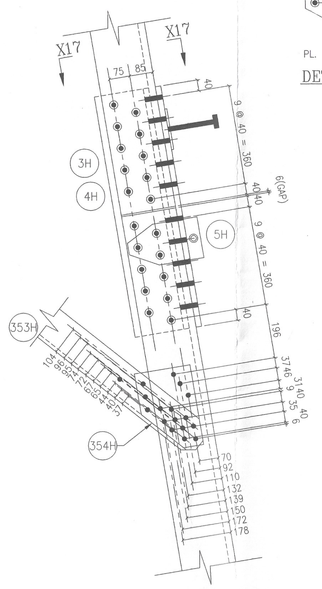




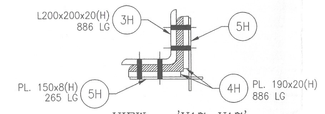
PLAN : '10-10'



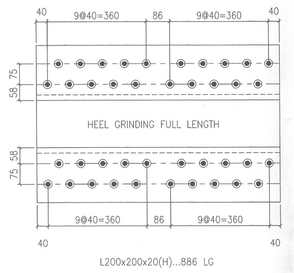
DETAIL OF 5H



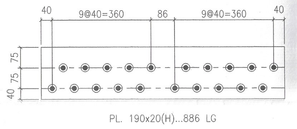
DETAIL – A17



VIEW – 'X17-X17'

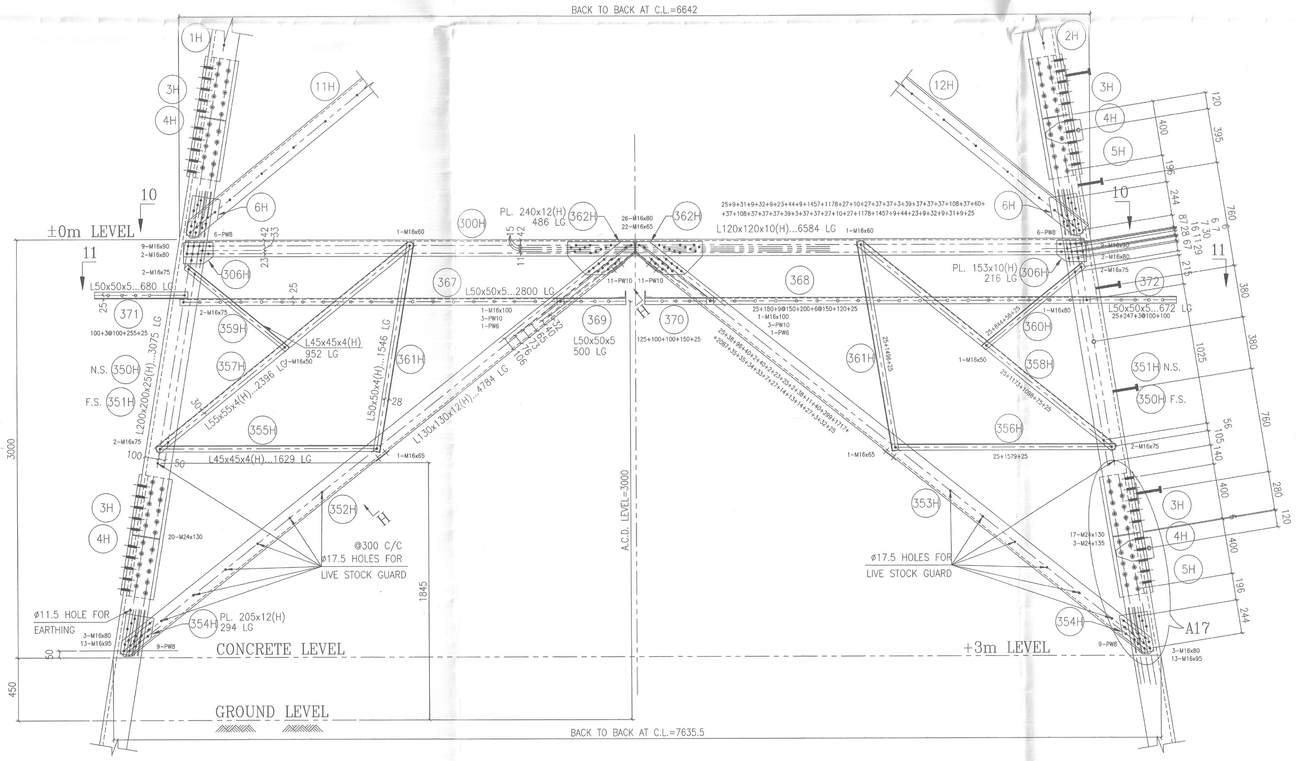


DETAIL OF 3H



DETAIL OF 4H

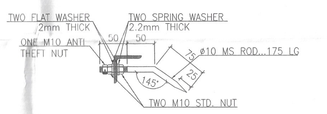
MARK NO.	QTY/TWR PC	SECTION MM	LENGTH MM	WT/MTR KG	WT/PC KG	TOTAL WT KG
2T-3H	4	L200X200X20 HT	886	60.00	53.16	212.64
2T-4H	8	PL,190X20 HT	886	157.00	26.43	211.44
2T-5H	4	PL,150X8 HT	265	62.80	2.50	10.00
2T-300H	4	L120X120X10 HT	6584	18.20	119.83	479.32
2T-301H	4	L60X60X4 HT	3689	3.70	13.58	54.32
2T-302H	4	L60X60X4 HT	3669	3.70	13.58	54.32
2T-303H	8	L45X45X4 HT	813	2.70	2.20	17.60
2T-304H	4	L45X45X4 HT	1510	2.70	4.08	16.32
2T-305H	4	L50X50X4 HT	2208	3.00	6.62	26.48
2T-306H	8	PL,153X10 HT	216	78.50	2.59	20.72
2T-350H	2	L200X200X25 HT	3075	73.90	227.24	454.48
2T-351H	2	L200X200X25 HT	3075	73.90	227.24	454.48
2T-352H	4	L130X130X12 HT	4784	23.50	112.42	449.68
2T-353H	4	L130X130X12 HT	4784	23.50	112.42	449.68
2T-354H	8	PL,205X12 HT	294	94.20	5.68	45.44
2T-355H	4	L45X45X4 HT	1629	2.70	4.40	17.60
2T-356H	4	L45X45X4 HT	1629	2.70	4.40	17.60
2T-357H	4	L55X55X4 HT	2396	3.40	8.15	32.60
2T-358H	4	L55X55X4 HT	2396	3.40	8.15	32.60
2T-359H	4	L45X45X4 HT	952	2.70	2.57	10.28
2T-360H	4	L45X45X4 HT	952	2.70	2.57	10.28
2T-361H	8	L50X50X4 HT	1546	3.00	4.64	37.12
2T-362H	8	PL,240X12 HT	486	94.20	10.99	87.92
2T-363H	4	L60X60X4 HT	2180	3.70	8.07	32.28
2T-364H	4	L65X65X4 HT	3778	4.00	15.11	60.44
2T-365H	4	L65X65X4 HT	3778	4.00	15.11	60.44
2T-366H	16	PL,120X6 HT	165	47.10	0.93	14.88
TOTAL (BLACK WEIGHT)						3370.96
Bill of material for NO. PL. DN. PL. & A.C.D. Members used for +3m Extn.						
2T-39	2	FL50X5	664	2.00	1.33	2.66
2T-40	2	FL50X5	1093	2.00	2.19	4.38
2T-367	4	L50X50X5	2800	3.80	10.64	42.56
2T-368	4	L50X50X5	2800	3.80	10.64	42.56
2T-369	4	L50X50X5	500	3.80	1.90	7.60
2T-370	4	L50X50X5	500	3.80	1.90	7.60
2T-371	4	L50X50X5	680	3.80	2.58	10.32
2T-372	4	L50X50X5	672	3.80	2.55	10.20
2T-373	4	L50X50X5	757	3.80	2.88	11.52
2T-374	4	L50X50X5	4730	3.80	17.97	71.88
SPIKE	344	ø10 ROD	175	0.81	0.14	48.16
TOTAL						259.44
GRAND TOTAL (BLACK WEIGHT)						3630.40
GRAND TOTAL WITH 3.5% GALVANIZING WEIGHT						3757.46



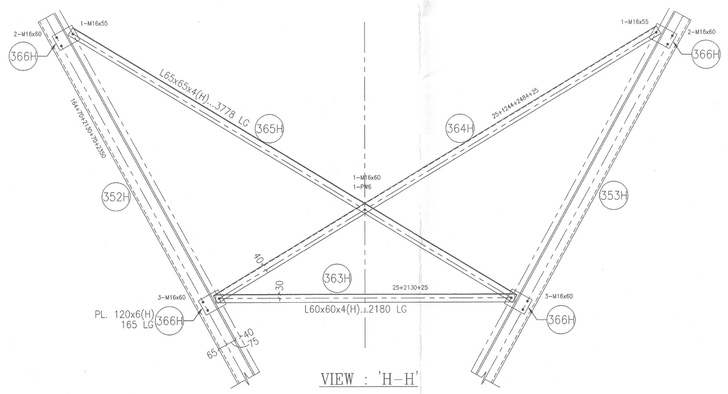
TRANSVERSE & LONGITUDINAL FACE

Bill of material for M.S.Hot Dip Galvanized Anti Theft Bolts & Nuts , Grade 5.6/S							
	QTY		LENGTH	QTY With 5%	UNIT Wt.(Kg)	Wt. (Kg)	Wt.(Kg) With 5%
HRH Bolts & Nuts	10	M16	50	11	0.146	1.46	1.61
do	38	M16	55	40	0.154	5.85	6.16
do	68	M16	60	71	0.162	11.02	11.50
do	96	M16	65	101	0.170	16.32	17.17
do	40	M16	75	42	0.186	7.44	7.81
do	148	M16	80	155	0.194	28.71	30.07
do	72	M16	90	76	0.210	15.12	15.96
do	104	M16	95	109	0.218	22.67	23.76
do	8	M16	100	8	0.226	1.81	1.81
H.D.G.Step Bolts	12	M16	270	13	0.560	6.72	7.28
ANTI THEFT NUT	596	FOR M16		626	0.031	18.48	19.41
ANTI THEFT NUT	344	FOR M10		361	0.009	3.10	3.25
H.D.G.Spring Washers	596	FOR M16		626	0.009	5.36	5.63
H.D.G.Flat Washers	596	FOR M16		626	0.011	6.56	6.89
H.D.G.Pack Washers to suit M16 Bolt							
do	0		5thk	0	0.018	0.00	0.00
do	12		6thk	13	0.021	0.25	0.27
do	120		8thk	126	0.028	3.36	3.53
do	112		10thk	118	0.036	4.03	4.25
TOTAL (BLACK WEIGHT)						158.26	166.35
	QTY		LENGTH	QTY With 5%	UNIT Wt.(Kg)	Wt. (Kg)	Wt.(Kg) With 5%
HRH Bolts & Nuts	148	M24	130	155	0.683	101.08	105.87
do	12	M24	135	13	0.701	8.41	9.11
ANTI THEFT NUT	160	FOR M24		168	0.102	16.32	17.14
H.D.G.Spring Washers	160	FOR M24		168	0.260	41.60	43.68
H.D.G.Flat Washers	160	FOR M24		168	0.300	48.00	50.40
TOTAL (BLACK WEIGHT)						215.42	226.19
TOTAL WITH 3.5% GALVANIZING WEIGHT						386.75	406.29

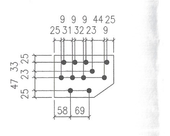
PLAN : '11-11'



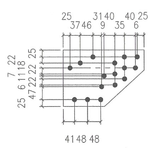
DETAIL OF A.C.D. SPIKE



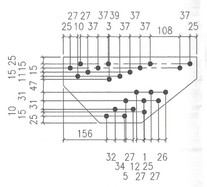
VIEW : 'H-H'



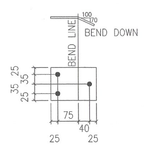
DETAIL OF 306H



DETAIL OF 354H



DETAIL OF 362H



DETAIL OF 366H

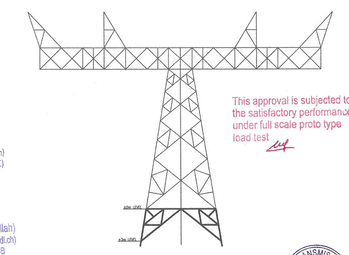
POWER Grid Corporation of Bangladesh Ltd.
APPROVED WITH COMMENTS
This approval is general only and does not Release the manufacturer/contractor/supplier from compliance with specifications and Standards for Design workmanship and Performance as stipulated in the contract

(Ahmed Shafkat Masnoon)
Assistant Engineer
TLD & QC, PGCB, Dhaka.

(Engr. Muhammad Mahmudul Islam)
Executive Engineer (TLD & QC)
PGCB Ltd.

(Syed Md. Sahriar Abdullah)
Superintending Engineer (Addl.ch)
TLD, Design & QC, PGCB

0 1 AUG 2022



This approval is subjected to the satisfactory performance under full scale prototype load test

MARK NO. 3H,4H,5H,300H-306H 350H-374

NOTES :
1. ALL DIMENSIONS ARE IN MM.
2. HOLES ARE 284 FOR 24ø BOLTS & 17.5ø FOR 16ø BOLTS UNLESS OTHERWISE NOTED.
3. MILD STEEL ANGLES & PLATES SHALL CONFORM BSEN10025 OR S275JR.
4. HIGH TENSILE STEEL ANGLES & PLATES SHALL CONFORM BSEN 10025 OR S355JO FOR ≤16 & S345JO FOR >16.
5. BOLTS SHALL BE AS PER ISO 898 & GR 5.6
6. ALL MEMBERS TO BE HOT DIP GALVANIZED AS PER ISO 1461
7. ALL NUTS SHALL BE SECURED BY SPRING WASHER AS PER BS 4464, TYPE B & FLAT WASHER AS PER BS 4320, FORM E, GRADE 5.6
8. ANTI THEFT NUTS SHALL BE USED BELOW WAIST LEVEL WITH GRADE 5.
9. ALL UNMOTED MEMBERS ARE 45x45x4 WITH 23 BACK MARK.
10. ALL ITEM NUMBERS ARE TO BE PREFIXED WITH LETTERS-2T-XXXH H SHALL BE STAMPED WHEN THE MEMBERS ARE FABRICATED FROM HIGH TENSILE STEEL.
11. STEP BOLT SHOULD BE PROVIDED ON DIAGONALLY OPPOSITE LEGS.

NO.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
CLIENT :		POWER GRID COMPANY OF BANGLADESH LTD.			
CONTRACTOR :		HG POWER TRANSMISSION Sdn. Bhd.			
MANUFACTURER :		Shilpa Steel & Power Ltd. Nagpur, India			
PROJECT NAME :		DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 230kV AND 132kV TRANSMISSION LINES, ON TURNKEY BASIS			
CONTRACT NO. :		PGCB/KFW/BMZ.2014.67.976/2018/Package-1.2 Dated 18.05.2020			
DRAWING TITLE :		STRUCTURAL DRAWING FOR TOWER TYPE 2T +3m BODY EXTN.			
SCALE : 1:20		DRAWN BY : R. PAUL	CHECKED BY : R. AHMED		
DRAWING NO. :		HGPT/PGCB/KFW-1.2/2T/3D/3M	SHEET : 1 OF 1	SIZE : A3	REV. : 0