

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

DETAILED SURVEY REPORT

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed ^{110KV} KV DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

NIKETAN CONSULTANTS

SURVEY, CADD, DGPS, GIS, GEO-TECH & ENGINEERING CONSULTANTS

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Job No.:KA3358A

LAND COMPENSATION FOR TOWER FOOT AREA AND CORRIDOR												
Construction of 110 kV DC line using Panther conductor from ongoing 110kV Akki-Alur(Balambeeda) sub-station to proposed 110kV Bommanahalli sub-station for a distance of 16.626 Kms In Hanagal Taluk, Haveri District												
Client : Karnataka Power Transmission Corporation Limited										Job No.:KA3358A		
Surveyors : M/s Niketan Consultants, Bengaluru.												
T. No.	Type of Tower	Span Length in Mtrs	Tower Base Width	Tower Base Width+ 2 Mtr for calculation	Area In sqm	Area In Acres	Guidance value (Considered NA Land rate of respective village in Rs. only For tower foot area)	200% of the guidance value for tower foot area	Amount for Tower foot area	30% of the guidance value for corridor	Amount for corridor (width of corridor 22 mtrs)	Village Limits
-	Bay				0.000	0.000	1,000	2000.00	0.000			Balambeeda
1	DD+0	38			836.000	0.207	225,000		0.000	67500.00	13944.158	"
			5.50	7.50	56.250	0.014	1,000	2000.00	112500.000			"
2	DC+3	235			5170.000	1.278	225,000		0.000	67500.00	86233.609	"
			5.71	7.71	59.444	0.016	1,000	2000.00	118888.200			"
3	DD+0	273			6006.000	1.484	225,000		0.000	67500.00	100177.788	"
			5.50	7.50	56.250	0.014	1,000	2000.00	112500.000			"
4	DA+3	280			6160.000	1.522	225,000		0.000	67500.00	102746.428	"
			3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			"
5	DC+0	280			6160.000	1.522	225,000		0.000	67500.00	102746.428	"
			5.00	7.00	49.000	0.012	1,000	2000.00	96000.000			Hothanahalli
6	DA+0	200			4400.000	1.087	225,000		0.000	67500.00	73390.308	"
			3.50	5.50	30.250	0.007	1,000	2000.00	60500.000			"
7	DD+0	213			4889.000	1.158	225,000		0.000	67500.00	78160.876	"
			5.50	7.50	56.250	0.014	1,000	2000.00	112500.000			"
8	DB+3	250			5500.000	1.359	225,000		0.000	67500.00	91737.882	"
			5.12	7.12	50.694	0.013	1,000	2000.00	101388.800			"
9	DB+3	235			5170.000	1.278	225,000		0.000	67500.00	86233.609	"
			5.12	7.12	50.694	0.013	1,000	2000.00	101388.800			"
10	DA+3	250			5500.000	1.359	225,000		0.000	67500.00	91737.882	"
			3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			"
11	DB+0	255			5610.000	1.388	225,000		0.000	67500.00	93572.840	"
			4.50	6.50	42.250	0.010	1,100	2200.00	82850.000			Aralethwara
12	DA+0	280			6160.000	1.522	250,000		0.000	75000.00	114162.698	"
			3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
13	DA+0	280			6160.000	1.522	250,000		0.000	75000.00	114162.698	"
			3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
14	DA+0	280			6160.000	1.522	250,000		0.000	75000.00	114162.698	"
			3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
15	DC+0	259			5698.000	1.408	250,000		0.000	75000.00	105600.496	"
			5.00	7.00	49.000	0.012	1,100	2200.00	107800.000			"
16	DA+0	195			4290.000	1.060	250,000		0.000	75000.00	79506.165	"
			3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
17	DA+3	210			4620.000	1.142	250,000		0.000	75000.00	85622.024	"
			3.95	5.95	35.403	0.009	1,100	2200.00	77885.500			"

T. No.	Type of Tower	Span Length in Mtrs	Tower Base Width	Tower Base Width+ 2 Mtr for calculation	Area In sqm	Area In Acres	Guidance value (Considered NA Land rate of respective village in Rs. only For tower foot area)	200% of the guidance value for tower foot area	Amount for Tower foot area	30% of the guidance value for corridor	Amount for corridor (width of corridor 22 mtrs)	Village Limits
		229			5038.000	1.245	250,000		0.000	75000.00	93368.778	
18	DD+0		5.50	7.50	56.250	0.014	1,100	2200.00	123750.000			"
		280			8160.000	1.522	250,000		0.000	75000.00	114162.698	
19	DA+0		3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
		240			5280.000	1.305	250,000		0.000	75000.00	97853.741	
20	DA+0		3.50	5.50	30.250	0.007	1,100	2200.00	66550.000			"
		245			5390.000	1.332	250,000		0.000	75000.00	99892.381	
21	DB+0		4.50	6.50	42.250	0.010	1,000	2000.00	84500.000			Shirampura .M. Adura
		187			4114.000	1.017	200,000		0.000	60000.00	60995.499	"
22	DB+0		4.50	6.50	42.250	0.010	1,000	2000.00	84500.000			"
		220			4840.000	1.196	200,000		0.000	60000.00	71759.410	"
23	DA+3		3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			"
		265			5830.000	1.441	200,000		0.000	60000.00	88437.471	
24	DA+0		3.50	5.50	30.250	0.007	1,000	2000.00	60500.000			Kadashettiheili
		260			5720.000	1.413	200,000		0.000	60000.00	84806.576	
25	DA+3		3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			Shirampura .M. Adura
		260			5720.000	1.413	200,000		0.000	60000.00	84806.576	"
26	DB+0		4.50	6.50	42.250	0.010	1,000	2000.00	84500.000			"
		285			6270.000	1.549	200,000		0.000	60000.00	92981.054	"
27	DA+0		3.50	5.50	30.250	0.007	1,000	2000.00	60500.000			"
		275			6050.000	1.495	200,000		0.000	60000.00	89889.263	
28	DA+3		3.95	5.95	35.403	0.009	1,400	2800.00	99127.000			Belagalapeta
		274			6028.000	1.490	300,000		0.000	90000.00	134059.626	"
29	DB+0		4.50	6.50	42.250	0.010	1,400	2800.00	118300.000			"
		240			5280.000	1.305	300,000		0.000	90000.00	117424.490	"
30	DA+0		3.50	5.50	30.250	0.007	1,400	2800.00	84700.000			"
		275			6050.000	1.495	300,000		0.000	90000.00	134548.894	"
31	DA+6		4.41	6.41	41.088	0.010	1,400	2800.00	115046.680			"
		270			5940.000	1.468	300,000		0.000	90000.00	132102.551	"
32	DA+3		3.95	5.95	35.403	0.009	1,400	2800.00	99127.000			"
		273			6006.000	1.484	300,000		0.000	90000.00	133570.357	"
33	DC+3		5.71	7.71	59.444	0.015	1,400	2800.00	166443.480			"
		270			5940.000	1.468	300,000		0.000	90000.00	132102.551	"
34	DA+0		3.50	5.50	30.250	0.007	1,400	2800.00	84700.000			"
		270			5940.000	1.468	300,000		0.000	90000.00	132102.551	"
35	DA+0		3.50	5.50	30.250	0.007	1,400	2800.00	84700.000			"
		253			5586.500	1.375	300,000		0.000	90000.00	123784.983	"
36	DC+0		5.00	7.00	45.000	0.012	1,000	2000.00	98000.000			Belavettihi
		230			5060.000	1.250	200,000		0.000	60000.00	75021.202	

T. No.	Type of Tower	Span Length in Mtrs	Tower Base Width	Tower Base Width+ 2 Mtr for calculation	Area In sqm	Area In Acres	Guidance value (Considered NA Land rate of respective village in Rs. only For tower foot area)	200% of the guidance value for tower foot area	Amount for Tower foot area	30% of the guidance value for corridor	Amount for corridor (width of corridor 22 mtrs)	Village Limits
37	DA+0	230	3.50	5.50	30.250	0.007	1,000	2000.00	60500.000	0.000	75021.202	"
38	DB+3	225	5.12	7.12	50.694	0.013	1,000	2000.00	101388.800	60000.00	73390.306	"
39	DD+6	258	7.04	9.04	81.722	0.020	1,000	2000.00	163443.200	60000.00	84154.217	"
40	DB+6	305	5.75	7.75	5878.000	1.403	1,000	2000.00	120125.000	60000.00	99484.637	"
41	DD+3	289	6.27	8.27	68.393	0.017	1,000	2000.00	136785.800	60000.00	97527.562	"
42	DC+0	277	5.00	7.00	6094.000	1.506	1,000	2000.00	98000.000	60000.00	90351.621	"
43	DD+0	150	6.50	7.50	56.250	0.014	1,000	2000.00	112500.000	60000.00	48926.871	"
44	DA+3	189	3.95	5.95	35.403	0.009	1,000	2000.00	70805.000	60000.00	64809.648	"
45	DC+0	225	5.00	7.00	48.000	0.012	1,000	2000.00	98000.000	60000.00	73390.306	"
46	DB+0	225	4.50	6.50	42.250	0.010	1,000	2000.00	84500.000	60000.00	73390.306	"
47	DA+3	229	3.95	5.95	35.403	0.009	1,000	2000.00	70805.000	60000.00	74695.023	Janagundikoppa
48	DD+0	240	5.50	7.50	56.250	0.014	1,000	2000.00	112500.000	60000.00	78282.993	"
49	DA+3	236	3.95	5.95	35.403	0.009	1,000	2000.00	70805.000	60000.00	76978.276	"
50	DB+0	255	4.50	6.50	42.250	0.010	1,000	2000.00	84500.000	60000.00	83175.680	"
51	DA+0	245	3.50	5.50	30.250	0.007	1,000	2000.00	60500.000	60000.00	79913.589	"
52	DA+0	244	3.50	5.50	30.250	0.007	1,000	2000.00	60500.000	60000.00	79587.710	"
53	DC+0	225	5.00	7.00	48.000	0.012	1,000	2000.00	98000.000	60000.00	73390.306	"
54	DA+0	255	3.50	5.50	30.250	0.007	1,000	2000.00	60500.000	60000.00	83175.680	Badaminatta
55	DC+3	285	5.71	7.71	58.444	0.015	1,000	2000.00	118888.200	60000.00	92961.054	"
56	DA+3	283	3.95	5.95	35.403	0.009	1,000	2000.00	70805.000	60000.00	92308.696	"
57	DD+0		5.50	7.50	56.250	0.014	1,000	2000.00	112500.000			"

T. No.	Type of Tower	Span Length In Mtrs	Tower Base Width	Tower Base Width+ 2 Mtr for calculation	Area in sqm	Area in Acres	Guidance value (Considered NA Land rate of respective village in Rs. only For tower foot area)	200% of the guidance value for tower foot area	Amount for Tower foot area	30% of the guidance value for corridor	Amount for corridor (width of corridor 22 mtrs)	Village Limits
		265			5830.000	1.441	200,000		0.000	60000.00	86437.471	
58	DA+3		3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			"
		217			4774.000	1.180	200,000		0.000	60000.00	70780.873	
59	DD+0		5.50	7.50	56.250	0.014	1,000	2000.00	112500.000			"
		260			5720.000	1.413	200,000		0.000	60000.00	84806.576	
60	DA+3		3.95	5.95	35.403	0.009	1,000	2000.00	70805.000			"
		260			5720.000	1.413	200,000		0.000	60000.00	84806.576	
61	DA+3		3.95	5.95	35.403	0.009	900	1800.00	63724.500			Lakkikoppa
		250			5500.000	1.359	200,000		0.000	60000.00	81544.784	"
62	DA+3		3.95	5.95	35.403	0.009	900	1800.00	63724.500			"
		248			5456.000	1.348	200,000		0.000	60000.00	80992.426	"
63	DC+0		5.00	7.00	49.000	0.012	900	1800.00	88200.000			"
		275			6050.000	1.495	200,000		0.000	60000.00	89699.263	"
64	DB+0		4.50	6.50	42.250	0.010	900	1800.00	76050.000			"
		277			6094.000	1.506	200,000		0.000	60000.00	90351.821	"
65	DD+6		7.04	9.04	81.722	0.020	900	1800.00	147098.880			"
		258			5878.000	1.403	200,000		0.000	60000.00	84154.217	"
66	DB+6		5.75	7.75	60.063	0.015	900	1800.00	108112.500			"
		261			5742.000	1.419	200,000		0.000	60000.00	85132.755	"
67	DD+0		5.50	7.50	56.250	0.014	900	1800.00	101250.000			"
		51			1122.000	0.277	200,000		0.000	60000.00	16635.136	
	Bay				0.000	0.000	1,000	2000.00	0.000			Nellikoppa
Total=									6,095,836.84		6,075,616.48	

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

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NIKETAN CONSULTANTS

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GPS Co - ORDINATES

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110 KV DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

Sl. No.	AP No.	GPS COORDINATES (DATUM : WGS84)			
		UTM (Zone 43P)		DD° MM' SS"	
		Easting	Northing	Northing	Easting
1	Bay - Balambeeda (Akkialur) S/S	520640	1631529	14° 45' 27.5"	75° 11' 30.4"
2	AP-1	520772	1631723	14° 45' 33.8"	75° 11' 34.8"
3	AP-2	520811	1631993	14° 45' 42.6"	75° 11' 36.1"
4	AP-3	520602	1632513	14° 45' 59.5"	75° 11' 29.1"
5	AP-4	520589	1632926	14° 46' 13"	75° 11' 28.7"
6	AP-5	520334	1633339	14° 46' 26.4"	75° 11' 20.2"
7	AP-6	520158	1633812	14° 46' 41.8"	75° 11' 14.3"
8	AP-7	519913	1634883	14° 47' 16.7"	75° 11' 6.2"
9	AP-8	519532	1635390	14° 47' 33.2"	75° 10' 53.4"
10	AP-9	519448	1636338	14° 48' 4.1"	75° 10' 50.6"
11	AP-10	519557	1637337	14° 48' 36.6"	75° 10' 54.3"
12	AP-11	519695	1638159	14° 49' 3.3"	75° 10' 59"
13	AP-12	519694	1639217	14° 49' 37.8"	75° 10' 58.9"
14	AP-13	519945	1639969	14° 50' 2.2"	75° 11' 7.4"
15	AP-14	519883	1640651	14° 50' 24.4"	75° 11' 5.3"
16	AP-15	519710	1640842	14° 50' 30.7"	75° 10' 59.5"
17	AP-16	519325	1641307	14° 50' 45.8"	75° 10' 46.7"
18	AP-17	519096	1641463	14° 50' 50.9"	75° 10' 39"
19	AP-18	519055	1641810	14° 51' 2.2"	75° 10' 37.6"
20	AP-19	519157	1642481	14° 51' 24"	75° 10' 41.1"
21	AP-20	518939	1642904	14° 51' 37.8"	75° 10' 33.8"
22	AP-21	518465	1643477	14° 51' 56.5"	75° 10' 17.9"
23	AP-22	518348	1643943	14° 52' 11.6"	75° 10' 14"
24	AP-23	518448	1644502	14° 52' 29.8"	75° 10' 17.4"
25	AP-24	518166	1644893	14° 52' 42.6"	75° 10' 8"
26	AP-25	517190	1645182	14° 52' 52"	75° 9' 35.3"
27	AP-26	516720	1645472	14° 53' 1.4"	75° 9' 19.6"
28	AP-27	516464	1645443	14° 53' 0.5"	75° 9' 11"
29	AP-28	516203	1645445	14° 53' 0.6"	75° 9' 2.3"
30	AP-29	516152	1645448	14° 53' 0.7"	75° 9' 0.6"
31	Bay - Bommanahalli S/S	516152	1645449	14° 53' 0.7"	75° 9' 0.6"



TOWER SCHEDULE

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110KV DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Job No.: KA3358A

Surveyors : M/s Niketan Consultants, Bengaluru.

Sl. No.	AP No.	Type of Towers	Angle of Deviation	Span in mts	Cumulative chainage in Mts.	Weight span Hot Curve			Crossing Details/Remarks	Village Limits
						L	R	T		
-	Bay	-	-		0	-	-	-	Survey Commenced from Proposed 110/11KV Balambeeda (Akkialur) S/S	Balambeeda
				38					-	"
1	AP-1	DD+0	11°2'0"R	235	38	-	106	106	Compound Wall, Maize Crop Start	"
2	AP-2	DC+3	26°0'46"L	273	273	129	168	297	Maize Crop	"
3	AP-3	DD+0	30°6'58"L	280	546	105	110	215	Maize Crop	"
4		DA+3	-	280	826	170	105	275	Maize Crop End	"
5	AP-4	DC+0	20°5'36"R	200	1106	175	73	248	-	Hothanahalli
6		DA+0	-	213	1306	127	183	310	-	"
7	AP-5	DD+0	30°03'23"L	250	1519	30	207	237	Maize Crop, Nala, Shed at left side	"
8		DB+3	0°0'0"	235	1769	43	158	201	-	"
9	AP-6	DB+3	11°16'58"R	250	2004	77	155	232	LT Line, 11KV Line 2No's, Nala, Tar Road, Arecanut Garden	"
10		DA+3	-	255	2254	95	171	266	LT Line, Tar Road, Arecanut Garden	"
11	AP-7	DB+0	7°31'29"R		2509	84	153	237		Araleshwara

Sl. No.	AP No.	Type of Towers	Angle of Deviation	Span in mts	Cumulative chainage in Mts.	Weight span Hot Curve			Crossing Details/Remarks	Village Limits
						L	R	T		
				280					-	
12		DA+0	-	280	2789	127	149	276		"
13		DA+0	-	280	3069	131	149	280	Bund, Nala, LT Line 2No's	"
14		DA+0	-	280	3349	131	138	269		"
15	AP-8	DC+0	24°2'20"L	259	3608	121	101	222	LT Line 2No's	"
16		DA+0	-	195	3803	94	87	181	LT Line	"
17		DA+3	-	210	4013	123	143	266	11KV Line, LT Line 2No's, Tar Road	"
18	AP-9	DD+0	31°51'38"R	229	4242	86	150	236	11KV Line	"
19		DA+0	-	280	4522	130	141	271	LT Line, 11KV Line	"
20		DA+0	-	240	4762	99	114	213	LT Line 2No's, Maize Crop, Open well at right side	"
				245					Nala, Cart Track, Mango Garden Start, DHARMA RIVER	
21		DB+0	0°0'0"	187	5007	131	77	208		Shiramapura .M. Adura
22	AP-10	DB+0	11°17'28"R	220	5194	110	50	160	Maize Crop Start	"
23		DA+3	-	265	5414	170	114	284	Maize Crop End, 11KV Line 2No's, Tar Road, Arecanut Garden	"
24		DA+0	-	260	5679	151	91	242	Maize Crop	Kadashettihalli
25		DA+3	-		5939	169	141	310		Shiramapura .M. Adura

Sl. No.	AP No.	Type of Towers	Angle of Deviation	Span in mts	Cumulative chainage in Mts.	Weight span Hot Curve			Crossing Details/Remarks	Village Limits
						L	R	T		
				260					LT Line	
26	AP-11	DB+0	3°18'12"R	285	6199	119	144	263	11KV Line	"
27		DA+0	-	275	6484	141	109	250	Cart Track, LT Line, Pond, 11KV Line	"
28		DA+3	-	274	6759	166	141	307	-	Belagalapeta
29	AP-12	DB+0	9°35'3"L	240	7033	133	140	273	Cart Track, Arecanut Garden Start	"
30		DA+0	-	275	7273	100	94	194	11KV Line, Cart Track, Maize, Arecanut Garden End	"
31		DA+6	-	270	7548	181	144	325	Nala, Tar Road, 33KV Line, 11KV Line	"
32		DA+3	-	273	7818	126	168	294	11KV Line, Cart Tarack	"
33	AP-13	DC+3	18°30'43"R	270	8091	105	170	275	11KV Line, Lake Start	"
34		DA+0	-	270	8361	100	135	235	Provide Sutable Revetment Lake End	"
35		DA+0	-	253	8631	135	120	255	Arecanut Garden	"
36	AP-14	DC+0	23°39'8"L	230	8884	133	111	244	-	Belavatthi
37		DA+0	-	230	9114	119	86	205	Maize Crop, 11KV Line	"
38		DB+3	0°0'0"	225	9344	144	73	217	-	"
39	AP-15	DD+6	36°58'28"L	258	9569	152	122	274	Shed, Borewell at Right side, 11KV Line 2No's, SH-137 from Bankapura to Hanagal (A/C-75°)	"
40	AP-16	DB+6	2°32'45"R		9827	136	160	296		"

Sl. No.	AP No.	Type of Towers	Angle of Deviation	Span In mts	Cumulative chainage in Mts.	Weight span Hot Curve			Crossing Details/Remarks	Village Limits
						L	R	T		
				305					11KV Line, LT Line	
41		DD+3	-		10132	145	157	302		"
				299					LT Line	
42	AP-17	DC+0	16°6'47"L		10431	142	119	261		"
				277					Maize Crop, LT Line, Arecanut Garden	
43	AP-18	DD+0	48°59'52"R		10708	158	47	205		"
				150					LT Line	
44		DA+3	-		10858	103	112	215		"
				199					11KV Line	
45	AP-19	DC+0	15°22'55"R		11057	87	76	163		"
				225					LT Line, Cart Track	
46		DB+0	0°0'0"		11282	149	44	193		"
				225					Lake, Bund	
47		DA+3	-		11507	181	101	282		Janagundikoppa
				229					Bund	
48	AP-20	DD+0	35°54'31"L		11736	128	88	216		"
				240					11KV Line	
49		DA+3	-		11976	152	141	293		"
				236					Maize Crop, LT Line	
50	AP-21	DB+0	12°20'0"L		12212	95	96	191		"
				255					Bund	
51		DA+0	-		12467	159	99	258		"
				245					Borewell at right side	
52		DA+0	-		12712	146	88	234		"
				244					-	
53	AP-22	DC+0	25°30'16"R		12956	156	94	250		"
				225					Cart Track, LT Line	
54		DA+0	-		13181	131	145	276		Badamigatta
				255					Sugarcane Start, Bund, 11KV Line	
55	AP-23	DC+3	24°14'11"R		13436	110	180	290		"
				285					-	
56		DA+3	-		13721	105	145	250		"
				283					-	

Sl. No.	AP No.	Type of Towers	Angle of Deviation	Span in mts	Cumulative chainage in Mts.	Weight span Hot Curve			Crossing Details/Remarks	Village Limits
						L	R	T		
57	AP-24	DD+0	45°56'33"L		14004	138	60	198		"
				265					LT Line 2No,s, Tar Road, 11KV Line, Cart Track	
58		DA+3	-	217	14269	205	159	364		"
									Cart Track	
59	AP-25	DD+0	37°42'20"L		14486	58	109	167		"
				260					LT Line, Sugarcane Start, 11KV Line	
60		DA+3	-		14746	151	131	282		"
				260					LT Line, 11KV Line, Arecanut Garden, Bore well at left side	
61		DA+3	-		15006	129	91	220		Lakkikoppa
				250					Sugarcane Start, LT Line 2No's	
62		DA+3	-		15256	159	118	277		"
				248					Sugarcane End	
63	AP-26	DC+0	15°10'52"R		15504	130	114	244		"
				275					LT Line	
64		DB+0	0°0'0"		15779	161	69	230		"
				277					LT Line, Sugarcane	
65	AP-27	DD+6	38°8'18"L		16056	208	122	330		"
				258					LT Line 3No's, Maize Crop, SH-1 from Hanagal to Tadasa, 11KV Line 2Nos	
66	AP-28	DB+6	6°54'7"R		16314	136	200	338		"
				261					-	
67	AP-29	DD+0	2°55'39"R		16575	61	-	61		"
				51					Compound Wall, 11KV Line 7No,s	
-	Bay	-	-		16626	-	-	-	Joining to the Proposed 132-110/11KV Bommanahalli S/S	Nellikoppa

ABSTRACT OF TOWERS

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110KV DC Line on DC Towers, from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.: KA3358A

Sl.No.	TYPE OF TOWERS	NORMAL	+3	+6	+9	TOTAL
Proposed 132KV DC Towers						
1	DA	32	15	1	-	32
2	DB	13	3	2	-	13
3	DC	10	3	-	-	10
4	DD	12	1	2	-	12
Total =						67 No's

NOTE : 1) Minor deviation if any due to way leave problem that may arise during the execution of the work will be incorporated accordingly.



For Niketan Consultants
Bengaluru

Brand

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KPTCL, Haveri

LINE SCHEDULE

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110KVDC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

Sl. No.	Chainage in mts	Name of the Power /Tele line	Voltage in class	Height of line in mts	Remarks
1	2014	LT Line	440V	6.0	-
2	2077	11KV Line	11KV	7.0	-
3	2201	11KV Line	11KV	7.0	-
4	3013	LT Line	440V	6.0	-
5	3032	LT Line	440V	6.0	-
6	3410	LT Line	440V	6.0	-
7	3511	LT Line	440V	6.0	-
8	3779	LT Line	440V	6.0	-
9	3835	11KV Line	11KV	7.0	-
10	3895	LT Line	440V	6.0	-
11	3946	LT Line	440V	6.0	-
12	4033	11KV Line	11KV	7.0	-
13	4489	LT Line	440V	6.0	-
14	4505	11KV Line	11KV	7.0	-
15	4566	LT Line	440V	6.0	-
16	4584	LT Line	440V	6.0	-
17	5279	11KV Line	11KV	7.0	-
18	5290	11KV Line	11KV	7.0	-
19	6046	LT Line	440V	6.0	-
20	6468	11KV Line	11KV	7.0	-
21	6562	LT Line	440V	6.0	-
22	6656	11KV Line	11KV	7.0	-
23	7297	11KV Line	11KV	7.0	-
24	7668	33KV Line	33KV	9.0	-
25	7732	11KV Line	11KV	7.0	-
26	8047	11KV Line	11KV	7.0	-
27	8140	11KV Line	11KV	7.0	-
28	9306	11KV Line	11KV	7.0	-
29	9660	11KV Line	11KV	7.0	-
30	9858	11KV Line	11KV	7.0	-
31	9984	LT Line	440V	6.0	-
32	10177	LT Line	440V	6.0	-
33	10651	LT Line	440V	6.0	-

Sl. No.	Chainage in mts	Name of the Power /Tele line	Voltage in class	Height of line in mts	Remarks
34	10718	LT Line	440V	6.0	-
35	10928	11KV Line	11KV	7.0	-
36	11067	LT Line	440V	6.0	-
37	11847	11KV Line	11KV	7.0	-
38	12147	LT Line	440V	6.0	-
39	13111	LT Line	440V	6.0	-
40	13427	11KV Line	11KV	7.0	-
41	14125	LT Line	440V	6.0	-
42	14242	11KV Line	11KV	7.0	-
43	14246	LT Line	440V	6.0	-
44	14519	LT Line	440V	6.0	-
45	14690	11KV Line	11KV	7.0	-
46	14766	LT Line	440V	6.0	-
47	14827	11KV Line	11KV	7.0	-
48	15196	LT Line	440V	6.0	-
49	15753	LT Line	440V	6.0	-
50	15852	LT Line	440V	6.0	-
51	16142	LT Line	440V	6.0	-
52	16161	LT Line	440V	6.0	-
53	16200	11KV Line	11KV	7.0	-
54	16266	LT Line	440V	6.0	-
55	16280	11KV Line	11KV	7.0	-
56	16593	11KV Line	11KV	7.0	-
57	16600	11KV Line	11KV	7.0	-
58	16602	11KV Line	11KV	7.0	-
59	16608	11KV Line	11KV	7.0	-
60	16613	11KV Line	11KV	7.0	-
61	16619	11KV Line	11KV	7.0	-
62	16623	11KV Line	11KV	7.0	-

ABSTRACT OF LINE SCHEDULE

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110KV DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

Sl.No.	Name of Power Line / Tele Line	Power Line	Tele Line	Total
1	LT Line	30	-	30
2	11KV Line	31	-	31
3	33KV Line	1	-	1
			Total=	62 No's



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TREE SCHEDULE

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed ~~110KV~~DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

Sr. No.	Chainage in mts	Name of the Tree	Grith size in mts	Height of Trees in Mts	12.5M from center line in mts	Remarks (No. of Trees)
Bay to AP-1						
Nill						
AP-1 to AP-2						
Nill						
AP-2 to AP-3						
1	212	Teak wood Tree	0.8	12	L	1
AP-3 to AP-4						
Nill						
AP-4 to AP-5						
1	19	Neem Tree	0.9	10	R	1
2	48	Neem Tree	0.9	11	R	1
3	67	Neem Tree	0.5-0.6	11	L	2
AP-5 to AP-6						
Nill						
AP-6 to AP-7						
1	87-100	Areca nut Tree	0.2-0.6	4-8	L & R	20
2	142-179	Areca nut Tree	0.2-0.6	4-8	L & R	50
3	273-462	Areca nut Tree	0.2-0.6	4-8	L & R	150
AP-7 to AP-8						
Nill						
AP-8 to AP-9						
1	50	Teak wood Tree	1.2	12	L	1
2	424	Coconut Tree	1.5	20	L	1
AP-9 to AP-10						
1	360	Neem Tree	0.9	13	R	1
2	487	Neem Tree	1.4	12	L	1
3	505	Coconut Tree	1.3-1.5	15-18	L & R	3
4	543-695	Mango Tree	.8-1.3	5-9	L & R	36
AP-10 to AP-11						
1	96-175	Areca nut Tree	0.2-0.7	3-5	L & R	60
2	281	Neem Tree	0.8	12	L	1
3	301	Neem Tree	0.5	11	L	1
4	379	Neem Tree	0.6	13	R	1
5	495	Teak wood Tree	0.9	10	R	1
6	585	Teak wood Tree	0.9	13	R	1
7	686	Neem Tree	0.9-1.2	14	R	2
8	716	Neem Tree	1.3	15	R	1
AP-11 to AP-12						
1	385	Neem Tree	0.6	11	L	1
2	492	Neem Tree	0.9	12	L	1
3	530	Teak wood Tree	1.3	14	L	1
4	600	Neem Tree	0.8	12	R	1
5	797	Coconut Tree	1.2-1.5	12-14	L & R	4

[illegible]

ABSTRACT OF TREE SCHEDULE

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed 110 KVDC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

SL. No	Name of Tree	Total
1	Arecanut Tree	505
2	Teakwood	12
3	Coconut Tree	11
4	Jali Tree	17
5	Mango Tree	46
6	Neem Tree	33
Total=		624 No's.



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SOIL RESISTIVITY REPORT

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed **110KV** DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed 110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.: KA3358A

Sl. No.	Cumulative chainage in mts	Soil encountered	Earth resistance in ohms	Soil resistivity in ohms-cms	Remarks
1	0	BC Soil	0.62	19468	Near Proposed 110/11KV Balambeeda (Akkialur) S/S
2	1100	BC Soil	0.63	19782	Near AP-4
3	2005	BC Soil	0.64	20096	Near AP-6
4	3050	BC Soil	0.62	19468	Near LT Line
5	4020	BC Soil	0.61	19154	Near 11KV Line
6	5015	BC Soil	0.58	18212	After Dharma River
7	6020	BC Soil	0.59	18526	Near LT Line
8	7005	BC Soil	0.63	19782	Near AP-12
9	8055	BC Soil	0.61	19154	Near AP-13
10	9050	BC Soil	0.60	18840	-
11	10020	BC Soil	0.58	18212	Near LT Line
12	11035	BC Soil	0.61	19154	Near AP-19
13	12035	BC Soil	0.63	19782	-
14	13000	BC Soil	0.64	20096	Near AP-22
15	14005	BC Soil	6.10	191540	Near AP-23
16	15000	BC Soil	0.61	19154	-
17	16035	BC Soil	0.62	19468	Near AP-27
18	16626	BC Soil	0.63	19782	Near Proposed 132-110/11KV Bommanahalli S/S
Total =				519670	

Average Soil Resistivity = $\frac{519670}{18} = 28870.56$ ohm-cms.

Formula used = $2\pi rl$

Where 'l' spacing between electrodes = 5000cms

'r' is earth resistance in ohms.

$\pi = 3.14$



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SOIL CLASSIFICATION STATEMENT

Name of Work: Conducting Detailed Survey using Modern Survey Techniques for Construction of Proposed **110KV** DC Line on DC Towers from ongoing 110/11KV Balambeeda (Akkialur) S/S to Proposed -110/11KV Bommanahalli S/S in Hanagal Taluk, Haveri District.

Client : Karnataka Power Transmission Corporation Limited.

Surveyors : M/s Niketan Consultants, Bengaluru.

Job No.:KA3358A

Surveyors : Mrs Niketan Consultants, Bengaluru.														Job No.:KA3358A	
Loc. No.	AP Nos	Location Details	Angle of deviation	Cum. Chainage in mts	NDS/Dry BC	Wet Black Cotton Soil	Partially Sub merged	Fully Sub merged	Hard rock	SFR Soil	WET Soil	DFR Soil	Provisional Type of Foundation	Remarks	
1	AP-1	DD+0	11°2'0"R	38	0.50	-	-	-	-	2.50	-	-	SFR	-	
2	AP-2	DC+3	26°0'46"L	273	0.25	-	-	-	-	2.75	-	-	SFR	-	
3	AP-3	DD+0	30°6'56"L	546	0.65	-	-	-	-	2.35	-	-	SFR	-	
4		DA+3	-	826	0.65	-	-	-	-	2.35	-	-	SFR	-	
5	AP-4	DC+0	20°5'36"R	1106	0.50	-	-	-	-	2.50	-	-	SFR	-	
6		DA+0	-	1306	0.35	-	-	-	-	2.50	-	-	SFR	-	
7	AP-5	DD+0	30°03'23"L	1519	0.25	-	-	-	-	-	-	2.65	DFR	-	
8		DB+3	0°0'0"	1769	0.65	-	-	-	-	2.75	-	-	SFR	-	
9	AP-6	DB+3	11°16'58"R	2004	0.45	-	-	-	-	2.35	-	-	SFR	-	
10		DA+3	-	2254	0.25	-	-	-	-	2.55	-	-	SFR	-	
11	AP-7	DB+0	7°31'29"R	2509	0.45	-	-	-	-	-	-	2.75	DFR	-	
12		DA+0	-	2789	0.65	-	-	-	-	2.55	-	-	SFR	-	
13		DA+0	-	3089	0.85	-	-	-	-	-	-	2.35	DFR	-	
14		DA+0	-	3349	0.60	-	-	-	-	2.15	-	-	SFR	-	
15	AP-8	DC+0	24°2'20"L	3608	0.50	-	-	-	-	2.40	-	-	SFR	-	
16		DA+0	-	3803	0.40	-	-	-	-	2.50	-	-	SFR	-	
17		DA+3	-	4013	0.35	-	-	-	-	2.60	-	-	SFR	-	
18	AP-9	DD+0	31°51'36"R	4242	0.60	2.40	-	-	-	2.65	-	-	SFR	-	
19		DA+0	-	4522	0.55	2.45	-	-	-	-	-	-	WBC	-	
20		DA+0	-	4762	0.25	2.75	-	-	-	-	-	-	WBC	-	
21		DB+0	0°0'0"	5007	0.35	-	-	-	-	-	-	-	WBC	-	
22	AP-10	DB+0	11°17'26"R	5194	0.60	-	-	-	-	2.65	-	-	SFR	-	
23		DA+3	-	5414	0.55	2.45	-	-	-	2.40	-	-	SFR	-	
										-	-	-	WBC	-	

Loc. No.	AP Nos	Location Details	Angle of deviation	Cum. Chainage in mts	NDS/Dry BC	Wet Black Cotton Soil	Partially Sub merged	Fully Sub merged	Hard rock	SFR Soil	WET Soil	DFR Soil	Provisional Type of Foundation	Remarks
24		DA+0	-	5679	0.50	-	-	-	-	-	-	2.50	DFR	-
25		DA+3	-	5939	0.35	-	-	-	-	-	-	2.65	DFR	-
26	AP-11	DB+0	3°18'12"R	6199	0.25	-	-	-	-	2.75	-	-	SFR	-
27		DA+0	-	6484	0.65	-	-	-	-	-	-	2.35	DFR	-
28		DA+3	-	6759	0.45	2.55	-	-	-	-	-	-	WBC	-
29	AP-12	DB+0	9°35'3"L	7033	0.25	-	-	-	-	2.75	-	-	SFR	-
30		DA+0	-	7273	0.45	-	-	-	-	2.55	-	-	SFR	-
31		DA+6	-	7548	0.50	-	-	-	-	2.50	-	-	SFR	-
32		DA+3	-	7818	0.35	-	-	-	-	2.65	-	-	SFR	-
33	AP-13	DC+3	18°30'43"R	8091	0.25	-	-	-	-	2.75	-	-	SFR	-
34		DA+0	-	8361	0.65	2.35	-	-	-	-	-	-	WBC	-
35		DA+0	-	8631	0.45	2.55	-	-	-	-	-	-	WBC	-
36	AP-14	DC+0	23°39'8"L	8884	0.25	-	-	-	-	-	-	2.75	DFR	-
37		DA+0	-	9114	0.45	-	-	-	-	-	-	2.55	DFR	-
38		DB+3	0°0'0"	9344	0.65	-	-	-	-	-	-	2.35	DFR	-
39	AP-15	DD+6	36°58'28"L	9569	0.85	2.15	-	-	-	-	-	-	WBC	-
40	AP-16	DB+6	2°32'45"R	9827	0.25	-	-	-	-	2.75	-	-	SFR	-
41		DA+3	-	10132	0.35	-	-	-	-	2.65	-	-	SFR	-
42	AP-17	DC+0	16°6'47"L	10431	0.60	-	-	-	-	2.40	-	-	SFR	-
43	AP-18	DD+0	48°59'52"R	10708	0.55	-	-	-	-	-	-	2.45	DFR	-
44		DA+3	-	10858	0.50	-	-	-	-	-	-	2.50	DFR	-
45	AP-19	DC+0	15°22'55"R	11057	0.35	2.65	-	-	-	-	-	-	WBC	-
46		DB+0	0°0'0"	11282	0.25	-	-	-	-	2.75	-	-	SFR	-
47		DA+3	-	11507	0.65	-	-	-	-	-	-	2.35	DFR	-
48	AP-20	DD+0	35°54'31"L	11736	0.25	2.75	-	-	-	-	-	-	WBC	-
49		DA+3	-	11976	0.35	2.65	-	-	-	-	-	-	WBC	-
50	AP-21	DB+0	12°20'0"L	12212	0.60	-	-	-	-	2.40	-	-	SFR	-
51		DA+0	-	12467	0.55	2.45	-	-	-	-	-	-	WBC	-
52		DA+0	-	12712	0.50	-	-	-	-	2.50	-	-	SFR	-
53	AP-22	DC+0	25°30'16"R	12956	0.35	2.65	-	-	-	-	-	-	WBC	-
54		DA+0	-	13181	0.25	-	-	-	-	2.75	-	-	SFR	-

Loc. No.	AP Nos	Location Details	Angle of deviation	Cum. Chainage in mts	NDS/Dry BC	Wet Black Cotton Soil	Partially Sub merged	Fully Sub merged	Hard rock	SFR Soil	WET Soil	DFR Soil	Provisional Type of Foundation	Remarks
55	AP-23	DC+3	24°14'11"R	13436	0.65	2.35	-	-	-	-	-	-	WBC	-
56		DA+3	-	13721	0.50	-	-	-	-	-	-	2.50	DFR	-
57	AP-24	DD+0	45°56'33"L	14004	0.35	-	-	-	-	2.65	-	-	SFR	-
58		DA+3	-	14269	0.25	-	-	-	-	-	-	2.75	DFR	-
59	AP-25	DD+0	37°42'20"L	14486	0.50	-	-	-	-	2.50	-	-	SFR	-
60		DA+3	-	14746	0.35	2.65	-	-	-	-	-	-	WBC	-
61		DA+3	-	15006	0.25	2.75	-	-	-	-	-	-	WBC	-
62		DA+3	-	15256	0.65	-	-	-	-	2.35	-	-	SFR	-
63	AP-26	DC+0	15°10'52"R	15504	0.25	2.75	-	-	-	-	-	-	WBC	-
64		DB+0	0°0'0"	15779	0.35	2.65	-	-	-	-	-	-	WBC	-
65	AP-27	DD+6	38°8'18"L	16056	0.60	2.40	-	-	-	-	-	-	WBC	-
66	AP-28	DB+6	6°54'7"R	16314	0.35	-	-	-	-	2.65	-	-	WBC	-
67	AP-29	DD+0	2°55'39"R	16575	0.25	-	-	-	-	2.75	-	-	SFR	-

For Niketan Consultants
Bangalore

