Electrical load Calculation

S.no	Description	No. of unit		Load per Unit		Total Load
	TOWER - A (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
1	2B + 2T (TYPE - 01) (72 sq M @ 50 W/sqM = 3.61 KW)	116	units	@ 3.6	KW	= 419 KW
2	2B + 2T + STUDY (TYPE - 02) (80 sq M @ 50 W/sqM = 4.00 KW)	116	units	@ 4.0	KW	= 464 KW
	TOWER - B & E (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
3	3B + 2T (TYPE - 03) (92 sq M @ 50 W/sqM = 4.62 KW)	200	units	@ 4.6	KW	= 924 KW
4	3B + 3T (TYPE - 04) (100 sq M @ 50 W/sqM = 4.99 KW)	50	units	@ 5.0	KW	= 250 KW
5	3B + 2T + STORE (TYPE - 05) (100 sq M @ 50 W/sqM = 4.99 KW)	50	units	@ 5.0	KW	= 250 KW
6	3B + 3T + STORE (TYPE - 6) (113 sq M @ 50 W/sqM = 5.63 KW)	100	units	@ 5.6	KW	= 563 KW
	TOWER - C & D (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
7	2B + 2T (TYPE - 01) (72 sq M @ 50 W/sqM = 3.61 KW)	200	units	@ 3.6	KW	= 722 KW
8	2B + 2T + STUDY (TYPE - 02) (80 sq M @ 50 W/sqM = 4.00 KW)	200	units	@ 4.0	KW	= 800 KW
	TOWER - F (2B+S+25)	**No. of Block**	=	**1**	**nos.**	
9	3B + 2T (TYPE - 03) (92 sq M @ 50 W/sqM = 4.62 KW)	50	units	@ 4.6	KW	= 231 KW
10	3B + 3T (TYPE - 04) (100 sq M @ 50 W/sqM = 4.99 KW)	25	units	@ 5.0	KW	= 125 KW
11	3B + 2T + STORE (TYPE - 05) (100 sq M @ 50 W/sqM = 4.99 KW)	25	units	@ 5.0	KW	= 125 KW
12	3B + 3T + STORE (TYPE - 6) (113 sq M @ 50 W/sqM = 5.64 KW)	100	units	@ 5.6	KW	= 564 KW
	TOWER - G (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
13	3B + 2T (TYPE - 03) (92 sq M @ 50 W/sqM = 4.62 KW)	58	units	@ 4.6	KW	= 268 KW
14	3B + 3T (TYPE - 04) (100 sq M @ 50 W/sqM = 4.99 KW)	29	units	@ 5.0	KW	= 145 KW
15	3B + 2T + STORE (TYPE - 05) (100 sq M @ 50 W/sqM = 4.99 KW)	29	units	@ 5.0	KW	= 145 KW
16	3B + 3T + STORE (TYPE - 6) (113 sq M @ 50 W/sqM = 5.64 KW)	116	units	@ 5.6	KW	= 654 KW
	TOWER -H (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
17	2B + 2T (TYPE - 01) (72 sq M @ 50 W/sqM = 3.61 KW)	116	units	@ 3.6	KW	= 419 KW
18	2B + 2T + STUDY (TYPE - 02) (80 sq M @ 50 W/sqM = 4.00 KW)	116	units	@ 4.0	KW	= 464 KW
	TOWER -J (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
19	2B + 2T + STUDY (TYPE - 07) (78 sq M @ 50 W/sqM = 3.90 KW)	112	units	@ 3.9	KW	= 437 KW
20	2B + 2T + STUDY (TYPE - 08) (79 sq M @ 50 W/sqM = 3.93 KW)	112	units	@ 3.9	KW	= 440 KW
	TOWER -K & L (2B+G+28)	**No. of Block**	=	**2**	**nos.**	
21	2B + 2T + STUDY (TYPE - 07A) (78 sq M @ 50 W/sqM = 3.90 KW)	224	units	@ 3.9	KW	= 874 KW
22	3B + 2T (TYPE - 09) (84 sq M @ 50 W/sqM = 4.20 KW)	112	units	@ 4.2	KW	= 470 KW
23	3B + 3T (TYPE -10) (95 sq M @ 50 W/sqM = 4.75 KW)	112	units	@ 4.7	KW	= 532 KW
	TOWER - M (2B+S+28)	**No. of Block**	=	**1**	**nos.**	
24	2B + 2T (TYPE - 01) (72 sq M @ 50 W/sqM = 3.61 KW)	112	units	@ 3.6	KW	= 404 KW
25	2B + 2T + STUDY (TYPE - 02) (80 sq M @ 50 W/sqM = 4.00 KW)	112	units	@ 4.0	KW	= 448 KW
	TOWER -N (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
26	2B + 2T + STUDY (TYPE - 07) (78 sq M @ 50 W/sqM = 3.90 KW)	112	units	@ 3.9	KW	= 437 KW
27	2B + 2T + STUDY (TYPE - 08) (79 sq M @ 50 W/sqM = 3.93 KW)	112	units	@ 3.9	KW	= 440 KW
	COMMON SERVICES - TOWERS					
	TOWER - A (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
28	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
29	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
30	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER - B & E (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
31	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
32	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
33	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - C & D (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
34	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
35	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
36	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - F (2B+S+25)	**No. of Block**	=	**1**	**nos.**	
37	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
38	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
39	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER - G (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
40	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
41	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
42	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -H (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
43	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
44	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
45	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -J (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
46	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
47	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
48	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -K & L (2B+G+28)	**No. of Block**	=	**2**	**nos.**	
49	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
50	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
51	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - M (2B+S+28)	**No. of Block**	=	**1**	**nos.**	
52	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
53	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
54	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -N (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
55	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
56	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
57	Common Lights	1	towers	@ 5	KW	= 5 KW
	COMMON SERVICES - General					
58	Club / Swimming Pool					= 350 KW
59	Commercial					= 200 KW
60	School					= 50 KW
61	Tube wells/Water Supply Pumps	1	Job	@ 140	KW	= 140 KW
62	Sewage Treatment Plant	1	Job	@ 140	KW	= 140 KW
63	External / Gate / Landscape lighting	2	Job	@ 10	KW	= 20 KW
64	Basement lighting	66645	sqm	@ 1.0	W/sqm	= 66 KW
65	Basement ventilation					= 950 KW
66	Fire pumps (only jockey pumps have been considered)	2	set	@ 20	KW	= 40 KW
					Total Load =	**14969 KW**
					By taking Overall Diversity factor	**50 % => 7484 KW**
					By taking Power factor	**0.90 => 8320 KVA**

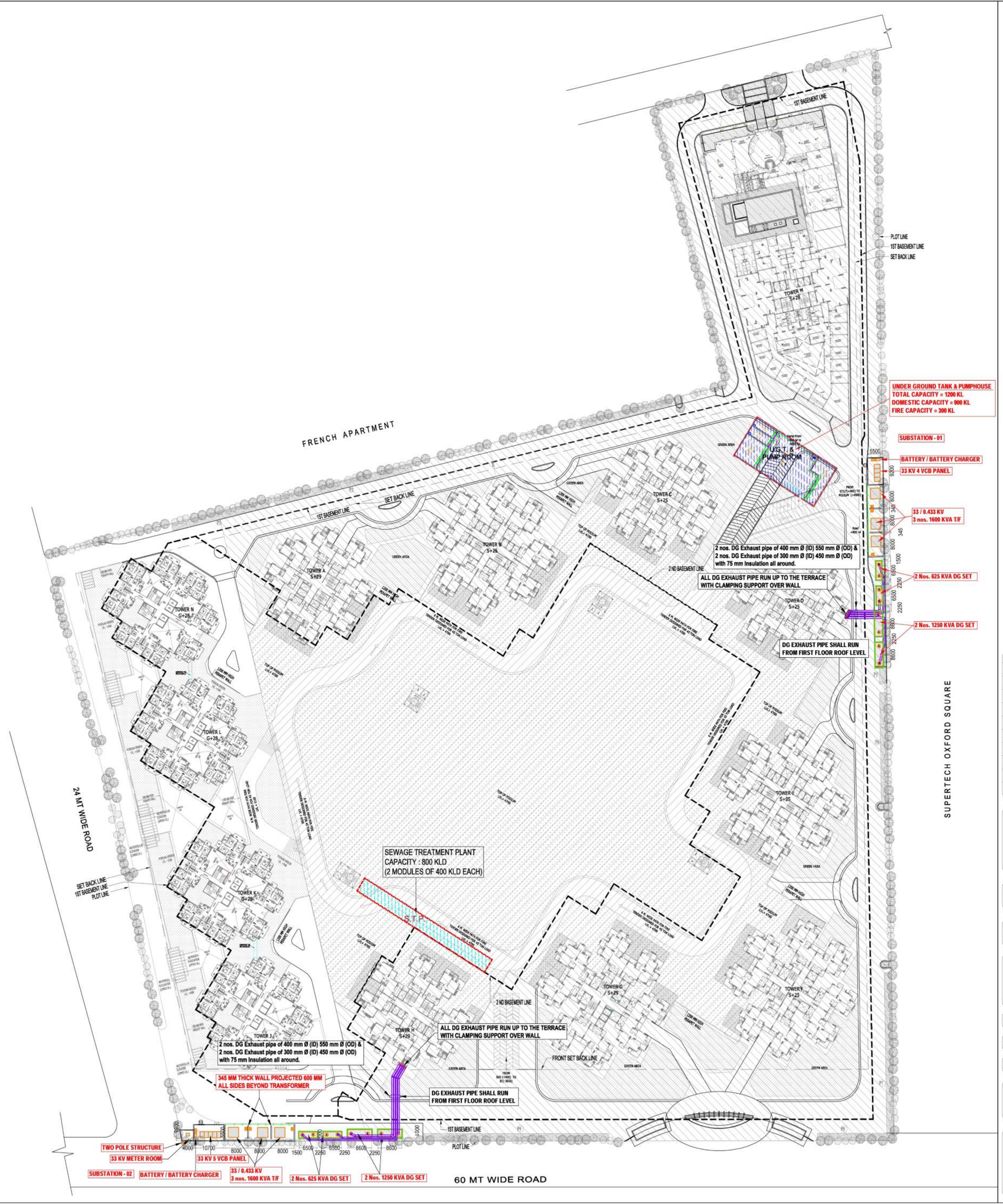
Total Electrical Load = 8320 KVA

Recommended Transformers = 3 nos 1600 KVA each at two diffferent location.
(Total 6 nos 1600 KVA)

Essential Electrical load Calculation

S.no	Description	No. of unit		Load per Unit		Total Load
	Sub Head (A) - Apartments					
	TOWER - A (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
1	2B + 2T (TYPE - 01)	116	units	@ 2.0	KVA	= 232 KVA
2	2B + 2T + STUDY (TYPE - 02)	116	units	@ 2.0	KVA	= 232 KVA
	TOWER - B & E (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
3	3B + 2T (TYPE - 03)	200	units	@ 3.0	KVA	= 600 KVA
4	3B + 3T (TYPE - 04)	50	units	@ 3.0	KVA	= 150 KVA
5	3B + 2T + STORE (TYPE - 05)	50	units	@ 3.0	KVA	= 150 KVA
6	3B + 3T + STORE (TYPE - 6)	100	units	@ 3.0	KVA	= 300 KVA
	TOWER - C & D (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
7	2B + 2T (TYPE - 01)	200	units	@ 2.0	KVA	= 400 KVA
8	2B + 2T + STUDY (TYPE - 02)	200	units	@ 2.0	KVA	= 400 KVA
	TOWER - F (2B+S+25)	**No. of Block**	=	**1**	**nos.**	
9	3B + 2T (TYPE - 03)	50	units	@ 3.0	KVA	= 150 KVA
10	3B + 3T (TYPE - 04)	25	units	@ 3.0	KVA	= 75 KVA
11	3B + 2T + STORE (TYPE - 05)	25	units	@ 3.0	KVA	= 75 KVA
12	3B + 3T + STORE (TYPE - 6)	100	units	@ 3.0	KVA	= 300 KVA
	TOWER - G (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
13	3B + 2T (TYPE - 03)	58	units	@ 3.0	KVA	= 174 KVA
14	3B + 3T (TYPE - 04)	29	units	@ 3.0	KVA	= 87 KVA
15	3B + 2T + STORE (TYPE - 05)	29	units	@ 3.0	KVA	= 87 KVA
16	3B + 3T + STORE (TYPE - 6)	116	units	@ 3.0	KVA	= 348 KVA
	TOWER -H (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
17	2B + 2T (TYPE - 01)	116	units	@ 2.0	KVA	= 232 KVA
18	2B + 2T + STUDY (TYPE - 02)	116	units	@ 2.0	KVA	= 232 KVA
	TOWER -J (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
19	2B + 2T + STUDY (TYPE - 07)	112	units	@ 2.0	KVA	= 224 KVA
20	2B + 2T + STUDY (TYPE - 08)	112	units	@ 2.0	KVA	= 224 KVA
	TOWER -K & L (2B+G+28)	**No. of Block**	=	**2**	**nos.**	
21	2B + 2T + STUDY (TYPE - 07A)	224	units	@ 2.0	KVA	= 448 KVA
22	3B + 2T (TYPE - 09)	112	units	@ 3.0	KVA	= 336 KVA
23	3B + 3T (TYPE -10)	112	units	@ 3.0	KVA	= 336 KVA
	TOWER - M (2B+S+28)	**No. of Block**	=	**1**	**nos.**	
24	2B + 2T (TYPE - 01)	112	units	@ 2.0	KVA	= 224 KVA
25	2B + 2T + STUDY (TYPE - 02)	112	units	@ 2.0	KVA	= 224 KVA
	TOWER -N (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
26	2B + 2T + STUDY (TYPE - 07)	112	units	@ 2.0	KVA	= 224 KVA
27	2B + 2T + STUDY (TYPE - 08)	112	units	@ 2.0	KVA	= 224 KVA
					Total Load =	**6688 KVA**
				By taking overall Diversity factor	**70 %**	**=> 4682 KVA**
	Essential Load (A) =			**4680 KVA**		
	Sub head - (B)					
	COMMON SERVICES - TOWERS					
	TOWER - A (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
28	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
29	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
30	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER - B & E (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
31	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
32	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
33	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - C & D (2B+S+25)	**No. of Block**	=	**2**	**nos.**	
34	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
35	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
36	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - F (2B+S+25)	**No. of Block**	=	**1**	**nos.**	
37	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
38	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
39	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER - G (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
40	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
41	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
42	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -H (2B+S+29)	**No. of Block**	=	**1**	**nos.**	
43	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
44	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
45	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -J (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
46	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
47	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
48	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -K & L (2B+G+28)	**No. of Block**	=	**2**	**nos.**	
49	Elevators (16 Passenger) 2.00 mps	4	nos	@ 17	KW	= 68 KW
50	Elevators (20 Passenger) 2.00 mps	4	nos	@ 19	KW	= 76 KW
51	Common Lights	2	towers	@ 5	KW	= 10 KW
	TOWER - M (2B+S+28)	**No. of Block**	=	**1**	**nos.**	
52	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
53	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
54	Common Lights	1	towers	@ 5	KW	= 5 KW
	TOWER -N (2B+G+28)	**No. of Block**	=	**1**	**nos.**	
55	Elevators (16 Passenger) 2.00 mps	2	nos	@ 17	KW	= 34 KW
56	Elevators (20 Passenger) 2.00 mps	2	nos	@ 19	KW	= 38 KW
57	Common Lights	1	towers	@ 5	KW	= 5 KW
	COMMON SERVICES - General					
58	Club / Swimming Pool					= 350 KW
59	Commercial					= 200 KW
60	School					= 50 KW
61	Tube wells/Water Supply Pumps	1	Job	@ 140	KW	= 140 KW
62	Sewage Treatment Plant	1	Job	@ 140	KW	= 140 KW
63	External / Gate / Landscape lighting	2	Job	@ 10	KW	= 20 KW
64	Basement lighting	66645	sqm	@ 1.0	W/sqm	= 66 KW
65	Basement ventilation					= 950 KW
66	Fire pumps (only jockey pumps have been considered)	2	set	@ 20	KW	= 40 KW
					Total Load =	**2957 KW**
					By taking overall Diversity factor	**50 % => 1478 KW**
					By taking Power factor	**0.80 => 1848 KVA**
	Essential Load (B) =			**1848 KVA**		
	Total Essential Load (A + B) =			**6528 KVA**		

DG Sets = 2 nos 1250 KVA & 2 nos 625 KVA at two different location.
(Total 4 nos 1250 KVA & 4 nos 625 KVA)



rev. no.	date	revision
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project
PROPOSED GROUP HOUSING FOR RG LUXURY AT,
PLOT NO. GH 07A SECTOR 16B, GREATER NOIDA WEST GAUTAMBUDH NAGAR (UP)

title
LAYOUT PLAN

subtitle
ELECTRICAL SETTING-OUT AT SITE PLAN

drawing released for
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- ☐ CONSTRUCTION

drg. no. RG / 10B37 / ES - 04
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