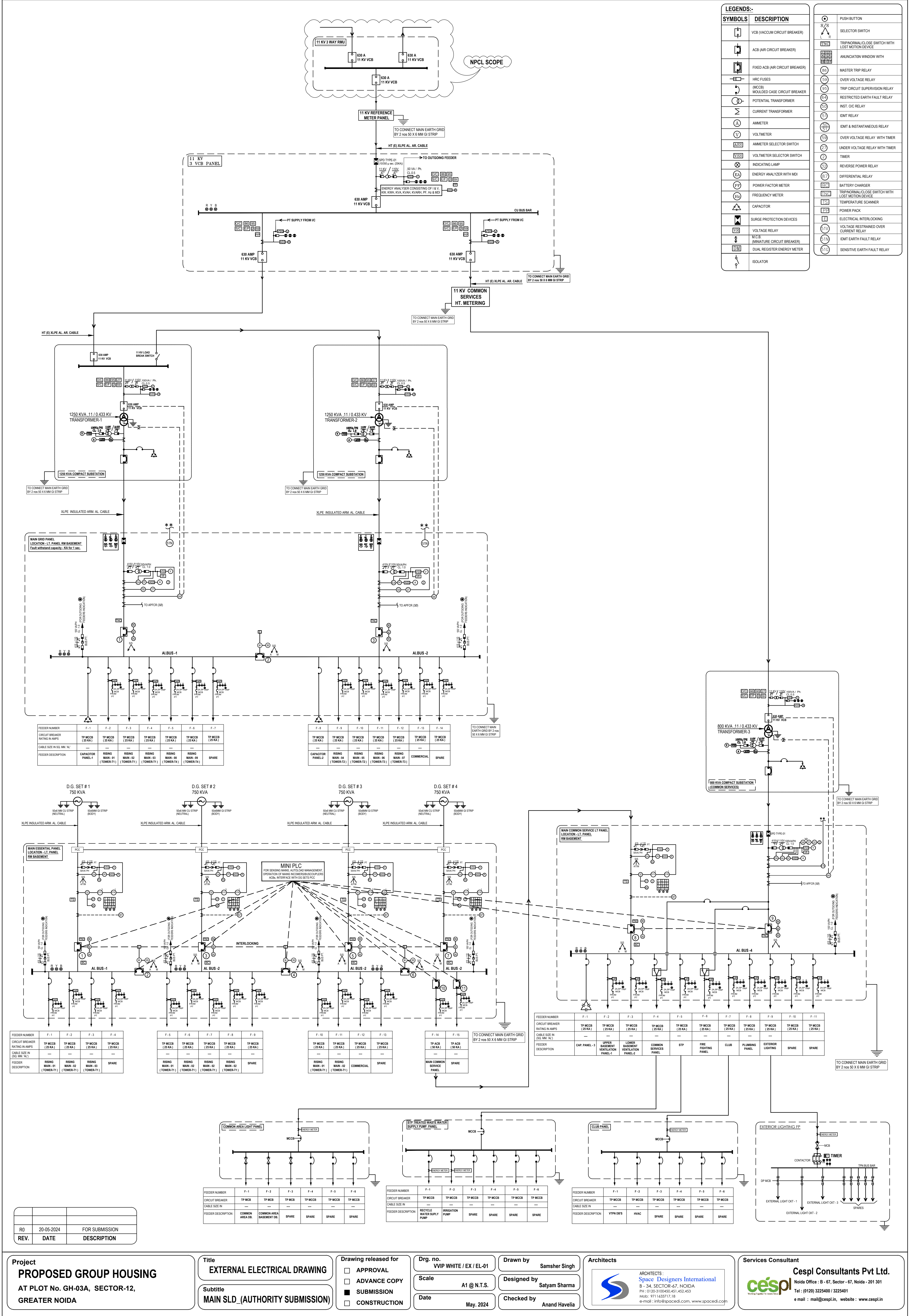




RO	20-05-2024	FOR SUBMISSION
REV.	DATE	DESCRIPTION

Project
PROPOSED GROUP HOUSING
AT PLOT No. GH-03A, SECTOR-12,
GREATER NOIDA

Title
EXTERNAL ELECTRICAL DRAWING

Subtitle
MAIN SLD (AUTHORITY SUBMISSION)

Drawing released for
☐ APPROVAL
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☐ CONSTRUCTION

Drg. no.
VVIP WHITE / EX / EL-01

Scale
A1 @ N.T.S.

Date
May, 2024

Drawn by
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**PROJECT:- PROPOSED GROUP HOUSING, AT PLOT No. GH-03A, SECTOR-12,
GREATER NOIDA**

SUBSTATION SUMMARY

S.no	Description	Nos. of Unit		Total Load		Equipments Selection
CALCULATION FOR TRANSFORMERS						
1	Consumer Load	313	=	2350	KVA	Recommended Transformers @ 80% Loading = 2 nos. 1250 KVA 11 / 0.433 kV CSS
2	Common Services		=	600	KVA	Recommended Transformers @ 80% Loading = 1 nos. 800 KVA 11 / 0.433 kV CSS (Considering Fire Dead Load)
	Total	313	=	2950	KVA	
CALCULATION FOR DG SETS						
3	Essential Load		=	2566	KVA	Recommended DG Sets = 4 nos 750 KVA DG Sets
	Total		=	2566	KVA	

PROJECT:- PROPOSED GROUP HOUSING, AT PLOT No. GH-03A, SECTOR-12, GREATER NOIDA												
ELECTRICAL LOAD CALCULATION (CONSUMER)												
S.No	Description	No. of unit		Load per Unit			Total Load					
	Residential Load (A)											
	Tower - T1 - (2B+G+29)				Nos of Tower		=	1				
1	Unit (200.2 sq M @ 50 W/sqM = 10.01 KW)	115	units	@	10.0	KW		=	1151	KW		
	Tower - T2 - (2B+S+32)				Nos of Tower		=	1				
2	Unit (266.0 sq M @ 50 W/sqM = 13.30 KW)	63	units	@	13.3	KW		=	838	KW		
	Tower - T3 - (2B+S+32)				Nos of Tower		=	1				
3	Unit (267.1 sq M @ 50 W/sqM = 13.35 KW)	63	units	@	13.4	KW		=	841	KW		
	Tower - T4 - (2B+G+18)				Nos of Tower		=	1				
4	Unit (155.5 sq M @ 50 W/sqM = 7.77 KW)	72	units	@	7.8	KW		=	560	KW		
				Total Load			=	3390	KW			
By taking Overall Diversity factor						50	%	=>	1695	KW		
By taking Power factor						0.90		=>	1880	KVA		
Total Electrical Load (A) = 1880 KVA												
	Commercial Load (B)											
5	Commercial	699	sqm	@	150.0	W/sqm		=	105	KW		
							Total Load		=	105	KW	
By taking Overall Diversity factor						75	%	=>	79	KW		
By taking Power factor						0.90		=>	90	KVA		
Electrical Load (B) = 90 KVA												
Total Demand Load (A+B)							=	1970	KVA			
By taking Loding factor						80	%	=>	2350	KVA		
Total Electrical Load = 2350 KVA												
Recommended Transformers @ 80% Loading = 2 nos. 1250 KVA 11 / 0.433 kV CSS												

PROJECT:- PROPOSED GROUP HOUSING, AT PLOT No. GH-03A, SECTOR-12,											
GREATER NOIDA											
S.No	Description			No. of unit		Load per Unit			Total Load		
ELECTRICAL LOAD CALCULATION (COMMON SERVICES)											
	COMMON SERVICES - TOWERS										
	Tower - T1 - (2B+G+29)				Nos of Tower			=	1		
1	Elevators	3	nos	@	10	KW		=	30	KW	
2	Elevators	1	nos	@	15	KW		=	15	KW	
3	Common Lights	1	towers	@	5	KW		=	5	KW	
	Tower - T2 - (2B+S+32)				Nos of Tower			=	1		
4	Elevators	2	nos	@	10	KW		=	20	KW	
5	Elevators	1	nos	@	15	KW		=	15	KW	
6	Common Lights	1	towers	@	5	KW		=	5	KW	
	Tower - T3 - (2B+S+32)				Nos of Tower			=	1		
7	Elevators	2	nos	@	10	KW		=	20	KW	
8	Elevators	1	nos	@	15	KW		=	15	KW	
9	Common Lights	1	towers	@	4	KW		=	4	KW	
	Tower - T4 - (2B+G+18)				Nos of Tower			=	1		
10	Elevators	3	nos	@	10	KW		=	30	KW	
11	Elevators	1	nos	@	15	KW		=	15	KW	
12	Common Lights	1	towers	@	2	KW		=	2	KW	
	COMMON SERVICES - General										
13	Water Supply / Tube wells	1	job	@	35	KW		=	35	KW	
14	STP	1	job	@	35	KW		=	35	KW	
15	External / Gate / Landscape lighting							=	20	KW	
16	Basement lights	30771	sqm	@	1.0	W/sqm		=	31	KW	
17	Basement Ventilation	400	KW	@ 25% Diversity					100	KW	
18	Club								250	KW	
19	Sump Pump	30	set					=	7.5	KW	
20	Fire pumps (only jockey pumps have been considered_Dead Load 400 KW)	2	set	@	30	KW		=	60	KW	
						Total Load			=	714	KW
Calculation for Transformers											
By taking Overall Diversity factor						75	%	=>	536	KW	
By taking Power factor						0.90		=>	600	KVA	
Total Electrical Load = 600 KVA											
Recommended Transformers @ 80% Loading = 1 nos. 800 KVA 11 / 0.433 kV CSS (Considering Fire Dead Load)											

PROJECT:- PROPOSED GROUP HOUSING, AT PLOT No. GH-03A, SECTOR-12, GREATER NOIDA										
S.no	Description			No. of unit		Load per Unit			Total Load	
ELECTRICAL LOAD CALCULATION (ESSENTIAL)										
SUB HEAD - A (APARTMENTS)										
	Residential Load (A)									
	Tower - T1 - (2B+G+29)				Nos of Tower		=	1		
1	Unit (200.2 sq M @ 50 W/sqM = 10.01 KW)	115	units	@	10.0	KW		=	1151	KW
	Tower - T2 - (2B+S+32)				Nos of Tower		=	1		
2	Unit (266.0 sq M @ 50 W/sqM = 13.30 KW)	63	units	@	13.3	KW		=	838	KW
	Tower - T3 - (2B+S+32)				Nos of Tower		=	1		
3	Unit (267.1 sq M @ 50 W/sqM = 13.35 KW)	63	units	@	13.4	KW		=	841	KW
	Tower - T4 - (2B+G+18)				Nos of Tower		=	1		
4	Unit (155.5 sq M @ 50 W/sqM = 7.77 KW)	72	units	@	7.8	KW		=	560	KW
					Total Load			=	3390	KW
By taking Overall Diversity factor					50	%	=>	1695	KW	
By taking Power factor					0.80		=>	2120	KVA	
	COMMON SERVICES - TOWERS									
	Tower - T1 - (2B+G+29)				Nos of Tower		=	1		
5	Elevators	3	nos	@	10	KW		=	30	KW
6	Elevators	1	nos	@	15	KW		=	15	KW
7	Common Lights	1	towers	@	5	KW		=	5	KW
	Tower - T2 - (2B+S+32)				Nos of Tower		=	1		
8	Elevators	2	nos	@	10	KW		=	20	KW
9	Elevators	1	nos	@	15	KW		=	15	KW
10	Common Lights	1	towers	@	5	KW		=	5	KW
	Tower - T3 - (2B+S+32)				Nos of Tower		=	1		
11	Elevators	2	nos	@	10	KW		=	20	KW
12	Elevators	1	nos	@	15	KW		=	15	KW
13	Common Lights	1	towers	@	4	KW		=	4	KW
	Tower - T4 - (2B+G+18)				Nos of Tower		=	1		

PROJECT:- PROPOSED GROUP HOUSING, AT PLOT No. GH-03A, SECTOR-12,
GREATER NOIDA

S.no	Description	No. of unit		Load per Unit				Total Load		
14	Elevators	3	nos	@	10	KW		=	30	KW
15	Elevators	1	nos	@	15	KW		=	15	KW
16	Common Lights	1	towers	@	2	KW		=	2	KW
	<u>COMMON SERVICES - General</u>									
17	Water Supply / Tube wells	1	job	@	35	KW		=	35	KW
18	STP	1	job	@	35	KW		=	35	KW
19	External / Gate / Landscape lighting							=	20	KW
20	Basement lights	30771	sqm	@	1.0	W/sqm		=	31	KW
21	Basement Ventilation	400	KW	@ 25% Diversity					100	KW
22	Club								250	KW
23	Sump Pump	30	set					=	7.5	KW
24	Fire pumps (only jockey pumps have been considered_Dead Load 400 KW)	2	set	@	30	KW		=	60	KW
				Total Load				=	714	KW
By taking overall Diversity factor						50	%	=>	357	KW
By taking Power factor						0.80		=>	446	KVA
Common Services Essential Load (B)								=	446	KVA
Total Essential Load (A + B)								=	2566	KVA
At 85% Loading								=	3019	KVA
Recommended DG Sets = 4 nos 750 KVA DG Sets										