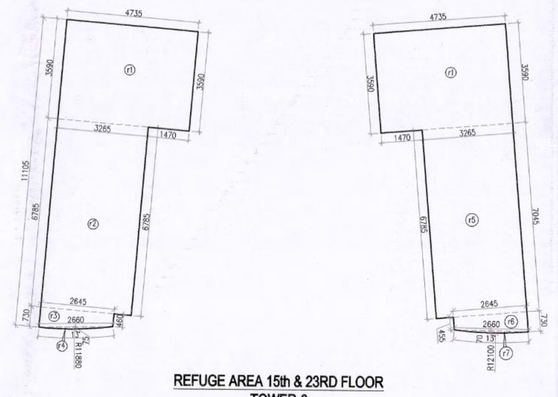


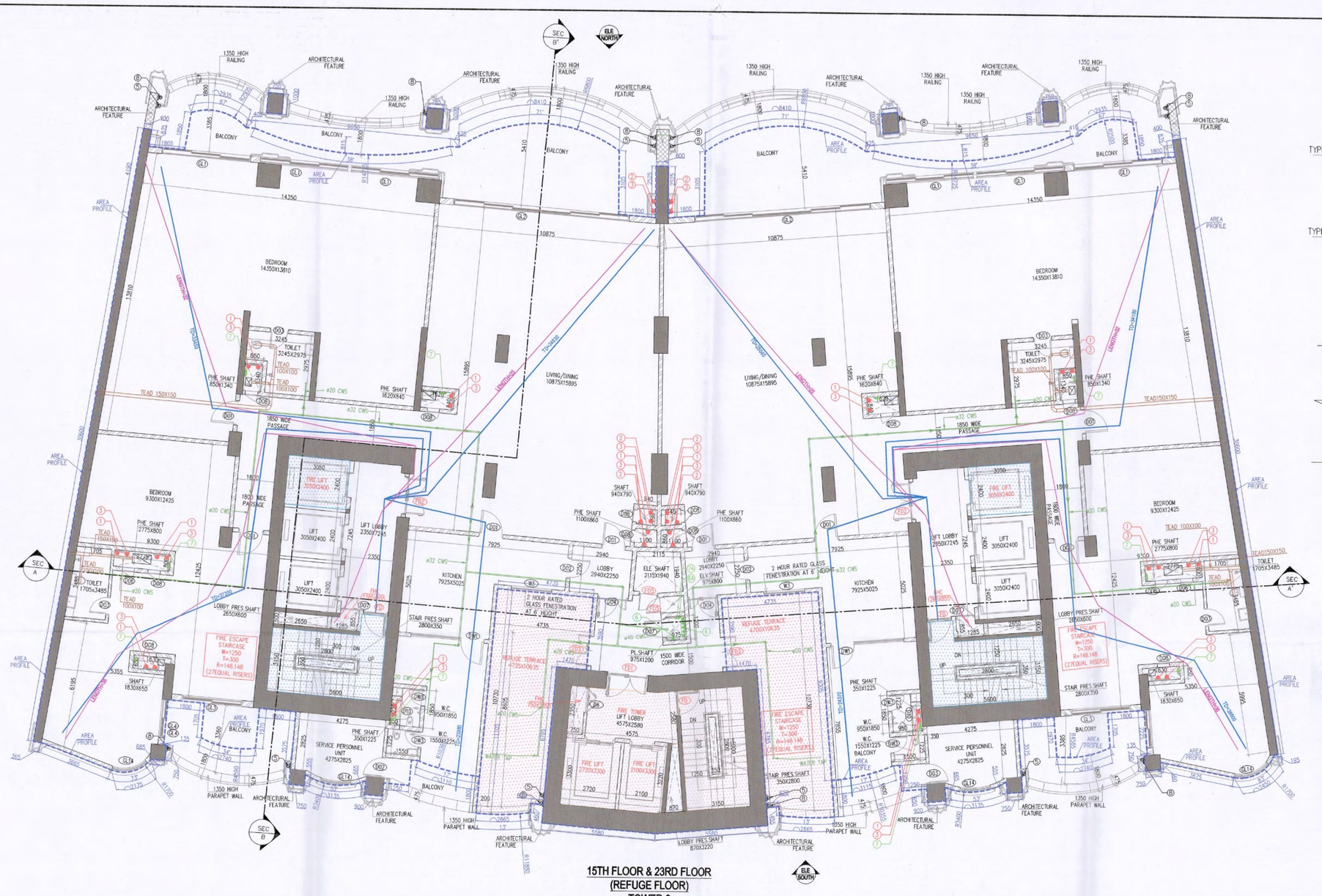
REFUGE AREA 15th & 23RD FLOOR TOWER-3

15TH & 23RD REFUGE FLOOR AREA CALCULATION (TOWER-3)												
GROSS – A												
r1	=	1	X		=	4.795	X	3.590	=	33.997	SQM	
r2	=	1	X		=	6.785	X	3.590	=	22.181	SQM	
r3	=	0.5	X		=	(6.785+5.465)	X	2.850	=	1.961	SQM	
r5	=	0.5	X		=	(6.785+7.345)	X	0.265	=	22.373	SQM	
r6	=	0.5	X		=	(5.465+7.345)	X	2.850	=	1.376	SQM	
								TOTAL	=	91.887	SQM	
GROSS AREA OF TYPICAL 16TH OR 24TH FLOOR	=	1897.724	SQM									
GROSS AREA OF REFUGE 16TH OR 23RD FLOOR	=	1488.609	SQM									
TOTAL	=	3076.333	SQM									
REFUGE AREA REQUIRED	=	(3076.333X0.3)/12.5	=	ADDITIONAL SPACE TO ACCOMMODATE ONE WHEEL CHAIR SPACE								
	=	73.832	=	0.9								
	=	74.732	SQM									
REFUGE AREA PROVIDED	=	GROSS-A	+	GROSS-B								
	=	91.887	+	0.521		92.407	SQM					

ARC AREA	REFUGE AREA CALCULATION																
GROSS -B																	
r4	3.14	X	11.880	X	11.880	X	13	/	360	-	0.5	X	11.880	-	0.075	X	2.660	=	0.302	SQM
r7	3.14	X	12.100	X	12.100	X	13	/	360	-	0.5	X	12.100	-	0.070	X	2.660	=	0.218	SQM
																TOTAL	=	0.521	SQM

DOOR / WINDOW SCHEDULE (TOWER-3)				
DOOR NAME	SIZE	CILL LVL	LINTEL LVL	LOCATION	FIRE RATED
D01	1200 X 2400		2400	BEDROOM ,KITCHEN & PASSAGE	
D02	1800 X 2400		2400	SERVICE PERSONAL/ROOM	
D03	900 X 2400		2400	TOILETS	
D04	1500 X 2700		2700	KITCHEN , SERVICE PASSAGE	
D05	2000 X 2400		2400	STAIRCASE	
D06	1200 X 2300	100 MM	2400	FHC	
D07	900 X 2300	100 MM	2400	ELECTRICAL SHAFT	
D08	600 X 2300	100 MM	2400	PHE SHAFT	
D09	800 X 2300	100 MM	2400	ELV SHAFT	
D10	1000 X 2300	100 MM	2400	FHC	
FD	1200 X 2700		2700	STAIRCASE	2 HRS
FD1	2400 X 2700		2700	SERVICE CORE LIFT LOBBY	2 HRS
FD2	1800 X 2850		2850	PASSENGER LIFT LOBBY	2 HRS
FD3	1500 X 2700		2700	REFUGE TERRACE	2 HRS
FD4	1200 X 2400		2400	LIFT ROOM (Ground Floor)	2 HRS
FD5	900 X 2400		2700	STUFF SHAFT	2 HRS
DW1	1200/2400 X 2700	1200 MM	2700	KITCHEN – REFUGE	
DW2	1500 X 2550/2700	1200 MM	2700	KITCHEN	
DW3	800X 2400			WC	
W2	1310 X 1500	900 MM	2400	ROOM	
W3	2000 X 900	1800 MM	2700	REFUGE FLOOR	2 HRS

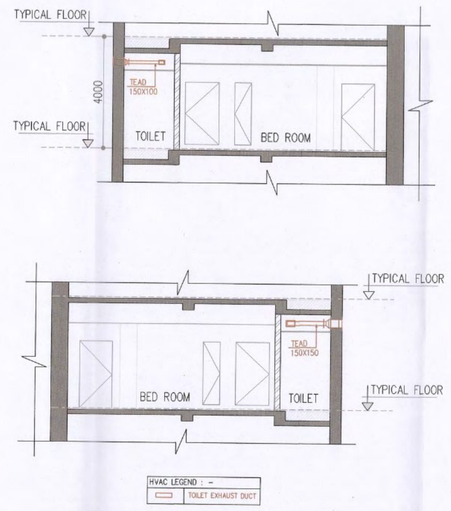
GLAZING SCHEDULE UPPER GROUND TO 39th FLOOR	
GLAZING NAME	SIZE
GL1	4380 X 3050
GL2	8460 X 3050
GL3	2965 X 3050
GL4	1865 X 3050
GL8	1985 X 4000
GL9	9850 X 4000
GL10	7635 X 4000
GL11	2050 X 4000
GL12	12165 X 4000
GL13	6480 X 4000
GL14	1810 X 2750

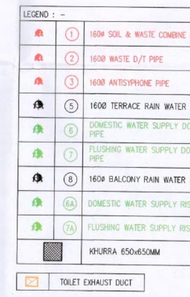


15TH FLOOR & 23RD FLOOR (REFUGE FLOOR) TOWER-3

FLOOR	FLOOR LEVEL		UNITS	SERVICE PERSONNEL
15th FLOOR(Refuge)	LVL+44.600		2	2
23rd FLOOR(Refuge)	LVL+86.800		2	2
	TOTAL UNITS	=	04	04

S. No	Description	Area Sqm	Area ft	Height	ACPH	CFM	Equipment Selection
	Typical Floor						
1	Toilet- Typical floor	5	54	10	10	90	1 No 100 CFM Inline fan





NOTES:

- BUILDING WILL BE DESIGNED STRUCTURALLY AS PER RELEVANT IS CODES FOR EARTH QUAKE RESISTANCE.
- BUILDING HAS AUTOMATIC SPRINKLER SYSTEM ON ALL FLOORS.
- THE BUILDING IS FULLY MECHANICALLY VENTILATED & CENTRALLY AIR CONDITIONED WITH 100% POWER BACKUP.
- MSL 249.200 CONSIDERED AS ±00.00.
- ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.

15TH & 23RD TYPICAL REFUGE FLOOR AREA CALCULATION												
GROSS – A												
6	0.5	X	4.190	+	4.125	X	0.400	=	1.663	SQM		
7	0.5	X	4.255	+	4.055	X	2.205	=	8.301	SQM		
8	0.5	X	4.055	+	3.505	X	8.570	=	24.835	SQM		
10	0.5	X	3.505	+	3.350	X	1.875	=	6.427	SQM		
11	0.5	X	3.350	+	3.255	X	7.885	=	28.040	SQM		
13	0.5	X		1.800		X	0.150	=	0.135	SQM		
13a	0.5	X		1.800		X	0.150	=	0.135	SQM		
14	1	X		0.600		X	2.525	=	1.515	SQM		
16	0.5	X	3.260	+	3.350	X	7.885	=	26.060	SQM		
17	0.5	X	3.350	+	3.510	X	7.885	=	6.485	SQM		
18	0.5	X	3.510	+	4.055	X	8.545	=	24.796	SQM		
21	0.5	X		2.015		X	4.225	=	4.257	SQM		
27	0.5	X	4.125	+	4.190	X	0.400	=	1.663	SQM		
28	2	X		0.750		X	1.000	=	1.500	SQM		
29	2	X		0.785		X	1.000	=	1.570	SQM		
30	0.5	X	62.345	+	58.515	X	18.278	=	1212.980	SQM		
35	0.5	X	3.335			X	1.005	=	1.778	SQM		
36	0.5	X	7.955	+	8.320	X	1.535	=	24.642	SQM		
37	0.5	X	7.860	+	7.910	X	0.615	=	4.849	SQM		
38	1	X		0.750		X	0.750	=	0.563	SQM		
39	0.5	X	5.685	+	5.835	X	1.800	=	10.368	SQM		
40	0.5	X	7.375	+	7.640	X	1.685	=	20.158	SQM		
42	0.5	X	6.060	+	6.210	X	1.800	=	11.043	SQM		
43	0.5	X	9.785	+	9.890	X	0.750	=	7.363	SQM		
46	0.5	X	9.290	+	9.585	X	3.025	=	28.548	SQM		
47	0.5	X	9.675	+	9.780	X	0.900	=	8.257	SQM		
48	1	X		2.250		X	5.530	=	12.199	SQM		
53	0.5	X		4.720		X	0.395	=	0.085	SQM		
54	1	X		4.720		X	0.395	=	0.932	SQM		
57	1	X		1.470		X	0.395	=	2.492	SQM		
62	1	X		1.470		X	7.700	=	11.319	SQM		
63	0.5	X		4.720		X	7.700	=	11.319	SQM		
64	0.5	X	8.560	+	8.530	X	0.395	=	0.932	SQM		
65a	2	X		0.200		X	3.380	=	28.882	SQM		
67	1	X		0.010		X	1.800	=	0.720	SQM		
68	0.5	X	9.780	+	9.680	X	8.530	=	0.085	SQM		
69	0.5	X	10.329	+	10.250	X	5.250	=	13.183	SQM		
70	0.5	X	9.565	+	9.295	X	0.900	=	8.359	SQM		
72	0.5	X	9.850	+	9.780	X	3.035	=	29.556	SQM		
73	0.5	X	6.210	+	6.060	X	0.750	=	7.363	SQM		
74	0.5	X	6.030	+	7.540	X	1.800	=	11.043	SQM		
76	0.5	X	5.635	+	5.665	X	2.700	=	21.020	SQM		
77	0.5	X	8.660	+	8.615	X	1.800	=	10.388	SQM		
78	0.5	X		0.135		X	0.555	=	4.784	SQM		
80	0.5	X	8.615	+	8.455	X	0.750	=	0.101	SQM		
81	0.5	X		1.886		X	1.895	=	18.174	SQM		
84	0.5	X	7.940	+	7.875	X	0.715	=	0.677	SQM		
						X	0.400	=	3.163	SQM		
							TOTAL	=	1464.479	SQM		

DEDUCTION AREA												
GROSS –B												
a	2	X		0.850		X	1.340	=	2.278	SQM		
b	2	X		1.820		X	0.840	=	2.722	SQM		
c	2	X		2.775		X	0.800	=	4.440	SQM		
e	2	X		1.580		X	0.650	=	2.054	SQM		
g	2	X		0.250		X	0.290	=	0.145	SQM		
f	6	X		3.050		X	2.400	=	43.920	SQM		
p	2	X		2.650		X	0.800	=	3.180	SQM		
h	2	X		0.400		X	0.800	=	0.480	SQM		
i	2	X		0.935		X	0.658	=	1.225	SQM		
j	2	X		0.885		X	0.300	=	0.531	SQM		
m	2	X		1.265		X	1.055	=	2.669	SQM		
n	2	X		5.600		X	3.150	=	35.280	SQM		
p	2	X		0.355		X	1.225	=	0.870	SQM		
u	0.5	X		4.780		X	7.300	=	17.447	SQM		
x	0.5	X		4.170		X	7.300	=	15.221	SQM		
y	1	X		0.975		X	1.200	=	1.170	SQM		
z	1	X		0.975		X	0.800	=	0.780	SQM		
z1	0.5	X		1.225		X	1.940	=	1.188	SQM		
z2	0.5	X		1.225		X	1.940	=	1.188	SQM		
z3	0.5	X		0.145		X	0.935	=	0.068	SQM		
z7	0.5	X		0.145		X	0.935	=	0.068	SQM		
z10	0.5	X		0.940		X	0.785	=	0.369	SQM		
z13	0.5	X		0.940		X	0.785	=	0.369	SQM		
							TOTAL	=	137.661	SQM		

NON FAR AREA												
GROSS –D												
m	2	X		1.265		X	1.055	=	2.669	SQM		
n	2	X		5.600		X	3.150	=	35.280	SQM		
u	0.5	X		4.780		X	7.300	=	17.447	SQM		
x	0.5	X		4.170		X	7.300	=	15.221	SQM		
r1	0.5	X	7.515	+	7.100	X	3.590	=	33.997	SQM		
r1	0.5	X	7.515	+	7.090	X	3.265	=	23.859	SQM		
x	0.5	X		4.170		X	7.300	=	15.221	SQM		
z1	0.5	X		1.225		X	1.940	=	1.188	SQM		
z2	0.5	X		1.225		X	1.940	=	1.188	SQM		
							TOTAL	=	154.492	SQM		

DEDUCTION AREA												
GROSS –E												
d1	1	X		0.790		X	2.350	=	1.783	SQM		
d2	1	X		2.720		X	3.300	=	8.976	SQM		
d4	1	X		1.830		X	3.300	=	6.039	SQM		
d4	0.5	X	3.300	+	3.255	X	0.295	=	0.967	SQM		
d5	0.5	X	0.340	+	0.870	X	3.120	=	1.686	SQM		
d6	1	X		0.350		X	2.800	=	0.980	SQM		
							TOTAL	=	20.412	SQM		

TOTAL 15TH & 23TH TYPICAL REFUGE FLOOR ADDITIONAL AREA	=	GROSS – A	+	GROSS – A1	+	GROSS – A2	-	GROSS – A3
	=	1464.479	+	18.443	+	201.590	-	9.500
GROSS – I	=	1675.013	SQM					

TOTAL 15TH & 23TH TYPICAL REFUGE FLOOR AREA DEDUCTION AREA	=	GROSS – B	+	GROSS – C
GROSS – 2	=	137.661	+	37.393
	=	175.053	SQM	

TOTAL 15TH & 23TH TYPICAL REFUGE FLOOR FAR AREA	=	GROSS – I	-	GROSS – 2
	=	1675.013	-	175.053
	=	1499.959	SQM	

TOTAL NON FAR AREA OF REFUGE FLOOR AREA	=	GROSS – D	+	GROSS – D1	+	GROSS – D2	-	GROSS – E
	=	154.492	+	0.797	+	34.819	=	30.612
TOTAL BUILTUP AREA OF 15TH & 23TH TYPICAL REFUGE FLOOR	=	189.687	SQM					
	=	FAR AREA	+	NON FAR AREA				
	=	1499.959	+	169.687				
	=	1669.647	SQM					

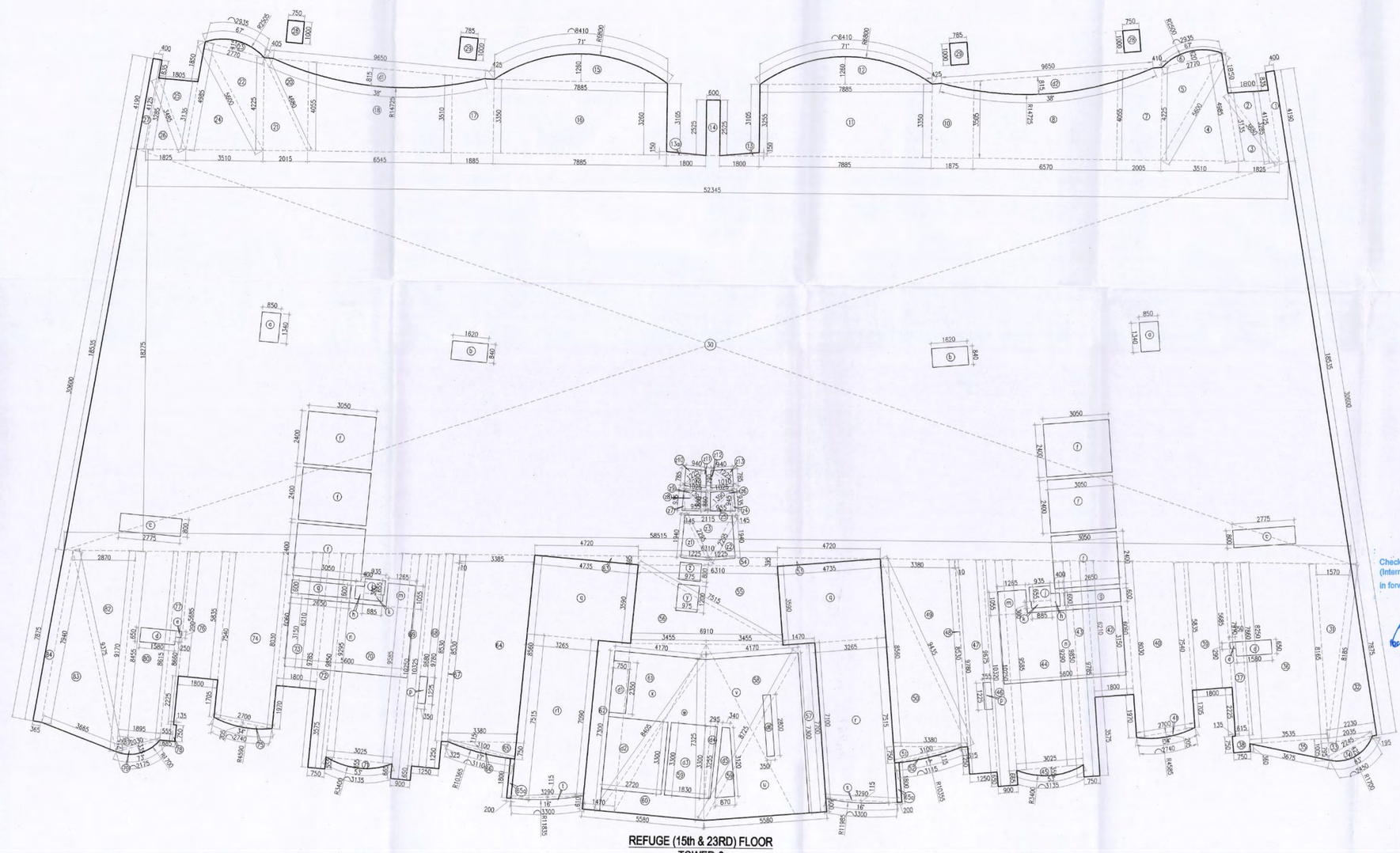
AREA CALCULATION (ADDITIONAL)																				
ARC AREA																				
GROSS - A1																				
r1	3.14	X	2.850	X	2.300	X	67	/	360	-	0.5	X	2.300	-	0.403	X	3.720	=	0.772	SQM
r2	3.14	X	8.800	X	4.800	X	71	/	360	-	0.5	X	4.800	-	1.260	X	7.885	=	6.784	SQM
r3	3.14	X	8.800	X	4.800	X	71	/	360	-	0.5	X	4.800	-	1.260	X	7.885	=	6.784	SQM
r4	3.14	X	3.000	X	2.500	X	67	/	360	-	0.5	X	2.500	-	0.415	X	2.770	=	0.772	SQM
r5	3.14	X	1.730	X	1.700	X	83	/	360	-	0.5	X	1.700	-	0.405	X	2.245	=	0.861	SQM
r6	3.14	X	4.980	X	4.980	X	34	/	360	-	0.5	X	4.980	-	0.205	X	3.700	=	0.921	SQM
r7	3.14	X	3.400	X	3.400	X	53	/	360	-	0.5	X	3.400	-	0.355	X	3.020	=	0.739	SQM
r8	3.14	X	10.355	X	10.355	X	17	/	360	-	0.5	X	10.355	-	0.115	X	3.100	=	0.057	SQM
r9	3.14	X	10.365	X	10.365	X	17	/	360	-	0.5	X	10.365	-	0.115	X	3.100	=	0.042	SQM
r10	3.14	X	3.400	X	3.400	X	53	/	360	-	0.5	X	3.400	-	0.355	X	3.020	=	0.738	SQM
r11	3.14	X	4.980	X	4.980	X	34	/	360	-	0.5	X	4.980	-	0.205	X	3.700	=	0.928	SQM
r12	3.14	X	1.700	X	1.700	X	73	/	360	-	0.5	X	1.700	-	0.398	X	2.000	=	0.459	SQM
																	TOTAL	=	18.443	SQM
ARC AREA																				
GROSS - D1																				
1	3.14	X	11.880	X	11.880	X	16	/	360	-	0.5	X	11.880	-	0.115	X	3.280	=	0.530	SQM
1	3.14	X	11.830	X	11.830	X	16	/	360	-	0.5	X	11.830	-	0.115	X	3.280	=	0.265	SQM
																	TOTAL	=	0.797	SQM

AREA CALCULATION (DEDUCTION) NON FAR AREA																				
GROSS - D1																				
1	3.14	X	11.880	X	11.880	X	16	/	360	-	0.5	X	11.880	-	0.115	X	3.280	=	0.530	SQM
1	3.14	X	11.830	X	11.830	X	16	/	360	-	0.5	X	11.830	-	0.115	X	3.280	=	0.265	SQM
																	TOTAL	=	0.797	SQM
ARC Area																				
GROSS - A3																				
r3	3.14	X	14.725	X	14.725	X	38	/	360	-	0.5	X	14.725	-	0.810	X	8.660	=	4.750	SQM
r5	3.14	X	14.725	X	14.725	X	38	/	360	-	0.5	X	14.725	-	0.810	X	8.660	=	4.750	SQM
																	TOTAL	=	9.500	SQM

ADDITIONAL AREA													
NO.	A		B		C			s	AREA OF = S/S-A)(S-B)(S-C)		Area	
GROSS - A2													
2	1.800	+	3.880	+	3.285	/	2	=	4.4825	8.675	2.945	SQM	
3	3.135	+	1.825	+	3.880	/	2	=	4.42	7.959	2.821	SQM	
4	3.510	+	4.985	+	5.600	/	2	=	7.0475	74.429	8.627	SQM	
5	2.770	+	4.225	+	5.600	/	2	=	6.2975	33.112	5.667	SQM	
20	2.025	+	4.680	+	4.055	/	2	=	5.38	16.741	4.092	SQM	
22	2.770	+	5.600	+	4.225	/	2	=	6.2975	32.112	5.667	SQM	
24	3.510	+	4.985	+	5.600	/	2	=	7.0475	74.429	8.627	SQM	
25	1.805	+	3.485	+	3.135	/	2	=	4.2125	7.950	2.820	SQM	
26	1.825	+	3.285	+	3.485	/	2	=	4.2975	8.741	2.957	SQM	
31	1.570	+	8.165	+	8.185	/	2	=	8.96	40.796	6.387	SQM	
32	2.230	+	8.185	+	7.875	/	2	=	9.145	77.099	8.781	SQM	
33	2.035	+	0.795	+	2.245	/	2	=	2.5375	0.650	0.806	SQM	
49	9.435	+	3.380	+	8.530	/	2	=	10.6725	206.352	14.365	SQM	
50	8.440	+	8.560	+	3.380	/	2	=	10.49	308.058	14.424	SQM	
51	3.380	+	0.750	+	3.100	/	2	=	3.615	1.253	1.120	SQM	
55	6.310	+	7.515	+	3.590	/	2	=	8.7075	127.400	11.287	SQM	
56	6.910	+	3.590	+	7.515	/	2	=	9.0075	153.763	12.360	SQM	
58	3.455	+	8.700	+	7.700	/	2	=	9.9275	175.692	13.255	SQM	
59	4.110	+	8.015	+	8.700	/	2	=	10.4125	269.437	16.415	SQM	
60	4.110	+	8.015	+	8.700	/	2	=	10.4125	269.437	16.415	SQM	
61	3.455	+	7.700	+	8.700	/	2	=	9.9275	175.692	13.255	SQM	
65	3.380	+	3.100	+	0.750	/	2	=	3.615	1.253	1.120	SQM	
82	2.870	+	9.375	+	9.170	/	2	=	10.7075	171.929	13.112	SQM	
83	3.665	+	7.940	+	9.375	/	2	=	10.49	203.560	14.267	SQM	
									TOTAL	=	201.590	SQM	

DEDUCTION AREA													
NO.	A		B		C			s	AREA OF = S/S-A)(S-B)(S-C)		Area	
GROSS -B													
w	4.170	+	7.325	+	8.725	/	2	=	10.110	231.639	15.220	SQM	
w	4.780	+	7.325	+	8.405	/	2	=	10.255	304.340	17.445	SQM	
z3	2.115	+	2.295	+	2.295	/	2	=	3.353	4.640	2.154	SQM	
z5	0.955	+	0.945	+	1.390	/	2	=	1.645	0.203	0.450	SQM	
z6	1.390	+	0.860	+	1.025	/	2	=	1.638	0.193	0.439	SQM	
z8	0.955	+	0.945	+	1.390	/	2	=	1.645	0.203	0.450	SQM	
z9	1.390	+	0.860	+	1.025	/	2	=	1.638	0.193	0.439	SQM	
z11	1.010	+	1.225	+	0.790	/	2	=	1.513	0.158	0.397	SQM	
z12	1.010	+	1.225	+	0.790	/	2	=	1.513	0.158	0.397	SQM	
									TOTAL	=	37.393	SQM	

AREA CALCULATION (DEDUCTION) / NON FAR AREA													
NO.	A		B		C			s	AREA OF = S/S-A)(S-B)(S-C)		Area	
GROSS - D2													
w	4.170	+	7.325	+	8.725	/	2	=	10.110	231.639	15.220	SQM	
w	4.780	+	7.325	+	8.405	/	2	=	10.255	304.340	17.445	SQM	
z3	2.115	+	2.295	+	2.295	/	2	=	3.353	4.640	2.154	SQM	
									TOTAL	=	34.819	SQM	



REFUGE (15th & 23RD) FLOOR TOWER-3

DESIGN CONSULTANT:
RSP Design Consultants (I) Pvt. Ltd.
RSP UNIT 103 FIRST FLOOR BESTECH BUSINESS TOWER, SOHNA ROAD, SECTOR 48, GURUGRAM, HARYANA 122018

OWNER: DLF LIMITED
THE SHOPPING MALL,DLF QUTAB ENCLAVE(PHASE-I) GURGAON, HARYANA 122002

ASSOCIATE ARCHITECT:
SBA Design N Code LLP
Architecture-Codes-Interiors
(Formerly known as RSMS)
69,Nora Niwas Bhawani Kunj, (Behind D2), Vasant Kunj, New Delhi-110070.
Mob.: 9810791652,9811077209

STRUCTURAL ENGINEER:
LERA CONSULTING STRUCTURAL ENGINEERS (INDIA) PVT LTD
THE RUBY,NORTH WING, FLOOR 23,29 (SENPATI BAPAT MARG, DADAR (W) MUMBAI MAHARASHTRA INDIA 400 028

MEP CONSULTANT:
ARUP INDIA PRIVATE LIMITED
5TH FLOOR, JET PRIME, NEAR METRO STATION, SUREN ROAD, NEAR OFF., WESTERN EXPRESS HIGHWAY, ANDHERI EAST, MUMBAI, MAHARASHTRA INDIA 400 093

TITLE:-
REVISED BUILDING PLAN OF PHASE-R16 (THE DAHLIAS) FALLING IN GROUP HOUSING COLONY OVER AN AREA MEASURING 476.6015 ACRES NAMELY DLF-5 (EARLIER KNOWN AS ZONE-10, DLF CITY PHASE-V) IN SECTOR-42, 43, 53 & 54 GURUGRAM MANESAR URBAN COMPLEX BEING DEVELOPED BY DLF LIMITED.

PROJECT:- THE DAHLIAS

This is a "PROVISIONAL BUILDING PLAN" approved only for the purpose of inviting Objections from the general public.
S.T.P (HQ) Member Secretary B.P.A.C.
S.T.P (G) Member B.P.A.C.
C.T.P (HQ) Chairman B.P.A.C.
DTP(HQ) JD. PA.
ATP(HQ) JD(HQ)
Checked and found ok for Public Health (Internal) Service only subject to comments in in forwarding letter No. 26330 Dt. 04/08/2025
JDA (T) MEMBER BPAC
Superintending Engineer (HQ) & Chief Engineer-I HSVP, Panchkula
TO BE READ WITH THE OFFICE MEMO NO.: 41383 DATED : 29-10-2025

ARCHITECT'S SEAL & SIGNATURE	OWNER'S SEAL & SIGNATURE

Date : JULY.2025 | Scale : 1:100

Drawing Title:-
15th & 23rd REFUGE FLOOR PLAN & AREA CALCULATION TOWER-03

Drawing No:- T3-04

DLF5

02-30062025