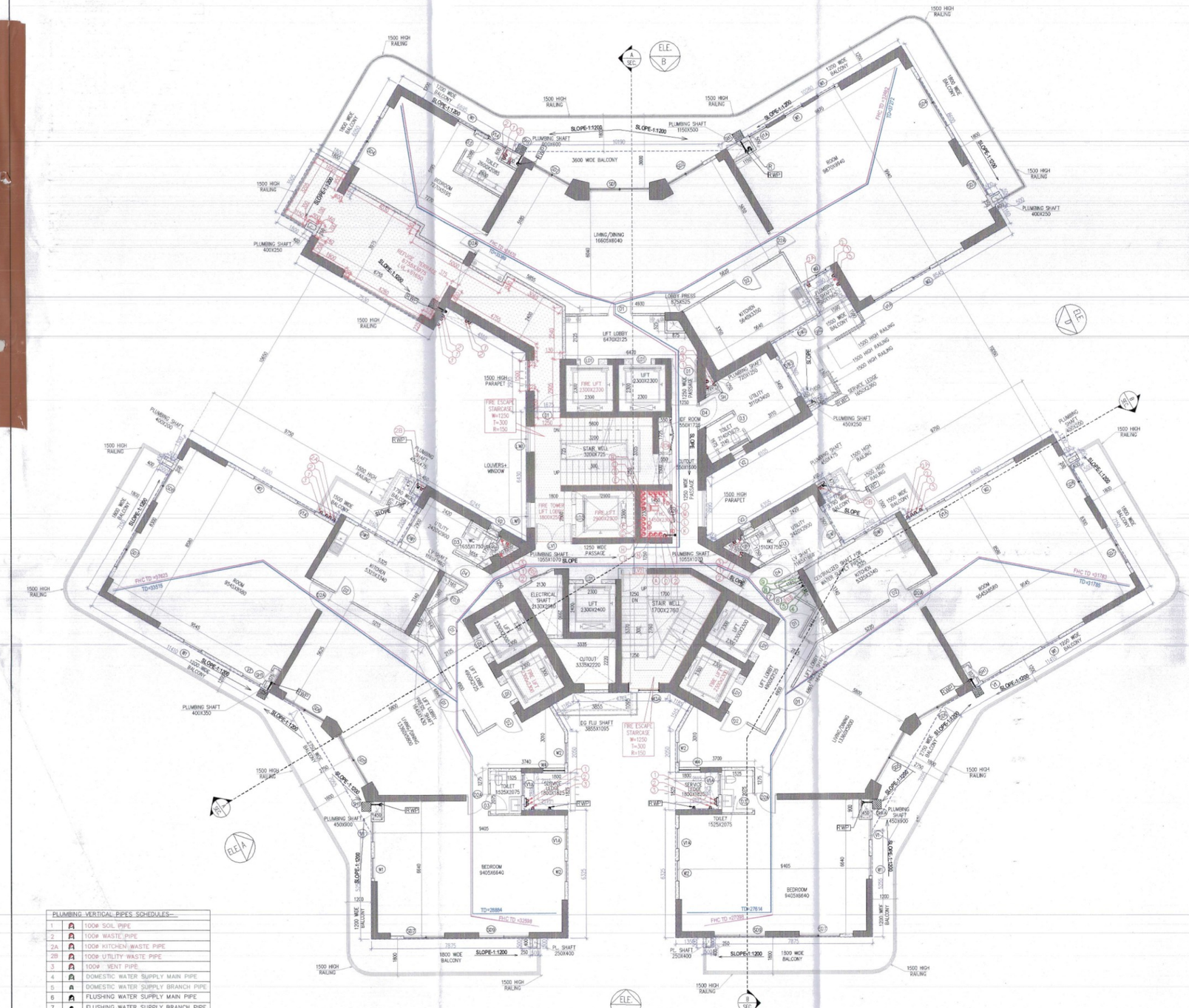


16TH (REFUGE) FLOOR PLAN
TOWER-A
LVL. + 61650
NO OF UNIT = 03

PLUMBING VERTICAL PIPES SCHEDULES:-		
1		100# SOIL PIPE
2		100# WASTE PIPE
2A		100# KITCHEN WASTE PIPE
2B		100# UTILITY WASTE PIPE
3		100# VENT PIPE
4		DOMESTIC WATER SUPPLY MAIN PIPE
5		DOMESTIC WATER SUPPLY BRANCH PIPE
6		FLUSHING WATER SUPPLY MAIN PIPE
7		FLUSHING WATER SUPPLY BRANCH PIPE
8		DOMESTIC WATER RISER TO OHT
9		FLUSHING WATER RISER TO OHT
R		ROOF RAIN WATER PIPE
BWP		BALCONY RAIN WATER PIPE
WC		WC DROP CUTOUT SIZE 150x150mm
FT		FLOOR TRAP CUTOUT SIZE 150x150mm
FD		FLOOR DRAIN CUTOUT SIZE 100x100mm
WB		WASH BASIN CUTOUT SIZE 75x75MM
BD		BALCONY DRAIN
		RAIN WATER KHURRA SIZE 450X450 MM

MAX ESTATES - TYPICAL & REFUGE

Tag		Width (MM)	Height (MM)	Sill (MM)	Lintel (MM)	DOOR TYPE	OPENING TYPE	LOCATION
SCHEDULE OF NON FIRE RATED DOORS								
D2		1050	2450	0	2450	WOODEN FLUSH DOOR	SINGLE LEAF DOOR	BEDROOMS
D2A		1050	2450	0	2450	WOODEN FLUSH DOOR (SUBFRAME)	SINGLE LEAF DOOR	BEDROOMS
D3		850	2450	0	2450	WOODEN FLUSH DOOR	SINGLE LEAF DOOR	TOILETS ENTRANCE
SCHEDULE OF WINDOWS								
W1A		1000	2150	600	2750	FIXED WINDOW / OPENABLE	FIXED PANEL/ OPENABLE F GLASS	TOILET
W1		1000	2150	600	2750	FIXED WINDOW / OPENABLE	FIXED PANEL/ OPENABLE + GLASS	MAIN / CLEAR FACADE
W2		1000	1850	900	2750	FIXED WINDOW / OPENABLE	FIXED PANEL/ OPENABLE + GLASS	BACK FACADE
W3A		1000	1850	900	2750	FIXED WINDOW / OPENABLE	FIXED PANEL/ OPENABLE + GLASS	STAIRCASE 2
W4		1050	1850	900	2750	OPENABLE	OPENABLE + GLASS	STUDY
SCHEDULE OF SLIDING DOORS								
SD1		2065	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	LIVING AREA
SD2		2000	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	DINING AREA
SD3		1800	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	MASTER BEDROOM
SD4		2700	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	BEDROOM 2
SD5		2650	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	LIVING AREA
SD6		2265	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	DINING AREA
SD7		2050	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	MASTER BEDROOM
SD8		1765	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	BEDROOM 2
SD9		2450	2750	0	2750	SLIDING DOOR, ALUMINUM + GLASS	SLIDING PANEL	BEDROOM 4
SCHEDULE OF EXTERNAL DOOR/ WINDOWS & VENTILATORS								
DW1	DOOR	1050	2750	0	2750	HINGED GLASS DOOR / WINDOW	SINGLE SHUTTER DOOR, OPENABLE OUTSIDE + FIXED WINDOW	KITCHEN/UTILITY ROOM
	WINDOW	850	2150	600	2750			
DW2	DOOR	1050	2750	0	2750	HINGED GLASS DOOR / WINDOW	SINGLE SHUTTER DOOR, OPENABLE OUTSIDE + FIXED WINDOW	KITCHEN/UTILITY ROOM
	WINDOW	1000	1850	900	2750			
DW3	DOOR	1050	2750	0	2750	HINGED GLASS DOOR / WINDOW	SINGLE SHUTTER DOOR, OPENABLE OUTSIDE + FIXED WINDOW	KITCHEN/UTILITY ROOM
	WINDOW	850	2150	600	2750			
SCHEDULE OFSHAFTS								
SH1		600	2300	150	2450	HINGED GLASS DOOR	SINGLE SHUTTER DOOR	TOILET
SH2		1000	2300	150	2450	HINGED GLASS DOOR	SINGLE SHUTTER DOOR	CORRIDOR
SCHEDULE OF VENTILATORS								
V1		1000	1850	600	2450	OPENABLE	OPENABLE GLASS PANEL	TOILET
V1A		1000	1550	900	2450	OPENABLE	OPENABLE GLASS PANEL	TOILET
V2		600	1550	900	2450	OPENABLE	OPENABLE GLASS PANEL	TOILET
SCHEDULE OF FIRE RATED DOOR								
D1		1250	2750	0	2750	WOODEN FLUSH DOOR (MIN. 2HR. FIRE RATING)	SINGLE LEAF DOOR	UNIT ENTRANCE
D4		1050	2750	0	2750	WOODEN FLUSH DOOR (MIN. 2HR. FIRE RATING)	SINGLE LEAF DOOR	UTILITY ROOM
FD2		900	2300	150	2450	METAL DOOR WITH VISION PANEL (MIN. 2HR. FIRE RATING)	SINGLE SHUTTER, OPENABLE OUTSIDE	ELECTRICAL SHAFT
FD3		900	2300	150	2450	METAL FIRE DOOR (MIN. 2HR. FIRE RATING)	SINGLE SHUTTER, OPENABLE OUTSIDE	LV SHAFT
FD4		1500	2300	150	2450	METAL FIRE DOOR (MIN. 2HR. FIRE RATING)	SINGLE SHUTTER, OPENABLE OUTSIDE	IDF ROOM
SCHEDULE OF GLASS DOOR								
GD1		900	2300	150	2450	SINGLE SHUTTER, OPENABLE INSIDE	GLASS DOOR AS SPEC	FHC
SCHEDULE OF LOUVERED DOOR								
LV1		1800	2450	0	2450	LOUVERED DOOR	DOUBLE SHUTTER, OPENABLE INSIDE	FIRE STAIRCASE LOBBY
LV2		1250	2450	0	2450	LOUVERED DOOR	SINGLE SHUTTER, OPENABLE INSIDE	STAIRCASE 02
LV3		775	2300	150	2450	LOUVERED DOOR	SINGLE SHUTTER, OPENABLE INSIDE	LOBBY PRESSURISATION
SCHEDULE OF LOUVERED DOOR-WINDOW								
LW1	LOUMERS	1275	2450	0	2450	HINGED GLASS + LOUMER / WINDOW	DOUBLE SHUTTER, OPENABLE OUTSIDE	FIRE STAIRCASE LOBBY
	WINDOW	1175	1550	900	2450			
SCHEDULE OF LIFT OPENINGS								
LEH		900	2450	0	2450	AS PER VENDOR VT		LIFTS
LEE		1000	2450	0	2450	AS PER VENDOR VT		LIFTS

FAR AREA OF 16TH REFUGE FLOOR CALCULATION

GROSS – A										
1	1	X		0.500		X	0.500	=	0.250	SQM
3	1	X		6.695		X	5.525	=	36.990	SQM
4	1	X		0.400		X	0.525	=	0.210	SQM
5	1	X		5.000		X	0.550	=	2.750	SQM
6	0.5	X	2.210	+	5.020	X	4.785	=	17.298	SQM
7	0.5	X		5.020		X	2.900	=	7.279	SQM
8	0.5	X	7.930	+	5.580	X	1.355	=	9.153	SQM
9	0.5	X	5.580	+	7.045	X	2.540	=	16.034	SQM
10	1	X		7.045		X	6.330	=	44.595	SQM
11	1	X		4.450		X	7.745	=	34.465	SQM
11a	1	X		2.900		X	1.675	=	4.858	SQM
12	1	X		8.545		X	10.260	=	87.672	SQM
13	0.5	X		9.160		X	5.290	=	24.228	SQM
14	0.5	X		5.290		X	3.055	=	8.080	SQM
15	1	X		0.550		X	0.500	=	0.275	SQM
16	1	X		7.175		X	2.600	=	18.655	SQM
17	1	X		8.850		X	8.710	=	77.084	SQM
18	0.5	X	2.430	+	2.225	X	0.355	=	0.826	SQM
19	0.5	X	6.355	+	6.760	X	0.700	=	4.590	SQM
20	1	X		0.425		X	0.215	=	0.091	SQM
21	0.5	X		2.995		X	5.190	=	7.772	SQM
22	0.5	X		2.995		X	1.745	=	2.613	SQM
23	0.5	X	6.935	+	7.785	X	1.415	=	10.556	SQM
24	0.5	X	3.160	+	3.010	X	9.425	=	29.076	SQM
25	2	X		8.400		X	8.900	=	149.520	SQM
26	2	X		0.450		X	0.500	=	0.450	SQM
28	0.5	X		3.545		X	5.950	=	10.546	SQM
29	0.5	X		3.545		X	6.110	=	10.830	SQM
30	0.5	X	9.970	+	8.950	X	0.590	=	5.581	SQM
31	0.5	X	8.950	+	9.710	X	1.310	=	12.353	SQM
32	2	X		9.710		X	2.050	=	39.811	SQM
33	2	X		7.600		X	2.895	=	44.004	SQM
34	2	X		2.115		X	1.070	=	4.526	SQM
35	2	X		9.725		X	5.255	=	102.210	SQM
37	2	X		0.500		X	0.500	=	0.500	SQM
38	0.5	X	8.950	+	9.710	X	1.310	=	12.222	SQM
39	0.5	X	9.970	+	8.950	X	0.590	=	5.581	SQM
40	1	X		24.680		X	5.210	=	128.583	SQM
41	0.5	X		3.540		X	6.105	=	10.806	SQM
42	0.5	X		3.540		X	5.950	=	10.532	SQM
43	0.5	X	3.010	+	3.160	X	9.425	=	29.076	SQM
44	0.5	X	6.810	+	7.690	X	1.470	=	10.658	SQM
45	0.5	X		1.715		X	2.945	=	2.525	SQM
46	0.5	X		5.095		X	2.945	=	7.502	SQM
47	0.5	X	6.245	+	6.650	X	0.700	=	4.513	SQM
48	1	X		0.425		X	0.215	=	0.091	SQM
							TOTAL	=	1047.822	SQM
DEDUCTION										
GROSS – B										
a1	1	X		0.350		X	0.400	=	0.140	SQM
a2	1	X		0.900		X	0.600	=	0.540	SQM
a3	1	X		1.150		X	0.500	=	0.575	SQM
a3a	1	X		0.600		X	0.100	=	0.060	SQM
a4	1	X		0.400		X	0.250	=	0.100	SQM
a5	0.5	X	0.570	+	0.875	X	0.525	=	0.379	SQM
a6	0.5	X		1.445		X	0.720	=	0.520	SQM
a7	6	X		2.300		X	2.300	=	31.740	SQM
a8	1	X		5.200		X	6.430	=	33.436	SQM
a8a	1	X		0.425		X	6.375	=	2.709	SQM
a9	1	X		0.900		X	3.925	=	3.533	SQM
a10	1	X		1.800		X	0.100	=	0.180	SQM
a11	1	X		0.550		X	1.725	=	0.949	SQM
a12	1	X		0.550		X	1.500	=	0.825	SQM
a13	1	X		1.450		X	2.300	=	3.335	SQM
a14	1	X		0.450		X	0.250	=	0.113	SQM
a14a	1	X		0.450		X	0.475	=	0.214	SQM
a15	0.5	X	0.240	+	0.280	X	0.135	=	0.035	SQM
a16	0.5	X	1.070	+	0.625	X	0.600	=	0.449	SQM
a17	0.5	X	0.130	+	1.165	X	1.795	=	1.162	SQM
a18	0.5	X	1.645	+	1.195	X	0.775	=	1.101	SQM
a19	0.5	X		1.065		X	0.535	=	0.285	SQM
a20	2	X		0.350		X	1.075	=	0.753	SQM
a21	2	X		0.450		X	0.900	=	0.810	SQM
a22	2	X		0.250		X	0.400	=	0.200	SQM
a23	0.5	X	1.645	+	1.195	X	0.775	=	1.101	SQM
a24	0.5	X		1.065		X	0.535	=	0.285	SQM
a25	0.5	X	1.190	+	0.130	X	1.795	=	1.185	SQM
a26	2	X		0.200		X	0.400	=	0.160	SQM
a27	1	X		0.475		X	0.450	=	0.214	SQM
a28	0.5	X	0.280	+	0.235	X	0.135	=	0.035	SQM
a29	0.5	X	0.825	+	1.070	X	0.600	=	0.509	SQM
a30	0.5	X	0.125	+	1.730	X	0.930	=	0.863	SQM
a31	1	X		0.400		X	0.730	=	0.292	SQM
a32	0.5	X	2.130	+	0.850	X	2.220	=	3.086	SQM
a33	1	X		2.300		X	2.400	=	5.520	SQM
a34	0.5	X	3.335	+	2.050	X	2.220	=	5.977	SQM
a35	1	X		1.195		X	0.275	=	0.329	SQM
a38	1	X		2.330		X	5.370	=	12.512	SQM
a39	0.5	X	1.020	+	2.580	X	0.900	=	1.665	SQM
a40	0.5	X		2.580		X	4.470	=	5.766	SQM
							TOTAL	=	123.638	SQM

TOTAL FAR AREA OF 16TH REFUGE FLOOR	=	GROSS - A	-	GROSS – B		
	=	1047.822	-	123.638		
	=	924.184	SQM			

NON FAR AREA (ADDITION)

GROSS – C										
a8	1	X		5.200		X	6.375	=	33.150	SQM
a8a	1	X		0.425		X	6.375	=	2.709	SQM
a9	1	X		0.900		X	3.925	=	3.533	SQM
a10	1	X		1.800		X	0.100	=	0.180	SQM
a38	1	X		2.330		X	5.370	=	12.512	SQM
a39	0.5	X	1.020	+	2.580	X	0.900	=	1.620	SQM
a40	0.5	X		2.580		X	4.470	=	5.766	SQM
a41	1	X		1.800		X	3.505	=	6.309	SQM
a42	0.5	X	0.525	+	0.550	X	4.030	=	2.166	SQM
a43	0.5	X	3.575	+	3.600	X	7.530	=	27.014	SQM
a44	1	X		1.900		X	2.275	=	4.323	SQM
a45	0.5	X	3.065	+	2.610	X	2.825	=	8.016	SQM
a46	0.5	X		1.805		X	2.220	=	2.004	SQM
a47	1	X		1.805		X	0.320	=	0.578	SQM
a48	1	X		1.675		X	2.600	=	4.355	SQM
							TOTAL	=	114.234	SQM

NON FAR AREA (DEDUCTION)

GROSS – D										
x1	1	X		3.200		X	0.725	=	2.320	SQM
x2	1	X		2.900		X	2.300	=	6.670	SQM
x3	0.5	X	1.700	+	1.835	X	0.080	=	0.141	SQM
x4	0.5	X	1.835	+	0.265	X	2.685	=	2.819	SQM
x5	1	X		0.400		X	0.250	=	0.100	SQM
							TOTAL	=	12.051	SQM

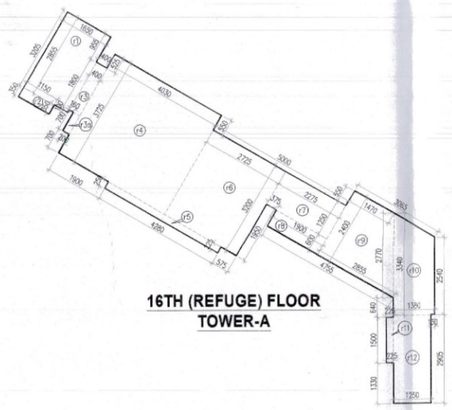
TOTAL NON FAR AREA OF 16TH REFUGE FLOOR	=	GROSS – C	-	GROSS –D		
	=	114.234	-	12.051		
	=	102.183	SQM			
TOTAL BUILTUP AREA OF 16TH REFUGE FLOOR	=	FAR AREA	+	NON FAR AREA		
	=	924.184	+	102.183		
	=	1026.367	SQM			

REFUGE AREA CALCULATION - 16TH REFUGE FLOOR

GROSS – A									
r1	=	1	X	1.650	X	2.855	=	4.711	SQM
r2	=	1	X	1.150	X	0.350	=	0.403	SQM
r3	=	1	X	0.400	X	1.800	=	0.720	SQM
r3a	=	1	X	0.200	X	0.700	=	0.140	SQM
r4	=	1	X	4.930	X	3.725	=	18.012	SQM
r5	=	1	X	4.280	X	0.250	=	1.070	SQM
r6	=	1	X	2.725	X	3.190	=	8.693	SQM
r7	=	1	X	2.275	X	1.250	=	2.844	SQM
r8	=	1	X	1.900	X	0.600	=	1.140	SQM
r9	=	0.5	X	(1.470+2.855)	X	2.400	=	5.190	SQM
r10	=	0.5	X	(3.340+2.540)	X	1.380	=	4.057	SQM
r11	=	1	X	0.225	X	1.500	=	0.338	SQM
r12	=	1	X	1.250	X	2.905	=	3.631	SQM
						TOTAL	=	47.947	SQM

	=	GROSS – A	
TOTAL REFUGE AREA	=	47.947	
	=	47.947	
GROSS AREA OF 16TH FLOOR	=	956.240	SQM
GROSS AREA OF TYPICAL FLOOR	=	1001.945	SQM
TOTAL	=	1958.185	SQM

TOTAL NO. OF OCCUPANTS	=	GROSS AREA	/	OCCUPANT FACTOR			
	=	1958.185	/	12.5	=	156	PERSONS
REFUGE AREA REQUIRED	=	0.3 SQM PER PERSON	*	0.9 SQM ADDITIONAL SPACE TO ACCOMMODATE WHEEL CHAIR SPACE			
	=	0.3	X	156	=	46.8	
	=					0.9	
	=	47.700	SQM.				
PROPOSED REFUGE AREA	=	47.947	SQM.				



16TH (REFUGE) FLOOR
TOWER-A



16TH REFUGE FLOOR

Note :-

1. BUILDING HAS AUTOMATIC SPRINKLER SYSTEM WHEREVER REQUIRED BY NBC.
2. BUILDING WILL BE DESIGNED (STRUCTURES) AS PER RELEVENT IS CODES FOR EARTH QUAKE RESISTANCE.
3. ALL TOILET & KITCHEN HAVE PERMANENT VENTILATION /EXHAUST
4. ALL BUILDINGS ARE NATURALLY VENTILATED AND WHERE EVER REQUIRED MECHANICAL VENTILATION IS PROPOSED WITH 100% POWER BACKUP.

Project

PROPOSED BUILDING PLAN OF GROUP HOUSING COLONY FOR PHASE 3 AREA MEASURING 8.19375 ACRES PART OF TOTAL LICENSED LAND MEASURING 34.175 ACRES(LICENCE NO. 16 OF 2008 DATED 31.01.2008, LICENCE NO. 28 OF 2008 DATED 17.02.2008, LICENCE NO. 44 OF 2011 DATED 13.05.2011) IN SECTOR-59 GURUGRAM MANESAR URBAN COMPLEX BEING DEVELOPED BY BTVS BUILDWELL PVT LTD. AND OTHERS IN COLLABORATION WITH BASE EXPORTS PVT LTD. AND BUZZ HOTELS PVT. LTD.

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STP(HQ) Member Secretary BPAC | STP(HQ) Member BPAC | CTP(HQ) Chairman BPAC

DTP(HQ) | ATP(HQ) | JD. | ATP

Checked and found ok for Public Health Channel Service only subject to comments in marking letter No. 24449 dt. 03/12/26

DINESH KUMAR PA(HQ)

Superintending Engineer (HQ) for Chief Engineer (HQ) HSVP, Panchkula

ADTP (HQ) Member BPAC | FSO, (HQ) Member BPAC

SIGNATURE & SEAL

SANCTIONED TO BE READ WITH THIS OFFICE MEMO NO.:

BIP HOLDER SEAL & SIGNATURE

ARCHITECT'S SEAL & SIGNATURE

REENA SHARMA B.ARCH. CA/2016/77247

JUL.–2026 | Scale : 1:100

Drawing Title:-
16th REFUGE FLOOR PLAN & AREA CALCULATION (TOWER-A)

Drawing No:- TA-06

03-20072026