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BRIHANMUMBAI MUNICIPAL CORPORATION
MUMBAI FIRE BRIGADE

Sub: Fire safety requirement for the proposed construction of High-rise residential buildings i.e. **Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' & MHADA Wing 'E'** (Proposed redevelopment of residential building) on plot No. 1 to 7 bearing CTS No. 307/3, 307/4, 307/5 and 307/6 of village Valnai at Malad (West), Mumbai.

Ref: 1) Online Submission from Mr. Manojkumar Ashwanikumar Dubal, L.S.
2) Online File no. **P-15166/2023/(307/3 And Other)/P/N Ward/ VALNAI-CFO/1/New.**

Mr. Manojkumar Ashwanikumar Dubal, L.S.

This is a proposal for the construction of high-rise residential buildings comprising of 05 wings designated as Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E' where Rehab Wing 'A', 'B' & 'C' (Wing 'A' & 'B' annexed to each other and Wing 'B' & 'C' annexed to each other) are having common basement with sale Wing 'D' and MHADA Wing 'E' (at -4.20 mtrs) for car parking by the way of 7.00 mtrs wide two-way ramp + Ground floor part on stilt & part for shops + common 1st to 3rd part podium & part residential floors + common 4th part podium & part podium for LOS + 5th to 23rd upper residential floors (23rd floor part for Wing 'B') with a total height of 69.99 mtrs measured from general ground level up to terrace level. Sale Wing 'D' is having common basement with Rehab Wing 'A', 'B' & 'C' and MHADA Wing 'E' (at -4.20 mtrs) for car parking by the way of 7.00 mtrs wide two-way ramp + Ground floor part on stilt & part for shops + common 1st to 3rd part podium & part residential floors + common 4th part podium & part podium for LOS + 5th to 40th upper residential floors (40th floor part) with a total height of 143.35 mtrs measured from general ground level to terrace level. MHADA Wing 'E' is having common basement with Rehab Wing 'A', 'B' & 'C' and MHADA Wing 'E' (at -4.20 mtrs) for U.G. tank & Pump room + Ground floor part on stilt for car parking & part for shops + 1st to 22nd upper residential floors (22nd floor part) with a total height of 68.30 mtrs measured from general ground level to terrace level.

L.S. has proposed D.G. set each for Sale & Rehab Building at North side paved R.G. as shown on the plan.

Basement (Common for Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E'):

L.S. has proposed Stack & Surface car parking at basement floor (at -4.20 mtrs) accessible by 7.00 mtrs wide two-way ramp and also proposed common pump room for Rehab Wing 'A', 'B' & 'C' and separate pump room for Sale Wing 'D' as shown on the plan.

L.S. has also proposed common STP at basement floor (at -4.20 mtrs) for Rehab Wing 'A', 'B' & 'C' and Sale Wing 'D' and separate STP for MHADA Wing 'E' as shown on the plan.

Floor wise users of the building (Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E'):

Rehab Wing 'A', 'B' & 'C' and Sale Wing 'D': -

Floors	Occupancy of Floors			
	Wing 'A'	Wing 'B'	Wing 'C'	Wing 'D'
Common Basement	U.G. tanks + Domestic tanks + Flushing tank + Common Pump room for Rehab Wing 'A', 'B' & 'C' + common STP for Rehab Wing 'A', 'B' & 'C' and Sale Wing 'D' + Separate pump room for Sale Wing 'D' + Stack car parking, Puzzle car parking & Surface car parking by the way of 7.00 mtrs wide two-way ramp.			
Ground floor	Entrance lobby for each wing + ELV rooms for shops + Meter room for shops + Meter room for each wing + Rehab OWC + Sale OWC + 30 nos. of shops + Substation for sale & rehab + Separate Fire control room for Rehab & Sale building + Surface car parking in stilt area			
Common 1 st Podium floor	02 nos. of residential flats each for Wing 'A', 'B' & 'C' + Space for electric meter panel area for Wing 'D' + Surface car parking & two-wheeler parking by the way of 7.00 mtrs wide two-way ramp			
Common 2 nd Podium floor	02 nos. of residential flats each for Wing 'A', 'B' & 'C' + Surface car parking & two-wheeler parking by the way of 7.00 mtrs wide two-way ramp			
Common 3 rd Podium floor	02 nos. of residential flats each for Wing 'A', 'B' & 'C' + 03 nos. of space for letter box for Wing 'A' + 04 nos. of space for letter box for Wing 'C' + 02 nos. of fitness center for Wing 'B' + Society office for Wing 'A' + Surface, stack car parking & two-wheeler parking by the way of 7.00 mtrs wide two-way ramp			
Common 4 th Podium floor	02 nos. of residential flats each for Wing 'A', 'B' & 'C' + Fitness centers, Space for letter box, Multipurpose game room & Creche and jacuzzi for Wing 'D' + common LOS area open to sky			
5 th to 6 th floors	04 nos. of flats on each floor	04 nos. of flats on each floor	04 nos. of flats on each floor	08 nos. of flats on each floor
7 th floor	04 nos. of flats	04 nos. of flats	04 nos. of flats	05 nos. of flats + Refuge area
8 th floor	04 nos. of flats	03 nos. of flats + Refuge area	04 nos. of flats	08 nos. of flats
9 th to 13 th floors	04 nos. of flats on each floor	04 nos. of flats on each floor	04 nos. of flats on each floor	08 nos. of flats on each floor
14 th floor	04 nos. of flats	04 nos. of flats	04 nos. of flats	05 nos. of flats + Refuge area
15 th floor	04 nos. of flats	03 nos. of flats + Refuge area	04 nos. of flats	08 nos. of flats
16 th to 20 th floors	04 nos. of flats on each floor	04 nos. of flats on each floor	04 nos. of flats on each floor	08 nos. of flats on each floor
21 st floor	04 nos. of flats	04 nos. of flats	04 nos. of flats	05 nos. of flats + Refuge area
22 nd floor	04 nos. of flats	03 nos. of flats + Refuge area	04 nos. of flats	08 nos. of flats
23 rd floor	04 nos. of flats	03 nos. of flats +	04 nos. of flats	08 nos. of flats

		Part terrace		
24 th to 27 th floors	Terrace above 23 rd floor	Terrace above 23 rd floor	Terrace above 23 rd floor	08 nos. of flats on each floor
28 th floor	-----	-----	-----	05 nos. of flats + Refuge area
29 th to 34 th floors	-----	-----	-----	08 nos. of flats on each floor
35 th floor	-----	-----	-----	06 nos. of flats + Refuge area
36 th to 39 th floors	-----	-----	-----	08 nos. of flats on each floor
40 th floor	-----	-----	-----	Fitness center + Squash court + Badminton areas + Part terrace
Terrace	Open to sky (treated as refuge area)	Open to sky (treated as refuge area)	Open to sky (treated as refuge area)	Open to sky (treated as refuge area)

MHADA Wing 'E':

Floors	Occupancy of Floors
	MHADA Wing 'E'
Common Basement	U.G. tanks + Pump room + STP
Ground floor	Entrance lobby + 04 nos. of shops + OWC + Transformer + Space for letter box + Meter panel + Space for D.G. set + Surface, stack & pit-puzzle car parking in stilt area
1 st to 21 st floors	08 nos. of residential flats on each floor
22 nd floor part	04 nos. of residential flats + Part terrace
Terrace	Open to sky (treated as refuge area)

The details of staircases for Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E':

Wing	No. of staircase	Type of staircase	Width	From – to
Wing 'A'	One	Enclosed type	1.50 mtrs	Leading from Basement to terrace level & same is diverted at ground floor
Wing 'B'	One	Enclosed type	1.50 mtrs	Leading from Basement to terrace level & same is diverted at ground floor
Wing 'C'	One	Enclosed type	1.50 mtrs	Leading from Basement to terrace level & same is diverted at ground floor
Wing 'D'	Two	Enclosed type	2.00 mtrs	Leading from Basement to terrace level & same is diverted at ground floor
Wing 'E'	One	Enclosed type	1.50 mtrs	Leading from Ground floor to terrace floor
	One	Enclosed	1.50 mtrs	Leading from Basement to ground floor

		type		
-----	Two	Enclosed type	1.50 mtrs	Each Leading from Basement to ground floor
-----	One	Enclosed type	1.50 mtrs	Leading from Basement to 3 rd Podium floor & same is diverted at ground floor
The staircase of each wing is externally located and adequately ventilated to outside air as shown on plans.				

The details of lifts for Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E':

Wing	No. of lifts	Type of lifts	Profile
Wing 'A'	01 no.	Passenger lift	Leading from Basement to top floor level
	01 no.	Fire lift	Leading from Ground to top floor level
Wing 'B'	01 no.	Passenger lift	Leading from Basement to top floor level
	01 no.	Fire lift	Leading from Ground to top floor level
Wing 'C'	01 no.	Passenger lift	Leading from Basement to top floor level
	01 no.	Fire lift	Leading from Ground to top floor level
Wing 'D'	04 Nos.	Passenger lifts	Each leading from Basement to top level
	04 nos.	Fire lifts	Each leading from ground to top level
	01 no.	Firemen evacuation lift	Leading from Ground floor to terrace level & opening at each staircase mid-landing
Wing 'E'	02 Nos.	Passenger lifts	Each leading from Ground floor to top floor
	01 no.	Firemen evacuation lift	Leading from Ground floor to terrace level & opening at each staircase mid-landing
One of the passenger lifts from Wing 'A', 'B', 'C' & 'E' & 04 lifts from Wing 'D' will be converted into fire lift. The lift lobby/common corridor at each floor level is ventilated to outside air, as shown on the plans.			

The details of open spaces:

The site abuts on 13.40 mtrs wide Existing D.P. Road on South side as shown on the plan by L.S..

The side open spaces around the building are as under:

Rehab (Wing 'A', 'B' & 'C')			
Sides	Building line to Plot Boundary	Building line to Podium line	Podium line to Plot Boundary
North	9.10 mtrs to 11.70 mtrs	Flushed	9.10 mtrs to 11.70 mtrs
South	5.00 mtrs + 13.40 mtrs wide Existing D.P. Road	Flushed	5.00 mtrs + 13.40 mtrs wide Existing D.P. Road
East	Not applicable	37.65 mtrs at podium floor (Joint open space between Rehab & Sale Building)	Not applicable
West	9.75 mtrs to 11.50 mtrs	Not applicable	Not applicable

Sale (Wing 'D')			
Sides	Building line to Plot Boundary	Building line to Podium line	Podium line to Plot Boundary
North	16.75 mtrs to 24.25 mtrs	3.00 mtrs to 6.00 mtrs	12.90 mtrs to 18.20 mtrs
South	4.80 mtrs to 4.90 mtrs + 13.40 mtrs wide Existing D.P. Road	Flushed	4.80 mtrs to 4.90 mtrs + 13.40 mtrs wide Existing D.P. Road
East	13.40 mtrs to 15.56 mtrs (Including 9.00 mtrs paved LOS) + unpaved LOS	Partly flushed & 1.40 mtrs to 3.56 mtrs	12.00 mtrs (Including 9.00 mtrs paved LOS) + unpaved LOS
West	Not applicable	37.65 mtrs at podium floor (Joint open space between Rehab & Sale Building)	Not applicable
MHADA Wing 'E'			
Sides	From Bldg. line to CTS plot boundary		
North	4.25 mtrs to 6.90 mtrs		
South	4.55 mtrs to 5.30 mtrs + 13.40 mtrs wide Existing D.P. Road		
East	3.60 mtrs to 4.20 mtrs		
West	6.00 mtrs (Including 3.00 mtrs paved LOS) + unpaved LOS		

The details of refuge area for Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E':

Rehab Wing 'B' & Sale Wing 'D':

Wing	Floor	Refuge area in Sq. mtrs		At the height of refuge floor in mtrs from general ground level.
		(Required)	(Proposed)	
Wing 'B'	8 th floor	87.92 sq mtrs	88.88 sq mtrs	23.60 mtrs
	15 th floor	90.65 sq mtrs	90.65 sq mtrs	43.90 mtrs
	22 nd floor	20.88 sq mtrs	69.82 sq mtrs	64.20 mtrs
Wing 'D'	7 th floor	238.61 sq mtrs	245.58 sq mtrs	24.10 mtrs
	14 th floor	238.61 sq mtrs	245.58 sq mtrs	46.85 mtrs
	21 st floor	238.61 sq mtrs	245.58 sq mtrs	69.60 mtrs
	28 th floor	238.61 sq mtrs	245.58 sq mtrs	92.35 mtrs
	35 th floor	169.50 sq mtrs	205.300 sq mtrs	115.10 mtrs

In addition to above, terrace of each wing will be treated as refuge area. E.E.B.P.(W.S.) shall verify the Refuge area calculation and Excess refuge area if any, shall be counted in F.S.I. as per DCPR 2034.

Refuge area for Wing 'A' & 'C':

L.S. has proposed refuge area each for Wing 'A' & 'C' in cantilever form at staircase mid-landing at 8th/9th floor, 10th/11th floor, 12th/13th floor, 14th/15th floor, 16th/17th floor, 18th/19th floor, 20th/21st floor & 22nd/23rd floor of the building. The height of 1st cantilever refuge area is at 24.90 mtrs as shown on the plan for each wing.

Refuge area for Wing 'E':

L.S. has proposed refuge area for Wing 'E' in cantilever form at staircase mid-landing

at 8th/9th floor, 10th/11th floor, 12th/13th floor, 14th/15th floor, 16th/17th floor, 18th/19th floor, 20th/21st floor & 22nd/terrace floor of the building. The height of 1st cantilever refuge area is at 25.95 mtrs as shown on the plan.

The proposal has been considered favorably taking into consideration the following:

- i) The site abuts on 13.40 mtrs wide Existing D.P. Road on South side as shown on the plan by L.S.
- ii) There shall be no compound wall on 13.40 mtrs wide Existing D.P. Road on South side on as shown on the plan.
- iii) The L.S. has proposed refuge area for Wing 'A', 'B', 'C', 'D' & 'E' as under: -
 - a) Wing 'A' is provided Refuge area in cantilever form at each staircase mid-landing facing South Road side from where specialized fire appliances of this department can be operated in case of emergency.
 - b) Refuge area for Wing 'B' is provided at West side having clear open space of 9.00 mtrs from where specialized fire appliances of this department can be operated in case of emergency.
 - c) Wing 'C' is provided Refuge area in cantilever form at each staircase mid-landing facing clear open space of 9.00 mtrs at North side from where specialized fire appliances of this department can be operated in case of emergency.
 - d) Refuge area for Wing 'D' is provided at facing clear open space of 9.00 mtrs at North side from where specialized fire appliances of this department can be operated in case of emergency.
 - e) Wing 'E' is provided Refuge area in cantilever form at each staircase mid-landing facing clear open space of 6.00 mtrs at West side from where specialized fire appliances of this department can be operated in case of emergency.
- iv) L.S. has proposed minimum open space of 6.00 mtrs at West side of the plot for Wing 'E'. Further, L.S. has proposed Fireman evacuation lift leading from ground to top floor with smoke check lobby opening at staircase mid landing on each floor of Wing 'E' as shown on the plan. However, the same is considered as per circular no. CHE/HRB/6159/DPWS dtd. 15/07/2019 issued by Ch.E.(D.P.)
- v) L.S. has also proposed clear open space of 12.00 mtrs including 9.00 mtrs paved R.G. at East side of Sale Wing 'D' & also clear open spaces more than 9.00 mtrs are proposed at North & West side for maneuvering of fire appliances/engines of this department as shown on the plan. There shall be no parking or any type of obstruction in compulsory open spaces.
- vi) L.S. has uploaded letter dated 17/03/2023 stating that, *"In this case, we have proposed wings A, B & C with height of 69.99 mts. Wing D with height of 143.35 mts. and wing E having height of 68.30 mts. The plot under reference is deriving access from existing 13.40 mt. wide road. The proposal under reference is submitted under Cluster Development Scheme as per Reg. 33(9). We have submitted the proposal for the Cluster Redevelopment Scheme (CDS) as per Reg. 33(9) of DCPR 2034 on plot under reference. The said proposal was recommended to HPC by Hon'ble Municipal Commissioner u/no. MCP/8948 dtd.19.07.2022 (Copy attached in additional documents) for the*

following:

- i. To allow Cluster Development scheme on plots u/r through 13.40 mt. wide existing road which is within 500 mts. form the existing 36.60 mts. Wide Link Road as per Govt. notification u/no. TPB/4320/107/CR-72/2020(Part-I)/UD-11 dated. 08.07.2021.
- ii. To Direct MBRRB/appropriate authority to certify the list of occupants, their existing carpet area as per Reg. 33(9)(2)(A) ii) of DCPR 2034.
- iii. To allow rehabilitation of 10 nos. of commercial shops in Residential tenements as per their written consent per Reg. 33(9)(5) of DCPR 2034.
- iv. To allow the MHADA BUA share in the same plot or in the same ward or in the adjoining ward as per Reg. 33(9)(6)(c).
- v. Allow height of building more than 120 mts. on the plot under reference deriving access from 13.40 mts. wide existing road.
- vi. To allow parking space in the proposed CDS as the regular development without charging premium.

"The above issues were placed in the High-Power Committee on 29-07-2022 and the same were approved. Minutes of the meeting of High-Power Committee u/no. DYCHE/1573/(B.P.) CITY dtd. 12.08.2022 is attached in additional documents. Thereafter, as per the approval of HPC, the proposal was referred to Govt. and The Urban Development Department has accorded sanction to the said proposal as per Reg. 33(9) of DCPR 2034 u/no. TPB-4322/429/CR 90/2022/UD-11 dtd. 16.11.2022 including permitting the height of the building of 143.85 mts. (copy attached in additional documents). As per Reg.19(2), the permissible height of the building on the road width of 13.40 mts. is 120.00 mts. However, we had requested to High Power Committee to recommend the height of wing D more than 120.00 mt. which the HPC had considered and decided to recommend to the U.D Department. Minutes of the meeting of High-Power Committee u/no. DYCHE/1573/(B.P.) CITY dtd. 12.08.2022 is attached in additional documents. Thereafter, as per the approval of HPC, the proposal was referred to Govt. and the Urban Development Department has accorded sanction to the said proposal as per Reg. 33(9) of DCPR 2034 u/no. TPB-4322/429/CR 90/2022/UD-11 dtd. 16.11.2022 including permitting the height of the building of 143.85 mts. on plot under reference abutting to 13.40 mts. Wide existing road. Accordingly, Letter of Intent (LOI) is issued u/no. Dy.Ch.E.(B.P.)/10925/W.S./P&R dtd. 22.02.2023 (copy attached in additional documents)". Hence, the said proposal is considered.

- vii) For Wing 'A', 'B' & 'C': Automatic sprinkler system shall be provided in car parking areas at ground floor, basement & each podium floor covering each level of car parking, in each shop, in society office, in each fitness center, in each residential flat on each floor & in lift lobby/common corridor of each floor of each wing as per relevant I.S. standards laid down.
- viii) For Wing 'D': Automatic sprinkler system shall be provided in car parking areas at ground floor, basement floor & each podium floor covering each level of car parking, in each shop, in each fitness center, each room at 4th Podium floor, in each habitable room of each flat on each floor & in lift lobby/common corridor

- on each floor as per relevant I.S. standards laid down.
- ix) For Wing 'E': Automatic sprinkler system shall be provided in car parking areas at ground floor covering each level of car parking, in each shop, in each flat on each floor & in lift lobby/common corridor on each floor as per relevant I.S. standards laid down.
 - x) Any additional fire safety requirements for proposed building recommended in future from Mumbai Fire Brigade Officer before final occupation shall be complied with.

In the view of above, as far as this department is concerned, this requirement letter is issued from fire safety point of view, for the proposed construction of high-rise residential buildings comprising of 05 wings designated as Rehab Wing 'A', 'B' & 'C', Sale Wing 'D' and MHADA Wing 'E' where Rehab Wing 'A', 'B' & 'C' (Wing 'A' & 'B' annexed to each other and Wing 'B' & 'C' annexed to each other) are having common basement with sale Wing 'D' and MHADA Wing 'E' (at -4.20 mtrs) for car parking by the way of 7.00 mtrs wide two-way ramp + Ground floor part on stilt & part for shops + common 1st to 3rd part podium & part residential floors + common 4th part podium & part podium for LOS + 5th to 23rd upper residential floors (23rd floor part for Wing 'B') with a total height of 69.99 mtrs measured from general ground level up to terrace level. Sale Wing 'D' is having common basement with Rehab Wing 'A', 'B' & 'C' and MHADA Wing 'E' (at -4.20 mtrs) for car parking by the way of 7.00 mtrs wide two-way ramp + Ground floor part on stilt & part for shops + common 1st to 3rd part podium & part residential floors + common 4th part podium & part podium for LOS + 5th to 40th upper residential floors (40th floor part) with a total height of 143.35 mtrs measured from general ground level to terrace level. MHADA Wing 'E' is having common basement with Rehab Wing 'A', 'B' & 'C' and MHADA Wing 'E' (at -4.20 mtrs) for U.G. tank & Pump room + Ground floor part on stilt for car parking & part for shops + 1st to 22nd upper residential floors (22nd floor part) with a total height of 68.30 mtrs measured from general ground level to terrace level as shown on enclosed plan, signed in token of approval, subject to satisfactory compliances of the following requirements:

1) ACCESS:

- a) There shall be no compound wall on 13.40 mtrs wide Existing D.P. Road on South side. However, sliding gate once opened shall have clear opening of 12.00 mtrs may be provided.
- b) There shall be no parking or any type of obstruction in compulsory open spaces.
- c) Courtyards shall be flushed with the road level.

2) COURTYARDS:

- i) The entire available courtyards on all the sides of the building shall be paved suitably to bear the load of fire engines with point load of 10 kg/cm²
- ii) All the courtyards shall be in one plane.
- iii) The courtyards shall be kept free from obstruction at all times.
- iv) No structure of any kind shall be permitted in courtyards of the building.

3) CORRIDOR / LIFT LOBBY (FOR EACH WING):

- i) Corridor / lift lobby at each floor level shall be naturally ventilated.

- ii) The common corridor / lift lobby at each floor level shall be kept free from obstructions at all times.
 - iii) Self-glowing/fluorescent exit signs in green color shall be provided showing the means of escape.
 - iv) Portable lights / instant lights or Battery/UPS operated lights shall be provided at strategic locations in the staircase and lift lobby of each floor.
- 4) BASEMENT (FOR WING 'A', 'B', 'C', 'D' & 'E'):**
- i) The basement shall be used for designated purpose only as shown in the plan.
 - ii) The basement shall be provided with natural / mechanical ventilations through the ventilators, open cut outs as shown in the plan.
 - iii) The staircases of the basement shall be of enclosed type and entry to basement areas shall be through two hours fire resistance self-closing door provided in the enclosed wall of the staircase and through smoke check / cut off lobby.
 - iv) Mechanical ventilation shall be provided to the basement with 06 air changes per hour with an arrangement to accelerate the rate of air changes to 12 per hour in the event of a fire emergency.
 - v) The ducts of the mechanical ventilations system shall be of substantial metal gauge as per the relevant I.S. standard.
 - vi) The operating switches of the mechanical ventilation shall be located in the fire control room.
 - vii) Exhaust duct shall be provided to draw out exhaust at ground level of the basement.
 - viii) Suitable signages shall be provided in the basement showing exit direction, way to exits etc.
 - ix) Smoke check lobby, Staircases, common passages & escape routes of the entire building shall be painted with fire retardant paint.
 - x) The staircase of the basement & the associated lift lobbies shall be pressurized in the event of fire. The pressure in this enclosed staircase and enclosed lift lobbies shall be maintained not less than 5m.m. W.G. & 2.5 mm W.G. for lift lobbies.
 - xi) CO Detector with audible alarm system shall be provided to all the basement areas and the circuit of the same shall be given / connected to mechanical ventilation system to start automatically on actuation of CO detector and the other detectors provided in the basement.
 - xii) Basement area shall be divided in compartments as per norms & these compartments shall be segregated by 02hrs fire curtain system, as shown on the plan.
 - xiii) Ventilation system shall start automatically on actuation of detector provided in the basement area.
 - xiv) Exhaust duct, mechanical ventilation duct should not pass-through exit or entry.
 - xv) The basement beyond building line shall be paved, suitably to bear the load of fire engines with point load of 10 kgs./cm².

5) STAIRCASE (FOR EACH WING):

- i) The layout of staircase of building shall be enclosed type as shown in the plan throughout its height and shall be approached (gained) at each floor level through at least one hour fire resistant self-closing door placed in the enclosed wall of the staircase at landing.
- ii) The flight width of staircase shall not be less than 1.50 mtrs throughout its height for Wing 'A', 'B', 'C' & 'E'.
- iii) The flight width of each staircase shall not be less than 2.00 mtrs throughout its height for Wing 'D'.
- iv) Permanent vent at the top equal to 5% of the cross-sectional area of the staircase shall be provided.
- v) Openable sashes or R.C.C. grills with clear opening of not less than 0.5 sq. mtrs. per landing on the external wall of the staircase shall be provided.
- vi) Nothing shall be kept or stored in staircase / corridor/passage.

The staircase terrace door shall be provided in the following manner (FOR EACH WING):

- a) The top half portion of the doors shall be provided with louvers.
- b) The latch-lock shall be installed from the terrace side at the height if not more than 1 mtrs.
- c) The glass front of 6-inch diameter with the breakable glass shall be provided just above the latch lock, so as to open the latch in case of an emergency by breaking glass.
- d) The door shall either be fitted with magnetic lock connected to console & detection system or shall be synchronized with fire detection and alarm system.

6) PROTECTION TO STRUCTURAL STEEL (FOR EACH WING):

- a) All the structural steel members i.e. columns, beams, etc., shall be protected with the fire resisting materials and methods as stipulated under IS 1942-1960 as application for residential building.
- b) A certificate to that effect that the fire resistance protection has been provided as above shall be furnished from the chartered Structural Engineer at the time of application for occupying the building.

7) SURFACE/STACK/PUZZLE PARKING (FOR EACH WING):

- i) The designated parking shall be used for car parking only.
- ii) The drainage of the car parking areas shall be separate from that of the building and shall be provided with catch with fire trap before connecting to Municipal Sewer.
- iii) Repairing / servicing of cars, use of naked light shall not be permitted in the car parking areas.
- iv) The parking area shall not be used for dwelling purpose and repairing / maintenance of vehicles, storage, trade activity etc, at any time and use of naked light / flame shall be strictly prohibited.
- v) Vertical deck separation shall be provided between the upper & lower decks of Stack parking by using the non-perforated and non-combustible materials. (structural steel plate) This is to minimize direct impingement of flame to the car in the upper deck and also to prevent dripping of any possible leaking fuel

- to the lower deck.
- vi) Elements of the stack parking structure shall have 1 hr. fire resistance.
- vii) Sprinkler system shall be provided in stack & puzzle parking area covering each level of parking.
- viii) Each car parking deck shall have 1 hr. fire resistance.
- ix) Parking area shall be accessible by trained staff when carrying out the maintenance work.
- x) The parking system is to be ceased during the maintenance operation.
- xi) The drive ways shall be properly marked & maintained unobstructed. Proper illuminated signage's for escape routes, ramps, etc. shall be provided at prominent locations.

9) LIFTS:

A. PASSENGER LIFT (FOR EACH WING):

- i) Walls enclosing lift shaft shall have a fire resistance of not less than two hours.
- ii) Shafts shall have permanent vent of not less than 0.2 sq. mtrs in clear area immediately under the machine room.
- iii) Landing doors and lift car doors of the lifts shall be of steel shuttered with fire resistance of one hour. No collapsible shutter shall be permitted.
- iv) Fire lift shown in the plan shall be as per specifications laid down under the regulations, a toggle switch shall be provided to this lift for the use of Firemen.
- v) Threshold of non-combustible material shall be provided at the entrance of each landing door.

B. FIRE LIFT (FOR EACH WING):

- i) To enable fire services personnel to reach the upper floor with the minimum delay, total four lifts shall be converted into fire lift (excluding fire evacuation lift) and shall be available for the exclusive use of the firemen in an emergency and shall be directly accessible to every dwelling of each floor.
- ii) Walls enclosing lift shafts shall have two hours fire resistance.
- iii) The shafts shall have permanent vent equal 0.2 sq. mtrs. clear area under the Lift Machine room.
- iv) Landing doors and lift car doors shall be of steel shuttered type with one-hour fire resistance. No collapsible shutters shall be provided.
- v) The lift shall have a floor area of not less than 1.4 sq. mtrs. with a minimum dimension of 1.12 mtrs. It shall have loading capacity of not less than 545 kg. (8 persons lift) with automatic closing doors.
- vi) There shall be an alternate electric supply of an adequate capacity apart from the normal electric supply the building and the cables run in a route safe from fire, i.e. within the lift shaft. In case of failure normal electric supply, it shall automatically trip over to alternate supply.
- vii) The operation of fire lift should be by a simple toggle or two button switches situated in glass-fronted box adjacent to the lift at the entrance level. When the switch is on, landing call points will become inoperative and the lift will be on car control only or on priority control device. When the switch is off, the lift will return to normal working. It can be used by the occupants in normal times.

- viii) The words 'Fire lift' shall be conspicuously displayed in florescent paint on the lift landing door at each floor level & Threshold of non-combustible material shall be provided at the entrance of each landing door.

C. FIREMAN EVACUATION LIFT (FOR WING 'D' & 'E'):

- a) Capacity of Fireman Evacuation Lift shall be of 845 to 1000 kgs. /8 to 15 persons and it shall be terminated on ground floor where facility of assembly or evacuation is available in case of emergency.
- b) Fireman Evacuation Lift shall be housed in a separate core having smoke check lobby with opening on each floor and shall be connected with one of the staircases and required access to the staircase on each landing through fire resistance of two hours rating. Alternatively, firemen evacuation lift shall be provided on every mid-landing of one of the enclosed staircases and the staircase shall be protected with smoke check lobby by means of fire resistance door/ fire curtain or fire resistance glass having two hours rating.
- c) All the requirements pertaining to civil and electrical aspects mentioned in NBC for Fire Lift shall be applicable for Fireman Evacuation Lift.
- d) Fireman Evacuation Lift car doors and landing doors shall have two hours fire resistance and shall have provision of glass vision for both doors of minimum 1 ft. X 2 ft. And the glass shall also have two hours fire resistance.
- e) Fireman Evacuation Lift shall have emergency operation switch which will be only operated by fire brigade personnel. On actuation of the switch the Fireman Evacuation Lift will operate from inside and the lift car door shall not open automatically but shall have control from inside to open it. The emergency operation switch shall also be provided in the ground floor lobby.
- f) The backup electric supply shall be through UPS for at least 30 min and it shall be supported online by another regular and alternate emergency supply.
- g) Two-way communication systems shall be provided in Fireman Evacuation Lift car as well as at every landing level including lobby at ground floor.
- h) All the electrical cable shall be fire retardant with low smoke hazard complying relevant BIS standards.
- i) Fireman Evacuation Lift car shall be of made of non-combustible material including interior having minimum two hours resistance.
- j) Lift maintenance shall be carried out only by Lift Manufacturing or Installation Company.
- k) Fireman Evacuation Lift and the staircase attached to it shall be clearly marked mentioning FIRE ESCAPE LIFT/STAIRCASE at each landing door at each floor level.
- l) The smoke check lobby with evacuation lift shall have positive level difference of minimum 75 mm with respect to staircase landing or mid landing level to avoid ingress of water in fireman lift shaft.

10) ELECTRIC SUB STATION:

- a) Only dry type substation shall be installed.
- b) Entire installation of substation including switchgear room, capacitors, transformer etc. shall be confirmed to the Indian Electric Act/Rules in practice.
- c) Cables in the cable trenches shall be coated with fire retardant material. Automatic built-in circuit breakers shall be provided in the substation.

- d) The door of the sub-station shall be of two hours fire resistance.
- e) The capacity of the substation shall be as per service provider's requirements.
- f) Adequate heating ventilation of switch room is essential to prevent condensation of moistures.
- g) The substation area shall be kept prohibited and no unauthorized person shall be allowed to enter in the area.
- h) The proposed substation shall be completely segregated either by brick masonry wall each of 9" thickness or R.C.C of 4" thickness from the rest of the premises as shown in the enclosed plans.
- i) The danger signage shall be provided on the substation fencing along with the electric voltage load.
- j) Entrance and exit door provided for transformer fencing shall be under lock and key at all the times.
- k) Two dry chemical power type (ABC stored pressure type) fire extinguishers each of 09 kgs. capacity each with BIS certification mark coupled with four buckets filled with dry clean sand shall be kept in the sub-station at the entrance.

11) D.G SET:

- i) D.G. Set with appropriate change over switch shall be provided for fire pumps, sprinkler pump, booster pump, staircase and corridor lighting circuits, manual fire alarm system & Fire lift.
- ii) For proposed D.G. Set acoustic enclosure will be provided for safe operation.
- iii) Entire installation of D.G. Set shall be confirming to the Indian electrical act/rules & practice.
- iv) A deep tray shall be kept under the fuel tank of the D.G. Set to collect the spillage & same shall be disposed off daily without fail.
- v) Cable in the cable trenches shall be coated with fire retardant material.
- vi) Electrical wiring shall be having copper core having the fire resistant and low smoke hazards cables for the entire building with the provision of ELCB/MCB.
- vii) In electrical installation of the building shall be provided for vertical electrical shaft with feeder pillar box of a gap of every 24 mtrs. Height of the building.
- viii) Adequate air and ventilation for switchgear room is essential to prevent condensation of moistures.
- ix) The capacity of the D.G. Set shall be as per electricity company requirements.
- x) D.G. Set shall be properly grounded.
- xi) Exhaust of D.G. Set shall not be directed in to the exit/entrance of any adjoining structure.
- xii) Sand bed of 6 inches thickness shall be provided below D.G. Set.
- xiii) Electrical cable of D.G. Set shall be FRL Stype.
- xiv) Adequate quantity of diesel shall be stored in its original container near D.G. Set, away from electrical switches of source of ignition.
- xv) Automatic built-in circuit breaker shall be provided to the D.G. Set.
- xvi) Rubber pad shall be provided to the D.G. Set for absorbed vibrations if any.
- xvii) The D.G. Set area shall be kept prohibited and no unauthorized shall be allow to enter the area.
- xviii) Structural stability of the building regarding absorption of the vibration of D.G. Set shall be checked by Structural Engg. before installation of the D.G. Set.

- xix) Two foam type fire extinguishers of 9.00 ltrs. Capacity each with ISI certification mark coupled with 4 buckets filled with dry, clean sand shall be kept in the D.G. Set.

12) PODIUM FLOORS:

- i) The podium floors shall be used for designated purpose as per shown on the plans.
- ii) All the sides of the stilted car parking shall be kept open except parapet walls of not more than 1.2 meters height.
- iii) Drencher system on the top of each podium floor shall be provided at the podium periphery & shall be connected to automatic sprinkler system of the building.
- iv) The driveways shall be properly marked and maintained unobstructed, proper illuminated signage shall be provided for escape route at prominent location.

13) STAIRCASE AND CORRIDOR LIGHTINGS (FOR EACH WING):

- i) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that they could be operated by one switch installation on the ground floor easily accessible to firefighting staff at any time irrespective of the position of the individual control of the light points, if any.
- ii) Staircase and corridor lighting shall also be connected to alternate supply
- iii) Double throw switches should be installed to ensure that lighting in the staircase and the corridor do not get connected to two sources of supply simultaneously. A double throw switch shall be installed in the service room to terminate the stand-by-supply.

14) ENTRANCE DOORS & KITCHEN DOORS (FOR EACH WING):

- i) All entrance doors including flat entrance and kitchen doors for Wing 'D' and All entrance doors including flat entrance and kitchen doors (if provided) for Wing 'A', 'B', 'C' & 'E' shall be of solid core having fire resistance of not less than one hour. Rolling shutter for each shop shall have fire resistance of not less than one hour.
- ii) The fire resistance rating for staircase F.R.D., Lift lobby / protected lobby & the lift doors shall be as per N.B.C. provisions.

15) ELECTRIC CABLE/ DUCT, SERVICES & METER ROOM (FOR EACH WING):

- i) Electric cable duct shall be exclusively used for electric cables and should not open in staircase enclosure.
- ii) Inspection doors for duct shall have two hours fire resistance.
- iii) Electric ducts shall be sealed at each floor level with non-combustible materials such as vermiculite concrete. No storage of any kind shall be done in electric shaft.
- iv) Electric wiring/ cable shall be non-toxic, non-flammable, fire retardant, low smoke hazard having copper core / fire resistance for the entire building with provision of ELCB/MCB.
- v) Electric meter room shall be provided at location marked on the plan. It shall be adequately ventilated & easily accessible.

- vi) Low and medium voltage wiring running in shaft and in false ceiling should run in separate conduits;
- vii) Water mains, telephone lines, intercom lines, gas pipes or any other service line should not be laid in the duct for electrical cables; use of bus bar/solid rising mains instead of cables is preferred
- viii) Separate circuits for firefighting pumps, lifts, staircases and corridor lighting shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fuse in one circuit will not affect the others. Such circuits shall be protected at origin by an automatic circuit breaker with its no-volt coil.
- ix) Automatic smoke detector system shall be provided in each electric shaft on each floor along with response indicator which shall be connected to main console panel board on ground floor level and each floor level
- x) Master switches controlling essential service circuits shall be clearly labeled in building.

16) RAMP FOR BASEMENT & PODIUM PARKING:

- a) The ramp for parking as shown in enclosed plan provided entry at the ground level.
- b) The gradient of ramp shall not be steeper than 1:8 for vehicular traffic as per Reg. 37(16) of DCPR 2034.
- c) The access provided to the basement & podium shall be kept unobstructed.

17) FIRE FIGHTING REQUIREMENTS: -

A) UNDER GROUND WATER STORAGE TANK (COMMON FOR WING 'A', 'B' & 'C' AND SEPARATE FOR WING 'E'):

A Common Underground water storage tank of 3,50,000 liters capacity for Wing 'A', 'B' & 'C' & another separate Underground water storage tank of 1,50,000 liters capacity for Wing 'E' shall be provided at location marked on the plan, as per the design specified in the rules with baffle wall and fire brigade collecting breaching.

B) UNDER GROUND WATER STORAGE TANK (SEPARATE FOR WING 'D'):

An Underground water storage tank of 4,00,000 liters capacity shall be provided at location marked on the plan, as per the design specified in the rules with baffle wall and fire brigade collecting breaching.

C) OVERHEAD WATER STORAGE TANK (SEPARATE FOR WING 'A', 'B', 'C' & 'E'):

A tank of 30,000 liters capacity shall be provided on the terrace level, the layout of which shall be got approved from H. E.'s departments prior to erection. The tank shall be connected to the wet riser through a booster pump through a non-return valve gate valve.

D) OVERHEAD WATER STORAGE TANK (FOR EACH STAIRCASE OF WING 'E'):

A tank of 50,000 liters capacity shall be provided on the terrace level, the layout of which shall be got approved from H. E.'s departments prior to

erection. The tank shall be connected to the wet riser through a booster pump through a non-return valve gate valve.

- E) **WET-RISER (SEPARATE FOR EACH WING):**
Wet riser of internal dia. of 15cm of G.I. 'C' Class pipe shall be provided as shown on the plan with double hydrant outlet & hose reel at each floor. Pressure reducing discs or orifices shall be provided at lower level, so as not to exceed the pressure of 5.5 kgs. per sq. cms. The same shall be extended to Basement floor.
- F) **FIRE SERVICES INLET:**
i) A fire service inlet on the external face of the building near the tank directly fronting the courtyards shall be provide to connect the mobile pump of the fire service independently to (a) The wet riser cum down comer (b) Sprinkler system (c) Drencher system.
ii) Breeching connection inlet shall be provided to refill U.G. tank,
iii) Operating switches of fire pumps shall be also provided in glass fronted boxes at ground floor.
- G) **AUTOMATIC SPRINKLER SYSTEM (FOR WING 'A', 'B' & 'C'):**
Automatic sprinkler system shall be provided in car parking areas at ground floor, basement & each podium floor covering each level of car parking, in each shop, in society office, in each fitness center, in each residential flat on each floor & in lift lobby/common corridor of each floor of each wing as per relevant I.S. standards laid down.
- H) **AUTOMATIC SPRINKLER SYSTEM (FOR WING 'D'):**
Automatic sprinkler system shall be provided in car parking areas at ground floor, basement floor & each podium floor covering each level of car parking, in each shop, in each fitness center, each room at 4th Podium floor, in each habitable room of each flat on each floor & in lift lobby/common corridor on each floor as per relevant I.S. standards laid down.
- I) **AUTOMATIC SPRINKLER SYSTEM (FOR WING 'E'):**
Automatic sprinkler system shall be provided in car parking areas at ground floor covering each level of car parking, in each shop, in each flat on each floor & in lift lobby/common corridor on each floor as per relevant I.S. standards laid down.
- J) **DRENCHER SYSTEM:**
Drencher system should be provided on the periphery of the top of each podium floor of the building and should be connected to the main sprinkler pump as per the standard laid down in relevant I.S. Specifications
- K) **AUTOMATIC SMOKE DETECTION SYSTEM (FOR EACH WING):**
Automatic smoke detection system shall be provided in each Fire control room, in each shop, each fitness center, in each room at 4th podium floor, society office, in each substation, each D.G. set, in each pump room, in each electric

meter room, each electric duct of each wing & each lift machine room of each wing as per IS specification. Also, Automatic smoke detection system shall be provided on each floor with response indicator & same should be connected to main console panel on ground floor level, as per IS specification.

L) FIRE PUMP, SPRINKLER PUMP, JOCKEY PUMP (COMMON FOR WING 'A', 'B' & 'C' AND SEPARATE FOR WING 'E') & BOOSTER PUMP (SEPARATE FOR WING 'A', 'B', 'C' & 'E'):

- a. Wet riser shall be connected to a fire pump at ground level of capacity of not less than 2400 liters/min. capable of giving pressure of not less than 3.2 kgs/sq.cms. at the top most hydrant. The same shall be coupled with jockey pump of suitable capacity
- b. Booster pump of capacity 900 liters/min. giving a pressure of not less than 3.2 kgs./sq.cms. at the topmost hydrant outlet of the wet riser shall be provided at the terrace level. (Submersible pump not allowed).
- c. Two-way switches for the booster pump shall be provided at terrace, top floor of the building as well as at ground level at easily accessible/noticeable place of the building.
- d. Sprinkler pump of suitable capacity along with jockey pump shall be provided for automatic sprinkler system.
- e. Only surface mounted pumps or vertical turbine pumps shall be installed for firefighting installation with adequate size pump room.
- f. Electric supply (normal) to these pumps shall be on independent circuit.

M) FIRE PUMP, SPRINKLER PUMP & JOCKEY PUMP AND, BOOSTER PUMP (FOR WING 'D'):

- i) Wet-risers shall be connected to a fire pump at ground level of capacity of not less than 2800 liters/min. capable of giving a pressure of not less than 3.2 kgs/ sq. cms. at the top most hydrant. The fire pump shall be coupled with jockey pump of sufficient capacity. Separate jockey pump shall be provided to Wet riser system of each wing to keep system pressurized.
- ii) Booster pump of 900 liters/min. capacity giving a pressure of not less than 3.2 kgs. / sq. cms. at the top most hydrant out let of the wet-riser shall be provided at the terrace level.
- iii) Sprinkler pump of suitable capacity along with jockey pump shall be provided for automatic sprinkler system.
- iv) Electric supply (normal) to these pumps shall be independent circuit.
- v) Operating switches for booster pumps shall be also provided in glass fronted boxes in lift lobbies on each floor at easily accessible place.
- vi) Operating switches of fire pumps shall be also provided in glass fronted boxes at ground level.
- vii) All above pumps should be surface mounted or vertical turbine type (submersible pump not permitted) along with adequate size of pump room. Firefighting panel shall be provided at ground level at easily accessible place.
- viii) All the pumps shall be TAC norms or complied to NFPA-20.

O) STANDBY PUMP (COMMON FOR WING 'A', 'B' & 'C' AND SEPARATE FOR WING 'D'):

A separate Fire main pump, sprinkler pump & jockey pump of suitable capacity as stand by pumps shall be provided to the building or a Diesel -oil driven fire pump of suitable capacity shall be kept as stand by pump as per N.B.C.

P) EXTERNAL HYDRANTS:

Courtyard hydrants shall be provided at distance of every 30.00 mtrs around the building within the confines of the site of the wet riser on ground, basement & on each podium floor of each wing.

Q) HOSES & HOSE BOXES (FOR EACH WING):

Two Hose Box, each with two hoses of 15mts length of 63mm dia. along with branch shall be provided shall be kept in ground floor, basement, each podium floor on each floor at easily accessible places.

R) ALTERNATE SOURCE OF POWER SUPPLY (COMMON FOR WING 'A', 'B' & 'C' AND SEPARATE FOR WING 'D'):

An alternate source of L. V. /H. V. supply from a separate sub-station as well as from D.G. Set with appropriate change over switch shall be provided for Fireman evacuation lift, fire pump, Booster pump, sprinkler pump, jockey pump, fire lift, staircase, corridor lighting circuits, and fire alarm system, detector systems, etc. It shall be housed in a separate cabin.

S) ALTERNATE SOURCE OF POWER SUPPLY (SEPARATE FOR WING 'E'):

An alternate source of L. V. /H. V. supply from a separate sub-station or from D.G. Set with appropriate change over switch shall be provided for Fireman evacuation lift, fire pump, Booster pump, sprinkler pump, jockey pump, fire lift, staircase, corridor lighting circuits, and fire alarm system, detector systems, etc. It shall be housed in a separate cabin.

T) PORTABLE FIRE EXTINGUISHERS (FOR EACH WING):

- a) One dry chemical powder (ABC type) fire extinguisher of 09 kgs. Capacity having BIS certification mark and one no. of bucket filled with dry clean sand shall be kept in each shop, in each electric meter room & in each Lift Machine Room.
- b) One dry chemical powder (ABC type) fire extinguishers of 09 kgs. Capacity each having BIS certification mark and two buckets filled with dry clean sand shall be kept at every 100 sq mtrs area of car parking areas at ground, basement & each podium floor.
- c) One dry chemical powder type fire extinguisher of 06 kgs. Capacity having BIS Certification mark shall be kept in society office, in each fitness center, in lift lobby / common corridor on each floor as well as in refuge area of each wing.

U) PANEL BOARD OF FIRE-FIGHTING SYSTEM (FOR EACH WING):

Fire alarm system, public address system, Alternate supply, etc. panels shall be installed on ground floor & which shall be manned 24 hours.

V) HEAT DETECTORS (FOR WING 'D'):

Heat detectors shall be installed in the hot areas i.e. kitchen room each flat of

the building.

- W) **GAS DETECTOR SYSTEM (FOR WING 'D')**:
LPG /PNG detector system shall be installed in each kitchen room on each floor of the building as per relevant I.S. specifications.
- X) **BREATHING APPARATUS SET (FOR WING 'D')**:
Two self-contained breathing apparatus sets of 45 mins duration each shall be kept in fire control room & in each refuge area.
- Y) **PUBLIC ADDRESS SYSTEM (FOR EACH WING)**:
The building shall be provided with public address system as per the rules with main control operator at console panel at ground floor area.
- Z) **FIRE ALARM SYSTEM (FOR EACH WING)**:
The building shall be provided with manual fire alarm system with main control panel at ground floor level and pill-boxes & hooters at each upper floor level. The layout of fire alarm system shall be in accordance with I.S. specification.
- 18) **INTERNET OF THINGS SYSTEM (FOR EACH WING)**:
a) The IOT based Micro Controller Device shall be provided in the electrical installation of the building as per the requirement stipulated in circular No. शासन परिपत्रक क्र .मुविनि-२०२१/प्र .क्र .११४/ऊर्जा- ५.
b) The IOT based Micro Controller Device shall be tested and verified by NABL accredited testing agency / laboratory in accordance with the recognized IS:732-2019 code for practice for Electrical wiring installation.
c) The complete installation of IOT based Micro Controller Devices shall be checked and certified by the Chief Electrical Inspector, Govt. of Maharashtra and certificate to that effect shall be issued at that time of compliance.
d) The data and the alert generated by IOT based Micro Controller Devices shall be monitored by building management system and the necessary corrective measures shall be taken by the owner, occupier immediately.
e) The data generated by IOT based Micro Controller Devices shall be made available to fire brigade department as and when required to investigate the cause of fire.
- 19) **SIGNAGES (FOR EACH WING)**:
Self-glowing/fluorescent exit signs shall be provided showing the means of escape for the entire building.
- 20) **VOICE EVACUATION SYSTEM (FOR WING 'D')**:
The voice evacuation system shall be integrated to Fire Alarm system so as to facilitate the co-ordination activities in case of fire emergencies. The actuation of the fire alarm control panel shall automatically activate the Voice Evacuation system. A pre-recorded message shall be broadcast on the affected floor, one floor below & two floors above the affected floor.
- 21) **INTEGRATED SYSTEM (FOR WING 'D')**:

The entire firefighting system shall be of the type "Integrated Building Automation System" combining all the systems. Flasher light shall be installed at the top of the building which will be switched on in case of incident of fire in that building to indicate involvement of building in fire. It will also help the incoming fire brigade appliances to reach the spot in time without delay.

22) FIRE DRILLS / EVACUATION DRILLS (FOR EACH WING):

Fire Drills and evacuation drills shall be conducted regularly in consultation with Mumbai Fire Brigade and log of the same shall be maintained.

23) SERVICE DUCT (FOR EACH WING):

- i) All service ducts shall have 2 hr. fire resistance.
- ii) Inspection door of the service ducts shall have 2 hr. fire resistance.
- iii) Duct for water service, drainage line, shall be separate from that of electrical cable duct.
- iv) All service duct shafts shall be sealed at each floor level with non-combustible materials such as vermiculite concrete. No storage of any kind shall be done in the shaft.

23) TRAINED STAFF / SECURITY GUARDS (FOR WING 'A', 'B', 'C' & 'E'):

- i) The trained security / staff along with trained staff having basic knowledge of firefighting & fix firefighting installation shall be provided / posted in the building.
- ii) They will be responsible for the following:
 - a. Maintenance of all the first aid firefighting equipments, fixed installations & Other firefighting equipment / appliance in good working condition at all times.
 - b. Imparting training to the occupants of the building in the use of firefighting equipment provided on the premises & keep them informed about the fire & other emergency evacuation procedures.

24) TRAINED FIRE OFFICER AND SECURITY GUARDS (FOR WING 'D'):

- a) A qualified fire officer & security guards / supervisor shall be appointed.
- b) The trained security / fire supervisor having basic knowledge of fire-fighting & fix fire-fighting installation shall be provided / posted in the building round the clock.
- c) Maintenance of all the first aid fire-fighting equipment's, fixed installations & other fire-fighting equipment's / appliance in good working condition at all times.
- d) Imparting training to the occupants of the building in the use of firefighting equipment provided on the premises & kept them informed about the fire & other emergency evacuation procedures.

25) FIRE CONTROL ROOM (FOR WING 'A', 'B', 'C' & 'D'):

- i) Separate Fire control room with well qualified man power shall be established at ground floor.
- ii) Plan of each floors indicating means of egress as well escape shall be maintained.
- iii) Control panel of fire safety system shall be located in the BMS / Fire control room.

- 26) BUILDING MANAGEMENT SYSTEM (FOR WING 'D'):**
- i) The entire building should be provided with intelligent, properly designed /programmed building management system having its main control at near reception on ground floor.
 - ii) Addressable wireless standalone system with connectivity to nearby fire station shall be provided.
- 27) DISASTER MANAGEMENT PLAN (FOR EACH WING):**
- a. Disaster management plan for fire & other emergency shall be prepare and kept ready at the control room.
 - b. The mock drill with the designated fire marshal for any operation of disaster management plan shall be carried out regularly after occupation 'as per National building code.
- 28) OTHER NOC / PERMISSIONS (FOR EACH WING):**
- Necessary permissions / N.O.C. for swimming pool, licensable trade, addition/ alteration, interior work, etc. shall be obtained from competent Municipal Authorities & CFO's Department.
- 29) FIRE FIGHTING REQUIREMENTS AT THE CONSTRUCTION STAGE OF BUILDING (FOR EACH WING):**
- Following fire protection arrangement shall be provided with the following fire protection measures shall be provided & same shall be maintained in good working condition at all the times.
- a) Dry riser of minimum 10 cm diameter pipe with hydrant outlets on the floor constructed with fire service inlet to boost the water in the dry riser & maintenance should be in accordance with good practice.
 - b) Drums of 200 liters capacity filled with water & two fire buckets shall be kept of each floor.
 - c) Water storage tank of minimum 20,000 liters capacity shall be kept at site ready to use in case of emergency, which may be used for other construction purpose also.
- 30) ELEVATION FEATURE (FOR EACH WING):**
- As shown on plan, elevation feature/treatment shall be given as per the MCGM guidelines, DCPR-2034 and circular u/no. u/no. Ch. Eng./D.P./ 30449/Gen. Dtd.03.01.2017 and Ch. Eng./D.P./110/Gen. Dtd. 30.01.2020.
- 31) REFUGE AREA (FOR WING 'A', 'C' & 'E'):**
- A)** Refuge area for Wing 'A' & 'C' is provided in R.C.C. cantilevered type at staircase mid-landing in between 8th/9th floor, 10th/11th floor, 12th/13th floor, 14th/15th floor, 16th/17th floor, 18th/19th floor, 20th/21st floor & 22nd/23rd floor of the building & Refuge area for Wing 'E' is provided in R.C.C. cantilevered type at staircase mid-landing in between 8th/9th floor, 10th/11th floor, 12th/13th floor, 14th/15th floor, 16th/17th floor, 18th/19th floor, 20th/21st floor & 22nd/terrace floor of the building and it shall confirm to the following requirements:-
- a) The cantilevered refuge area shall necessarily be of R.C.C. type
 - b) It shall have a minimum area of 10 sq.mtrs. & minimum width of 3.0 mtrs.

- c) The cantilevered refuge area shall be provided with railing / parapet of 1.10 mtrs. height.
- d) R.C.C. covering shall be provided above the top most refuge area.
- e) The cantilever refuge area shall have access through a door which shall be painted with a sign in luminous paint mentioning "REFUGE AREA".
- f) The refuge area shall be earmarked exclusively for the use of occupants as temporary shelter and for the use of fire brigade or any other organization dealing with fire or other emergency when it occurs in the building and also for exercises / drills, if conducted by the Fire Brigade Department.
- g) The refuge area shall not be allowed to be used for any other purpose and it shall be responsibility of the owner / occupier to maintain the same clean and free of encumbrance and encroachments at all times.
- h) Adequate emergency lighting facility connected to the electric circuit to the staircase, corridor / passage etc. lighting shall be provided in the refuge area.
- B. The terrace of the building shall be treated as refuge area and shall be provided as under:**
 - i) The entrance door to the refuge area shall be painted or fixed with a sign painted in luminous paint mentioning "REFUGE AREA IN CASE OF EMERGENCY".
 - ii) Adequate drinking water facility shall be provided in the refuge area.
 - iii) Adequate emergency lighting facility connected to the electric circuit to the staircase, corridor / passage etc. lighting shall be provided.

32) REFUGE AREA (FOR WING 'B' & 'D'):

The Refuge area for Wing 'B' is provided on 8th, 15th & 22nd floor & the Refuge area for Wing 'D' is provided on 7th, 14th, 21st, 28th & 35th floor and shall be conforming to the following requirements:

i) Manner of refuge area

- a) The refuge area shall be so located that it shall preferably face the wider open space on the side of the building perpendicular to the main access road.
- b) The refuge area shall be provided with railing / fire rated glass / parapet of height 1.20 mt.
- c) The refuge area shall have a door which shall be painted or fixed with a sign in luminous paint mentioning "REFUGE AREA".
- d) The lift/s shall not be permitted to open into the refuge areas.
- e) The refuge area provided within building line shall be accessible from common passage/staircase.

ii) Use of refuge area:

- a. The refuge area shall be earmarked exclusively for the use of occupants as temporary shelter and for the use of Fire Brigade Department or any other organization dealing with fire or other emergencies when occur in the building and also for exercises/drills if conducted by the Fire Brigade Department.
- b. The refuge areas shall not be allowed to be used for any other purpose and it shall be the responsibility of the owner/occupier to maintain the same clean and free of encumbrances and encroachments at all times.

iii) Facilities to be provided at refuge area:

- a. Adequate emergency lighting facility shall be provided.
- b. Adequate drinking water facility shall be provided in the refuge area.

iv) **Terrace of the building as a refuge area:**

- a. Necessary facilities like emergency lighting, drinking water shall be provided.
- b. The access door/s from the enclosed staircase/s to the terrace floor shall have louvers at top half portion of the door. The entrance doors to the terrace shall be painted or fixed with sign painted in luminous paint mentioning "REFUGEAREA".

Excess refuge area (above 4%) shall be counted in FSI.

L.S. vide his letter dated 17/02/2023 has certified the total gross built up area as 103170.00 sq mtrs and party has paid the scrutiny fees of Rs. 84,59,940/- vide receipt no. CHE/BP/103504/23 dated 20/02/2023.

However, E.E.B.P.(W.S.) is requested to verify the gross built up area and inform this department if the same is found to be more for levying the additional scrutiny fees if any.

L.S. has certified height of the building for Rehab Wing 'A', 'B' & 'C' as 69.99 mtrs, Sale Wing 'D' as 143.35 mtrs and MHADA Wing 'E' as 68.30 mtrs & Total built-up area 103170.00 sq. mtrs. for the said Residential Building & as per Schedule II of Section 11(1) of Maharashtra Fire Prevention & Life Safety Measure Act. 2006, has paid Fire Service Fee of Rs. 15,47,550/- vide receipt No. CHE/CFO/103834/23 dated 24/02/2023.

Note:

- 1) The fire-fighting installation shall be carried out by Govt. of Maharashtra approved Licensing Agency.
- 2) The width of abutting road & open spaces are mentioned in plans as submitted by the L.S. attached herewith and these parameters shall be certified by the L.S..
- 3) E.E.B.P.(W.S.) shall examine the proposal in context with the relevant Regulations of DCPR-2034.
- 4) The schematic drawings/plans of automatic sprinkler system, automatic smoke detection system, wet riser system, public address system, manual fire alarm system shall be got approved from CFO.
- 5) The area, size, etc. for the sprinkler system, detection system, fire alarm system, wet riser system, public address system, Fire duct, electrical duct etc. to be verified & examined by MEP Consultant.
- 6) Separate necessary permission for any licensable activity shall be obtained from concerned authorities of MCGM/CFO's department, till then shall not be allowed to use.
- 7) There shall be no any tree located in the compulsory open spaces or in the access way near the Entrance gates.
- 8) This recommendation letter is issued only from Fire Protection & Fire-Fighting requirements point of view on behalf of the application from L.S.. If any matter pertaining to authenticity or legality shall be cleared by concerned Owner/Occupier/Developer/L.S., etc.
- 9) The plans approved along with this approval are issued from Fire Risk & Life Safety point of view only. Approval of these plans does not mean in any way of allowing construction of the building. It is L.S./Developers responsibility to take necessary prior approval from all concerned competent authorities for the proposed construction of the building.

