TAMIL NADU FIRE AND RESCUE SERVICES DEPARTMENT

From	To
DGP / Director, Tamil Nadu Fire and Rescue Services, No.17, Rukmani Lakshmipathi Salai, Egmore, Chennai – 600 008.	The Member Secretary, Chennai Metropolitan Development Authority, No.1, Gandhi Irwin Road, Egmore, Chennai – 600 008.

R.Dis.No.6019/C1/2021 Dated. 21.09.2021

PP NOC No. 74/2021

Sir,

Sub : Tamil Nadu Fire and Rescue Services – Directorate – High Rise Building – Issue of Revised Planning Permission NOC requested - Inspection at M/s. BSCPL Infrastructure Limited, S.No.93, 94, 95, 96, 97, 100, 101, 102, 103/1A2, 116/1B, 117/2A1, 2A2, 2B, 118/2B-12, 2B-13, 131/23 and 131/4, Arasankalani Village, St. Thomas Mount Panchayat Union and S.No.443/2, 444/1 and 444/2, Perumbakkam Village, Tambaram Taluk, Chengalpet District - Reg.

Ref : 1) The CMDA letter No.C3(S)/649/2020, dated:15.04.2021.
2) The Deputy Director, North-Western Region, Report Rc.No.1777/C/2021, Dated:02.08.2021.

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Kindly refer to the letter cited above. The MSB inspection committee of the north-western region has inspected the site of M/s. BSCPL Infrastructure Limited, S.No.93, 94, 95, 96, 97, 100, 101, 102, 103/1A2, 116/1B, 117/2A1, 2A2, 2B, 118/2B-12, 2B-13, 131/23 and 131/4, Arasankalani Village, St. Thomas Mount Panchayat Union and S.No.443/2, 444/1 and 444/2, Perumbakkam Village, Tambaram Taluk, Chengalpet District for which PP NOC has been requested. The committee has made certain observations with regards to fire and life safety, which are reproduced below:-

Observation:-

It is a revised planning proposal for construction of residential block A, B, C, D, E, club house, retails block and school block. **Block A, B, C, D,**

E consists of a combined extended basement floor + combined stilt floor + 28 floors with a height of 88.90 meters. **Club house consists of a combined extended basement floor + combined stilt floor + 3 floors** with swimming pool at 1st floor level with a height of 17.20 meters. **Retail block consists of a combined extended basement floor + ground floor + 5 floors** with a height of 28.55 meters. **School block consists of a ground floor + 3 floors** with a height of 14.80 meters. The plot area is 95577.19 sq.mts and the total buildup area is 134906.44 sq.mts. **In this proposal, Block A, Block B, Block C, Block D, Block E has the minimum side setback of a 17 meters all around the building at ground level and first floor podium level and retail block has the minimum side setback of 7 meters all around the building. Club house has the minimum side setback of 6 meters at ground level and first floor podium level. School block has the minimum side setback of 6 meters on all around the building.**

The proposed occupancy is classified to come under Group A Residential Building and the Sub-Division A-4 Apartment Houses, Group D Assembly Building and the Sub-Division D-6 Multiplex, Group B Educational Building and Sub-Division B-1 school upto secondary level as per the National Building Code of India Part-IV fire and life safety - 2016.

The following fire and life safety measures should be provided in the proposed building before the actual occupation as listed below:

For residential Block A, B, C, D, E, club house and retails block:

1. One wet-riser cum down comer should be provided for every 1000 sq.mts area covering all the floor area with landing valves along with delivery hoses for each block. The riser should be fully charged with adequate pressure at all times and should have both an automatic and manual operation. **Pump room should be provided with Multi stage, multi outlet pump (creating pressure zone)** to charge the wet-riser system, sprinkler and yard hydrant system with two electrical pumps of a capacity 2850 lpm and an equal capacity of diesel pump as an alternative arrangement and two electrical pump of

capacity of 180 lpm as a jockey pump. Underground static water tank of a minimum capacity 200000 liters should be provided with refilling facilities. A terrace level tank of a capacity 10000 liters should also be provided for block A, B, C, D, E and 20000 liters for club house and retails block. Pumps should have the capacity of developing pressure of 3.5 kg/cm. sq at the remotest possible location. One set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case of more than one pump set installation, both pump sets shall be interconnected at their delivery headers or Alternative to provide an additional set of pumps, the objective can be met by providing additional diesel pump of the same capacity and doubling the water tank capacity as required for one set of pumps.

2. Fire service inlets (4 Way) should be fitted with NRV at ground level for each block.
3. Yard hydrant should be provided at all around the building at 30 mts interval for each block.
4. An automatic sprinkler system should be provided for whole building for each block.
5. Automatic detection and Fire alarm system should be provided for whole building for each block. In addition beam detectors should be provided for the theaters.
6. Automatic smoke ventilation system should be provided at retails block and club house. The smoke extraction system shall operate on actuation of sprinkler system / detection system.
7. The hose reel assembly should be provided per 1000 sq. mts covering each floor area for each block.
8. A manually operated fire alarm call points should be provided in each floor near exits for each block.
9. "Exit" signage should be provided with alternative source of power supply or battery back-up with "GLOW" TYPE for each block.
10. Emergency lights should be provided at the staircase landing and exit routes for each block.
11. Public address system should be provided connecting all the floors for each block.

12. Do's and don'ts laminated hanging pads should be provided in all floors in prominent places for each block.
13. Assembly point should be designated at ground for each block.
14. The evacuation route plan should be displayed on all floors for each block.
15. Alternate and independent power system should be provided to fire pumps, emergency lighting and fire lift for each block.
16. Alternate and independent power system should be provided to fire pumps, pressurization & smoke venting, exit signage lighting, emergency lighting, fire alarm system, public address system, magnetic door hold open devices and fire lift for each block.
17. Minimum two numbers of staircase should be provided and they should be away from each other with the width of 1.25 meters for Block A, B, C, D, E and 2.0 meters for club house and retails block.
18. **Fire escape - internal staircase and external staircase:**

a) **Internal staircases:**

As per clause 4.4.2.4.3 of the National Building Code of India part IV fire and life safety 2016-All staircases shall be of a minimum width of 1.25 meters for Block A, B, C, D, E and 2.0 meters for club house and retails block. The minimum width of the tread without nosing shall be 250 mm. The maximum height riser shall be 190 mm. The number of riser shall be limited to 12 per flights.

b) **Fire Exit:**

As per the National Building Code of India Part IV fire and life safety 2016 - every exit, exit access or exit discharge shall be continuously maintained free of all obstructions or impediments for full use in case of a fire or other emergency.

All exits shall provide continuous means of egress to the exterior open space leading to a street.

Exits shall be so arranged so that they may be reached without passing through another occupied unit.

External staircases:

As per clause 4.4.2.4.3 of the National Building Code of India part IV fire and life safety 2016 - All external stairs shall be directly connected to the ground.

External staircases shall always be kept in hygeinic and usable condition.

Entrance to the external stairs shall be separate and remote from the internal staircase.

Care shall be taken to ensure that no wall opening or window opens on to or is close to external stairs.

The route to the external stairs shall be free of obstructions at all times.

Handrails to be provided on both sides which shall be of a height not less than 1000 mm and not exceeding 1200 mm. There shall be provision of balusters with a maximum gap of 150 mm.

The external stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have the required fire resistance.

No external staircases, used as a fire escape, shall be inclined at an angle greater than 45 degrees from the horizontal.

d) **Fire lifts:**

a. Where applicable, fire lifts shall be provided with a minimum capacity for 8 passengers and the fully automated with an emergency switch on the ground level. In general, buildings 15m in height or above shall be provided with fire lifts.

b. In case of a fire, only the fireman shall operate the fire lifts. In normal course, it may be used by other persons.

c. Each fire lift shall be equipped with suitable inter-communications equipment for communicating with the control room on the ground floor of the buildings.

d. The number and location of fire lifts in a building shall be decided after taking into consideration various factors like building population, floor area and compartmentation.

19. Two fire lift should be provided for each block.
20. Lightning arrester should be provided for each block.
21. Refuge area should be provided at 24th meter and 39th meter level as per the requirements of NBC of India, Part 4, 2016 for Block A, B, C, D, E, if balconies are not provided at each floor level.
22. Refuge area should be provided at 18th meter and 24th meter level as per the requirements of NBC of India, Part 4, 2016 for retail block.
23. The first aid firefighting equipment's should be provided at all floors for in accordance with the IS 2190:2010 requirements for each block.
24. **"As per the approval, Block A, B, C, D, E and Club house are interconnected with stilt floor podium level. The proposal has a ramp to access the podium with the width of 9 mtrs. The following blocks has the enough side setback all around the building. As per the CMDA Letter, Fire department snorkel vehicle can move all around the building.**

Name of the Block	Height of the building	The block has the side setback at podium level	The block has the side setback at ground level
Block A	88.90 mts	North – 11.90 mts South - 17.78 mts West - 17.97 mts	East - 17.00 mts
Block B	88.90 mts	North-17.78 mts West - 21.99 mts	East - 17.17 mts South - 17.00 mts
Block C	88.90 mts	East - 21.99 mts North-17.76 mts	South - 17.00 mts West - 23.55 mts
Block D	88.90 mts	East - 17.97 mts South - 17.76 mts North - 19.40 mts West - 18.51 mts	--
Block E	88.90 mts	East - 17.10 mts South - 17.03 mts West - 20.68 mts	North - 17.15 mts

Name of the Block	Height of the building	The block has the side setback at podium level	The block has the side setback at ground level
Club House	17.20 mts	East - 09.00 mts South - 19.40 mts West - 24.25 mts North west - 17.03 mts	North east - 17.09 mts
Retails Block	28.55 mts	--	East - 07.20 mts West - 07.20 mts North - 07.20 mts South - 07.20 mts
School Block	14.80 mts	--	East - 08.00 mts West - 07.79 mts North - 07.20 mts South - 07.82 mts

25. Fire tender podium ramp width should not be less than 9 meters and the turning radius of the podium ramp should not be less than 12 meters.

For school block:

26. One down comer should be provided per 1000 sq. mts area covering all floor area with landing valves along with delivery hoses. To feed the down comer system a terrace level water tank of a capacity 10000 liters should be provided with refilling facilities. To charge the down comer system an electrical pump of a capacity 450 lpm should be provided near the terrace water tank. The pump should be capable of developing pressure of 3.5 kg/cm^2 at remotest hydrant point.
27. Fire service inlet should be fitted with NRV at the ground level.
28. Hose reel assembly should be provided per every 1000 sq.mts area in each floor.
29. Manually operated fire alarm call points should be provided in each floor near exits.

30. Two numbers staircase should be provided with the width of 1.50 meters.
31. One fire lift should be provided as per the National Building Code of India part IV 2016.
32. "Exit" signage's should be provided with alternative source of power supply or battery back-up with "GLOW" TYPE.
33. Emergency lights should be provided at staircase landing and exit routes.
34. The first aid firefighting equipment's should be provided at all floors in accordance with the IS 2190:2010 requirements.
35. Public address system should be provided connecting all the floors.
36. Do's and don'ts laminated hanging pads should be provided.
37. Lightning arrester should be provided.
38. Evacuation route plan should be displayed in each floor at prominent places.
39. Assembly point should be designated at the ground floor.
40. Every room with a capacity of over 45 persons in area shall have at least two doorways.

    Exit doors shall be operated by panic bars except that doors leading from classrooms directly to the outside may be equipped with the same type of lock as is used on classroom doors leading to corridor, with no provision whatsoever for locking against degress from the classroom.
41. A building, which will have only the first floor and is accessible to not more than 20 pupils at any time, may be used for school purposes with the following exceptions.
    a. Exterior walls or parts of wall which are less than 900 mm from adjacent property lines shall have no openings therein.
    b. Classrooms may have only one exit not less than 900 mm wide.

Common Conditions for all the proposed building

42. Electrical installation and wiring, ducts should meet the requirements of NBC of India, Part 4, 2016.

43. The width and height of any arch or gate, if any, should have the clearance of not less than 4.5 m and 5 m respectively.
44. The service ducts such as power cables, communication cables, ducts etc., should be protected with proper fire sealing / fire dampers.
45. The fire dampers should be located at air conditioned ducts for check the spread of heat, flame, smoke and gases.
46. The cable gallery should be routed through fire resistance duct or fire protected tray.
47. Fire resistant and low smoke emission cable shou d be used.
48. A trained fire officer with a crew shall be arranged to maintain as well as to operate the fire protection systems in case of any need.
49. **As per the proposed plan copy, the basement used for car parking and utility purpose only.**
50. **Basement:**

I) Design criteria:

As basements lack natural light and ventilation, their access points and integrating them into a building plan must be thoroughly studied. Ramps with very steep slopes should not be allowed and gradient of 1 in 12 or more should alone be permitted. Ramps should not be constructed affecting the open space adjacent to the building. It should meet the following criteria; access, ventilation, firefighting and escape provisions. Brightly lit, color coded sections are must to identify the different sections of the basements.

II) Flooding in basements:

Water logged and catchment areas should be thoroughly studied prior to permitting basements in particular areas. Limiting of basement area with reference to plot coverage should be ideal

51. Basement:

1. The construction of the basement shall be allowed by the authority in accordance with the land use and other provisions specified in CMDA / DTCP regulations.

2. The following uses shall be permitted in the basements:
   (a) Storage of household or other goods of non-combustible material.
   (b) Strong rooms, bank cellars, etc.,
   (c) Utility services of the building – like AC equipments, pump rooms, dry transformers etc.,
   (d) Parking spaces.
3. The authority may consider mercantile occupancy in the malls or shopping complexes in the first basement if the height of roof is more than 4 m and if it is fully air conditioned, well ventilated and is fully sprinkled.
4. Further, institutional occupancy of medical or health purposes involving radiation facilities in the first basement may be permitted subject to the MCI regulations and to the provision of required lighting, ventilation, water supply, drainage and sanitation.
5. The basement can be permitted beyond the building lines at ground level subject to a clear minimum front margin of 4.5 m and side and rear margins of 3 m, and further subject to non-habitual uses and provision for mechanical ventilation and all safety provisions and drainage.
6. **The basement shall have the following requirements:**

a) The basement shall be in every part at least 2.4m in height from the floor to the underside of the roof slab or ceiling.

b) Adequate ventilation shall be provided for the basement. Each Basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills, or breakable stall board lights or pavement lights or by way of shafts. Alternatively, a system of air inlets shall be provided at basement floor level land smoke outlets at basement ceiling level. Inlets and extracts may be terminated at ground level with stall board or pavement lights as before, but

ducts to convey fresh air to the basement floor level have to be laid. Stall board and pavement lights should be in positions easily accessible to the fire brigade and clearly marked 'SMOKE OUTLET' or 'AIR INLET' with an indication of area served at or near the opening.

c) Adequate arrangement shall be made such that surface drainage does not enter the basement.

d) The walls and floors of the basement shall be water-tight and be so designed that the effect of the surrounding soil and moisture, if any, are taken into account in design and adequate damp proofing treatment is given.

e) Applicant / owner of the building shall install suitable pumps for pumping the waste water into the sewer in place of directly connecting in to the sewer to avoid any risk of the sewerage or salvage heading back into the basement at any time.

f) The access to the basement shall be spate from the main and alternate staircase providing access and exit from higher floors. Where the staircase is continuous the same shall be enclosed type serving as a fire separation from the basement floor and higher floors.

g) Basement exits shall be sufficient to provide for the capacity of the basement and in no case shall be less than two independent basement exits.

h) Basements having incidental occupancies to main occupancy shall be planned with exit requirements of the basements for the actual occupancy within the basement.

i) Where basement is used for car parking and also there is direct approach from any occupancy above to the basement, door openings leading to the basement shall need to be protected with fire door with 120 min fire rating, except for exit discharge doors from the basements.

7. The basement should not be used the following purpose :

a) The basement shall not be used for residential purpose.

b) No service duct shafts shall be extended in to the basement level.

c) Basement should not be used for theatre, assembly halls, exhibition halls, club rooms, gymnasiums and restaurants.

d) Kitchens, canteen, pantry or dining not allowed in the basement.

e) Basement should not be used for having a substation or oil transformer.

f) Basement should not be used for storing any combustible material.

g) Any material which involve highly corrosive, toxic or noxious alkalis, acids or other liquids or chemicals producing flame, fumes, and explosive, poisonous irritant or corrosive gases.

8. **Mechanical ventilation system shall be provided with an alternative source of power supply. Mechanical ventilation system should be connected with fire alarm system.**

9. **Compartmentation should be made at the Basement area as per the National Building Code of India 2016.**

10. During construction of the building the following fire protection measures should be provided in good working condition.

    1. Dry riser minimum 100 mm diameter pipe with hydrant outlets on the floors constructed with a fire service inlet to boost the water in the riser from fire service pumps.
    2. Drums filled with water of 2000 liters capacity with two fire buckets must be available on each floor.
    3. A water storage tank of minimum 20000 liters capacity, which may be used for other construction purposes must also be provided.

The MSB inspection team has recommended to issue a revised planning permission / no objection certificate to the proposed building subject to the fulfillment of all the above mentioned conditions.

In view of compliance with the above said facts a revised PP NOC is issued from the fire service point of view to accord planning permission for the

above said proposed building subject to fulfilment of all the above said conditions, as recommended by the MSB committee. After completion of this project the compliance certificate should be obtained to ensure the fire safety measures.

for Director,
Fire and Rescue Services,
Tamil Nadu.

To:

M/s. BSCPL Infrastructure Limited,
Rep by POA Thiru. J. Karthygayan,
Perumbakkam Main Road,
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Copy to:

The Deputy Director, Fire and Rescue Services,
North-Western Region, Vellore.