



**Government Of West Bengal
Office Of The Director General
West Bengal Fire & Emergency Services
13D, Mirza Ghalib Street, Kolkata - 16**

EM BYPASS PROJECTS LLP
Designated Partner / Authorized Signatory

Memo no.:IND/WB/FES/20192020/54270

Date: 29-05-2023

From:
Director
Fire Prevention Wing,
West Bengal Fire & Emergency Services

To: MADAN GOPAL MARDIA
224, BRIJI EAST, KOLKATA - 700084

Sub: Revised Fire Safety Recommendation for proposed construction of G+XVIII storied under group principal occupancy Residential building at the premises no. 224 Briji East, R S Dag No.- 146, Khatian No.- 240,250, 278 & 4, 94, 242, 251, Mouza- Patuli, J L No. -29, Ward No- 110, Borough XI, under KMC, Kolkata- 700084, South 24 Parganas.

This is in reference to your application no. 0125188238700111 dated 25-03-2023 regarding the Revised Fire Safety Recommendation for proposed construction of G+XVIII storied under group principal occupancy Residential building at the premises no. 224 Briji East, R S Dag No.- 146, Khatian No.- 240,250, 278 & 4, 94, 242, 251, Mouza- Patuli, J L No. -29, Ward No- 110, Borough XI, under KMC, Kolkata- 700084, South 24 Parganas.

The plan submitted by you was scrutinized and marked as found necessary from Fire Safety point of view. In returning one set of plan with recommendation, this office is issuing **Revised Fire Safety Recommendation** in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:
CONSTRUCTION:

- The whole construction of the proposed buildings shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
- The floor area exceeds 750 m² shall be suitably compartmented by separation walls up to ceiling level having at least two hours Fire resisting capacity.
- The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specifications.
- Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- Arrangements shall have to be made for sealing all the vertical ducts by the materials of adequate Fire resisting capacity.

OPEN SPACE & APPROACH:

- The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliance with turning facility.
- The approach roads shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.

iii. The width and height of the access gates into the premises shall not be less than 4.5M and 5 M respecting abutting the road.

iv. Drive way shall be free from any obstruction. No parking will be allowed on the Drive Way.

STAIRCASE:

i. Pressurized Staircase from Ground to top Floor level shall be pressurized as marked or approved in the plan drawing. A positive pressure of 25-30 Pa shall be maintained in the Staircase. Pressurization shall be maintained round the Clock.

ii. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks/R.C.C. type having Fire resisting capacity not less than 4 hours.

iii. The staircase of the building shall have permanent vents at the top equal to 5% of the Cross Sectional Area of the Staircase enclosure and openable sashes at each floor level equal to 15% of the said cross sectional area shall have to be provided in the external wall of the building and open able sashes will be in the external wall of the building.

iv. The width of the staircases shall be made as marked in approved in the plan. Corridors and the exit Doors shall conforming the relevant Building Rules as well as rules of the Cinematograph Act with up-to- date amendments.

v. The entire staircase shall be extended up to terrace of the building and shall be negotiable to each floor level without entering into any room. The roof of the Stair wall shall be Min. 1 M above the surrounding roof Area.

vi. Fire and Smoke doors at the entrances of all the Staircase enclosures as marked in the approved in the plan at each floor level shall be provided. The F.C.D. shall be of at least one 02 hours Fire resisting wire glass window fitted with self-closing type open able in the direction of escape.

vii. Considering the staircase are only means of evacuation, Emergency Lighting Arrangement, Directional & Exit signage Etc. shall be made conforming the relevant I.S. Code in this regard.

LIFT:

i. The walls of the Lift Enclosure of the building shall be at least two hours Fire Resisting Type respectively marked/as approved in the plan drawing with the vent at top of area not less than 0.2 Sq. M.

ii. The Lift of the Building shall be designed at high speed FIRE LIFT and conspicuously indication to be pasted.

iii. One of the lift car of the Building shall be large enough to accommodate standard Ambulance Stretcher and Medical Attendants.

iv. In case of Failure of Normal Electric Supply, it shall automatically trip over to alternate supply. Alternatively, the lift shall be so wired that in case of power failure ,it comes down at the ground floor level and stand still with door open.

v. Arrangement shall be provided for extraction of smoke in all the lift shaft by incorporating smoke venting system designed to permit 12 ACPH in case of fire and shall be of such designed to operate on actuation of sprinkler and/or Fire Alarm, In case of failure of normal electric supply. It shall automatically trip to alternate supply.

vi. Exit from Lift Lobby (if located in the core of the building) shall be through Self-Closing FCD of two hours Fire Resisting. The speed of the fire lift car in the building shall be such that it can reach the top from the ground within one Minute and visual indication of floor numbers shall be incorporated in the lift Car.

vii. All other requirements shall conform the I.S. Specification including (the communication facility in the lift cars connecting to the Fire Control Rooms of the Building. The walls of the lift enclosure shall be at least two hours Fire resisting type.

viii. Collapsible gate shall not be permitted.

Refuge Area:

i. Refuge Area shall not be less than 15 Sq. M on the external wall with cantilever projection at the designated height as per NBC Part-V 2016.

ii. The refuge area shall be of Fire Resisting Construction and protected with Self Closing FCD at the entrance from the Staircase shaft.

iii. The projected refuge area shall be surrounded by 1 M high wall and opening to the refuge area from utility or any utility shall not be allowed.

iv. There shall be marked an area 9M X 12M below each refuge platform.

FIRE FIGHTING WATER:

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Under Ground Water reservoir Having Water Capacity at 150000 Lts & Overhead reservoir of 10000 Lts. with replenishing arrangements @2000 Lts. /min. preferably from two different sources of water supply shall be provided. The Fire water Reservoir shall have overflow arrangement with the domestic water Reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all time.

HYDRANT SYSTEM:

The building shall be provided with Wet Riser of 150 mm internal diameter pipe line with provision of landing valves at the Staircase landings/half landings at the rate of one such riser for 1000 Sq. m. of floor area. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2280 lts/min at the ground floor level outlet and minimum 900 Lts/min at the top most outlets. In both cases the running pressure shall not be less than 3.5 Kgs/Cm² at the remotest/ highest point. All other requirements shall conform I.S. 3844-1989. •Provision for Hose Reel in conjunction with Wet Riser shall be made at each floor level Conforming the relevant I.S. Specifications.

Yard Hydrant / Ring Main Hydrant

150 MM dia. piping with provision of adequate nos. pillar hydrant shall be provided surrounding the building in accordance with relevant I.S. Specification. The Wet Riser installation shall be made in reference to the height of the building in stage wise distribution.

SPRINKLER INSTALLATION:

- i. The automatic Sprinkler installation shall be provided at all floor areas of the building including inside tenement as per LS.9972. Alarm gang to be incorporated along with the sprinkler system.
- ii. In area having height 17M or above and any area where water may be treated as sensitive, sprinkler installation may be rendered ineffective/ sensitive and may be avoided. Separate appropriate firefighting installation system for the protection of the areas shall have to be installed.

FIRE PUMP: There shall have to provide two series of fire pumps.

Provision of the Fire Pump shall have to be made to supply water at the rate designed pressure and discharge into the water based system, which shall be installed in the building. One such pump shall always be kept on Standby preferably be of diesel driven type. •A Separate Fire Pump shall be made for the total Sprinkler Installation of the building. Provision of Jockey Pump shall also have to be made to keep the Water based system under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. The suction of pumps shall preferably of positive type or in case of negative suction the system shall be Wet Riser -Cum-Down comer with suitable terrace pump with overhead tank.

DETECTION, ALARM AND SUPPRESSION SYSTEM:

- i. Manually operated Electrical Fire Alarm system with at least three numbers of break glass type call boxes fitted with Hooters along with public address system, talk back system at each floor connecting with audio-visual panel board shall be made in control Room. The control Room shall be located at the entrance of Ground Floor of the building. Other requirements of the system shall be made conforming I.S. 2189-1988.
- ii. Auto Fire Detection System (Analogue Addressable) with the help of smoke/ heat detector shall be installed in all places of below and preferably above false ceiling of the building. The system shall also be made in places of rooms where valuable articles have been kept. The other requirements of system shall be made in accordance with I.S 2189-1988 •The Suppression system shall be made with Fire Extinguishers and total flooding system with CO₂/F.M.-200 particularly in computer and Electrical processing and data room and in a room of irreplaceable articles. Hooter will be sounded in such a manner so that an operation of a Detector or Manual call point, Hooters will sounded on the same floor and immediate alternate floor.
- iii. INTELLIGENCE ANALOGUE SYSTEM: •Auto Fire Alarm System with Analogue addressable smoke/heat detector as per suitability shall be installed in each floor. •Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the building in such a manner that maximum travel distance shall not be more than 22.5 Mtrs. in order to reach any of the call point. •Micro Processor based fire alarm panel shall be installed and all shall also be

connected with main panel at the Fire Control Room of the premises having direct dialing facility to the local fire service unit.

iv. Both way public address systems shall be made available in all floors of the building. The system shall be connected to the Main Control Room.

v. All the installations shall also satisfy the I.S. Specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part-IV.

vi. The electrical installation including transformers, Switch Gears, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire safety in general building as laid down in I.S. specification.

vii. The vertical ducts shall be sealed at alternative floor level.

viii. Arrangement for alternative power supply shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Deep Tube-Well Pump, Fire Alarm System, Fire Lift, etc. and also for illuminating the Staircase, Corridors, Lobbies etc. and other places of assembly of the building in case of normal power failure.

FIRSTAID FIRE FIGHTING SYSTEM: First Aid firefighting arrangement in the style of placing suitable type of portable Fire Extinguishers, Fire buckets etc. in vulnerable locations of the premises shall be made in accordance with relevant I.S. specification.

AIR CONDITIONING SYSTEM (If any):

1. The A.H.U. shall be separated for each floor. Separate Air Ducts shall be provided for individual floors.

2. Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning System.

3. The system of auto shut down of A.H.U. shall be incorporated with the Auto Detection and Alarm System.

4. The Air Handling Units room shall not be used for storage of any combustible.

OTHER IMPORTANT RECOMMENDATION:

1. If gas use in the premises, shall be provided with an approved outside gas shut off valve conspicuously marked.

2. Storage of volatile flammable liquids shall be prohibited. Handling of such liquids shall be restricted into a specific Laboratory/ area only mentioning the entrance and exit door outside. Necessary permission or Fire License to be obtained from Fire Service Directorate for storing and handling of such materials.

Glazing (if any):

i) The entire glazing assembly shall be rated to the type of construction. The use of glass shall not be permitted for enclosure of exits and exit passageway.

ii) Sprinklers shall be installed within 600mm of glass façade providing full coverage to the glass.

iii) All gaps between floor-slabs and facade assembly shall be sealed at all levels by approved fire resistant sealant material of equal fire rating as that of floor slab.

GENERAL RECOMMENDATIONS:

1. Fire License shall have to be obtained for the propose of storing and processing with L.P.G. and other highly combustible articles.

2. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.

3. Floor numbers and directional sign of escape route shall be displayed prominently.

4. The employees and security staffs shall be conversant with installed Fire Fighting Equipment of the building and to operate in the event of Fire and Testing.

5. Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipment installed in the building to keep them in perfectly good working conditions at all times.

6.A crew of trained Fireman under the experienced Fire Officer shall be maintained round the clock for safety of the building.

7.Mock Fire practice and Evacuation Drill shall be performed periodically with participation of all occupants of the building and record in a register.

On compliance of all the above Life and Fire Safety Recommendation, the Director General, West Bengal Fire & Emergency Services shall be approved for necessary inspection and testing of all the installation. Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of safety aspects of installation of the building.

Signature Not Verified
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PANDEY
Date: 2023.05.29 13:30:41 IST

Director
West Bengal Fire & Emergency Services



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