

GOVERNMENT OF WEST BENGAL  
OFFICE OF THE DIRECTOR GENERAL  
WEST BENGAL FIRE & EMERGENCY SERVICES  
13-D, Mirza Ghalib Street, Kolkata – 700 016.

Memo No. : WB/FES/ 5459/15 , /24 Pgs.(S)-RB/726/15(726/15) Date: 20.07.15

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

To : The Architect  
Sukanya & Associates  
CD-247, Sector-I  
Salt Lake City  
Kolkata – 700 064

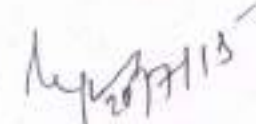
**Subject:** Fire Safety Recommendation for Proposed construction of G+XVIII storied Mixed Occupancy Building at the premises no. – Part R.S.Dag No.-7702 under R.S. Khatian No.-814, L.R. Khatian No.-3775, Mouza-Rasapunja, J.L. No.-15, R.S.No.-92, Touzi No.-351, Bankrahat, P.S.-Bishnupur, District-South 24 Parganas.

This is in reference to your letter No. – SA/ARCH-15/GAIS-APART/F&ES-01 dated 24.06.2015 regarding Fire Safety measure for proposed construction of G+XVIII storied Mixed Occupancy Building at the premises no. – Part R.S.Dag No.-7702 under R.S. Khatian No.-814, L.R. khatian No.-3775, Mouza-Rasapunja, J.L. No.-15, R.S.No.-92, Touzi No.-351, Bankrahat, P.S.- Bishnupur, District- South 24 Parganas.

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

Encl. :

1. One set of plan.
2. Recommendation.

  
Director  
Fire Prevention Wing  
West Bengal Fire & Emergency Services

## RECOMMENDATION

### A. CONSTRUCTION :

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

### B. OPEN SPACE & APPROACH :

1. The open space surrounding the building shall be kept clear open to sky and shall conform the relevant building rules as well as permit the easy accessibility and manoeuvrability of Fire appliances with turning facility.
2. The approach roads & internal drive ways shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.
3. The width and height of the access gates into the premises shall not be less than 4.5 Mts. and 5 Mts respecting abutting the road.

### C. STAIRCASE :

1. 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.
2. The staircase of the building shall have permanent vents at the top and openable sashes at each floor level in the external wall of the building.
3. The width of the staircases shall be made as marked in the plan. Corridors and the exit doors shall conforming the relevant building rules with up to date amendment.
4. All the staircases shall be extended up to the terrace of the building and shall be negotiable to each other without entering into any room.
5. Fire and smoke doors at the entrances of all the staircase enclosures as marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least one hour Fire resisting wire glass window fitted with self-closing type openable in the direction of escape.

### D. LIFT :

1. The walls of the lift enclosure shall be at least two hours Fire resisting type. Collapsible gate shall not be permitted.

2. One of the lift shall be designed for Fire Lift. The word "FIRE LIFT" shall conspicuously written at ground floor.
3. Exit from the lift body if located in the core of the building, shall be through a self-closing smoke stop door of 1 hour fire resistance.
4. Alternate source of power supply shall be provided for all lifts through manually operated change over switch.

**E. REFUGE AREA :**

1. Refuge area is not less than 15sqm. or an area equivalent to 0.3 m<sup>2</sup> per person to accommodate the occupants of two consecutive floors, whichever is higher, shall be provided on the external wall with cantilever projection or other suitable means at 21.875 mts., 37.125 & 52.375 mts. levels of the building as shown in the drawing.
2. The refuge area shall be of Fire resisting construction and protected with self closing F.C.D. at the entrance from the corridor or the staircase lobbies.
3. The position of Refuge areas shall be such that they are negotiable by the fire service ladder in such a manner for easy operation of hydraulic platform from the ground level.

**F. HALL :**

1. The doors/aisles/gangway/cross gangways/sitting arrangements/corridors in hall etc. shall be made as per good practice of N.B.C. part-IV fire protection.
2. N.O.C. in connection to the restaurant etc. shall be obtained from appropriate authority.

**G. FIRE FIGHTING WATER :**

1. Underground Water Reservoir having water capacity of 1,50,000 litres. & O.H.W.R. of 10,000 litres. exclusively for Fire Fighting operation to be kept full at all time.
2. The Fire water reservoir shall have overflow arrangement with the domestic water reservoir to avoid stagnancy of water.
3. Provision of necessary manhole shall be made on the top of the reservoir as per specification.
4. Provision of replenishment at the rate of at least 1000 litres./min. from two separate source of water supplies shall be made.
5. The deep tube wells shall also be connected with dual power supply units.
6. Provision of placing Fire Appliances on the underground water reservoir to be made to draw water in case of emergency.

**H. HYDRANT SYSTEM :**

1. The building shall be provided with Wet Riser of 150 mm internal diameter pipe line with provision of landing valves at the staircase landing/half landings at the rate of one such riser for 1000 Sq.Mt. of floor area. The system shall be so designed that be kept charged with Water all the time under pressure and capable to discharge 2850 litres./Min. at the ground floor level outlet

- and minimum 900 Ltrs./Min. at the top most outlet. In both cases the running pressure shall not be less than 3.5 Kgs./Sq.cm. All other requirements shall conform I.S. 3844-1989.
2. Provision for Hose Reel in conjunction with Wet Riser shall be made at each floor level conforming the relevant I.S. specification.
  3. Yard Hydrant/Ring Main Hydrant with provision of adequate numbers Hydrant along with one no. 3 way Fire Service inlet shall be installed surrounding the building in accordance with relevant I.S. specification.

#### **I. SPRINKLER INSTALLATION :**

1. The automatic Sprinkler installation shall be provided in all floor areas of the building as per I.S. 9972. Alarm gang to be incorporated along with the sprinkler system.

#### **J. FIRE PUMP :**

1. 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 Stand-by must be of diesel driven type.
2. 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 pressurizes 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.

#### **K. ELECTRICAL INSTALLATION & DISTRIBUTION :**

1. The electrical installation including transformers, generators, 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 the I.S. specification 1946-1982.
2. The vertical & horizontal ducts shall be supply sealed at all floor level.
3. The electrical installation shall be adequately protected with CO<sub>2</sub>/D.C.P. or Medium Velocity Projector System.
4. Alternative Power Supply :  
Arrangements shall have to be made to supply power with help of a generator to operate at least the Fire Pump, Pump for deep Tube-well, Fire Alarm System, Fire Lift etc. and also for illuminating the Staircase, Corridors etc. and other places of assembly of the building in case of normal power failure.

#### **L. INTELLIGENCE ANALOGUE SYSTEM :**

1. Auto Fire Alarm System with analogue addressable smoke / heat detectors as per suitability shall be installed in all floor area of the building including the spaces above false ceiling except residential rooms.

2. Addressable analogue manual call boxes incorporating with sounders shall be installed in all the floor area of the building in such a manner that maximum travel distance shall not be more than 22.5m in order to reach any of the call point.
3. 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. The control room shall be located at the entrance of ground floor of the building, other requirements of the system shall be made in accordance with I.S. 2189-1988.
4. 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.
5. All the installation shall also satisfy the I.S. Specification 2189 as amended and the code of practice as laid down in N.B.C. part- IV.

**M. AIR CONDITIONING SYSTEM : ( if any )**

1. The A.H.U. shall be separated for each floor with the system Air Ducts 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 AHU shall be incorporated with the auto detection and alarm system.
4. The air handling units room shall not be storage of any combustible materials.

**N. FIRST AID FIRE FIGHTING SYSTEM :**

First Aid Fire Fighting arrangement in the style of placing suitable type of portable Fire Extinguishers, Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.

**O. GENERAL RECOMMENDATIONS :**

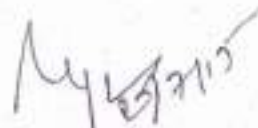
1. Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
2. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
3. Floor numbers and directional sign of escape route shall be displayed prominently.
4. The occupants and security staff shall be conversant with installed Fire Fighting equipments 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 equipments installed in the building to keep them in perfectly good working conditions at all times.
6. A crew of trained Fireman under the experienced 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.

8. Close circuit T.V. shall have to be provided for the entire floor area including the basement area of the buildings.
9. Disposable type B.A. musks shall always to be kept at all floor level.

Each year a certificate is to be obtained from the **Director General, West Bengal Fire & Emergency Services** certifying about the satisfactory services, performances of all Fire Safety arrangements and installation of the building.

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

**N.B. :** Any deviation and changes the nature of use of the building in respect of the approved plan drawings, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancelled.



**DIRECTOR  
FIRE PREVENTION WING  
WEST BENGAL FIRE & EMERGENCY SERVICES**