

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

Memo. No. : WBFES/ 4892/14

/Kol/RB/961/11 (961/11) Date : 20/10/14

**From :** The Director in Charge,  
Fire Prevention Wing,  
West Bengal Fire & Emergency Services.

**To :** Mr. Rakesh Anand,  
Anand & Associates,  
11A, J.L. Nehru Road,  
Kolkata-700 013.



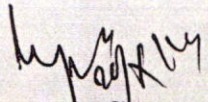
**Sub :** Fire & Life Safety Recommendation for proposed construction of G+VII & G+XII storied Under Group Residential Building at premises No.- 95, Mahatma Gandhi Road, Kolkata-700 063, Borough-XIII, Ward-124.

This is in reference to your letter No. Nil dated 02.12.2013 regarding Fire Safety measure for proposed construction of G+VII & G+XII storied Under Group Residential Building at premises No.- 95, Mahatma Gandhi Road, Kolkata-700 063, Borough-XIII, Ward-124.

The plan drawing 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 Fire Safety Recommendation in favour of the aforesaid building subject to the compliance of the following fire safety measure.

Encl. :

1. One set of plan.
2. Recommendation placed in this file.

  
**DIRECTOR IN CHARGE**  
**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 Municipal Body (Bidhannagar / Kolkata Municipal Corporation).
2. The floor area exceeds 750m<sup>2</sup> 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 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 ducts by the materials of adequate Fire resisting capacity.

### **B. OPEN SPACE & APPROACH :**

1. 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.
2. The approach roads 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 – 5 M respecting abutting the road.

### **C. STAIRCASE :**

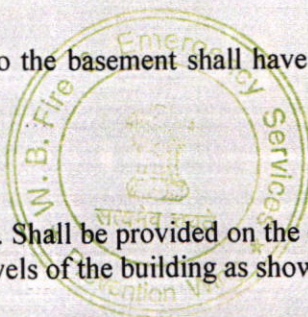
1. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks / R.C.C. type having Fire resisting capacity not less than 4 hours.
2. The staircase of the building shall have permanent vents at the top and openable sashes at each floor level in the external wall 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 amendments.
4. All the staircase shall be extended up to terrace of the building and shall be negotiable to each floor.
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. Lift and Lift Lobby communicate to the basement shall have to be pressurized as per guide line of N.B.C.-IV, Annex 'C'.

### **E. REFUGE AREA :**

1. Refuge area is not less than 15 Sqm. Shall be provided on the external wall with cantilever projection or other suitable means at 25.0 m levels of the building as shown in the drawings.



2. The Refuge areas shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance from the corridors at staircase lobbies.
3. The position of Refuge areas shall be such so that they are negotiable by the Fire Services Ladder from the Ground.

**F. FIRE FIGHTING WATER :**

Underground water reservoir having water capacity of 75,000 ltrs. and overhead reservoir of 10,000 ltrs. capacity exclusively for Fire fighting purpose with replenishing arrangements @ 1000 ltrs./min. Preferably from two different sources of water supply shall be provided. The 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.

**G. HYDRANT SYSTEM :**

- 1 The building shall be provided with Wet Riser at 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 2850 ltrs/min. at the ground floor level outlet and minimum 900lts/min. at the top most outlet. In both cases the running pressure shall not be less than 3.5Kgs/Sq.cm. All other requirements shall conforming 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. Specifications.
- 3 Yard Hydrant/Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S. specifications.
- 4 Proper Replenishing Arrangement shall have to be made to keep the O.H.W.R. full at all time.

**H. SPRINKLER INSTALLATION:**

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

**I. FIRE PUMP :**

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 preferably be of diesel driven type.

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.

**J. ELECTRICAL INSTALLATION & DISTRIBUTION :**

- 1 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 1946 – 1982.
- 2 The vertical & horizontal electrical ducts shall be supply sealed at each floor level.
- 3 The electrical installation shall be adequately protected with CO<sub>2</sub>/D.C.P. Fire Extinguishers.
- 4 Alternative Power Supply :

Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Pump for deep Tube-well, Fire Alarm System, etc. and also for illuminating the Staircase, corridors etc. and other places of assembly of the building in case of normal power failure.

**K. DETECTION AND ALARM SYSTEM :**

1. 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, at each floor connecting with 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.
2. Auto fire detection system with the help of heat and smoke 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 the system shall be made in accordance with I.S. 2189-1988.
3. The suppression system shall be made with Fire Extinguishers particularly in computer and electric processing and data room and in a room of irreplaceable articles.
4. Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will be sounded on the same floor and immediate alternate floor.

**L. AIR CONDITIONING SYSTEM (If any) :**

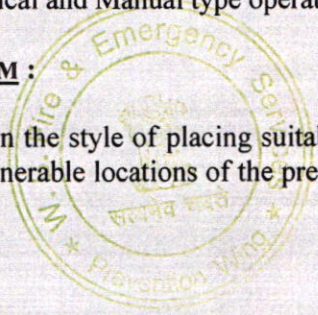
1. The A.H.U. shall be separated for each floor with the system Air Ducts for individual floors.
2. Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning system.
3. The system of auto shut down of A.H.U. shall be incorporated with the auto detection and alarm system.
4. The air handling units room shall not be used for storage of any combustible materials.

**M. MULTI LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM:**

1. **Structural design:-** The M.L.C.P. shall be constructed of structural steel construction.
2. **Vertical Deck Separation:-** For M.L.C.P. having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non-perforated and non-combustible materials (Structural Steel Plate) shall be provided. 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. Proper drainage system shall have to be provided for accidental leaking of oil from the car and sand bed shall be provided at the ground level.
3. **Fire Engine Accessway:-** Accessway shall be provided for the Fire Engine to gain access to the car park entrance and exit.
4. **Fire Hydrant:-** Fire hydrants are to be provided in accordance with CI. 4.4
5. **Natural Ventilation:-** Each car parking deck shall be provided with at least 50% external ventilation openings of the perimeter wall areas and uniformly distributed.
6. **Sprinkler & Detection System:-** Open Modular Type Sprinkler along with detectors shall be provided in all M.L.C.P. areas as per relevant I.S. Specification.
7. Cross zone wise sprinkler system shall have to be implemented.
8. **Operating System:-** Both Mechanical and Manual type operating system shall have to be provided.

**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.

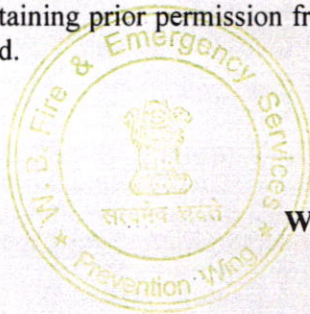


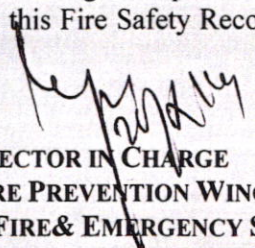
**O. GENERAL RECOMMENDATIONS :**

- 1 Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
- 2 Disposable type B.A. Musk to be kept always for emergency fire situation.
- 3 Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
- 4 Floor numbers and directional sign of escape route shall be displayed prominently.
- 5 The employees and security staff shall be conversant with installed Fire Fighting equipments of the building and to operate in the event of Fire and Testing.
- 6 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.
- 7 A crew of trained Fireman under the experienced Officer shall be maintained round the clock for safety of the building.
- 8 Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.
- 9 Each year a certificate is to be obtained from the **Director General, West Bengal Fire & Emergency Services** certifying about the satisfactory services, performance of all the Life and Fire Safety arrangements and installation of the building.

On compliance of all the above Fire and Life safety recommendations, the **Director General, West Bengal Fire & Emergency Services** shall be approached for necessary inspection and testing of the installation, Final N.O.C. in favour of the occupancy shall be issued on 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 drawing, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancelled.



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