

**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/3249 / 19 / IND/WB/FES/20182019/48280/

Date: 28.06.19

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

**To : The Director,**  
**Vignesh Properties Private Limited**  
**(Formerly Goenka Properties Private Limited),**  
**Godown No.-5 2No. Strand Road,**  
**2nd. Import Warehouse, Kolkata - 700 001.**



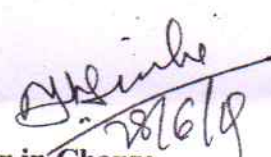
**Sub : Fire Safety Recommendation for Proposed Construction of B+G+XII Storied Under Group Business Building at the Premises No.- 29A, Sir Hariram Goenka Street, P.S.- Posta, Ward No.-23, Borough No.-IV, Kolkata-700 007.**

This is in reference to your Letter No. Nil, Dated.25.06.2019, Regarding Fire Safety Measure for Proposed Construction Proposed Construction of B+G+XII Storied Under Group Business Building at the Premises No.- 29A, Sir Hariram Goenka Street, P.S.- Posta, Ward No.-23, Borough No.-IV, Kolkata-700 007.

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 **Fire Safety Recommendation** in favour of the aforesaid building subject to the compliance of the following fire safety measure. However, necessary sanction and approval for such construction and occupancy must be obtained from competent authorities.

**Enclose:**

1. One set of plan.
2. Recommendation.

  
**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.
2. The interior finish decoration of the building shall be made low flame spread materials conforming L.S. specifications.
3. Provision of ventilation at the crown of the Central core-duct of the building shall be provided.
4. Arrangements shall have to made for sealing all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity.
5. Provision of appropriate ventilation of all floors shall be ensured as per existing norms.



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

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 be not less than 5 M & 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 staircases 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 staircases enclosures as marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least two hour Fire resisting wire glass window flitted with self-closing type open able in the direction of escape.

### **D. LIFT:**

1. The walls of the lift enclosure shall be at least two hours Fire Resisting type.
2. Collapsible gate shall not be permitted.
3. One of the lift shall be designed for Fire Lift. The Word "FIRE LIFT" shall conspicuously written at ground floor.
4. In case of failure of normal electric supply, it shall automatically trip to alternate supply and also shall have manually operated change over facility. Alternatively, the lift shall be so wired that in case of power failure, it comes down at the ground level stands still with door open.
5. All other requirements shall conform the I.S. specification including the communication facility in the lift cars connecting with the Fire Control Room of the building.

## **I. 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 the level of 21.850 Mtr. & 33.950 Mtr. 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. BASEMENT**

1. The Basement shall be adequately ventilated with aggregate cross sectional area of not less than 2.5% of the area spread evenly round the perimeter of the basement shall be provided in the form of grills.
2. Mechanical smoke venting arrangements shall be provided to all the basements conforming the I.S. Specification.
3. The exit from the basement shall be form open Air and from any points the travel distance shall not exceed the distance as specified in NBC Part-4, 2016, to reach any exit. Continuation of staircase from the basement to upper floor will not be allowed i.e. all staircases shall be segregated on the ground floor level.
4. The basement shall be protected with Auto Sprinkler System conforming to I.S. 3844-1989.
5. The staircase of basement shall be of enclosed type having Fire resistance of not less than 4 hrs. and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such position that smoke from any Fire in the basement shall not obstruct any exit having the ground upper floor of the building.
6. Mechanical extractors shall have an alternative source of power supply.
7. Mechanical extractor shall have an internal locking arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of Fire Detectors.
8. Mechanical extractors shall be designed to permit 30 Air changes per hour in case of Fire or distress call.

## **G. FIRE FIGHTING WATER:**

Underground water reservoir having water capacity of 80,000 Ltrs. and overhead reservoir of not less than 20,000 Ltrs. Capacity each exclusively for Firefighting purpose as shown with replenishing arrangements @ 1000 lts./min preferably from two different sources of water supply shall be provided. The Water Reservoirs shall have overflow arrangement with the domestic Water Reservoir as well as to avoid stagnancy of water. The water reservoirs shall be kept full at all time.

## **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 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 lts/min at the ground floor level outlet and minimum 900 Lts/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 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. A separate riser of 100 mm diameter shall be provided for total sprinkler installation of the building.
4. Yard Hydrant / Ring Main Hydrant with provision of two numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S specification.



**I. SPRINKLER INSTALLATION:**

The automatic Sprinkler installation shall be provided in Basement & all floor areas of the building as per I.S. 9972. Alarm gong to be incorporated alongwith the Sprinkler System.

**J. 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 be of diesel driven type.

A separate Fire pump shall be installed of equal capacity for the total Sprinkler installation of the building. Provision of separate Jockey Pumps for hydrant & sprinkler system 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.

**K. ELECTRICAL INSTALLATION & DISTRIBUTION:**

1. Electrical distribution system of the building shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to earth. Cables shall be I.S. marked and preferably be of F.R.L.S. categories.
2. Electrical distribution System shall conform all the requirements as laid in I.S. 1646-1982.
3. For every 230V wiring above false ceiling 660 grade insulated cable shall be used. Transformer Switch Gear H.T.,L.T. and other electrical rooms shall be at the ground floor level, the electric rooms shall be at least 4hrs. Fire resisting capacity adequate ventilation arrangement shall have to be made in all the rooms, Dry and explosion proof type transformer shall be installed.
4. All electrical installation viz. Transformer Switch Gear L.T., HT rooms shall be protected with auto detection and suppression systems as per relevant I.S. Specification and provision of N.B.C. Part IV, 2016.
5. Alternate 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.

**L. AUTO DETECTION, ALARM AND SUPPRESSION SYSTEM :**

1. Manually operated Electrical Fire Alarm system with at least two 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.
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 and total flooding system with C02/F.M.-200 particularly in computer and Electrical processing and data room and in a room of irreplaceable articles.



- Hooters 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.

5. **Public Address System** :-

Public address system linked between all floors and Control Room shall have to be established.

**M. 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.

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

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



**O. INTELLIGENCE ANALOGUE SYSTEM:**

- Auto Fire Alarm System which analogue addressable smoke / heat detectors as per suitability shall be installed in all floor area of the building.
- 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.
- All the installations shall satisfy the I.S. Specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part- 4.

**P. TWO LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM:**

- Structural Design – The M L C P shall be constructed structural steel construction.
- Vertical Deck Separation – For M L C P having M.L.C.P level, vertical Fire separation between the upper & lower decks by using 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.
- Water based suppression system shall be provided in accordance with the provision of N.B.C. Part-IV, 2016 & relevant I.S. Specification.
- Natural Ventilation – Each car parking deck shall be provided with at least 50% external ventilation opening of the perimeter wall areas and uniformly distribution.
- Operating System – Both mechanized and manual type operating system shall have to be provided.

**Q. GENERAL RECOMMENDATIONS:**

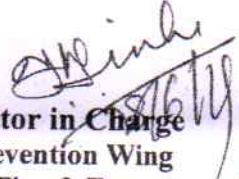
- Fire License shall have to be obtained for proposed storing and processing with L.P.G and other highly combustible articles.
- Disposable type B.A. Musk to be kept always for emergency fire situation.

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 firemen under an 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 & 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. 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.

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**