

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/ 4755/14 /Kol/CB/433/06 (448/06) Date : 16.10.14

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

**To :** Mr. Susanta Mondal,  
Senior Manager, Business Development,  
Riverbank Developers Pvt. Ltd.,  
225C, A.J.C. Bose Road,  
Kolkata-700 020.



**Sub :** Revised Fire & Life Safety Recommendation for proposed construction of G+14 storied Residential Building Complex Block 1 to 45 & 2 Nos. of MLCP, VIZ G+7 Storied & G+3 Storied respectively as Hiland Greens at Calcutta Riverside Project, Batanagar, Ward No-27 & 28 under Maheshtala Municipality Kolkata-700 140.

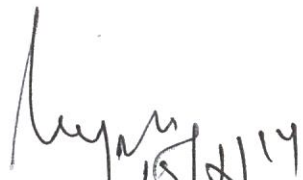
This is in reference to your letter No. PDPL/WBFES/GREENS/SM/14-15/012 dated 16.05.2014 regarding Fire Safety measure for proposed construction of G+14 storied Residential Building Complex Block 1 to 45 & 2 Nos. of MLCP, VIZ G+7 Storied & G+3 Storied respectively as Hiland Greens at Calcutta Riverside Project, Batanagar, Ward No-27 & 28 under Maheshtala Municipality Kolkata-700 140.

The revised 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.

This Fire Safety Recommendation is issued in cancellation of earlier issued fire safety recommendation in respect of Cluster A & D. All other recommendations issued earlier remain the same & strictly to be implemented.

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.
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 5 x 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.
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.

### **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 20.6 m & 35.1m 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 5,00,000 ltrs. exclusively for Fire fighting purpose with replenishing arrangements @ 1000 ltrs./min. Preferably 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.

Arrangement to fetch water from river Ganges to Fire U.G.W.R. by installing 2nos of pumps @1000 LPM shall have to be ensured.

**G. HYDRANT SYSTEM :**

- 1 The each buildings 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.

**H. SPRINKLER INSTALLATION:**

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

**I. CONSTRUCTION, EQUIPPING, MANNING, LOCATION AND FUNCTIONING OF FIRE STATION : (For entire project area of 262 acres)**

1. A 2- pump Fire Station has to be set up by the River Bank Developers Pvt. Ltd., at their own cost within the Project area of 262 Acres land area at Bata Nagar. The Specification of Fire appliances, equipments, Staff Strength and functioning will be determined/worked out by Director General, Fire Services and Director, Fire Service.

Appliances will include a 70 mtrs aerial ladder and a 16 KL Water Bowser along with others, to be worked out by Director General and D.F.S. D.G. and D.F.S. will also lay down norms for the functioning of the Fire Station, especially after Developers hand it over to the Residents Association. Scope for supervision of the Station by the Fire Directorate will also be indicated by them. The location of the Fire Station will be decided jointly by the Developer and the Directorate.

2. This Fire Station will be the first responder for any related incident within the entire project area of 262 Acres. However, this Fire Station will be bound to respond to emergencies even outside the project area of 262 Acres, on humanitarian grounds, as is the practice.

3. Since, according to SFAC, one Fire Station should cater to population of 50,000, meaning roughly 10,000 flats, this Fire Station should become fully equipped and operational before completion of 10 million Sq.ft. for the entire project area of 262 acres, taking each flat to be 1000 Sq.ft.

**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 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.

**K. 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 Medium Velocity/Projector System.
- 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 incase of normal power failure.

**L. DETECTION AND ALARM SYSTEM :**

1. Manually operated Electrical Fire Alarm system with at least adequate 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 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. 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.

**N. MULTI LEVEL CAR PARKING:**

1. **Fire Hydrant:-** Fire hydrants are to be provided in accordance with CI. 4.4
2. **Natural Ventilation:-**Each car parking deck shall be provided with at least 50% external ventilation openings of the perimeter wall areas and uniformly distributed.
3. **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.
4. Cross zone wise sprinkler system shall have to be implemented.

**O. 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.

**P. 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 Breathing Apparatus Mask 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. :** For 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.



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