Office of the Director General of Police
Commandant General, Home Guards &
Director of Civil Defence and
Director General Karnataka State Fire &
Emergency Services
No. 1, Annaswamy Mudaliar Road
Bangalore - 560 042

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No. GBC(1)129/2009

18-12-2010

To

The Commissioner,
Bruhat Bangalore Mahanagara Palike,
N.R. Square,
Bangalore – 560 002.

Sir,

Sub: Issue of No Objection Certificate for the construction of High Rise Residential Building with 4 Blocks at Sy. Nos. 52/1A, 53, 57 & 56/2, Kadirenahalli Village, Uttarahalli Hobli, Bangalore South Taluk - reg.

Ref: Letter dated 29-11-2010 of the Partner, Adarsh Developers, No.10, Vittal Mallya Road, Bangalore.

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With reference to the letter of the Partner, Adarsh Developers, cited above, the Regional Fire Officer, Bangalore South Range of this department has inspected the site of proposed High Rise Residential Building with 4 Blocks at Sy.Nos.52/1A, 53, 57 & 56/2, Kadirenahalli Village, Uttarahalli Hobli, Bangalore South Taluk on 09-12-2010 with reference to the drawings submitted by the applicant and has furnished the details as follows :-

A.Details of the premises.

1. Address of the premises	:	Sy. No. 52/1A, 53, 57 & 56/2, Kadirenahalli Village, Uttarahalli Hobli, Bangalore South Taluk.
2. Number of Block/Buildings	:	One Building with 4 Blocks i.e. Block-A, B, C, D & a Club House – joined together.

3. Number of floors

Block – A & B	:	Basement, ground & 17 upper floors.
Block – C & D	:	Basement, ground & 18 upper floors.

4. Type of occupancy : Residential

5. Floor wise details of the occupancy

Block – A & B

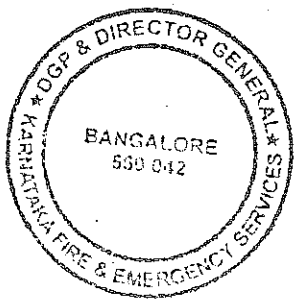
Basement	:	For parking 97 cars.
Ground floor	:	For parking 37 cars.
1st floor to 15th floor	:	6 flats on each floor x 15 floors = 90 flats.
16th & 17th floor	:	6 flats of duplex type.

Block – C, D & Club House

Basement	:	For parking 187 cars, 2 Squash Room, 1 Badminton Room & 1 Pump Room.
Ground floor	:	For parking 44 cars, 1 Health Club, 1 Gym., 1 Multipurpose Hall, 1 Billiards Room & 1 Yoga Room.
1st floor to 16th floor	:	8 flats on each floor x 16 floors = 128 flats.
17th & 18th floor	:	8 flats of duplex type.

6. Height of the Building

Block – A, B, C, D & joined together.	:	58.00 mtrs.



7. Site Area : 15,884.00 Sq.mtrs.

8. Built-up area of each floor :-

Block – A & B

Basement	:	3,902.59 Sq.mtrs.
Ground floor	:	1,664.22 Sq.mtrs.
1st floor to 16th floor (1,160.83 Sq.mtrs. on each floor x 16 floors)	:	18,573.28 Sq. mtrs.
17th floor	:	710.79 Sq.mtrs.

Block – A & B

Basement	:	6,564.70 Sq.mtrs.
Ground floor	:	2,899.52 Sq.mtrs.
1st floor to 17th floor (1,585.55 Sq.mtrs. on each floor x 17 floors)	:	26,954.35 Sq. mtrs.
18th floor	:	480.38 Sq.mtrs.

10. Total Built-up area : 61,749.83 Sq. mtrs.

11. Surrounding properties :-

East	:	High rise Residential Building of basement, ground & 19 uppr floors (Vasundara Apartment).
West	:	Residential Buildings and 9.00 mtrs. wide dead end cross roads .
North	:	Open drainage, park, open space and 24.00 mtrs. wide Outer Ring Road thereafter.
South	:	Residential Buildings.

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B. Th e plan shows the following structural details indicating the fire prevention, fire fighting and evacuation measures. These measures are considered adequate as follows:-

Details (1)		Existing (2)
1. Width of the road to which the building abuts and whether it is hard surfaced to carry the weight of 45,000 kgs.	:	The premises is abutting the 24.00 mtrs. wide Outer Ring Road through a proposed 24.00 mtrs. wide connecting road. The proposed connecting road between the premises and Outer Ring Road should be formed by the Builder by providing slabs over the existing drainage by obtaining approval from the B.B.M.P. The proposed approach road should be hardened to carry the weight of 45,000 kgs. and it should be provided before approaching the Fire & Emergency Services for final clearance certificate.
2. Number of entrances and width of each:		Proposed to provide 2 entrances, each of 6.00 mtrs. width from 24.00 mtrs. wide proposed approach road.
3. Height clearance over the entrance	:	No arch or any other constructions have been provided over the entrances.
4. Width of open space (Setbacks):-		
Front (East)	:	Minimum 16.00 mtrs.
Rear (West)	:	16.00 mtrs.
Side (North)	:	Minimum 16.00 mtrs.
Side (South)	:	16.00 mtrs.
5. Arrangement for parking the Cars	:	Provision has been made to park 97 cars at basement & 37 cars at ground floor parking area of Block-A & B and 187 cars at basement & 44 cars at ground floor parking area of Block-C & D.

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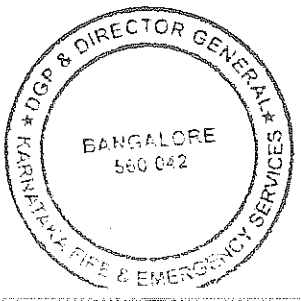
(1)		(2)
		Proposed to provide 3 ramps for the vehicles to reach the basement parking area. The land in natural slope on the northern side.
6. Number of Staircases	:	7 (one in Block-A and two in each Block i.e. Block-B, C & D).
7. Location of the staircases	:	All the staircases have been designed to abut one of its side to the external wall and extended to the basement. The extended staircases shall be terminated at ground floor level and separate staircases shall be provided to reach basement from ground floor level.
8. Staircase size:-		
(a) Width of the staircases	:	Each of 1.20 mtrs.
(b) Width of treads	:	27.5 cms.
(c) Height of riser	:	15 cms.
(d) Number of risers in a flight	:	9 per flight.
(e) Height of hand rails	:	1 meter. As proposed, the hand rails should be provided at a height of 1 meter. The gap between two verticals should not exceed 15 cms.
(f) Head room clearance	:	2.50 mtrs.
9. Travel distance from the farthest point and from the dead-end of the corridor to the staircases.	:	Maximum 31.00 mtrs. from the farthest point and maximum 6.00 mtrs. from the dead end of the corridor to the staircases. Increased travel distance from farthest point is acceptable as the entire building is proposed to be covered with automatic sprinkler system.



(1)		(2)
10. Number of lifts and capacity	:	4 passenger lifts, each of 8 passengers capacity and 4 service lifts, each of 13 passengers capacity (one passenger lift & one service lift in each Block).

C. While constructing the building the following fire safety measures should be incorporated:-

Details (1)	Existing (2)	Recommendation (3)
1. Condition of the open space.	--	Out of the required setbacks of minimum 16.00 mtrs. all around the building, setbacks to an extent of 10.00 mtrs. from the Building line should have a RCC slab of 200 mm thickness to carry the load of 45,000 kgs.,being the weight of a fire unit. This driveway all around the building, should always be kept free and clear. It would be advantageous to the builders and the users to elevate this portion by a few inches and even provide for a different colour, so that people are aware that this is the emergency route for fire fighting vehicles, ambulances etc. The total setbacks shall be at even level without any structure and projections up to a height of 5.00 mtrs. These setbacks shall be always kept free from any construction or utilization like garden, landscaping parking etc. up to 10.00 mtrs. from building line.
2. Structural materials.	---	RCC materials and brick walls of not less than two hours fire resistance should be used for the construction of structures. Only fire resistant materials or materials treated with fire retardant chemicals, should be used for interior decoration the work. While attending the interior decoration the fixed fire fighting systems like sprinklers/ risers etc., should not be covered or shifted from their original location.

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(1)	(2)	(3)
3. Design of the staircases.	Not indicated	All the staircases should be constructed with non-combustible materials and should be completely enclosed at each landing to prevent smoke and fire traveling from the lower floors to the upper floors. Enclosures to staircases should be provided with self-closing smoke-stopping swing-door, fitted with door closing devices at the exit to the lobby. These doors should have at least two hours fire resistance capacity. The staircase area should be without glazing or glass brick walls to avoid reflections. Any area of dwelling or storage should not open directly to the staircase. As recommended in Sl.No.B7, the staircases, extended up to the basement, shall be terminated at ground floor level and separate staircases shall be provided to reach the basement from ground floor.
4. Specification of lift.	Not indicated	The brick walls, enclosing the lift shafts, should be of 90 mm thickness and have a fire resistance of not less than two hours. Shaft should have permanent vent of not less than 0.2 sq.mtrs. clear area, immediately under the machine room. Lift motor rooms should be preferably located at the top of the shaft and separated by the enclosing wall of shaft or by the floor of the machine room. Landing doors of lift enclosures should open into a ventilated lobby having one hour fire resistance. Lift car doors should be of metal finish, operating automatically and should have fire resistance capacity of one hour. Exit from the lift lobby should be through a self closing smoke stopping door of 15 mm thickness, having one hour fire resistance capacity. This is to prevent smoke and fire traveling from the lower floors to the upper floors. The lift machine rooms should be separate and no other machinery should be installed therein. Each lift should be connected to an alternative source of power (generator).

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(1)	(2)	(3)
		Grounding switches at the ground floor level to enable the Fire & Emergency Services personnel to ground all the lift cars and use them as ' FIRE LIFT' in an emergency should be provided. All the lifts extended to the basement, shall be terminated at the ground floor level or the lift lobby at the basement level shall be enclosed and pressurized with positive pressure.
5. Service ducts/shafts.	---	Service ducts should be enclosed by walls of 100 mm. thickness to have at least two hours fire resistance capacity. A vent, opening at the top of the service shafts, should be provided between one fourth and half of the area of the shafts. The electrical distribution cables and wiring should be laid in a separate duct. All the ducts should be sealed at every alternate floor with non-combustible metal doors having at least two hours fire resistance capacity. Water mains, telephone lines, intercom lines or any other service lines should not be laid in the duct, meant for electric cables. The inspection panel doors and any other opening to the shafts should be provided with airtight doors of at least two hours fire resistance capacity.
6. Escape route.	Not indicated	Direction in which the inmates should have to move in the event of any emergency have to be indicated in the corridor/passage on each floor as a guide during evacuation. These marking should be in luminous paint.

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D. The builder should arrange for the following fire fighting and evacuation measures:-

Details (1)	Existing (2)	Recommendation (3)
1. Electric power supply.	---	Circuits for water pumps, lifts, staircase lighting in the building should be by separate line and independently connected so that they can be operated by one switch installed the ground floor. Dual operated switches should be installed in the service room for terminating the standby supply. As proposed 2 standby generators, each of 320 KVA capacity, shall be installed at basement to supply alternative power for staircase lighting, corridor lighting, fire fighting systems, lifts etc., in the event of failure of electricity supply, in the building.
2. Wet riser-cum-down comers.	Proposed to provide 4 wet riser-cum-down comer systems. (one in each Block)	As proposed 4 wet riser-cum- down comer systems (one in each Block), near the staircases, shall be provided. Each riser should be of 100 mm internal diameter and of G.I. 'C' Class pipe. From each riser single hydrant outlets should be provided at each landing. Hose reel hose of minimum 12 mm size of adequate length to reach the farthest point of each floor should be provided with a shut off branch having a nozzle of 5 mm size. The hose reel hose should be connected at each landing by means to be of an adaptor. Minimum 2 external hydrants hydrants at a suitable location with adequate space between them should also be provided from each system. Adequate B.I.S. marked reinforced rubber lined delivery hoses of 63 mm size to reach the farthest point of the floor from the system should be provided with a branch pipe near each hydrant outlet in a proper box to protect it from withering. At least two fire service inlets to boost the water in the riser directly from the mobile pump should also be provided. These inlets should be located at an easily accessible position, preferably near the entry point to the premises.

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(1)	(2)	(3)
		Each riser should be connected to an overhead tank of 10,000 liters' capacity and an underground tank of 75,000 liters' capacity. One electrically driven pump and one diesel driven pump, each capable of delivering 2280 liters' of water per minute and one jockey pump of 180 LPM at 0.3N/mm2 pressure shall be provided near the combined capacity underground tank (one set of pumps for 4 risers). The impeller of the pumps should be made of bronze.
3. Manually operated fire alarm system	Proposed to provide manually operated electrical fire alarm system with call boxes near each staircase landing.	Manually operated electrical fire alarm system should be installed with call boxes located near each staircase landing of the building. The call boxes should be of "break glass' type, where the call is transmitted automatically to the control room when the glass of the system is broken. This system should also be connected to an alternative source of power supply (diesel generator). The call boxes should be so installed that their location can be easily noticed from either direction and should be at a height of one meter from the floor level.
4. Automatic sprinkler system.	Proposed to provide automatic sprinkler system with 365 sprinkler heads at basement parking area, 382 sprinkler heads at ground floor parking area, 121 sprinkler heads at 1st floor, 138 sprinkler heads at each floor i.e. from 2nd floor to 17th floor and 78 sprinkler heads at 18th floor.	Adequate. Separate water and pump to use 10% of the sprinkler heads for about 30 minutes shall be provided.

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(1)	(2)	(3)
5. Public address system.	Proposed to provide public address system with two way communication facility.	As proposed a public address system with two way communication facility should be provided at each floor near each staircase landing with its console at the control room, located on the ground floor.
6. Portable fire extinguishers.	Proposed to provide suitable type of portable fire extinguishers as per the requirements.	a) One ABC Powder extinguisher of 5 kgs. capacity and 2 fire buckets filled with clean dry fine sand should be provided for every 8 Cars in the basement parking area and ground floor parking areas. b) One CO_2 extinguisher of 2 kgs. capacity should be provided near the entrance to each main switch board room, inside each kitchen and each lift room. c) One ABC powder extinguisher of 5 kgs. capacity should be provided near the transformer, if installed. d) One ABC powder extinguisher of 5 kgs. capacity should be provided near the entrance to each D.G. Room. e) One Water Pressure type extinguisher of 9 liters capacity should be kept near each staircase landing on every floor. f) All the extinguishers suggested above Should be with B.I.S. markings and should be located at an easily accessible position without obstructing the normal passage.
7. Fire safety plan.	---	A Fire safety plan for preventing and extinguishing any accidental fire in the building and action to be taken by the occupants in case of such fire should be prepared in advance and got approved by the Director, Karnataka Fire & Emergency Services.

(1)	(2)	(3)
		The fire safety plan, so approved, should contain the telephone numbers of the nearest Fire Control i.e., 101, 22971500, 22971550 and 22971600. The plan should be distributed to all the occupants and employees in the building and should be displayed on every floor. A Fire Command Station should be established in the lobby of the building on the entrance floor and such command station should be adequately illuminated. The main control of the public address system and fire alarm system should be at the Fire Command Station. A Fire Safety Director should be nominated for the building. He should conduct fire and evacuation drills periodically. He should nominate a Fire Warden for each floor and ensure that no individual of the building does anything which causes or stimulates an accidental fire and in case of lapses in respect of fire prevention measures, he should take action as deemed fit to ensure the safety from the fire point of view. If the action is beyond his capacity he should inform the Fire & Emergency Services department.
8. Assembly Area	Not marked.	An area at an appropriate place in the allowed/ required setbacks shall be earmarked with a proper board as 'ASSEMBLY AREA' for the occupants to assemble after evacuation during practice drill and in an emergency.
9. Training	Not indicated	40% of the occupant/employees should be got trained in fire prevention & fire fighting at the R.A. Mundkur Fire & Emergency Services Academy, Bannerghatta Road, Bangalore – 560 029 within 6 months from the date of occupation of the building.

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(1)	(2)	(3)
		For this purpose, before approaching this department for final clearance certificate, the applicant should give an undertaking in the form of an affidavit regarding the maintenance of the fire prevention and fire fighting measures suggested above and arranging training of 40% of the occupants in fire prevention and fire fighting within 6 months from the date of issue of the clearance certificate.

E. General:-

1) All the fire prevention, fire fighting and evacuation measures suggested / recommended in B, C & D shall be strictly adhered to adopted.

2) Hazardous materials such as petroleum products, explosives, chemicals etc. should not be stored on any floor of the building.

3) Refuse dumps or storage should not be permitted in any of the floors.

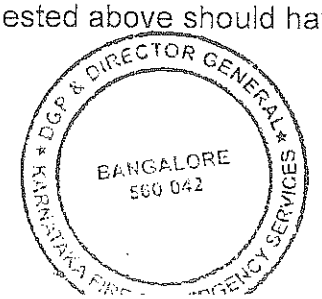
4) Liquefied petroleum gas should not be stored in the building except limited quantity required for each kitchen.

5) Plan & occupancy should not be changed without informing the Fire & Emergency Services and without taking clearance.

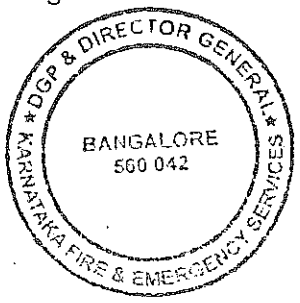
6) The occupancy certificates should not be issued without obtaining the clearance certificate from the Fire & Emergency Services department as per Chapter 3.16 (v) of the Zoning Regulation 2007 of the Bangalore Development Authority.

7) Such reasonable changes/modifications as may be found necessary, after the building is fully constructed, will have to be agreed to be done by the builder/occupants of the building.

8) All the metal fittings of wet riser system and all the extinguishers suggested above should have B.I.S markings.



Subject to the strict adherence to the conditions laid down as above, issue of license for the construction of High Rise Residential Building with 4 Blocks i.e. Block-A, B, C & D with a Club House at Sy.Nos.52/1A, 53, 57 & 56/2, Kadirenahalli Village, Uttarahalli Hobli, Bangalore South Taluk may please be considered.



Yours faithfully,

Director General of Police
and Director General,
Karnataka Fire & Emergency Services.

Copy to:

1) The Partner, Adarsh Developers, No.10, Vittal Mallya Road, Bangalore -560 001.
2) The Regional Fire Officer, Bangalore South Range.