



ODISHA FIRE SERVICE
FIRE SAFETY RECOMMENDATION
FORM-II
[Under Rule-12 (5)]



RECOMMENDATION No:	RECOMM1408260012021000194	APPLICATION No:	FSR1408260012021000241
Date of Issue:	02-08-2021	Date of Receipt of Application:	24-07-2021

1.	Name & Address of the proposed Building/Premises:	B+S+6 Storied Residential Apartment Building, Mouza-Nimakhandi, Tahasil-Kukudakhandi, Dist-Ganjam
2.	Name and Address of the Applicant(s):	Smt. Bisala Patro, W/o-Mahendra Patro, Big Street, Lochapada, Berhampur, Dist-Ganjam
3.	Proposed Occupancy (Type of Building):	The proposed construction of B+S+6 storied Residential Apartment building is coming under occupancy "Residential" as per Odisha Development Authorities (Planning & Building Standards) Rules, 2020 and "Residential" Group-A, Sub-Division A-4 as per National Building Code of India-2016
4.	Area with Plot Number and Khata Number:	Plot Area –Ac. 0.3000 Dec. Plot No. 1066/5704, Khata No. 410/3083, Mouza-Nimakhandi, Tahasil-Kukudakhandi, Dist-Ganjam
5.	Date of Inspection:	30-07-2021

6. Recommendation:



The Fire Safety Recommendation for the following building(s) is/are as follows: -

A.	Structural and construction site requirements:	
i.	Details of the building(s) like height, no. of floors, area on each floor, built up area, etc	<p>Basement =639.16 Sqm., Usage=Parking, Panel Room Stilt floor =561.16 Sqm., Usage=Parking, Society Room & Toilet 1st floor to 6th floor=592.48 Sqm in each floor, Usage=Residential Apartment Houses Terrace floor=Lift Machine Rooms, Staircase Head Rooms, Fire Tanks, Solar Power & Open to sky. The height of the proposed building will be 17.7 Mtrs. from Stilt roof level to terrace of the building.</p> <p>Basement height as shown in the plan doesn't confirm to Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Provision to be made for height of basement :- Every basement shall be in every part, at least 02.5 Mtrs. in height from the floor to the soffit of the roof slab or ceiling. The minimum height of the ceiling of upper basement shall be 0.90 Mtrs. and maximum, 01.5 Mtrs. above the average surrounding ground level as per Rule-41 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020</p>
ii.	Parking	<p>Provision of Basement & Stilt floor parking have been proposed in the building plan. Provision of parking shall be made in accordance to Rule-37 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. The off-street parking space to be provided shall be in addition to minimum open space (set-backs) as required under Rule-32 & 33 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.</p>
iii.	Access To The Building	<p>As per plan the proposed building abuts width of 09.14 Mtr. wide road is available. No entrance gate has been proposed in the building plan.. If the main entrance gate is built over width of the gate 06 Mtr. & the height of the same shall not be less than 05 mtrs if, arch type. The main gate shall fold back against the compound wall of the premises. Provisions for access to the building as shown in the plan to be satisfy the requirement of Rule-31 & 71 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Besides, provisions have been made for high-rise housing projects on one plot, the access way within the premises shall not be less than 07.5 (seven and half) meters in width and the open space between building shall be as specified under Rule-34 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. The space set apart for providing access within the premises shall in no case be included in the calculation of requirements pertaining to parking spaces and other amenities required to be provided for the building. Every access way shall be properly drained and lighted to the satisfaction of the Authority and manhole covers or any other fittings laid within the right of way of the access way shall be flushed with the finished surface level of it so as not to obstruct safe movement of men & vehicles. Reconstruction, addition or alternation to any high-rise building shall not be taken in a manner which shall reduce the width of the access way to a level below the minimum prescribed limit under these rules.</p>
iv.	Open spaces (In Mtrs.)	<p>As per the plan, provision of the following setbacks have been proposed:- Front=04.50 Mtrs., Rear =04.50 Mtrs. to 05.80 Mtrs., Left=04.50 Mtrs. to 04.98 Mtrs., Right=04.50 Mtrs. to 05.32 Mtrs.</p> <p>Provision of open space proposed in the plan to be satisfy the requirement as per Rule-33 (1) Table-6, 40 & 41 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. The open space set apart for providing access within the premises shall not be used as parking space or spaces for other amenities required for the building. The covering slabs of underground water tank, soak pit, recharge tank, septic tank etc. proposed to be positioned in the compulsory open space must have appropriate load bearing capacity.</p>
v.	Basement	<p>As shown in the plan there is provision of one ramp of width 06 Mtr. connectivity from ground to basement. The basement shall be used for designated purpose only. The access to the basement shall be separate from the main and alternative staircase providing access & exit from higher floors. The ramp providing access to basement to be used for parking shall have a gradient not steeper than 1:10. The staircases which are continuous shall be of enclosed type serving as a fire separation from the basement floor and higher floors. The ramp providing access to basement shall be constructed leaving required open space for driveway around the building. The door openings from higher floors to basement shall need to be protected with fire doors with 02 hrs. fire rating. Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills or breakable stall board. Lights</p>



		or pavement lights or by way of shafts. Alternatively, a system of mechanical ventilation shall be provided so as to permit 12 air changes per hour in case of fire or distress call. Provision of ramp for basement proposed in the plan to be satisfy the requirement as per Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Provision of basement and ramp shall be in accordance to Rule-41, Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020 and Clause-3.4.8, 4.6.2, 4.2.19 & 4.4.2.4.3.5 of Part-4, NBCI-2016.
vi.	Exits (Type, Number, Dimension & Ramp Arrangement)	As per plan 02 staircases made connectivity from Basement to terrace (01 No.) and Stilt to terrace (01 No.) have been proposed (Measurement not mentioned). Provision to be made for staircase in the building, the minimum requirement of staircase width shall not be less than 01.5 Mtr.. The minimum width of the treads without nosing shall be 250 mm. The treads shall be constructed and maintained in a manner to prevent slipping. The maximum height of the riser shall be 190 mm and number of riser shall be limited to 12 per flight as per Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Travel distance for the applied occupancy and type of construction needs to be satisfied to table-5 (Clauses 4.4.2.1 and 4.4.2.2) as per Annexure-III of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Exit doorways shall not be less than 01 Mtrs. in width and height not less than 02 Mtrs. Provision of Corridor width of 01.82 Mtr. to 02.43 Mtr. are available from 1st floor to 6th floor to be satisfy the minimum requirement as per Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. The internal staircase not with external wall shall be pressurized. The staircases are required to be pressurized or provision of natural ventilation be made at each floor landing. The natural ventilation requirement of the staircases shall be achieved through opening at each landing of an area 0.5 m2 in the external wall. The exits (staircases) shall be connectivity in each floor. Mechanism for pressurizing the staircase shall operate automatically with the fire alarm. Access to all the staircases be gained through automatic closing fire check doors of 02 hrs. rating at all the floors. Provisions to be made of fire check doors/pressurization for staircase in each floor. External exit door of staircase enclosure at ground level shall open directly to the open spaces or can be reached without passing through any door other than a door provided to drought lobby. The exit sign with arrow indicating the way to the escape route shall be provided at all conspicuous places and shall be illuminated by electric light connected to corridor circuits. The floor indication board shall be placed on the wall immediately, facing the flight of stairs and nearest to the landing. In addition to above all other provisions for exits/doorways/stairways/corridors/compartmentation/smoke control management shall be made as per clause-4.2 to 4.6 & 6 (Additional requirement) of Part-IV, National Building Code of India-2016 and Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.
vii.	Lifts	As per plan provision of 02 (Two) Nos. of lift have been proposed connectivity from Basement to Stilt to 1st to 6th floor. Provisions of lift in the building to be satisfy the minimum requirement as per Rule-42 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Lift shall be provided for residential buildings at the rate of one lift for 20 (twenty) dwelling units, or part thereof. Grounding switch at ground floor level shall be provided to enable the fire service to ground the lift. Lift car door shall have a fire resistance rating of 01 Hr. Walls of lift enclosures shall have a fire rating of 02 (two) hrs. Lift shafts shall have vent at the top of area not less than 0.2 Sqm. Telephone/talk back communication facilities may be provided in lift cars for communication system and lifts shall be connected to the fire control room of the building. As lift communicating from Basement, lift lobbies shall be segregated and pressurized through fire check doors of two hours rating as per Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020 and Table-6 of Part-IV, NBCI-2016. Photo luminescent safety signs shall be posted and maintain on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. In addition to above, other provisions of lift and Escalators shall be comply to the requirements as specified in 'Building Services, Section-5 Installation of Lifts, Escalators and Moving Walks, Sub-Section-5A Lifts of Part-VIII, NBCI-2016, pressurization system as per 4.4.2.5, Part-IV, NBCI-2016 and Rule-42, Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.
viii.	Building Services	
	Electrical Service	A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pumps, pressurization fans and blowers, smoke extraction and damper system in case of failure of normal electric supply. The staircase and corridor lighting shall be on separate service and shall be independently connected so as it could be operated by one switch installation on the ground floor, easily accessible to firefighting staff at any time irrespective of the position of the individuate control of the light points, if any. Staircase and corridor lighting shall also be connected to alternate supply from parallel high-tension supply or to the supply from the stand-by generator. All wires and other accessories used for emergency light shall have fire retardant property. The electric distribution cables or



		wiring shall be laid in separate duct which shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits. Water mains, telephone cables, intercom cables, gas pipes or any other service line shall not be laid in the duct for electric cables. Transformer if housed at ground floor level shall be cut-off from the other portion of premises by Fire Resisting Walls of 4 hours rating & minimum safety distance as specified in Part-IV, National Building Code of India-2016 & Electricity Rules. Electrical Installations in the building shall comply to the provisions given in Clause 3.4.6 to 3.4.7.4 of Part-IV NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Provision for lightning protection shall be made in the proposed building as per Section-1 Lightning & Natural Ventilation of Part-VIII, NBCI-2016 & I.S 2309/1989 (Reaffirmed 2010).
	Air Conditioning	<p>Escape routes like staircases, common corridors, lift lobbies shall not be used as return air passage. Air ducts serving main floor areas, corridors, shall not pass through the staircase enclosure. The air-handling units shall be separated for each floor and air ducts for every floor shall be separated and in no way inter-connected with the ducting of any other floor. Wherever the ducts pass through fire walls or floors, the opening around the ducts shall be sealed with materials having fire resistance rating of the compartment. Such duct shall also be provided with fire dampers at all fire walls and floors unless such ducts are required to perform for fire safety operation. Metallic ducts shall be used even for the return air instead of space above the false ceiling. The materials used for insulating the duct system (inside or outside) shall be of non-combustible material.</p> <p>The Air Conditioning shall also be coupled with fire detection and alarm system. Air Conditioning system in the building shall comply to the provisions given in Clause 3.4.8 to 3.4.8.4.2 of Part-IV, NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.</p>
	Service Ducts & Shafts	Openings in walls or floors which are necessary to be provided to allow passages of all building services like cables, electrical wirings, telephone cables, plumbing pipes, etc. shall be protected by enclosure in the form of ducts/shafts and such shaft and inspection doors fitted thereto shall have fire resistance rating not less than as specified in Clause 3.4.5.4 of Part-IV, NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.
	Construction	The minimum fire resistance rating of structural and non-structural members shall be as given in Table-1 and Annexure-C of Part-IV, NBCI-2016. The false ceiling, including all fixtures used for its suspension shall be of non-combustible material and shall provide adequate fire resistant to the ceiling in order to prevent spread of fire across ceiling. The structural safety design and construction of the building shall be done as per Clause-3.3 & 3.4, Table-25 & 26 of Part-IV, NBCI-2016 and Rule-73 of Odisha Development Authorities (Planning & Building Standards) Rules, 2020. Provision of horizontal exits/refuse area, firefighting shaft (Fire Tower) & others to be provided as per Annex-E of Part-IV, NBCI-2016. For construction of habitable rooms, kitchen, bathrooms, loft, mezzanine floor, store room & garage shall be constructed in accordance to Clause-12 of Part-III, NBCI-2016. Refuse chutes, if any provided in the building shall have opening of at least 01 Mtr. above roof level for venting purpose and they shall not be located within the staircase enclosure wall of non-combustible material with fire resistance of not less than 120 min. Refuge chutes shall be made as per Clause 3.4.5.5 of Part-IV, NBCI-2016. Provision for lightning protection shall be made in the building as per NBCI-2016 and incorporate to relevant BIS Specification. Routing down of conductors (Insulated or Un-Insulated) of lightning protection shall not be made through electrical or other service shafts.
ix.	P.A System & Signage	Public Address system shall be provided in the building. The escape routes should be well ventilated and provided with safety lighting and free from obstructions. Exits shall be clearly visible and the routes to reach the exit shall be clearly marked and sign posted to guide the population of the floor concerned. Signs shall be illuminated and wired to an independent electrical circuit on an alternative source of supply & the colour of exit signs shall be green. Exit signs shall be provided such that no point in an exit access is more than 30 Mtr. from visible exit directional sign. All landings of floor shall have floor indicating boards prominently indicating floor number. Photo luminescent markings shall be pasted at internal hydrant boxes as per Rule-46 & Annexure-VIII (7) of Odisha Development Authorities (Planning & Building Standards) Rules, 2020.
x.	Fire Command Centre	There shall be a Fire Command Centre on entrance floor of the building having direct access. The Fire Command Centre shall have the main fire alarm panel with communication system (suitable public-address system). All controls and monitoring of fire alarm systems, pressurization systems, smoke management systems shall happen from this room. Fire Command Centre shall have provisions in accordance with Clause-3.4.12 of Part-IV,



B.	Fixed Fire Fighting Installations :	
i.	Fire Extinguisher	The recommendations for provision of first-aid firefighting equipments will be suggested after completion of the construction of the building before occupation. However, two 09 Ltr. water expelling extinguisher or ABC 05 Kg./06 Kg. fire extinguisher, for every 200 M of floor area or part thereof with minimum of four extinguishers per compartment/floor of the building. The extinguisher should be so located as to be available within 15 Mtr. radius in accordance to IS:2190/2010 specification.
ii.	First- Aid Hose Reel & Down Comer	Provision of adequate down comer & hose reel hose should be made available within 30 Mtr. from any point at each floor level and the horizontal distance between any two adjacent down comer & hose reel hose shall not be exceed 50 Mtr. on each floor of the building & directly connected to the down comer in accordance to IS:844/1985, 8090/1976 & 3844/1989 specification. All down comer shall have provision of hydrant outlet and hose reel on each floor landing. The down comer mains shall be connected to the terrace pump. Fire Service inlets at ground level fitted with non-returned valves shall also be provided to the down comer main for charging it by Fire Service pump in case of failure of terrace fire pump fitted with the terrace tank. The down comer shall be fully charged and automatic in operation with adequate pressure at all times. The internal diameter of the down comer mains shall be not less than 100 mm. Each hydrant shall be preferably of single outlet and comprise of 63 mm. Gun metal landing valve fitted with 63 mm instantaneous coupling conforming to IS 901:1988. The landing valve on the hydrant shall be at a height of between 1 to 1.2 mtrs above the floor near each floor landing and on the terrace. Sufficient length of rubber lined fire hoses subject to minimum two 15 mtrs length fitted with coupling together with branch pipe and nozzle conforming to IS 903:1993 shall be provided and kept adjacent to the respective hydrant in hose boxes.
iii.	Automatic Sprinkler System	Automatic water sprinkler system with sprinkler heads shall be provided in basement of the proposed building both below & above the false ceiling (Where void space exceeds 800 mm) at suitable intervals and height in accordance to relevant BIS specification (IS 15105:2002 and 9972:2002).
iv.	Manually Operated Electronic Fire Alarm System	Manually Operated Electronic fire alarm system at conspicuous places in each floor of the building shall be provided. Manually operated electronic fire alarm system shall also include talk-back and Public Address System. (IS 2189:2008).
v.	Terrace Tank	One terrace tank of 25,000 Ltr. capacity shall be provided at the top floor of the building for firefighting purpose. It should be ensured that the water in the tank is not utilized for any other purposes other than firefighting and in no case there should be shortfall of recommended quantity of water in the tank. The terrace tank shall be connected to down comer.
vi.	Pump At Terrace Tank Level With Minimum Pressure Of 3.5 Kg/Cm2	One electric pump should be provided near the terrace tank of the building having a discharging capacity of 900 Ltr./min giving a pressure of not less than 03.5 Kg./cm . The pump is to be operated automatically or manually either from the usual supply of electricity or from the generator in case of failure of usual supply of electricity. The provision shall be in accordance to IS:3844/1989 specification.
C.	Opinion :	<p>The applicant shall provide any additional fire requirements in future if the recommendation is issued by this department. After completion of the construction work including installation of fixed firefighting measures as suggested, the applicant shall be required to apply for Fire Safety Certificate as per Rule 13 (1) of the Odisha Fire Prevention and Fire Safety Rules, 2017 read with the Odisha Fire Prevention & Fire Safety (Amendment) Rules, 2019, along with following documents:-</p> <ol style="list-style-type: none"> The applicant shall produce a certificate to be issued by the person concerned to the effect that all the provisions of Bye-Laws/Regulations of Odisha Development Authorities (Planning & Building Standards) Rules, 2020 and Recommendations issued from this office have been incorporated in the building. The applicant shall produce a certificate of the Competent Authority concerned to the effect that electrical installations have been done as recommended and as per provisions given in Part-8 "Building Services, Section-2 Electrical and allied installations" of NBCI-2016 and Section-7 of National Electrical Code, 2011. The applicant shall produce a certificate of the agency concerned to the effect that



installation of firefighting measures has been done as recommended and as per provisions given in Part-4 of National Building Code of India-2016 and relevant BIS specifications.



Range Fire Officer, Southern
Range, Berhampur

NOTE

- (i) It is a digitally signed electronically generated certificate and therefore needs no ink-signed signature.
- (ii) This Certificate is issued as per section 4, 5, & 6 of Information Technology Act 2000 and its subsequent amendments in 2008.
- (iii) For any Query or Verification, Agency / Department / Office may visit <http://agnishamaseva.odisha.gov.in>



(iv) Tampering of this Certificate will attract penal action.

