

The City of Providence

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

CHAPTER 1974-23

No. 363 AN ORDINANCE IN AMENDMENT OF THE BUILDING CODE, CHAPTER 1079, APPROVED DECEMBER 21, 1956, AS AMENDED, BY AMENDING SECTIONS 432.0, 432.10, 432.11, 432.12, 432.13, 432.14, 432.15, 432.16, 432.20, 432.21, 432.22, 432.23, 432.24, 432.25, 432.26, 432.30, 432.40, 432.41, 432.17, 432.18, 432.42, 432.43, 432.50, 432.51, 432.52, 432.60

Approved June 19, 1974

Be it ordained by the City of Providence:

SECTION 1: That the Building Code of the City of Providence, Chapter 1079, approved December 21, 1956, as amended, be and the same is hereby further amended by amending Sections 432.0, 432.10, 432.11, 432.12, 432.13, 432.14, 432.15, 432.16, 432.20, 432.21, 432.22, 432.23, 432.24, 432.25, 432.26, 432.30, 432.40, 432.41, 432.17, 432.18, 432.42, 432.43, 432.50, 432.51, 432.52 and 432.60 to read as follows:

Sec. 432.0 High Rise Buildings: The provisions of this section shall apply to all buildings of the following use groups when such buildings are more than six (6) stories or seventy-five (75) feet in height:

- 1) Use group E, Business
- 2) Use group L-1, Residential (hotel)
- 3) Use group L-2, Residential (multi-family)

Sec. 432.10 Compartmentation Option: Buildings designed in accordance with the Early Fire Control option as set forth in sub-section 432.20 are not subject to the provisions of this sub-section. Buildings more than twelve (12) stories or one hundred fifty (150) feet shall be designed in accordance with this code and the Basic Mechanical Code listed in Appendix B.

Sec. 432.11 Areas of Refuge: Compartmentation shall be provided in every building to provide areas of refuge for the building occupants. This shall be provided by one of the following methods:

- 1) Installation of fire division, with horizontal exits therein, dividing each story into two (2) or more areas of approximately

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the same size but not exceeding thirty thousand (30,000) square feet per area, or .

- 2) Sub-dividing the building into five (5) story compartments by interrupting the interior exitway stairways with smoke barriers every fifth floor, or by providing smokeproof enclosures for all exitway stairways, or by any approved method which will protect against the movement of smoke from one compartment to another.

Horizontal exit walls used for compartmenting a building shall have no openings which would permit transfer of smoke from one compartment to the other, except for required exits.

Sec. 432.12 Exterior Wall Openings: Openings located vertically above one another shall be separated by a three-quarter (3/4) hour fire-resistive noncombustible spandrel or flame barrier. The minimum height of spandrels shall be three (3) feet. The flame barriers (eyebrows) shall extend thirty (30) inches beyond the exterior wall in the plane of the floor.

Sec. 432.13 Fire-Smoke Detectors: An approved, automatic products-of-combustion (other than heat) detection system shall be installed in the following locations:

- 1) Boiler rooms and furnace rooms
- 2) Return air ducts and plenums of heating, ventilating and air conditioning systems serving floors other than the floor on which the HVAC equipment is located. The detectors shall be located at each opening into the vertical return air duct or shaft.
- 3) Elevator lobby areas (see section 1614.3).

The detection system shall be designed to activate the voice alarm system on a selective basis dependent upon the compartmentation design. The indicator panels shall be located in the Central Control Station.

Sec. 432.14 Fire Alarm: An approved fire alarm system shall be installed as required by section 1210.0 and shall be designed to activate the voice alarm system only, on a selective basis dependent upon the compartmentation design. The zoning indicator panels and controls shall be located in the Central Control Station.

Sec. 432.15 Voice Alarm System: Both the fire detection system and the fire alarm system shall automatically activate a voice alarm system only, on a predetermined selective basis dependent upon the

compartmentation design.

The Central Control Station shall contain controls for the voice alarm system so that a selective or general voice alarm may be manually initiated.

Upon activation of the voice alarm system a pre-recorded message shall be automatically transmitted via one of the voice communication systems.

Sec. 432.16 Voice Communication System: There shall be two (2) approved, electrically supervised communication systems as follows:

- 1) A two-way fire department communication system. The system shall provide two-way communication capabilities between the Central Control Station and the following terminal areas: elevators, elevator lobbies, exitway access corridors and exitway stairways.
- 2) A one-way (address) communication system for transmission of the voice alarm system message to the building occupants. The system shall provide one-way communication capabilities between the Central Control Station and throughout the following terminal areas: elevators, elevator lobbies, exitway access corridors and exitway stairways; office areas exceeding one thousand (1,000) square feet in area; dwelling units; and hotel guest rooms or suites.

The two-way fire department communication system may be combined with the one-way (address) communication system.

Sec. 432.17 Smoke Control: Natural or mechanical ventilation for the removal of products-of-combustion shall be provided in every story and shall consist of one or more of the following:

- 1) Panels or windows, in the exterior wall, which can be opened from an approved location other than the fire floor. Such venting facilities shall be provided at the rate of twenty (20) square feet per fifty (50) lineal feet of exterior wall in each story, and distributed around the perimeter at not more than fifty (50) foot intervals. Such panels shall be clearly identified as required by the Fire Department.
- 2) Approved tempered glass may be used in lieu of the openable panels described above.
- 3) A continuous shaft through which smoke and heat can be mechanically vented to the outdoors. The size of the shaft shall be uniform throughout and of such dimensions to provide one (1) air change per minute in the largest compartment served anywhere in the building. Openings into the shaft shall be protected with an automatic single piece shutter located as high in the room as possible and designed to vent the entire compartment.
- 4) Any other approved design (see section 108.40) which will produce equivalent results.

Sec. 432.18 Elevators: At least one elevator shall be provided for fire department emergency access to all floors. The elevator shall be located in a smokeproof enclosure; or shall open into a lobby (which may serve additional elevators), separated from the remainder of the building by three-quarter (3/4) hour fire-resistive construction. Elevator operation shall be in accordance with Appendix E of the Safety Code for Elevators listed in Appendix B, said elevator cab shall be of such size as to accommodate an ambulance cot in its horizontal open position.

Sec. 432.20 Early Fire Control Option: Buildings designed in accordance with the compartmentation option as set forth in subsection 432.10 and if so designed are not subject to the provisions of this subsection except buildings more than twelve (12) stories or one hundred fifty (150) feet in height shall be designed in accordance with this code and the Basic Mechanical Code listed in Appendix B.

Sec. 432.21 Fire Suppression System: An approved fire suppression system shall be provided throughout every building. The system shall be hydraulically designed using the parameters as set forth in the applicable standards listed in Appendix I and the following:

- 1) Valves and Waterflow devices: Shut-off valves and water flow devices shall be provided at the riser connection on each floor. In addition to actuating a voice alarm on the floor where water flow is detected, the valves and waterflow devices shall be supervised by a continuously manned central control station or by a central station.
- 2) Standpipes: Each floor shall be supplied by two or more combination (suppression system and standpipe) risers. In seismic zones 2 and 3, at each point of connection of the suppression system to a riser, an approved check valve or anti-backflow device shall be installed so that one riser can remain operational if a break occurs in the other riser.
- 3) Secondary Water Supply: In seismic zones 2 and 3 an on-site supply of water equal to a twenty (20) minute demand, or fifteen thousand (15,000) gallons on a combined suppression-standpipe system (whichever is smaller) shall be provided. This supply shall be automatically available if the principal supply fails. At least two independently driven 500 gpm fire pumps shall be provided.

- 4) Piping may be copper or steel with no minimum size of pipe required. Solder connections may be used if composed of ninety-five percent and five percent antimony.

Sec. 432.22 Voice Alarm System: All fire detection devices and suppression system waterflow devices shall automatically activate a voice alarm system only, on a predetermined selective basis dependent upon the locations of the detectors and waterflow devices.

The central control station shall contain controls for the voice alarm system so that a selective or general voice alarm may be manually initiated.

Upon activation of the voice alarm system a pre-recorded message shall be automatically transmitted via one of the voice communication systems.

Sec. 432.23 Voice Communication System: There shall be two (2) approved, electrically supervised communication systems as follows:

- 1) A two-way fire department communication system. The system shall provide two-way communication capabilities between the Central Control Station and the following terminal areas: elevators, elevator lobbies, exitway access corridors and exitway stairways.
- 2) A one-way (address) communication system for transmission of the voice alarm system message to the building occupants. The system shall provide one-way communication capabilities between the Central Control Station and throughout the following terminal areas: elevators, elevator lobbies, exitway access corridors and exitway stairways; office areas exceeding one thousand (1,000) square feet in area; dwelling units; and hotel guest rooms or suites.

The two-way fire department communication system may be combined with the one-way (address) communication system.

Sec. 432.24 Smoke Control: Natural or mechanical ventilation for the removal of products-of-combustion shall be provided in every story and shall consist of one or more of the following:

- 1) Mechanical air handling equipment designed to direct return and exhaust air directly to the outdoors under fire conditions.
- 2) Panels or windows, in the exterior wall, which can be opened from an approved location other than the fire floor. Such venting facilities shall be provided at the rate of twenty (20) square feet per fifty (50) lineal feet of exterior wall in each story, and distributed around the perimeter at not more than fifty (50) foot intervals. Such panels shall be clearly identified as required by the Fire Department.

- 3) Approved tempered glass may be used in lieu of the openable panels described above.
- 4) A continuous shaft through which smoke and heat can be mechanically vented to the outdoors. The size of the shaft shall be uniform throughout and of such dimensions as to provide one (1) air change per minute in the largest compartment served anywhere in the building. Openings into the shaft shall be protected with an automatic single piece shutter located as high in the room as possible and designed to vent the entire compartment.
- 5) Any other approved design (see section 108.40) which will produce equivalent results.

Sec. 432.25 Elevators: At least one elevator shall be provided for fire department emergency access to all floors. Elevator operation shall be in accordance with Appendix E of the Safety Code for Elevators listed in Appendix B, said elevator cab shall be of such size as to accommodate an ambulance cot in its horizontal open position.

Sec. 432.26 Modifications: When a fire suppression system is installed, the following modifications to this code are permitted:

- 1) The type of construction required by this code may be modified as follows:

Type of Construction Set Forth in Table 5	Modified Type of Construction Permitted Hereunder
1A	1B
1B	2A
2A	2B

- 2) The fire-resistance rating of exitway access hallways and vertical separation of tenant spaces may be reduced by: a) three-quarter 3/4 hour in use group E (business) buildings, and b) one quarter (1/4) hour in use group L-1 (hotel) and L-2 (multi-family) buildings; and the wall or partitions may be terminated at the lowest portion of the fire-resistive floor-ceiling assembly above.
- 3) The fire-resistive rating of shafts, other than exitway stairways and hoistway enclosure shafts, may be reduced by one (1) hour in use group L-1 (hotel) and L-2 (multi-family) buildings.
- 4) The exitway access and common hallway doors need not meet the requirements of section 612.40 except they shall be self-closing.
- 5) The hose line, nozzle, rack and cabinet set forth in section 1205.41 may be omitted.
- 6) The exitway access travel distance set forth in Table 11, may be increased to three hundred (300) feet.
- 7) Smokeproof enclosures set forth in section 620.0 may be omitted, but required stairways shall be pressurized to 0.15 inches of water column in the manner describing

section 620.83.

- 8) Fire dampers as set forth in sections 1019, 1812 and the standards listed in Appendix B may be omitted except where ducts penetrate firewalls, horizontal exits and vertical shaft walls.
- 9) Fire alarm systems (manual pull stations) as set forth in sections 1210.17 and 1210.18 may be omitted.

Sec. 432.30 Central Control Station: A central control station for fire department operations shall be provided in a location approved by the fire department. It shall contain the following listed facilities when they are required by this section:

- 1) voice alarm system apparatus
- 2) voice communication system panel and apparatus
- 3) fire detection system panel
- 4) fire alarm system panel
- 5) status indicator and controls for elevators
- 6) status indicator and controls for air handling systems
- 7) sprinkler valve and waterflow detector indicators
- 8) fire department telephone
- 9) standby power controls
- 10) public telephone
- 11) exitway stairway door unlocking system

Sec. 432.40 Standby Power and Light:

Sec. 432.41 Standby Power System: A permanently installed standby power generation system conforming to the requirements of Article 15 of this code shall be provided. The system shall be equipped with approved means for automatically starting the generator-set upon failure of the normal electrical service and for automatic transfer and operation of all functions, required by this section, at full power within sixty (60) seconds of such normal service failure. System supervision devices with manual start and transfer features, shall be provided at the central control station.

Sec. 432.42 Power Requirements: The power requirement shall be determined so as to provide service to the following listed facilities when they are required by this section:

- 1) voice alarm system
- 2) voice communication system

- 3) fire department elevator
- 4) mechanical air handling system
- 5) fire alarm system
- 6) fire detection system
- 7) fire protection equipment and devices
- 8) exitway and other emergency lighting
- 9) exitway stairway door unlocking system

Sec. 432.43 Fuel Supply: An on-premises fuel supply adequate for two (2) hours full demand operation of the system shall be provided.

Sec. 432.50 Exitway Stairways:

Sec. 432.51 Doors: All exitway stairway doors which are to be locked from the stairway side shall have approved locks with the capability of being unlocked remotely upon a manual signal from the Central Control Station.

Sec. 432.52 Emergency Telephones: Emergency telephones shall be provided at not less than every fifth floor in each required exit-way stairway which is normally locked from the stairway side.

Sec. 432.60 Seismic Considerations: In seismic zones 2 and 3 the anchorage of the following mechanical and electrical equipment required by this section shall be designed in accordance with Appendix K-11 for a lateral force based on a "Cp" value of 0.5 unless data substantiating a lesser value is furnished:

- 1) elevator drive and suspension systems,
- 2) standby power and lighting facilities, and
- 3) fire pumps and other fire protection equipment.

SECTION 2: This ordinance shall take effect upon its passage.

IN CITY COUNCIL

JUN 6 1974
FIRST READING
READ AND PASSED

Vincent Crespi
CLERK

IN CITY
COUNCIL

**FINAL READING
READ AND PASSED**

PRESIDENT
Winnifred Cooper
CLERK

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IN CITY COUNCIL

MAY 2 1974
FIRST READING
REFERRED TO COMMITTEE ON ORDINANCES

Vincent Vespa
CLERK

THE COMMITTEE ON

Ordinances

Approves Passage of
The Within Ordinance

Vincent Vespa
Chairman
June 3, 1974 Clerk

*Councilman Lepore
and Councilman
Wagon, by request*

APPROVED

MAYOR

JUN 19 1974

Joseph A. Barley

READ AND PASSED
FIRST READING
IN CITY COUNCIL

CLERK

FILED
APR 26 12 36 PM '74
DEPT. OF CITY CLERK
PROVIDENCE, R.I.

COMMIT
IN CITY

READ AND PASSED
FIRST READING

CLERK