

Care Facilities And Housing for the Elderly

**Building Code Requirements
USA Experience**

Jon S. Traw

Factors Affecting Change

- **Baby boomer generation aging**
- **Societal attitude changes**
- **Political power to seek changes**
- **Desire for residential setting**
- **Congressional action**

Historical Information

- Congress Passes the Federal Fair Housing Act (FFHA) in 1968 which bars discrimination in housing on the basis of race, color, religion, sex, familial status or national origin.
- After a number of lawsuits, Congress in 1988 amends the FFHA to include coverage to “persons with disabilities”.

Trends

- **Focus on facility accessibility**
- **Focus on facility functionality**
- **Fire & life safety considerations**
- **Technology advances**
- **Desire for more affordable designs**
- **Discrimination issues more important**
- **Facility licensing**
- **Risk aversion acceptance**

**Trend Effects
On
Building Regulations**

General Trend

Institutional

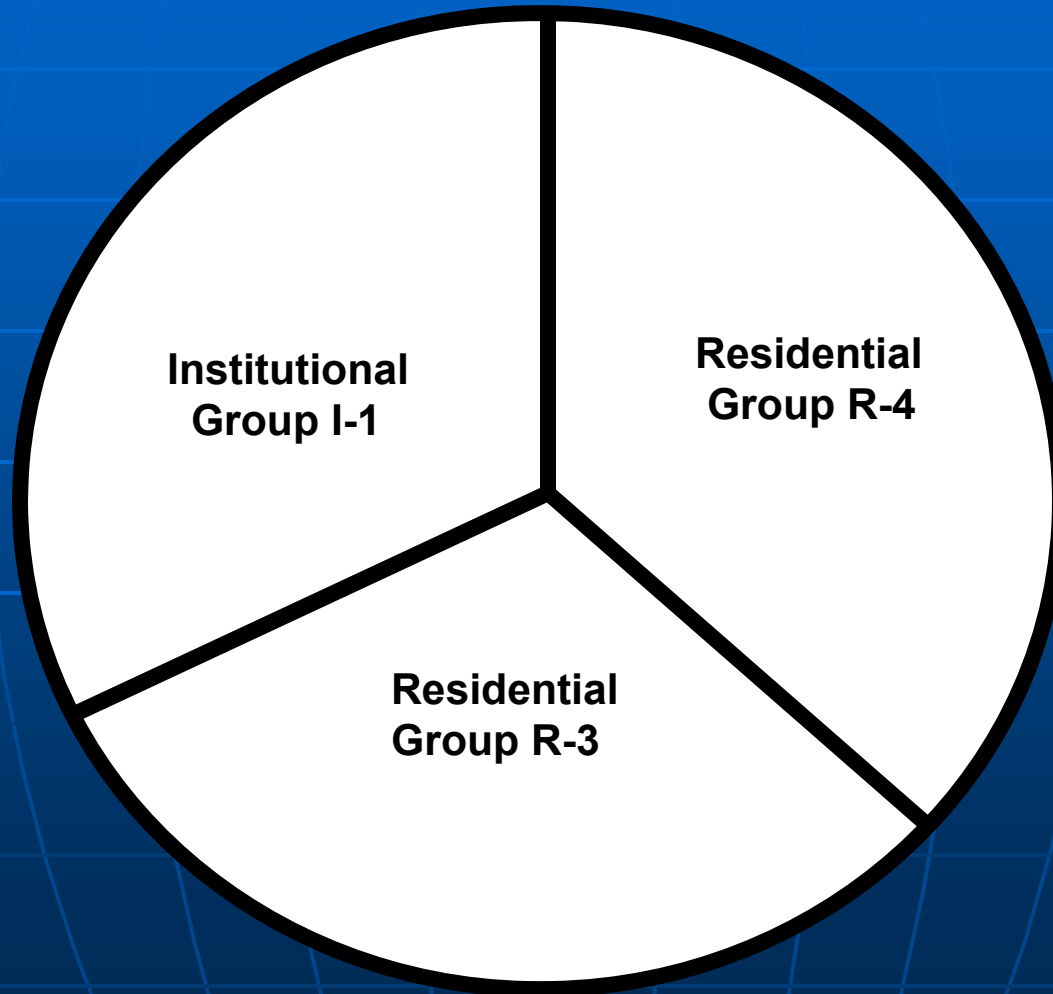


Residential

Building Code Requirements Based on Occupancy Classification

- 1. Assembly: Groups A-1, A-2, A-3, A-4 and A-5
- 2. Business: Group B
- 3. Educational: Group E
- 4. Factory and Industrial: Groups F-1 and F-2
- 5. High Hazard: Groups H-1, H-2, H-3, H-4 and H-5
- 6. Institutional: Groups I-1, I-2, I-3 and I-4
- 7. Mercantile: Group M
- 8. Residential: Groups R-1, R-2, R-3 and R-4
- 9. Storage: Groups S-1 and S-2
- 10. Utility and Miscellaneous: Group U

Coordination of Occupancy Classifications



Current Code Designations

GROUP R-3:

Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, R-4 or I or **adult care facilities that provide accommodations for five or fewer persons of any age for less and 24 hours.**

Current Code Designations

GROUP R-4:

Residential occupancies shall include buildings arranged for occupancy as **residential care/assisted living facilities** including **more than five but not more than 16 occupants**, excluding staff.

Definition: RESIDENTIAL CARE/ASSISTED LIVING FACILITIES.

A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides *personal care services*. The occupants are capable of responding to an emergency situation without physical assistance from staff.

Current Code Designations

Group I-1:

This occupancy shall include buildings, structures or parts thereof housing more than 16 persons, on a 24 hour basis, who because of age, mental disability or other reasons, **live in a supervised residential environment that provides personal care services**. The occupants are **capable of responding to an emergency situation without physical assistance from staff**.

Definition: PERSONAL CARE SERVICE

The care of residents who do not require chronic or convalescent medical or nursing care. Personal care involves responsibility for the safety of the resident while inside the building.

Current Code Designations

Group I-1:

This occupancy shall include buildings, structures or parts thereof housing more than 16 persons, on a 24 hour basis, who because of age, mental disability or other reasons, **live in a supervised residential environment that provides personal care services**. The occupants are **capable of responding to an emergency situation without physical assistance from staff**.

A facility such as the above with **five or fewer persons** shall be classified as a **Group R-3** or shall comply with the International Residential Code. A facility such as above, housing **at least six and not more than 16 persons**, shall be classified as **Group R-4**.

Coordination of Occupancy Classifications

Occupancy Group	<u>Number of Occupants</u>	<u>Age of Occupants</u>	<u>Length of Stay</u>	<u>Self Evacuation</u>
R-3	≤ 5	Not Stated	24-hour basis	Not Stated and Not Implied
R-4	$> 5 \leq 16$	Not Stated	24-hour basis	Not Stated, but Implied
I-1	> 16	Not Stated	24-hour basis	Yes

Typical Uses Within Occupancy Classifications

Occupancy	Typical Uses
R-3	One and Two family dwellings not classed as R-1 (Transient-Hotels, Motels), R-2 (Non-Transient-Apartments), R-4 or I-1 and Care Facilities with five maximum, excluding staff.
R-4	Care Facilities with more than five but not more than sixteen, excluding staff.
I-1	The following with more than sixteen, excluding staff: Residential board and care Facilities, Assisted living facilities, Halfway houses, Group homes, Congregate care facilities, Social rehabilitation facilities, Alcohol and drug centers, Convalescent facilities

Specific Building Code Requirements

Automatic Sprinkler System

Group I-1

An automatic sprinkler system shall be provided throughout buildings with a Group I occupancy. The automatic sprinkler system may be installed in accordance with NFPA 13-R or 13-D.

Group R-3 and R-4

An automatic sprinkler system installed in accordance with NFPA 13-D shall be provided throughout all buildings with a Group R.

Portable Fire Extinguishers

Group I-1 and R-4

Portable fire extinguishers shall be installed in new and existing Group I-1 and R-4 occupancies.

Smoke Alarms

Group I-1, R-3 and R-4

Single- and multiple-station smoke alarms shall be installed.

Smoke Detection System

Group I-1

An automatic smoke detection system shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens.

Exceptions:

Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.

Fire Alarm System

Group I-1

A manual fire alarm system that activates the occupant notification system shall be installed in Group I occupancies. A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water flow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Smoke Detection System

Group I-1

An automatic smoke detection system that activates the occupant notification system shall be provide.

Interior Finish

INTERIOR WALL AND CEILING FINISH

Group	Exit enclosures and exit passageways	Corridors	Rooms and enclosed spaces
I and R	B	C	C

Ratings as tested using ASTM E-84 Tunnel Test

FSI – Flame Spread Index SDI - Smoke Developed Index

A – FSI \leq 25, SDI \leq 450

B – FSI $> 26 \leq 75$, SDI ≤ 450

C – FSI = 76 \leq 200, SDI ≤ 450

Note: Fire Code limits SDI to maximum of 200

Egress Requirements

NUMBER OF EXITS

Single Exit

OCCUPANCY	MAXIMUM OCCUPANT LOAD	MAXIMUM TRAVEL DISTANCE
I and R	10	75' (22.86m)

CORRIDOR FIRE-RATED

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		13-D sprinkler system	13 or 13-R sprinkler system
R	Greater than 10	1	0.5
I-1	All	1	1

Special Requirement

Group R-4

Closet and bathroom doors

In Group R-4 occupancies, closet doors that latch in the closed position shall be openable from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

Summary Tabulation of Requirements

Requirement	R-3	R-4	I-1
Area and Story Limits (Non-rated combustible construction)	4 (unlimited)	2 7,000 ft ² (650 m ²)	2 4,500 ft ² (418 m ²)
Fire Sprinklers	13-D	13-D	13-R or 13-D
Smoke Detection	No	No	Yes
Fire Alarms	No	No	Yes
Smoke Alarms (Sleeping Rooms)	Yes	Yes	Yes
Portable Fire Extinguishers	No	Yes	Yes
Single Exit (Maximum 10 occupants) (Maximum 75' (22.86 m) travel distance)	Yes	Yes	Yes
Rated Corridors	1 hr (0.5 hr) □ 10 occupants	1 hr (0.5 hr) □ 10 occupants	1 hr All
Closet and bathroom door unlocking	No	No	Yes

Self Preservation Determination

■ One example by State Regulation:

The occupants of a facility are presumed to have a ***prompt self-evacuation capability*** when the following conditions are met.:

- A site specific evacuation plan must be drawn up and followed.
- Fire drills, supervised by staff, must be performed at least once a month.
- Each shift shall perform at least 4 fire drills per year
- Fire drills shall be performed at random times so that residents are engaged in a variety of routine activities during the fire drills.
- Fire drills shall assume different fire location simulations which require that all means of egress be used.

Self Preservation Determination

- The evacuation plan shall include a designated meeting spot at which the residents assemble after evacuation the building.
- A prompt egress time of three minutes or less must be attained and maintained by all residents in a (Use) Group R building
- If any resident in the facility exceeds the allotted time, the facility manager must take one of the following steps: add awake staff to assure that the 3 minute prompt evacuation time is met; relocate or replace clients so that required time is met; conform to the I-1 (Use) Group.
- Residents are not physically restrained or locked in at any time.
- Written records must be maintained that include: date and time of the fire drill; location of simulated fire; evacuation plan followed; evaluation of residents' evacuation times; names of residents and staff who participated in the drill.

Comments

The building codes don't and can't take into account the diminished abilities of the residents to contribute to their safety as their physical and mental abilities fade and/or their age increases. Maintenance inspection is only way to determine if nature of occupancy has changed.