

IEBC - Classification of Work Method

- 405.1 Alteration-Level 3
- 406.6 Change of occupancy
- 602 New finishes conform to IBC
- 607 Only alterations (not entire building) shall conform to energy code

- 704.2.2 Sprinkler required in most cases where work is being done
- 704.4.1.6 Fire alarm and detection system required where work is being done

912.1.1.1 Entire building must conform to most restrictive portions of chapter 8 for either R-2 or M because occupancy is being changed from B to R-2 but separation is not being provided.

912.6	Third floor:	R-2 to R-2	ok
	Second Floor:	B to R-2	ok
	First Floor rear:	I to U	ok
	First Floor Mid:	I to R-2	ok
	First Floor Front:	M to M	ok

- 912.6.2 Existing exterior walls can stay as they are when hazard is not increased
- 912.6.3 Opening protectives are not required because no increase in hazard and sprinkler system will be provided
- 912.7 Stairs are required to be enclosed by IBC (do to table 912.4)

ACCESSIBILITY

- Fair housing doesn't apply as building was occupied before 1991.
- ADA doesn't apply to condo portion of building. Retail portion is not in scope and has an accessible entrance.

Detailed IBC Code Review

- 309.1 Mercantile Group M (retail)
- 310.1 Residential Group R-2 (apt/cond)
- 312.1 Group U (Private Garages)

- 406.1.1 Private Garage area limited to 1000sf
- 420.2 Walls separating units and uses: fire partitions by 709
- 420.3 Floors separating units and uses: horizontal assemblies by 712

503	VB	Area	Stories	Max Height
	Mercantile Group M (retail)	9000	1	40'
	Residential Group R-2 (apt/cond)	7000	2	40'
	Group U (Private Garages)	N/A	N/A	N/A

- 504.2 3 stories allowed for R-2 with sprinkler
- 508.4 Summary: Sprinkle building and provide 1-hr separation of uses with fire barriers and horizontal assemblies

USE Separations	R-2	B, M, S-1	S-2, U
R-2	-	1 (S), 2 (NS)	1 (S), 2 (NS)
M		-	1 (S), 2 (NS)
U			-

Separation between M and R-2 does not apply. See IEBC 912.1.1.1 above.

- 602 Does not apply. See IEBC 912.6.2 above.

- 705.8 Seeking waiver of this rule based on public space that will remain on neighboring property. Building will be sprinkled

0'<3'	0%	openings permitted by area per story
3'<5'	15%	openings permitted by area per story
5'<10'	25%	openings permitted by area per story
10'<15'	45%	openings permitted by area per story
15'<20'	75%	openings permitted by area per story
20'<30'	100%	openings permitted by area per story

- 705.11 Does not apply. See IEBC 912.6.2 above.
- 707.3.1 Fire Barriers required for shaft enclosures (708.4)
- 707.3.2 Fire Barriers required for exit enclosures (1022.1)
- 707.3.8 Fire Barriers required for separating occupancies (508.4)
- 707.5 Fire Barriers are continuous from floor to underside of decking and securely attached
- 707.5.1 Construction supporting fire barriers shall have the same rating as the fire barrier (construction going under an egress stair)
- 708.2 Shaft enclosure required for stairs connecting two floors
- 708.4 1 hour shaft enclosure required for less than 4 stories
- 708.11 Rating at bottom of shaft shall be same as shaft
- 709.1 Fire partitions shall separate dwelling units (420.2)
- Fire partitions shall separate corridors from other spaces (1018.1)
- 709.3 Fire Partitions: 1/2 hr rating in sprinkled building
- Corridor ratings for residential use only allowed to be 1/2 hr in sprinkled building
- 709.4 Continuity
 1. To underside of roof decking
 2. To ceiling with draft stopping for every two units above
 3. To ceiling with sprinkler in attic
- 712.4 Horizontal assemblies continuous and supporting construction rated except for when separating dwelling units
- 715.4 60 minute doors in shaft enclosures
- 45 minute doors in separation of use
- 20 minute doors in corridors
- 715.4.8 Rated doors shall be self-closing

803.9 Allowable Material Class by Group (sprinkled building)

	Exits	Corridors	Rooms
M	B	C	C
R-2	C	C	C
U	N/A	N/A	N/A

- 901.6.1 Automatic sprinklers shall be monitored by an approved supervising station.
- 903.2.8 Sprinkler required throughout buildings with Group R fire area.
- 903.3.1.1 NFPA 13 Sprinkler system is required.
- 905.3 Standpipes not required for considered uses

- 907.2.9.1 Manual fire alarm system required
- 907.2.11.2 Interconnected Smoke Alarms Required: Outside each sleeping area and in each sleeping room

1004.1.1	Accessory Storage, mechanical	300 gross	565sf	2 occupants
	Mercantile (at grade)	30 gross	2,551sf	85 occupants
	Residential	200 gross	7,384sf	37 occupants
	Parking areas	200 gross	836sf	5 occupants
			TOTAL OCCUPANT LOAD	129 occupants

- 1005.1 Min egress width for any (1) exit @ 50% of occupant load: 65x0.2" = 13"
- 1014.3 Max Common Path of travel 75'
- R-2 Max Common Path 125' (sprinkled)
- 1015.1 One exit allowed in R-2 when sprinkled and max occ load is 20
- One exit allowed M & U where max occ load is 49
- 1016.1 Max Exit Access Travel Dist: 250' (sprinkled)
- 1018.1 Corridor ratings for residential use only allowed to be 1/2hr in sprinkled building
- Generally 1hr corridor rating required
- 1018.4 Max dead end corridor length: 50' (sprinkled)
- 1021.2 Second story with one exit allowed only when max travel distance to exit is under 50'
- 1022.1 Three story exit enclosures: 1hr rated (fire barrier)
- 1207.2 STC 50 air-borne noise rating between dwelling units
- 1207.3 IIC 40 structure-borne noise rating between dwelling units

NFPA

- 3.3.32.5 Existing Building and New Building
- 6.1.8.1.5 Residential Occupancy - Apartment Building (Chapter 30)
- 6.1.10.1 Mercantile Occupancy (Chapter 36)
- 6.1.13.1 Storage - Parking Structure (Chapter 42)
- 6.1.14.4.3 Mixed Occupancy
- 6.2.2.3 Ordinary Hazard Contents

7.1.3.1 Project has no exit access corridors with an occupant load over 30

- 7.1.3.2.1 Stairs connecting 2 stories shall have a 1-hour fire rating
- 7.1.5.1 Min headroom: 7'-6"
- 7.1.6.3 Cross Slope limited to 1:48
- 7.2.1.2.3.2 Egress door min clear width: 32"
- 7.2.1.4 Door swing and force to open shall comply with this section
- 7.2.1.5 Door locks, latches and alarms shall comply with this section
- 7.2.2.2.1.1 Max riser height: 7"
- Min Tread depth: 11"
- Min headroom: 6'-8"
- 7.2.2.3.2.3 Min landing depth: stair width
- 7.2.2.2.1.2 Min stair width: 36" (for occupancy under 50)
- 7.2.2.4.4.1 Handrail height: 36"
- 7.2.2.4.4.6 Handrail shape: 1 1/2" circular cross section
- 7.2.2.4.4.9 Handrails shall return to wall or newel post
- 7.2.2.4.4.10 Handrails shall extend 12" at top of stair and one tread length at bottom
- 7.2.2.4.5.2 Min guard height: 42"
- 7.2.2.4.5.3 Open guards shall not allow the passage of a 4" sphere
- 7.2.2.5.4 Stairway identification shall comply with this section.
- 7.2.12.1.1 Sprinkler precludes need for area of refuge in stair.

Occupancy Load

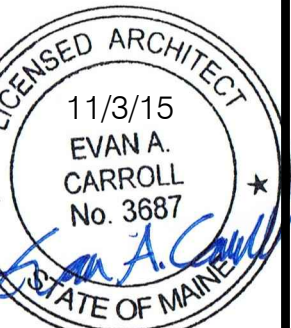
Accessory Storage, mechanical	500 gross	565sf	2 occupants
Mercantile (at grade)	30 gross	2,551sf	85 occupants
Residential	200 gross	7,384sf	37 occupants
		TOTAL OCCUPANT LOAD	124 occupants

- 7.3.4 Min Egress width: 36"
- 7.4.1.1 Min number of means of egress: 2
- 7.5.1.3.3 Exit separation min: 1/3 the length of maximum diagonal of space served.
- 7.6 Apartment Common Path Limit: 50'
- Apartment Dead-End Limit: 50'
- Apartment Travel Distance Limit 325'
- Mercantile Common Path Limit: 100'
- Mercantile Dead-End Limit: 50'
- Mercantile Travel Distance Limit 250'
- Parking Storage Common Path Limit: 50'
- Parking Storage Dead-End Limit: 50'
- Parking Storage Travel Distance Limit 200'
- 7.8 Egress Illumination shall be in accordance with this section.
- 7.9 Emergency Lighting shall be in accordance with this section.
- 7.10 Marking for means of egress shall comply with this section.

- 30.3.5.2 Sprinkler system NFPA 13R permitted for four or fewer stories.
- 31.1.1.1 Option 4: Sprinkler System throughout building
- 31.1.2.3 Exit is separated and sprinkler system provided throughout building
- 37.1.4.2.1 Class C Mercantile, under 3000sf
- 42.1.6 No minimum construction requirements
- 42.2.4.1 Single means of egress allowed within common path of travel limit.

43.7.3 No increase in hazard category of occupancy classification

- 43.7.2.1 Chapters for existing uses apply generally:
 - Existing Residential Occupancy - Apartment Building (Chapter 31)
 - Existing Mercantile Occupancy (Chapter 37)
 - Storage Occupancy - Parking Structure (Chapter 42)
- Chapters for new uses apply to sprinkler and alarm systems:
 - Residential Occupancy - Apartment Building (Chapter 30)
 - Mercantile Occupancy (Chapter 36)
 - Storage Occupancy - Parking Structure (Chapter 42)



REVISIONS	1	2	3	4	5