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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 M to R-2 but separation is not being provided.

912.4	Means of Egress		
	Third floor:	R-2 to R-2	ok
	Second Floor:	M to R-2	ok
	First Floor rear:	M to R-2	ok
	First Floor Mid:	M to S-1	ok
	First Floor Front:	M to M	ok
912.6	Exposure of exterior walls.		
	Third floor:	R-2 to R-2	ok
	Second Floor:	M to R-2	ok
	First Floor rear:	M to R-2	ok
	First Floor Mid:	M to S-1	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)
311.2 Moderate Hazard Storage Group S-1

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'
	Storage Group S-1	9000	1	40'

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)

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 NOTE: The synagogue park should be treated as a public way in regards to these provisions. As can be seen on the survey, that park is over 30' wide, and thus limitations on opening wouldn't apply. Openings are not being added where the synagogue and 273 face each other directly. See table on A2.1

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 I 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 ½ 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

NOTE: ATTIC WILL NEED TO BE SPRINKLED.

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
S	C	C	C

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.
NOTE: NFPA Sprinkler System must be installed throughout entire building including attic
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	8,876sf	45 occupants
		TOTAL OCCUPANT LOAD		**132 occupants**

1005.1 Min egress width for any (1) exit @ 50% of occupant load: 65x0.2" = 13"
1014.3 NFPA 101 Table A7.6
Sprinkled Apartments common Path Limit: 50'
NFPA 101 30.2.5.3.2: "Travel within a dwelling unit shall not be included when determining the common path of travel
Note: Units 3 & 10 have one exit at the rear of the building.
Units 1 & 2 have exits directly to the outside.
Units 4 & 5 have direct access to the mid-building stair.
Units 6, 7, 8, & 9 all have access to both the front stair and mid-building stair.

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 ½" 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.

7.3.1.2	**Occupancy Load**			
	Accessory Storage, mechanical	500 gross	565sf	2 occupants
	Mercantile (at grade)	30 gross	2,551sf	85 occupants
	Residential	200 gross	8,876sf	45 occupants
		TOTAL OCCUPANT LOAD		**132 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)

Reviewed for Code Compliance Inspections Division Approved as Noted
Date: 04/20/16

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bild ARCHITECTURE

LICENSED ARCHITECT 12/16/15 EVAN A. CARROLL No. 3687 STATE OF MAINE

PROJECT NO. 15019
PROJECT NAME EAST END LOFTS PORTLAND, ME 04101

REVISIONS
1 2/12/16
2 -
3 -
4 -
5 -

BID SET

DRAWN BY AEW
SHEET TITLE CODE REVIEW

ISSUE DATE 12/16/15
SHEET SCALE AS NOTED

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