PROJECT DESCRIPTION:

Existing Circa 1921 two story wood-framed building with two apartments to be renovated and existing unfinished groundfloor (walk-out basement) apartment to be completed. A single business occupance will be fit-up in currently vacant space, and storage space will be created in basement. Total gross building area c.7,600 s.f.

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Date: 04/24/18

Rachel Conly Design, LLC
26 Sterling Street
Peaks Island, Maine 04108
207.766.5625
Project Architect: James P. Gauthier, AIA
12-Dec-17

Code Criteria	IBC 2009	NFPA-101 2009	Findings
(IBC Chapters highlited green)			**(Relevant interpretation**
IEBC - Alteration Level 3	§405.1		Where the work area exc with IEBC Chapter 8.
			All altered areas shall co IEBC chapter 8.
NFPA-101 - Building Rehabilitation		§43.5.2.3	Where total area of reha the work area will be cor
		§43.5.1.3	Newly constructed eleme construction.
		§43.6.4.1	In a building with rehabil area, sprinklers shall be p and on all floors below (i
			Rehabiltation work shall required in use groups w
Primary Use and Occupancy Classification	Ch.3		
IBC - Group R-2	§310.1		Apartment House
IBC - Group B	§304.1		Business Group
IBC - Group S-1			Moderate-Hazard Storage
NFPA - 101 New Apartment Building		Chapter 30	A building containing 3 or more dwelling units with independent cooking and bathing facilities.
NFPA - 101 New Business Occupancies		Chapter 38	An occupancy used for the transaction of business other than mercantile.
NFPA - 101 New Apartment Building		Chapter 42	An occupancy used primarily for the storage or sheltering of goods.
Special Requirements R-2	**Ch. 4**		
Separation walls	§420.2		Walls separating dwelling units and or sleeping units from each other and from other occupancies contiguous to them shall be fire partitions per Section 709.
Horizontal separation	§420.3		Floors separating dwelling units and or sleeping units from each other and from other occupancies contiguous to them shall be horizontal assemblies per Section 712.
Building Heights and Areas	**Ch. 5**		
Mixed use and occupancy	§508		
Separation of occupancies	table 508.4	table 6.1.14.4.1	Required separation of occupancies:
			Business & Residential = 2 HR (reduced to 1-HR w sprinklers throughout).
			Storage-1 & Residential = 2 HR (reduced to 1-HR w sprinklers throughout).

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
			Storage Moderate Hazar None Required by IBC
			Mixed-Use Separated: Ea assembly and the buildin
Types of Construction	**Ch. 6**		
Type V-B construction	table 601		Existing construction.co
Fire Resistance Ratings for exterior walls based on Fire Separation Distance.	table 602		0 HR rated where greate
Fire and Smoke Protection Features	**Ch. 7**		
Classification of Hazards		§30.1.5	"Ordinary" hazard per 6.
Hazardous Areas		§30.3.2.1	Shall be protected per Se
		table 30.3.2.1.1	Boiler and fuel fired heat sprinklers.
Vertical Separation		§8.6	
Floor smoke barriers		§8.6.1	Every floor that separate comply with Chapter 8 &
Openings	§705.8		exception #2: Buildings whose exterior walls and primary structural frame are not required to be fire resistance rated shall be permitted to have unlimited unprotected openings.
	table 705.8		When fire separation distance >30' no limit to opening percentage.
Enclosure and protection of stairs		§7.2.2.5.1.2	Inside stairs, other than those serving as an exit component, shall be protected in accordance with Section 8.6
Fire resistance ratings for enclosure of floor openings		§8.6.5	Less than 4 stories new construction: 1HR fire barrier.
Fire Partitions	§709.1		Walls separating dwelling units per 420.2
	§709.3		Rating: Fire Partitions shall have 1 HR rating.(1/2 HR w sprinklers)
	§709.4		Continuity: Fire Partitions shall extend from foundation/floor assembly to roor/ceiling assembly and shall be securely attached to them. Void space between ceiling & deck above firestopped
			Walls separating dwelling/sleeping units shall be 1/2 HR with 20 minute doors.
Horizontal Assemblies	§712.1		Walls separating dwelling units per 420.3
	§709.3		Rating: Horizontal assemblies separating dwelling/sleeping units shall be minimum of 1 HR (1/2 HR with sprinklers throughout).
	§712.4		Continuity: Joints in or between horizontal assemblies shall be firestopped (per section 714.4)

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
	§12.6		Joints: Horizontalassemb (1/2 HR with sprinklers th
Smoke Barriers	§710.3		Smoke Barriers shall have
Smoke Partitions	§711.3		Unless otherwise require
Opening Protectives	§715.4.3		Door assemblies shall ha
			Horizontalassemblies se
Concealed Spaces			
Fire Blocking	§717.1		Fire blockingand draftst
	§717.2.1		Fire blockingmaterials sh mineral fiber batts, or ot
	§717.2.2		In concealed wall spaces horizontallyat intervals r
	§717.2.5		At ceiling and floor open firestopped.
Draftstopping	§717.3		In combustible construct assemblies.
INTERIOR FINISHES	**Ch. 8**		
Interior wall and ceiling finish requirements	Table 803.9		Group R-2, sprinklered
			Rooms& enclosed spaces: Class C
		§30.3.3.2	Spaces other than exit enclosures& corridors:Class C
	Table 803.9		Group B, sprinklered
			Rooms& enclosed spaces: Class C
		§38.3.3.2	Spaces other than exit enclosures& corridors:Class C
	Table 803.9		Group S, sprinklered
			Exits enclosures& passageways: Class C
			Corridors:Class C
			Rooms& enclosed spaces: Class C
		§42.3.3.2	Storage Spaces: Class C
FIRE PROTECTION SYSTEMS	**Ch. 9**		
Detection, Alarm, and Communication Systems		§30.3.4.1	Required in apartment buildings four or more stories or eleven or more units.
Automatic Sprinklers	§903.2.8		An automatic sprinkler system shall be provided in all buildings with a Group R fire area.
Domestic service	§903.3.5.1		Where domestic service provides water supply following shall apply:
	§903.3.5.1.1		Limited area sprinkler systems limited to <20 sprinklers on any single connection are permitted permitted to be connected to domestic water service.

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
	§903.3.5.1.1		The domestic service sha sprinkler deman require
Automatic Sprinklers		§30.3.5.1	All buildings shall be pro system.
		§30.3.5.2	Four or fewer stories abc
		§30.3.5.3	Not required in closets < heater).
		§30.3.5.5	Listed quick-response or
			Sprinkler system shall be
Portable Fire Extinguishers	§906.1		Shall be installed in new
Portable Fire Extinguishers for Class A	table 906.3.1		Ordinary (moderate) haz
			Minimum rated single ex
			Maximum floor area per
			Maximum floor area for
			Maximum travel distance
		§30.3.5.12	Required in hazardous ar
Fire Alarm System	§907.2.9.1		Group-R: Shall be installe above level of exit discha
			Group-B: Shall be installe
			Fire Alarm system not re
Smoke Alarms	§907.2.9.2		Shall be installed in accordance with 907.2.11
	§907.2.11.2		In Group R-2 shall be installed in following locations: (1.) on ceiling or wall outside of each separate sleeping area in immediate vicinity of bedroom, (2.) in each room used for sleeping purposes, (3.) in each story of dwelling unit including basement.
	§907.2.11.3		Smoke detectors in each dwelling unit shall be interconnected.
	§907.2.11.4		Power supply for smoke detectors shall be the building wiring with battery backup.
Smoke Alarms		§30.2.1.1	Shall be installed in accordance w/ 9.6.2.10 in every sleeping area, outside every sleeping area in immediate vicinity of bedrooms, and on all levels including basement.
MEANS OF EGRESS	**Ch. 10**	**Ch. 30 & 7**	
Means of Egress			
		§30.2.1.1	Shall comply with NFPA-101 Chapter 7.
Ceiling height	§1003.2	§7.1.5	7'- 6" minimum. (6'-8" at projections).
Elevation change	§1003.6		Slope required for rise less than 12". Exception #1: R-2 single step w/ max 7" rise. Exception #2: R-2 2 risers, 13" tread min, handrail one side.
Continuity	§1003.6		The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component.

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
			The required capacity of of egress travel.
Slip Resistance		§7.1.6.4	The walking surfaces sha
Occupant Load	§1004		As determined by per un actual number of occupa
	table 1004.1.1	table 7.3.1.2	Residential: 200 gross.f
			Residential: 100 gross.f
			Storage: 300 gross.f./o
		§30.1.7	In accordance with table whichever is greater.
Egress width	§1005.1		The total width of means means of egress multipli for other egress compor
Means of Egress Capacity		table 7.3.3.1	Stairways 0.3 in/person.
Means of Egress illumination	§1006.1		The means of egress shal Exception #3: Dwelling u
		§130.2.8	per Section 7.8
Means of Egress illumination emergency power	§1006.3		In the event of power su illuminate: (1.) aisles & u means of egress, (2.) corridors, exit enclosures, & exit passageways in building required to have two exits, (3.) exterior egress components in building required to have two exits, (4.) exterior landings in buildings required to have two exits.
Means of Egress doors	§1008.1		Shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors.
Door width	§1008.1.1		Minimum width 32" clear door face to stop. Exception #1: Does not apply to R-2 doors not
		§7.2.1.2.1	Measured at narrowest point in opening from door leaf to stop.
		§7.2.1.2.3.2	Not less than 32" clear. (1.) When pair of doors provided, one shall be 32" (2.) Exit access door assemblies serving <70 s.f. shall be not <24" door leaf width. (3.) Door openings serving portion of building not required to be accessible shall be permitted to be not less than 28".
Door hanging	§1008.1.2		Shall be bivot or hinge swing. Exception #4: Doors serving single dwelling unit in group R-2. Exception #9: Manually operated sliding doors if occupant load <10.
Floor elevation	§1008.1.5		Floor landing each side shall be at same elevation. Exception #2: Exterior doors as provided
		§7.2.1.3.1	Floor landing each side shall not vary by more than 1/2" each side.
		§7.2.1.3.5	Existing buildings where exit discharges to exterior can be one step, not to exceed 8" rise.

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
Means of Egress doors		§30.3.6.2	20 minute rating require
		§30.3.6.2.3	Shall be self-closing and s
		§7.2.1.5.1	Shall be readily opened f
		§7.2.1.5.2	Shall not require use of k
Sliding doors		§7.2.1.14	Horizontal-sliding door as
Means of Egress Stairways			
Width	§1009.1		Not less than 44". Except
Width		§7.2.2.2.1.2	Not less than 36" with oc
Headroom	§1009.2	§7.1.5.3	Minimum 80"
Treads & risers	§1009.4		Riser 7" max, Tread 11" r min tread.
Vertical rise	§1009.7		Not greater than 12' per
Landings		§7.2.2.3.2.3	Landing depth shall not b
Tread & landing surface		§7.2.2.3.1	Shall be solid without pe
Exit Signs	§1009		Required at exits and exi require only one exit. Exc clearly identifiable (as ap
Handrails	§1012		
Handrail requirement	§1009.12		Shall have handrails one side permitted. Exception#3: Decks that have a single change in elevation where the landing depth on each side of the change in elevation is greater than what is required do not require handrails. Exception#5: Changes in room elevation of 3 or fewer risers within R-2 dwelling units do not require handrails.
		§7.2.2.4.1.1	Egress stairs shall have handrails both sides.
		§7.2.2.4.1.6	Existing stairs & stairs within dwelling units shall be permitted to have handrail one side.
Height	§1012.2		34" - 38" above nosing
		§7.2.2.4.4.1	34" - 38" above nosing (30"-38" in existing stairs).
Graspability	§1012.3		In group R-2 shall be Type-I with 1 1/4" - 2" diameter or equivalently graspable.
Continuity	§1012.4		Handrail graspable surface shall be continuous without interruption by newel posts or other obstructions. Exception#1: Within dwelling units permitted to be interrupted by newel post.
		§7.2.2.4.4.2	Handrails shall continue for full flight of stairs. Inside handrails shall be continuous at landings.
Handrail extentions	§1012.6		Handrail extensions shall return to wall or be continuous. Shall extend 12" at top riser & one tread beyond bottom riser. Exception#1: within dwelling unit permitted to extend only to top and bottom riser.

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
		§7.2.2.4.4.9	New handrails shall retu
		§7.2.2.4.4.10	Within dwelling unit han
		§7.2.2.4.4.11	In other than dwelling ur continue to slope one tre
Guards	§1013		Required at open sided v
Height	§1013.2		Min. 42" above walking s sides of stairs not <34"
		§7.2.2.4.5.2	Not less than 42" high. (E
Opening Limitations	§1013.3		Shall not allow passage o Exception #2: 6" at stair r
		§7.2.2.4.5.3	4" sphere not pass to 34'
Exit and Exit Access	§1014		
Egress through intervening spaces	§1014.2.1		Egress from a room or sp except where such areas provide a discernible pat
	§1014.2.3		Egress from dwelling uni
	§1014.2.4		Egress not pass through kitchen area serving adjo
Arrangement of means of egress		§7.5.1.2	Corridors shall provide ex than corridors, lobbies, a provided for in 7.5.1.2.1 and 7.5.1.2.2.
		§7.5.1.2.1	Existing corridors that require passage through a room to access an exit shall be permitted to be used provided that the (1) path of travel is marked in accordance with 7.10 and (2) doors to such rooms comply with 7.2.1.
		§7.5.1.2.2	Corridors that are not required to be fire rated shall be permitted to discharge into open floor plan areas.
Exit and exit access doorways	§1015.1		Two exits or exit access doorways required if occupant load exceeds table 1015.1.
	table 1015.1		Group R-2 maximum occupant load for single exit = 10.
			Group B maximum occupant load for single exit = 49.
			Group S maximum occupant load for single exit = 29.
Exit separation distance	§1015.2	§7.5.1.3.3	The separation distance of the exit doors shall not be less than one half of the length of the maximum overall diagonal dimension of the area served (one third with sprinklers).
		§7.5.1.3.1	Exits shall be remotely located from each other and be arranged to minimize the possibility that more than one has the potential to be blocked by any one fire or other emergency condition.
		§7.15.1.3.5	In existing buildings the exits shall be exempt from the diagonal measurement separation distance provided that such exits are remotely located in accordance with Section

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
Exit Access Travel Distance	§1016		The maximum length of e storyto an exterior exit c
	table 1016.1		Group R-2 = 250 ft. with
			Group B = 300 ft. with sp
Corridors	§1018		
Corridor rating	§1018.1		Exception #2: 0 HR rating
	table1018.1		0 HR rating group R-2 wit
Corridor width	§1018.2		Minimum 44". Exception
Dead End Corridors	§1018.4.2		The dead end in a corrid
Number & Continuity of Exits	§1021		
General	§1021.1		All spaces within each sto independent exits per tal
			Exception #4: In group R where dwelling unit is sp
Minimum number	table1021.1		Minimum two exits per s
Number of exits		§30.2.4.1	Every dwelling unit shall 7.5.1.
Single exit spaces	§1021.2		Occupancies shall be per limitations of table 1021
		§30.2.4.2	Single exit permitted if: (grade. (2.) Dwelling unit has direect access to outside stair that complies w/ 7.2.2
			Ground floor apartment allowed to have single exit.
Occupant load & travel distance for single exit	table 1021.2		Group R-2 basement or first story: 10 occupants 75'. Group R-2 second story: 4 dwelling units 50'
Exit enclosures	§1022.1		1 HR fire rating when connecting 3 stories or fewer.
			Exception #3: Stairways serving & contained within a single residential dwelling unit in Group R-2 not required to be enclosed.
Exit passageway width	§1023.2		Occupant load <20 width = 36" (44" width otherwise)
Exterior Stairways	§1026		
General	§1026.2		Shall be permitted as an element of required means of egress in buildings <6 stories.
Open side	§1026.3		Shall be open on at least one side.
Side yards	§1026.4		Open areas adjoining exterior stairs shall be yards, courts, or public ways.
Location	§1026.5		Shall be in accordance with 1027.3
Exit discharge	§1027.1		Shall be directly to grade.
Emergency Escape & Rescue	§1029.1		In addition to mease of egress, provisions shall be made for emergency escape & rescue in Group - R occupancies. Basements and sleeping rooms below the 4th story above grade plane shall have at least one emergency escape & rescue opening.

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Code Criteria	IBC 2009	NFPA-101 2009	Findings
			Exception#6: Not requir to yard or exterior exit ba
Minimum size	§1029.2		Minimum net clear open
Opening constraints	§1029.2.1		Mimimum clear opening
Opening height	§1029.3		Max height not greater t
Operational constraints	§1029.4		No special keys or tools r
Means of Escape		§30.2.1.2	Shall comply with 24.2.2.

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