Two Family Residence

9 Moody Street, Portland, ME

Regulatory Review prepared by Caleb Johnson Studio (License ARC-4204)

1/12/2018

CALEB JOHNSON
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APPLICABLE CODES:

City of Portland, Maine Code of Ordinances — Maine Uniform Building and Energy Code (MUBEC)

1999 NFPA 70 - National Electrical Code	2009 International Residential Code (IRC)
2009 NFPA 101 - Life Safety Code	2009 International Building Code (IBC)
The Maine Subsurface Wastewater Disposal Rule	2009 International Energy Conservation Code (IECC)
The Maine State Plumbing Code	2009 Uniform Plumbing Code
2009 NFPA 1 Fire Code	2007 ASHRAE 62.1 - Ventilation for Acceptable Indoor Air Quality
	2007 ASHRAE 90.1 - Energy Standard for Buildings except Low Rise Residential Buildings w/a

PROJECT DESCRIPTION:

The proposed project scope is a new four story two family residence on Moody Street on the East End. The building residences will be elevated with the ground floor serving as off street parking for the residents.

CODE REVIEW SUMMARY:
PORTLAND ZONING ORDINANCE REVIEW:

ITEM #	ITEM	CITY OF PORTLAND, MAINE CODE OF ORDINANCES (Chapter 14 Land Use Code) SECTION	REQUIREMENT/DESCRIPTION	PROPOSED COMPLIANCE
0.1	**ZONING USE STANDARDS**			
	Zoning Map	14-135	R-6 Residential Zone	
	Zoning Purpose		To set aside areas on the peninsula for housing;characterized primarily by multifamily dwellings at a high density providing a wide range of housing for differing types of households; and to conserve the existing housing stock and residential character of neighborhoods by controlling the scaleand external impacts of professional offices and other nonresidential uses.	
	Proposed Zoning Use	14-136(a)	"Single and two-family dwellings"	**Proposed Use is allowed**
0.2	**DIMENSIONAL REQUIREMENTS**			
	Minimum Lot Size	14-139	2000sf	Existing Lot size is 3,214sf
	Minimum Lot Area/Dwelling Unit	14-139	725sf	
	Minimum Street Frontage	14-139	20 Feet	
	Minimum Front Yard Setback	14-139	Principal and Accessory Structures: 10', or the average depths of adjacent front yards. Accessory: 5'	Per discussions of Jim Brady with city officials (TO), the average front yard is set by the west neighbor 11 Moody street which is 2'-0" setback from property line. The east neighbor has its front yard on Eastern Promenade
	Minimum Rear Yard Setback	14-139	Principal and Accessory Structures: 10' Accessory: 5'	
	Minimum Side Yard Setback	14-139	5 ft. except that a side yard in the R-6 zone may be reduced to zero, provided that the cumulative side yard setbacks are not less than 10 ft. A permanent maintenance easement a minimum of 5 ft. in width shall be provided on the parcel adjacent to the lot line with the reduced side setback.	
	Structure Setbacks	14-139	Portions of a structure above 35ft shall be no closer than 10 ft from the side property line and no closer than 15 feet from the rear property line when such property line abuts a residential zone.	
	Maximum Lot Coverage	14-139	60%	Existing was 78% +/- per existing utilities survey plan provided by Northeast Civil Solutions. Conceptual floor plans decrease this to 60% to meet zoning ordinance. Confirm with the city if 78% is grandfathered and permissible or if green roofs are an acceptable direction? Language of impervious "Impervious surface: Means any surface which does not absorbsnin and includes all buildings, roads, sidewalks, parkingareas, and any area paved with bricks, concrete or asphalt"
	Maximum Building Height	14-139	45 Feet	
	Landscaped Open Space	14-139	20% This area shall not include parking areas or other impervious surfaces	
	Maximum Garage Opening	14-139	Garage openings on front facades shall not exceed the greater of nine (9) feet or forty (40) percent of the front facade, and in no case shall a garage opening on a front facade exceed 20 feet	
0.3	**OTHER NOTABLE REQUIREMENTS**			
	R6 Design Standards			**Refer to sheet G-003 for Complete R6 ZONE DESIGN STANDARDS REVIEW**
	Off-Street Parking	14-332(b)4	No parking shall be required for the first three units in the R-6 Residential Zone	
	Preservation and Replacement of Housing Units	14-483	Purpose: "To limit the net loss of housing units in the city"	Former 3 story, 2-family dwelling will be razed. The proposed structure will also be two-family. No net loss of housing units

LIFE SAFETY CODE REVIEW BY SECTION: IBC and NFPA 101

ITEM #	ITEM	MUBEC / 2009 IBC SECTION	REQUIREMENT/CONDITION	2009 NFPA 101 - Life Safety Code SECTION	REQUIREMENT/CONDITION	PROPOSED COMPLIANCE
1.0	**USE AND OCCUPANCY**					
	Primary: Residential (R-3) Secondary: S-2 Open Parking	**310.1**	**Residential Two Family**	**24**	One and Two Family Dwellings	
				Hazard Class 6.2.2	**Ordinary Hazard**	
2.0	**CONSTRUCTION TYPE & GENERAL BUILDING HEIGHT AND AREA LIMITATIONS**					
	Construction Type	Table 503 and 506.3	Type V-B	Table A. 8.2.1.2	Type V-000	
	Area Limitation:	Table 503 and 506.3	R-3: Unlimited	NFPA 5000 7.4.1	NFPA 5000 Table not adopted by Maine State Fire Marshal Office	
	Story Limitation:	Table 503 and 504.2	R-3: 4 Stories with sprinkler increase	NFPA 5000 7.4.1	NFPA 5000 Table not adopted by Maine State Fire Marshal Office	
	Height Limitation:	Table 503 and 504.2	60 Feet with sprinkler increase	NFPA 5000 7.4.1	NFPA 5000 Table not adopted by Maine State Fire Marshal Office	**Building is under 60'**
3.0	**BUILDING SEPARATION & EXPOSURE PROTECTION**					
	Exterior Walls: Load Bearing & Non-load Bearing	602, Type VB	A/R/S-2: Distance X < 5ft = 1 Hour A/R/S-2: Distance 5 ≤ X < 10ft = 1 Hour A/R/S-2: Distance 10 ≤ X < 30 ft = 0 Hour A/R/S-2: Distance X ≥ 30 ft = 0 Hour	NFPA 220, Table 4.1.1	NFPA 220 Table not adopted by Maine State Fire Marshal Office	
		non Sprinklered (1) (1)*R-3 use with NFPA 13R system	Distance is to less than 1U = No Limit Distance 10 to less than 15 = No Limit Distance 15 to less than 20 = No Limit Distance 20 to less than 25 = No Limit Distance 25 to less than 30 = No Limit Distance 25 to less than 30 = No Limit			
	Separation of Occupancies	Table 508.4	1 hour separation required between S-2 and R	**Table 6.1.14.2.1(a)**	**1 hour separation required between One and Two Family Dwelling occupants and Storage Ordinary Hazard**	
	Dwelling Unit Separation	420.2 / 709.3 (2) 420.3 / 712.3	Separation Walls: no less than 1/2 hr Horizontally: no less than 1/2 hr			
4.0	**FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS**					
	Primary Structural Frames	Table 601	0 hr	Table A. 8.2.1.2	NFPA 5000 Table not adopted by Maine State Fire Marshal Office, there is no construction type table within NFPA 101 for type "Single or Two Family Dwelling" use	
	Exterior Bearing Wall	Table 601	0 hr			
	Interior Bearing Wall	Table 601	0 hr			
	Non-bearing Exterior Walls	Table 602	0 hr			
	Non-bearing Interior Walls	Table 601	0 hr			
	Floor Construction and Secondary Members	Table 601	0 hr			
	Roof Construction and Secondary Members	Table 601	0 hr			
5.0	**FIRE AND SMOKE PROTECTION FEATURES**					
	Automatic Sprinkler Systems	903 / 903.3	Required in R use, may be NFPA 13R for R use up to and including 4 stories	40.3.2		**NFPA 13R Sprinkler System Provided. NFPA13R is to be installed in lieu of a NFPA13D system due to allowance of a story increase with VB construction**
	Exit Enclosure	1022.1 exp 3	Not required when within a single residential dwelling unit	7.1.3.2		
	Interior Wall and Ceiling Finish Requirements (Class)	Table 803.9	Exit Enclosures: C Corridors: C Rooms and Enclosed Spaces: C			
	Fire Alarm Detection System	907.2.4	Fire Alarm Detection System not required in building with R-3 occupancy type			
6.0	**MEANS OF EGRESS**					
	Occupant Load	Table 1004.1.1		7.3.1.2		**See Occupancy Chart**
	Egress Width per Occupant	1005.1	.3" per person Stairways .2" per Person Horizontal	7.3.3.1	.3" per person Stairways .2" per Person Horizontal	**Occupancy count does not exceed amount where widths above minimums is required. Min 32" for all egress doors and Min 36" for all stairs have been provided.**
	Minimum Door Widths	1008.1.1	32" Minimum Clear Width	7.2.1.2.3	32" Minimum Clear Width	**Provided at all doors for egress passage**
	Corridor/Stair Width	1018.2	44" min when occupancy > 50 36" min when occupancy < 50	12.2.3.8	44" min when occupancy > 50 36" min when occupancy < 50	**Minimum widths have been provided.**
	Common Path of Travel	1014.3 / 1028.8	R: 75 Feet	Table A.7.6	One and Two Family Dwellings; No requirement	Common Path Travel Distances between the more strict between IBC and NFPA has been provided.
	Travel Distance	Table 1016.1 / 1028.7	R: 200 Feet	Table A.7.6	One and Two Family Dwellings; No requirement	Travel Distances between the more strict between IBC and NFPA has been provided.
	Dead End Corridors	1018.4	R: 20 Feet	Table A.7.6	One and Two Family Dwellings; No requirement	Dead End Corridors between the more strict between IBC and NFPA has been provided.
	Minimum Number of Exits per Occupancy Type	1021.2	1 Exit required for R-3 buildings			
	Exit Separation	1015.2	N/A	7.5.1.3.2	N/A	
	Exit Discharge	1027.1	Exits shall discharge directly to the exterior			
	Emergency Escape and Rescue	1029.1	**Not required in Group R-3 occupancies equipped with an approved NFPA 13R automatic sprinkler system**			
7.0	**SPECIAL OCCUPANCY REQUIREMENTS**					
8.0	**STAIRWAYS**					
	Stairway Width	1009.1	44" Min (36" min. for <50 Occupants)	7.2.2.2.1.2	44" Min (36" min. for <50 Occupants)	
	Stair Dimensions	1009.4.2 exp.5	**With R-3 use, risers shall be 7 3/4" max and treads shall be 10" min**			
	Handrails	1009.12	Handrails required on both sides	7.2.2.4.1.1	Handrails required on both sides	
	Handrail Height	1012.2	34" min and 36" max above stair tread nosing	7.2.2.4.4.1	34" min and 36" max above stair tread nosing	
	Handrail Graspability	1012.1.1	Must comply with Type I or Type II			
	Handrail Extensions	1012.6	Must extend 12" beyond top riser and depth of 1 tread beyond bottom riser and also return to wall	7.2.2.4.4.10	must extend 12" beyond top riser and depth of 1 tread beyond bottom riser	
	Guard Rails	1013.1	Required on landings > 30" high, guard height required to be min 34" high in group R-3 Occupancies			
9.0	**INTERIOR ENVIRONMENT REQUIREMENTS**					
	Ventilation	1203.1	Required to follow International Mechanical Code (not adopted by the State of Maine) Refer to ASHRAE 62.1 2007			Project to comply with ASHRAE 62.1 2007
	Minimum Ceiling Heights	1208.2	Not Less than 7'-6" in occupiable spaces, 7'-0" in bathrooms, kitchens, storage rooms			At least minimum provided throughout
	Sound Transmission	1207.2 /1207.3	Minimum STC separating dwelling units; 50 Minimum IIC separating dwelling units; 50			
10.0	**EMERGENCY SIGNAGE**					
	Exit Signs	1011.1	Exit signs not required in rooms with only one required means of egress			
INTERNATION ENERGY CONSERVATION CODE (Code Standard Adopted by the State of Maine)						
	Climate Zone	301.1 IECC	6A			
	Residential Buildings	402.2(1) IECC	Ceiling R-Factor = R-49 Wood Frame Wall= R-20 or R-15 + R-5 Mass Wall= R-15/R-19 Floor= R-30 Basement Wall = R-15/R-19 Slab and Depth = R-10 and 4ft Crawl Space = R-10/R-13			See wall types and floor types with R-values listed or details. R-3 use of building adheres to these residential requirements

QUICK BUILDING STATS

Construction Type:	V-B (IBC), V-000 (NFPA)
Occupany Types:	Residential R-3 (Primary) and S-2 Low Hazard Storage
Buildign Height:	44'-11" (from average grade)
Sprinkler System:	NFPA 13R
Mixed-Use:	No
Required Separation:	Yes between dwelling units and use. Provided
Building Area:	**6,760sf total gross**

MINIMUM INSULATION VALUES (IECC 2009 table 502.2(1))
Climate zone: 6A-Moist (IECC 301.1)
Windows / doors: U-value 0.35
Roof- Cavity:R-49
Roof-Insulation Entirely Above Deck: R-20ci
Walls-Above Grade:
Wood Framed and other: R-13 + R-7.5ci
Walls-Below Grade: R-7.5ci
Floors:
Mass: R-14.6ci
Framed-Steel and Wood: R-30
Floors-Slab on Grade:
Unheated Slab R-15 for 24in. below
heated Slab R-20 for 48in. below

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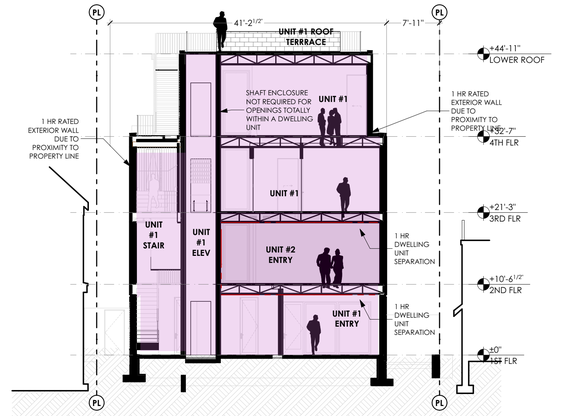
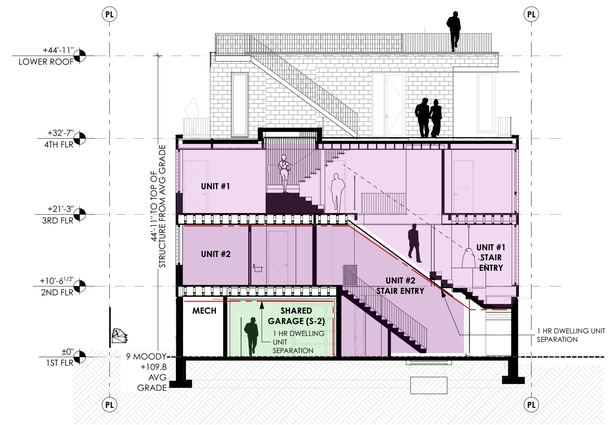


7 LIFE SAFETY BUILDING SECTION TRANSVERSE
SCALE: 3/32" = 1'-0"



6 LIFE SAFETY BUILDING SECTION LONGITUDINAL
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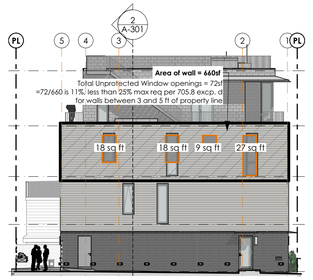
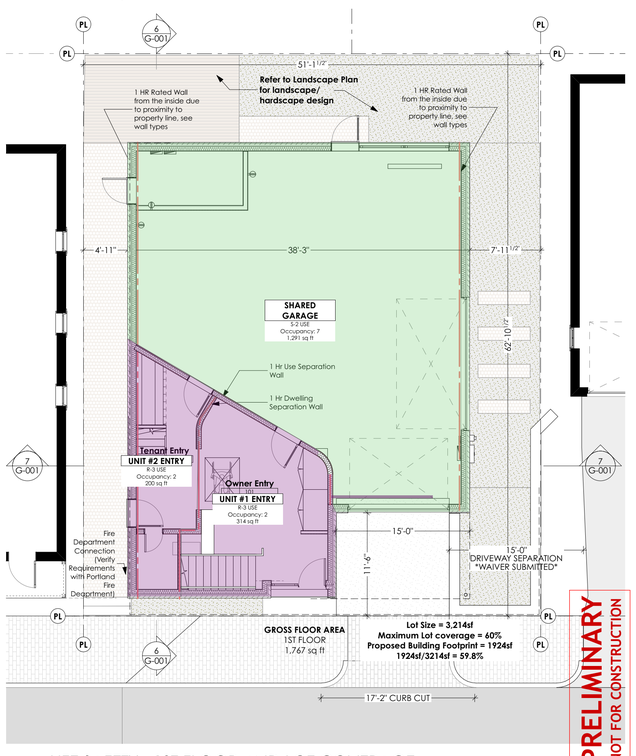


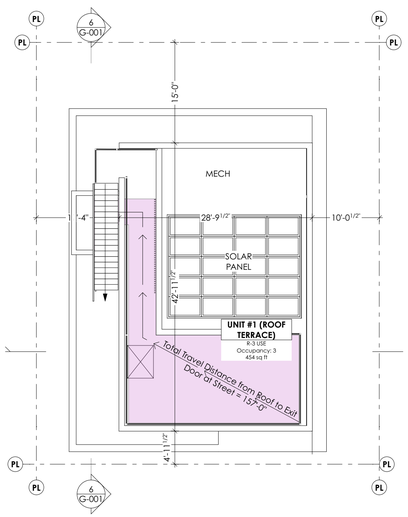
14 WEST ELEVATION - LIFE SAFETY
SCALE: 1/16" = 1'-0"

EGRESS LEGEND
See Notes — Exit Access Travel Distance (1016, Table A.7.6) Allowed Max = See Code Analysis

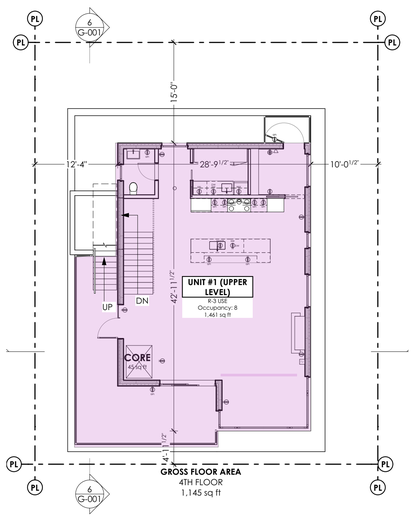
LIFE SAFETY LEGEND
1-Hour Separation Wall/Assembly
2-Hour Separation Wall/Assembly



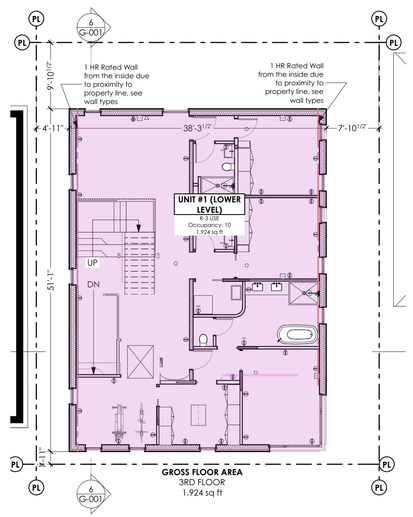
1 LIFE SAFETY - 1ST FLOOR AND LOT COVERAGE
SCALE: 1/8" = 1'-0"



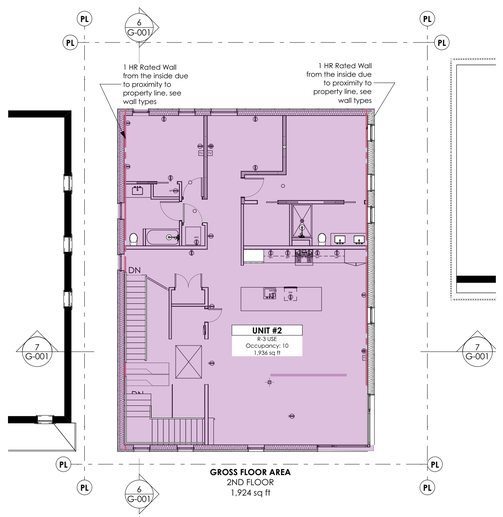
5 LIFE SAFETY - ROOF
SCALE: 3/32" = 1'-0"



4 LIFE SAFETY - 4TH FLR
SCALE: 3/32" = 1'-0"



3 LIFE SAFETY - 3RD FLR
SCALE: 3/32" = 1'-0"



2 LIFE SAFETY - 2ND FLOOR
SCALE: 3/32" = 1'-0"

CHANGES THIS ISSUE:

ID	DESCRIPTION

ISSUE NUMBER / CHANGE NUMBER

SUBMISSIONS:

ISSUE	DATE	DESCRIPTION
001	12-01-2017	CITY REVIEW
002	12-01-2017	DESIGN DEVELOPMENT SET

CONSULTANT:

ARCHITECT
DRAFTSPERSON: PB/JJ/LM
DATE OF ISSUE: 1/12/18
PROJECT STATUS: 25% Construction Docs

Brady Residence
Jim and Julia Brady
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PRELIMINARY
NOT FOR CONSTRUCTION

CODE ANALYSIS & LIFE SAFETY

G-001

BIM Server: bimserver.cjab.me - BIM Server 21/9 Moody Street/9 Moody Street_10052017