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PROJECT: **735 WASHINGTON AVE. PORTLAND, MAINE**

SHEET TITLE: **LIFE SAFETY / EGRESS CODE STUDIES ISSUED FOR PERMITTING**

REVISIONS	DATE	DESCRIPTION
No.	BY	
1		
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DATE : 11-23-16
 SCALE : AS NOTED
 DESIGN BY: ASW
 DRAWN BY: RSC
 FILE #: 16333-A1.dwg
 PROJECT NUMBER:
16333
 SHEET NO:
AO

FIRE SUPPRESSION AND LIFE SAFETY SYSTEM NOTES

THE ENTIRE BUILDING WILL HAVE AN NFPA 13R FIRE SUPPRESSION SYSTEM INSTALLED. REFER TO SPRINKLER DRAWINGS BY EASTERN FIRE PROTECTION FOR SYSTEM DESIGN

THE ENTIRE BUILDING WILL HAVE A MANUAL FIRE ALARM SYSTEM INSTALLED PER NFPA 9.6. REFER TO DRAWINGS BY SIMPLEX-GRINNEL FOR FIRE ALARM AND NOTIFICATION SYSTEM DESIGN.

THE OPERATOR OF THE FACILITY WILL BE APPROVED/LICENSED TO HOUSE 10 CLIENTS. STAFF OCCUPANCY WILL BE 1 FROM 12AM TO 8AM, 5 FROM 8AM TO 4PM, 2 FROM 4 PM TO 12AM.

CODE ANALYSIS

International Existing Building Code – 2009 Ed
 International Building Code – 2009 ed.

	Work is classified as an Alteration Level 2 per section 404.1 Work Scope includes the change of use from R-2 (2-unit apartment) to R-4 Residential Care Facility. The existing un-finished attic storage space at the 3 rd floor is to be converted to heated living space (exercise room). A new single stair accessing the 3 rd floor will be constructed at the location of the current attic access stair. Minor reconfiguration of space at the 2 nd floor will also be performed, along with 1 hr rated walls and ceilings around the existing forced hot water oil burner in the basement. A new NFPA 13R sprinkler system will be installed throughout the facility, along with a manually operated fire alarm system per NFPA 101 Sec 9.6.	
Section 310	Building Use Group:	Residential Care R-4 (3120 sf net, 4724 sf gross). R-4 must comply with R-3 construction standards.
T 601	Construction Type:	Vb
T1004.1.1	Hazard Classification:	Moderate Hazard
	Occupant Loads:	Residential: 200 gross sf/ occ. @ 3078 sf = 16 occ. 1 st flr = 7.2, 2 nd flr = 5.4, 3rd flr = 3.0.
T508.4	Separation of Use Rating:	N/A
T508.4	Janitor, Mech, Stor. Rating:	N/A, fully sprinkled
T508.2.5	Accessory Room Ratings:	N/A, Furnace <400,000 BTU input.
1022.1	Exit Stair Enclosure Rating:	1hr, (NR if occ load served < 10 per 1022.1 Exp 1)
T1018.1	Corridor Enclosure Rating:	NP (0.5hr if sprinkled)
	Shafts/Elevators:	1hr
	Area of Refuge:	N/A
1009.1	Minimum Stair width:	36" (Occ load <50)
	Maximum Riser height:	7"
	Minimum Tread width:	11"
1009.2	Minimum Headroom:	6'-8" at stairs; 7'-6" at occupied spaces
	Maximum ht between landings:	12'-0"
1013.2	Guardrail Height:	42"
1012.2	Handrail height:	34"
	Handrail top extension:	12" horz.
	Handrail bottom extension:	11" angled + 12" horz.
1012.3.1	Handrail diameter:	1-1/4" O.D.
1013.3	Maximum balluster open space:	less than 4"
T1016.1	Max. Allowable Travel Distance:	200' (250' if fully sprinkled)
1014.3	Max. Allowable Common Path:	75'
1018.4	Max. Allowable Dead End Corridor:	20' (50' if fully sprinkled)
1018.2	Minimum Egress Corridor Width:	36" for occ load <50.
1021.2	Minimum Number of Required Exits	1 at each floor (single exits allowed in R-3, and R-4 must meet the requirements of R-3 Construction per 310.1)
	Minimum Horz Egress Enclosure rating:	N/A
1015.2.1	Separation of exits:	0.5 the diagonal distance (.33 if fully sprinkled)
	Panic Hardware	Required if over 50 total occupants
	Fire Escapes as means of egress:	Allowed
1008.1.1	Minimum Egress Door Clear Width:	32"
	Exit Lighting:	Required
	Emergency Lighting:	Required
903.2.8	Fire Sprinkler System:	Not Required – IEBC 503.1
907.2.9.1	Fire Alarm System:	Not Required -IEBC 503.1
906.1	Portable Fire Extinguishers:	Required
907.2.9.2	Smoke Detector/Alarms:	Required

CODE ANALYSIS

NFPA 101 Life Safety Code – 2009 ed.

	Work Scope includes replacement of the exterior wood framed fire escape stair. No changes to the interior of the existing building are proposed. The current level of fire protection will be maintained.	
Section 3.3.168.12 32.1.4.1	Building Classification:	Chapter 32 – New Res. Board and Care (3120 net) This work is classified as a Conversion. v (000)
T7.3.1.2 T6.1.14.4.1B T32.3.3.2.2	Construction Type:	Class B - Ordinary Hazard
	Hazard Classification:	200 sf / occ. @ 3120sf = 16 occ.
	Occupant Loads:	N/A
	Separation of Use Rating:	1 hour
	Boiler rooms	Smoke Partition
	Storage Rooms w/ combustible materials between 50sf and 100sf Rating:	1 hour
	Storage Rooms w/ combustible materials over 100sf Rating:	
32.2.2.4.7	Exit Stair Enclosure Rating:	Not Req'd if Sprinkled
32.2.3.6.1	Corridor Wall Rating:	1/2 Hour (lathe and plaster)
	Area of Refuge:	Permitted per 7.2.12
7.2.2.2.1.2	Minimum New Stair width:	36" (occ load < 50)
7.2.2.2.1.1.a,b	Maximum Riser height:	7" (8" at exg stairs)
	Minimum Tread width:	11" (9" at exg stairs)
	Minimum Headroom:	6'-8" at stairs; 7'-6" at occupied spaces
	Maximum ht between landings:	12'-0"
7.2.2.4	Guardrail Height:	42"
	Handrail height:	34"
	Handrail top extension:	12" horz.
	Handrail bottom extension:	11" angled + 12" horz.
	Handrail diameter:	1-1/4" O.D.
	Maximum balluster open space:	less than 4"
32.4.2	Means of Egress Requirements	Use section 31.2 per 32.4.2.2
31.2.6.2(3)	Max. Allowable Travel Distance:	200' if sprinkled
31.2.5.3.2	Max. Allowable Common Path:	50'
31.2.5.4	Max. Allowable Dead End Corridor:	50'
7.3.4.1.2	Minimum Egress Corridor Width:	28"
31.2.4.4	Minimum Number of Required Exits	1 per story where stair is 1hr rated
31.2.4.1	Minimum Horz Egress Enclosure rating:	2 per story where stair is not enclosed
	Separation of exits:	n/a
	Panic Hardware	0.5 the diagonal distance (.33 if fully sprinkled)
31.2.2.9	Fire Escapes stairs as means of egress:	Required if over 50 total occupants
31.2.2.10	Fire Escapes ladders as means of egress:	Allowed
7.2.1.2.4(4)	Minimum Egress Door Width:	28" at conversions (32.2.2.5.1.2)
31.2.8	Exit Lighting:	Required
31.2.9	Emergency Lighting:	Not Required (<12 units, < 3 stories in height)
32.2.3.5.1	Fire Sprinkler System:	NFPA 13R system required (32.2.3.5.3.1)
32.2.3.4.1	Fire Alarm System:	Manual Fire Alarm System Required
32.3.3.5.6	Portable Fire Extinguishers:	Required
32.2.3.4.3.1	Smoke Detector/Alarms:	Required
	Heat Detectors/Alarms:	Not Required
	Classification of Finishes:	Class A at Exit Enclosures Class B at Lobbies and Corridors

A3

A2

IBC 2009 CODE STUDY

A1

NFPA 101 CODE STUDY