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Building Area Information  
Building Footprint: 1,017 SF  
R-3 Net: 3,008 SF  
Parking Net: 698 SF  
Building Gross Area: 4,012 SF

NFPA Code Overview  
Use: New Residential Two-Family Dwelling / Storage (Enclosed Parking Structure)  
Construction: No minimum requirement  
Sprinkler: NFPA 13R  
Occupancy: 18 Occupants

IBC Code Overview  
Use: R-3 & U (Separated Occupancies)  
Construction: Type VA  
Sprinkler: NFPA 13R  
Occupancy: 16 Occupants

IBC - Detail Code Review  
Use and Occupancy Classification:  
310.1 Residential Group R-3 (Buildings that do not contain more than two dwelling units)  
312.1 Utility and Misc. Group U (Private Garages)

406.1.2 Private car storage can be up to 3000sf (and be considered Group U)  
406.1.3 Surface of concrete or asphalt, Slope floor to drain or garage door  
406.1.4 Prescriptive fire spread prevention (1/2 gwb wall, 5/8 typ X ceiling, NFPA is stricter)  
406.4.2 Mechanical Ventilation to be provided as determined by Mechanical Engineer.  
420.2 Fire Partitions Separating Dwelling Units (709)  
420.3 Floor Assemblies Separating Dwelling Units (712)

503 R-3 VB unlimited sf 3 stories 40' tall  
504.2 Where a building is equipped throughout with an approved automatic sprinkler system, the maximum building height is increased by 20 feet, and the maximum number of stories is increased by one.

601 Type VB - No rating required by construction type  
602 Separation distance X < 5' 1 hour exterior wall rating required  
5' < X < 10' 1 hour exterior wall rating required  
10' < X < 30' No rating required

705.2.2 Projections may be of any material  
705.5 When exterior walls are required to be rated:  
X < 10' Rated for exposure from both sides  
705.8 Separation distance  
5' < X < 10' Sprinkled NS 10%  
10' < X < 30' Sprinkled No Limit for R-3  
30 or greater Sprinkled Not Required

707.5 Fire barriers: From TOP of floor to bottom of decking above (cont. thru concealed)  
707.5.1 Fire Barrier supporting construction shall have same rating  
708.2 A shaft enclosure is not required for openings totally within an individual residential dwelling unit and connecting four stories or less.

709.1 Fire partitions required to separate dwelling units  
709.3 Dwelling units and sleeping unit separation in buildings of Type VB construction shall have a fire-resistance rating of not less than 1/2 hour in buildings equipped with an automatic sprinkler system

709.4 Fire partition continuity: from TOP of floor to bottom of decking above or to bottom of ceiling assembly (with fireblocking or draftstopping)  
712.3 Dwelling unit and sleeping unit separation in buildings of Type VB construction shall have a fire-resistance rating of not less than 1/2 hour in buildings equipped with an automatic sprinkler system

712.4 Supporting construction of horz assembly between units not required to be rated in VB  
713 All Rated vertical and horizontal assemblies shall be complete assemblies in that any penetrations shall be treated as in accordance with this section.  
714 All Rated vertical and horizontal assemblies shall be complete assemblies in that any joints shall be treated as in accordance with this section.  
715 All Rated vertical and horizontal assemblies shall be complete assemblies in that any openings shall be treated as in accordance with this section.  
716 All Rated vertical and horizontal assemblies shall be complete assemblies in that any ducts and air transfers shall be treated as in accordance with this section.  
716.6.2 Ducts and air transfer openings penetrating a rated ceiling membrane must be installed with a listed ceiling radiation damper  
717 Fire blocking and draft-stopping shall be installed in concealed spaces in accordance with this section.

803.9 R-3: Exit enclosures, corridors, rooms and enclosed spaces required to have Class C finishes.

901.6.1 Automatic sprinkler system shall be monitored by a supervising station (NFPA 72)  
901.6.2 Fire alarm system shall be monitored by a supervising station  
903.2.8 Sprinkler System is required for Group R  
903.2.10 Group S-2 enclosed parking garages. An automatic sprinkler system is not required for enclosed parking garages located beneath Group R-3  
903.3.1.2 NFPA 13R is permitted (with VB construction)  
905.3.1 Standpipe system not required in Group R-3  
906.1 No fire extinguisher required  
907.2.11.2 Smoke Alarms Required:  
Outside each sleeping area, in each sleeping room and in each story

1003.2 Min egress ceiling height: 7'-6"  
1003.5 Exception 1: A single step (under 7") allowed at exterior doors in R-3 that are not required to be accessible doors.

1004.1.1 Occupancy Load for Residential: 200 gross at 3,008 SF is 16 occupants  
1005.2 Door swing shall not reduce the required egress width more than half  
Exception: Shall not apply to doors within individual living units

1006.1 Means of egress must be illuminated at all times  
1007.3 Sprinkler precludes need for wider stair or area of refuge  
1008.1.1 Min Egress Door size: 32" clear (36" door)  
1008.1.5 Same floor elevation on either side of doors  
1008.1.6 Landing in direction of travel not less than 36"  
1009.1 Min stair width 36" (for occ. less than 50)  
1009.2 Min head clearance 80" (6'-8")  
Exception: In R-3, where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4 3/4 inches.

1009.4 7" rise max, and 11" run min  
Exception: In R-3, the maximum riser height shall be 7 3/4 inches; the minimum tread depth shall be 10 inches; the minimum winder tread depth at the walkline shall be 10 inches; and the minimum winder tread depth shall be 6 inches. A nosing not less than 3/4 inch but not more than 1 1/4 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches.

1009.5 Landing width no more than stair width  
1009.6 Stair construction can be of any material permitted by construction type  
1012.6 Railing extensions must be 12" at top of stairs and 11" at bottom.

1013.2 Min Guard Height:  
1. For occupancies in Group R-3, guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.  
2. For occupancies in Group R-3, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

1014.3 NFPA 101 Table A7.6 - No applicable requirements  
1015.1 One exit is permitting from dwelling units at occupant load for individual units is under 20 and building is sprinkled 13R.

1016.1 Exit Access Travel Distance: 250' (for sprinkled R-2)  
1021.2 Single exits. Only one exit shall be required from Group R-3 occupancy buildings.  
1022.1 Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-3 occupancies are not required to be enclosed.

1023.2 Min exit passageway width: 36" for less than 50 occupants  
1023.3 Exits passageway min rating: 1-hr (or rating of connected enclosure if greater)  
Constructed of fire barriers and horizontal assemblies.

1029.1 Sleeping rooms below the fourth story shall have emergency escape and rescue openings

1029.2 Min area: 5.7SF  
Min height: 24"  
Min width: 20"

1029.3 Max height about floor: 44"

1100 Chapter does not apply in the State of Maine

1207 Sound transmission between dwelling units  
Walls: STC-50 (45 field tested)  
Ceilings: IIC-50 (45 field tested)

2406.4 Safety Glazing: all swinging doors, fixed and sliding panels of sliding door assemblies, glazing in an individual fixed or operable panel adjacent to a door where the nearest exposed edge of the glazing is within a 24 inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the walking surface, glazing with exposed area of an individual pane greater than 9 square feet, and glazing w/ exposed bottom edge less than 18 inches above floor.

IECC

301.1 Climate Zone 6A  
402.1.1 Element: Required: Provided:  
Fenestration U-Factor 0.35 max 0.17  
Ceiling R-Value 49 min 71  
Wood Frame R-Value 20 min 32.6  
Floor R-Value 30 min 51  
Slab R-Value 10 min 14  
402.4.2.1 Air Sealing will be tested on-site using a blower door test.

NFPA 101

3.3.32.5 New Building  
3.3.178.13 Residential Occupancy

6.1.8.1.1 Residential Occupancy -Two-Family Dwelling Unit (Chapter 24)

6.1.13.1 Storage - Enclosed Parking Structure (Chapter 42)

6.2.2.3 Ordinary Hazard Contents  
6.1.14.4.3 1 hour separation required in sprinkled building

24.1.2.3 Multiple dwelling units permitted over nonresidential occupancy with automatic sprinkler system.

24.1.6 No minimum construction requirements

24.2.2.1 A secondary means of escape is not required with automatic sprinkler system

24.2.4.1 Doors in path of travel: 28" min.

24.2.5.4 Clear width of stairs, landings, and porches: 36" min.

24.2.6.1 Width of Hallways: 36" min.

24.3.1 Protection of vertical openings not required

24.3.4.1 Smoke alarms shall be provided in all sleeping rooms, outside of each sleeping area, and on each level of the dwelling unit

24.3.4.2 Dwelling units shall be protected with approved smoke detection system

24.3.5.1 NFPA 13R sprinkler system is required

42.1.6 No minimum construction requirements

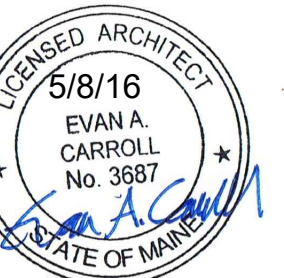
42.2.4.1 Single means of egress allowed within common path of travel limit.

42.2.5 Dead End Corridor: 100'

Common Path of Travel: 100'

42.2.6 Maximum Travel Distance: 400'

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PROJECT NO.  
17002  
PROJECT NAME  
5 MERRILL STREET  
PORTLAND, ME 04101

REVISIONS

1	07.19.2017	
2	08.01.2017	
3	08.24.2017	
4		
5		

PERMIT SET  
NOT FOR CONSTRUCTION

DRAWN BY  
AEW/KBS  
SHEET TITLE  
CODE SUMMARY

ISSUE DATE  
5/8/17  
SHEET SCALE  
NTS

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