COPYRIGHT: Reuse or reproduction of the contents of this document is not permitted without written permission of Bild Architecture LLC

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 ~~2'<X<5' Sprinkled 15% openings allowed~~
5'<X<10' NS 10% 3
~~10'<X<15' Sprinkled Not Limited by 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 ½ hour in buildings equipped with an automatic sprinkler system.~~ 3
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 ½ hour in buildings equipped with an automatic sprinkler system.~~ 3
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 3

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'

Bild Architecture
PO Box 8235
Portland, ME
04104
207.408.0168
evan@bildarchitecture.com

bild ARCHITECTURE

LICENSED ARCHITECT 5/8/16 EVAN A. CARROLL No. 3687 STATE OF MAINE

Reviewed for Code Compliance Inspections Division Approved as Noted
Date: 08/30/17

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

LS
101