



Heaps / Healy House: 20 Park Avenue, Peaks Island, ME.

CODE ANALYSIS

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Code analysis here and noted in the accompanying drawings is referenced directly by statute adoption, as follows:

Portland City Code, Chapters 6 and 10:

National Fire Protection Agency 1, Fire Code

National Fire Protection Agency 101, Life Safety Code

Maine Uniform Building Code

2009 International Residential Code

2009 International Energy Compliance Code

1. Emergency Escape and Rescue Openings: *(per 2009 IRC Section R310)*

- A) The Master Bedroom in this proposal is provided with a sliding door (schedule unit 107) meeting direct exterior egress requirements and thereby also emergency escape and rescue requirements. *See A-100 and the exterior door and window schedule on A-200*

- B) The Guest Bedroom is provided with double casement window (schedule unit 115) with a clear opening 33-3/8" above the floor (min. 44" sill height allowable), a clear opening height of 31-1/2" (min. 24" allowable), a clear opening width of 28" (min. 20" allowable) and a clear opening area of 6 sq. ft. (min. 5.7 sq. ft. allowable). *See window schedule on A-200 and Section on A-303*

2. Means of Egress: *(per 2009 IRC Section R311)*

- A) **Egress Doors:** (per 2009 IRC R311.2). This proposal includes four egress doors (min. one allowable). In addition to the front entry swing door (schedule unit 100), three glass sliding door open to the Deck with compliant stairs down to grade. (schedule units 103 [2], and 107). See the *Exterior Door and Window Schedule on A-200 and floor plan on A-100*.
- B) **Stairs and Hand Rails:** (per 2009 IRC R311.7). This proposal includes no interior stairs. The typical riser height of all exterior deck stairs will be 6" (7 3/4" max. allowable) and the typical tread depth will be 10" (10" min. allowable). The minimum width deck stairs will be 4'-0" (36" min. allowable), and risers will be closed. Hand rails will be 36" high, measured from the nose of tread (34" min. and 38" max allowable), and horizontal cable-rail balusters will be spaced at 4" on center (4" min allowable). See *A-100, A-200, and A-300*.

3. **Guards:** (per 2009 IRC Section R312)

- A) Guards will be located at decks and any open sided walking surfaces more than 30" above the grade or floor below, at any point within 36". These will be The "boarded entry walkway" (see *A-100, A-200, and A-302*) is exempt from this requirement, being no more than 22" (30" Max allowable) above grade at any point within 36" from it's edge.
- B) Guard rails on exterior decks will be 36" high (36" min. allowable), and horizontal cable-rail balusters will be spaced at 4" on center (4" min allowable). The cable rail system will be supported on 4x4 rail posts bolted securely and spaced at a distance no greater than 8'-0" on center. *Noted on A-100, A-200, A-300*
- C) **Unusual condition:** This proposal uses sliding glass doors as large windows not intended for egress, but to remain operable for purposes of ventilation (qty. 4 of 6 schedule units 103). Where these sliding glass doors are more than 30" (30" max. allowable) above grade or the deck below at any point within 36" from their thresh-hold, guard rails will be solid sheets of 1/2" thick clear polycarbonate sheet, securely bolted to adjacent structure on 3" deep spacers (a min. allowable gap restricts the passage of a 4" diameter sphere). The top edge of these guards will be located at a height of 36" above the floor (36" min. allowable). See *plan notes on A-100, North and South Elevations on A-200 and Section A-300*.

4. **Building Thermal Envelope:** (per IECC Section 402)

- A) **Wood Frame Walls:** The exterior walls proposed will be spray-foamed to an R-Value of R-21 (min. R-20 allowable in zone 6). See "typical exterior wall" note on *A-300*.
- B) **Ceilings:** The roofs and ceilings proposed will be spray foamed to an R-Value of R-49 (min. R-49 allowable in zone 6). See "typical roof construction" and "attic roof construction" notes on *A-300 and A-301*.
- C) **Floors:** The floors proposed will have an R-Value of R-30 (min. R-30 allowable in zone 6). See *typical detail notes on A-300 and A-301*.
- D) **Crawlspace Floors:** The crawlspace floor proposed will have an R-Value of R-10 (min. R-10 allowable in zone 6). See *typical detail notes on A-301*.

- E) **Crawlspace Walls:** The crawlspace walls proposed will have an R-Value of R-10 (min. R-10 allowable in zone 6). *See typical detail notes on A-301.*
- F) **Fenestration & Skylight U-Factors:** The windows proposed will have a maximum U-factor of 0.35 (max. 0.35 allowable in zone 6). The skylights proposed will have a maximum U-factor of 0.43 (max. 0.60 allowable in zone 6). *See window schedule on A-200.*

5. Foam Plastic: (Spray Foam Insulation) *(per 2009 IRC Section R316)*

- A) **Attic:** *(per 2009 IRC Section R316.5.3)* The closed cell spray foam proposed as attic insulation is exempt from the requirement of a 1/2" gypsum wallboard thermal barrier for meeting the following requirements:
 - 1. Attic access is required and provided.
 - 2. "The space is entered only for purposes of repair and maintenance".
 - 3. The insulation is protected by an approved spray-applied 15-minute ignition barrier. *See A-301 and A-303.*
- B) **Crawlspace:** *(per 2009 IRC Section R316.5.4)* The closed cell spray foam proposed as crawlspace insulation is exempt from the requirement of an approved thermal barrier for meeting the following requirements:
 - 1. Crawlspace access is required and provided *(see F-100 and A-100)*.
 - 2. "The space is entered only for purposes of repair and maintenance".
 - 3. The insulation is protected by an approved-equivalent spray-applied 15-minute ignition barrier. *See A-301 and A-30.*

6. Sprinkler System: (Spray Foam Insulation) *(per NFPA 1, Standard 13D)*

- A) A new sprinkler system will be installed, per NFPA 1, Standard 13D. *Noted on plan, A-100.*