



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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2018 INTERNATIONAL RESIDENTIAL CODE TECHNICAL ADVISORY MEETING SUMMARY MINUTES

DRAFT

LOCATION: Shoreline City Hall
17500 Midvale Avenue North,
Shoreline, WA 98133-4905

MEETING DATE: Wednesday June 31, 2019

Members in Attendance: Diane Glenn, TAG Chair; Angela Haupt; Tim Woodard; Al Audette; Todd Short; Michelle Yee

Members Absent:, David Spencer (Alternate); Ron Perkerewocz; Willie Hill

Staff in Attendance: Richard Brown, Carrie Toebbe

Visitors in Attendance: Micah Chappell; Dave Swasey; Todd McCkellips; Kelly Mayo; Michael with L&I; Janet Thome; Brad Wiseman

| Agenda Items | TAG/Staff Actions/Discussion |
|--|---|
| 1. Welcome and Introductions | Meeting called to order at 10:02 a.m. by Diane Glenn. Everyone was welcomed and roll was taken. |
| 2. Review & Approve Agenda | The agenda was approved as written. |
| 3. Review and Approve May 29, 2019 Minutes | Due to the late posting, there was inadequate time to review the minutes prior to the meeting. There was no vote to approve the May 29 th minutes. |
| 4. Review ESSB 5383 and discuss TAG approach | The TAG reviewed the attached proposal. This proposal was approved by the SBCC to solicit public testimony through the State's Rulemaking process (CR-102). The TAG felt this proposal adequately addressed ESSB 5383 and no further action by the TAG was necessary. There were no dissenting votes. |
| 5. Other Business | None noted. |
| 6. Adjourn | The meeting was adjourned at 11:38 a.m. |

Attachments: 19-IRC13REV2 Proposal



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1. State Building Code to be Amended:

- | | |
|--|---|
| <input type="checkbox"/> International Building Code | <input type="checkbox"/> International Mechanical Code |
| <input type="checkbox"/> ICC ANSI A117.1 Accessibility Code | <input type="checkbox"/> International Fuel Gas Code |
| <input type="checkbox"/> International Existing Building Code | <input type="checkbox"/> NFPA 54 National Fuel Gas Code |
| <input checked="" type="checkbox"/> International Residential Code | <input type="checkbox"/> NFPA 58 Liquefied Petroleum Gas Code |
| <input type="checkbox"/> International Fire Code | <input type="checkbox"/> Wildland Urban Interface Code |
| <input type="checkbox"/> Uniform Plumbing Code | |

For the Washington State Energy Code, please see specialized [energy code forms](#)

Section(s): Appendix Q, R202, R314, New R326, R326, R327

Title: Tiny House, Sleeping Lofts

2. Proponent Name: Washington Association of Building Officials (WABO)

Proponent: Micah Chappell

Title: Technical Codes Development Committee Chair

Date: April 15, 2019

3. Designated Contact Person:

Name: Micah Chappell

Title: Technical Code Development Manager, Seattle Department of Construction and Inspections

Address: 700 Fifth Ave. Suite 2100, Seattle, WA. 98104

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E-Mail address: micah.chappell@seattle.gov

4. Proposed Code Amendment.

Code(s) IRC

Section(s) Appendix Q, R202, R314, New R326, R326, R327

Amend section(s) to read as follows:

IRC 202 Definitions. The following words and terms shall, for the purposes of this section, have the meanings shown therein. Refer to Chapter 2 of this code for general definitions.

EGRESS ROOF ACCESS WINDOW. A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements of Section R310.2.

LANDING PLATFORM. A landing provided as the top step of a stairway accessing a sleeping loft.

SLEEPING LOFT. A sleeping space on a floor level located more than 30 inches (762 mm) above the main floor and open to the main floor on one or more sides with a ceiling height of less than 6 feet 8 inches (2032mm). ~~and used as a living or sleeping space.~~

TINY HOUSE. ~~A dwelling that is 400 square feet (37 m²) or less in floor area excluding lofts.~~

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room or sleeping loft.

SECTION R326

SLEEPING LOFTS

SECTION R326.1 General. Sleeping lofts shall comply with Sections 326 through 326.5.

R326.2 Minimum ~~Sleeping loft area and dimensions.~~ Sleeping lofts ~~used as a sleeping or living space~~ shall meet the minimum area and dimension requirements of Sections R326.2.1 through R326.2.3.

R326.2.1 Minimum Area. Sleeping lofts shall have a floor area of not less than 35 square feet (3.25 m²) and less than 70 square feet (6.5 m²).

R326.2.2 Minimum horizontal dimensions. Sleeping lofts shall be not less than 5 feet (1524 mm) in any horizontal dimension.

R326.2.3 Height effect on sleeping loft area. Portions of a sleeping loft with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft but shall contribute to the maximum allowable area. **See figure below.**

Exception: Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50-percent slope), portions of a sleeping loft with a sloped ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the sleeping loft but shall contribute to the maximum allowable area.

R326.3 Sleeping loft access and egress. The access to and primary egress from *sleeping lofts* shall be of any type described in Sections R326.3.1 through R326.3.5 and shall meet the *sleeping loft* where the *sleeping loft's* ceiling height is not less than 3 feet (914 mm) along the entire width of the access and egress component.

R326.3.1 Stairways. Stairways accessing *sleeping lofts* shall comply ~~with this code or~~ with Sections R326.3.1.1 through R326.3.1.7.

R326.3.1.1 Headroom. The headroom ~~is~~ above the *sleeping loft* access and egress shall be not less than 6 feet 2 inches (1880 mm), as measured vertically, from a sloped line connecting the tread, landing, or landing platform nosing's in the ~~middle~~ center of their width, and vertically from the landing or landing platform along the center of its width.

R326.3.1.2 Width. Stairways accessing a *sleeping loft* shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The width below the handrail shall be not less than 20 inches (508 mm).

R326.3.1.3 Treads and risers. Risers for stairs accessing a *sleeping loft* shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four-thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three-fourths of the tread depth.

R326.3.1.4 Landings. Intermediate landings and landings at the bottom of stairways shall comply with Section R311.7.6, except that the depth in the direction of travel shall be not less than 24 inches (508 mm).

R326.3.1.5 Landing platforms. The top tread and riser of stairways accessing *sleeping lofts* shall be constructed as a landing platform where the loft ceiling height is less than 6 feet 2 inches (1880 mm) where the stairway meets the *sleeping loft*. The landing platform shall be ~~18 inches to 22 inches (457 to 559 mm)~~ not less than 18 inches (508 mm) in width and in depth measured horizontally from and perpendicular to the nosing of the landing platform. The landing platform riser height to the edge of the *sleeping loft* floor, and 16 to shall not be greater than 18 inches (406 to 457 mm) in height. measured from the landing platform to the loft floor.

R326.3.1.6 Handrails. Handrails shall comply with Section R311.7.8.

R326.3.1.7 Stairway guards. Guards at open sides of stairways, landings, and landing platforms shall comply with Section R312.1.

R326.3.2 Ladders. Ladders accessing *sleeping lofts* shall comply with Sections R326.3.2.1 and R326.3.2.2.

R326.3.2.1 Size and capacity. Ladders accessing *sleeping lofts* shall have a rung width of not less than 12 inches (305 mm), and 10-inch (254 mm) to 14-inch (356 mm) spacing between rungs. Ladders shall be capable of supporting a 300-pound (136 kg) load on any rung. Rung spacing shall be uniform within 3/8 inch (9.5 mm).

R326.3.2.2 Incline. Ladders shall be installed at 70 to 80 degrees from horizontal.

R326.3.3 Alternating tread devices. Alternating tread devices accessing *sleeping lofts* shall comply with Sections R311.7.11.1 and R311.7.11.2. The clear width at and below the handrails shall be not less than 20 inches (508 mm).

R326.3.4 Ships ladders. Ships ladders accessing *sleeping lofts* shall comply with Sections R311.7.12.1 and R311.7.12.2. The clear width at and below handrails shall be not less than 20 inches (508 mm).

R326.4 Sleeping Loft Guards. *Sleeping loft* guards shall be located along the open side(s) of *sleeping lofts*. *Sleeping loft* guards shall be not less than 36 inches (914 mm) in height or one-half of the clear height to the ceiling, whichever is less. *Sleeping loft* guards shall comply with Section R312.1.3 and Table R301.5 for their components.

R326.5 Emergency escape and rescue openings. An Egress roof access window shall be installed in each *sleeping loft* and shall be deemed to meet the requirements of Section R310 where installed such that the bottom of the opening is not more than 44 inches (1118 mm) above the *sleeping loft* floor, provided the egress roof access window complies with the minimum opening area requirements of Section R310.2.1.

SECTION ~~R326~~ R327

SWIMMING POOLS, SPAS AND HOT TUBS

~~R326.1~~ R327.1 General...

SECTION ~~R327~~ R328

STATIONARY STORAGE BATTERY SYSTEMS

~~R327.1~~ R328.1 General...

~~R327.2~~ R328.2 Equipment listings...

~~R327.3~~ R328.3 Installation...

~~R327.4~~ R328.4 Electric installation...

~~R327.5~~ R328.5 Ventilation...

~~R327.6~~ R328.6 Protection from impact...

Appendix Q changes: The majority of the strike through language is relocated to IRC Section R326

SECTION AQ101 GENERAL

AQ101.1 Scope. This appendix shall be applicable to *tiny houses* used as single *dwelling units*. *Tiny houses* shall comply with this code except as otherwise stated in this appendix.

SECTION AQ102 DEFINITIONS

AQ102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

~~**EGRESS ROOF ACCESS WINDOW.** A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements of Section R310.2.~~

~~**LANDING PLATFORM.** A landing provided as the top step of a stairway accessing a loft.~~

~~**LOFT.** A floor level located more than 30 inches (762 mm) above the main floor, open to the main floor on one or more sides with a ceiling height of less than 6 feet 8 inches (2032 mm) and used as a living or sleeping space.~~

~~**TINY HOUSE.** A *dwelling unit* that is 400 square feet (37 m²) or less in floor area excluding *sleeping lofts*.~~

SECTION AQ103 CEILING HEIGHT

AQ103.1 Minimum ceiling height. *Habitable space and hallways in tiny houses* shall have a ceiling height of not less than 6 feet 8 inches (2032 mm). Bathrooms, toilet rooms and kitchens shall have a ceiling height of not less than 6 feet 4 inches (1930 mm). Obstructions including, but not limited to, beams, girders, ducts and lighting, shall not extend below these minimum ceiling heights.

Exception: Ceiling heights in *sleeping lofts* shall be in accordance with Section R326, are permitted to be less than 6 feet 8 inches (2032 mm).

Move section AQ104 to new Section R326

SECTION AQ104 LOFTS

AQ104.1 Minimum loft area and dimensions. *Lofts* used as a sleeping or living space shall meet the minimum area and dimension requirements of Sections AQ104.1.1 through AQ104.1.3.

AQ104.1.1 Minimum area. *Lofts* shall have a floor area of not less than 35 square feet (3.25 m²).

AQ104.1.2 Minimum dimensions. *Lofts* shall be not less than 5 feet (1524 mm) in any horizontal dimension.

AQ104.1.3 Height effect on loft area. Portions of a *loft* with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the *loft*.

Exception: Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50 percent slope), portions of a *loft* with a sloped ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the *loft*.

AQ104.2 Loft access. The access to and primary egress from *lofts* shall be of any type described in Sections AQ104.2.1 through AQ104.2.4.

AQ104.2.1 Stairways. Stairways accessing *lofts* shall comply with this code or with Sections AQ104.2.1.1 through AQ104.2.1.5.

AQ104.2.1.1 Width. Stairways accessing a *loft* shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The width below the handrail shall be not less than 20 inches (508 mm).

AQ104.2.1.2 Headroom. The headroom in stairways accessing a *loft* shall be not less than 6 feet 2 inches (1880 mm), as measured vertically, from a sloped line connecting the tread or landing platform nosings in the middle of their width.

AQ104.2.1.3 Treads and risers. Risers for stairs accessing a *loft* shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three fourths of the tread depth.

AQ104.2.1.4 Landing platforms. The top tread and riser of stairways accessing *lofts* shall be constructed as a *landing platform* where the *loft* ceiling height is less.

Energy Conservation

AQ104.1 Air leakage testing. The air leakage rate for tiny houses shall not exceed 0.30 cfm at 50 Pascals of pressure per ft of the dwelling unit enclosure area. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed after the continuous air barrier, including all penetrations, is completed and sealed.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures.

Commented [GJ1]: Was "Testing for tiny houses"

2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior louvers for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

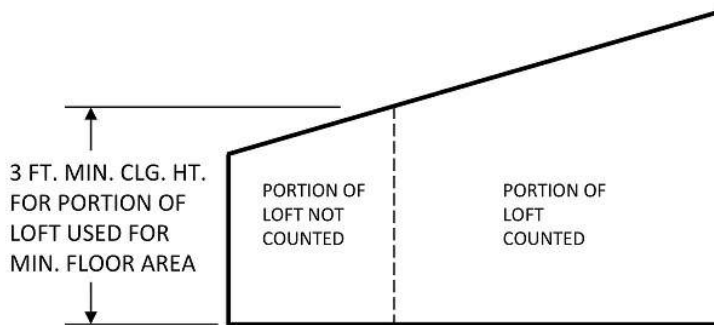
AQ104.1.1 Whole house mechanical ventilation. Where an air leakage rate not exceeding 0.30 cfm per ft of the dwelling unit enclosure area in accordance with Section AQ106.1 is provided, the tiny house shall be provided with whole house mechanical ventilation in accordance with Section M1505.4.

AQ104.2 Alternative compliance. Tiny houses shall be deemed to be in compliance with Chapter 11 of this code and Chapter R4 of the International Energy Conservation Code provided that all the following conditions are met:

1. The insulation and fenestration meet the requirements of IECC Table R402.1.2
2. The thermal envelope meets the requirements of IECC Table R402.4.1.1 and IECC Table R402.4.1.1.
3. Solar, wind, or other renewable energy source supplies not less than 5 watts per square foot of floor area for the structure.
4. Permanently installed lighting is in accordance with Section R404.
5. Mechanical ventilation is provided in accordance with Section M1505 of this code. Operable fenestration is not used as the outdoor air source for the mechanical ventilation.

Commented [GJ2]: Was "Tiny house"

Figure for R326.2.3



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.

This proposal takes an important part of Appendix Q and incorporates it into the main sections of the IRC. It makes those sections available to all dwelling units that are constructed out of the IRC. Additionally, the proposal provides modifications to Appendix Q for tiny houses and addresses some energy code standards for these smaller spaces.

6. Specify what criteria this proposal meets. You may select more than one.

- The amendment is needed to address a critical life/safety need.
- The amendment is needed to address a specific state policy or statute.
- The amendment is needed for consistency with state or federal regulations.
- The amendment is needed to address a unique character of the state.
- The amendment corrects errors and omissions.

7. Is there an economic impact: Yes No

Explain:

This proposal may decrease the cost of construction by allowing flexibility in how smaller dwelling unit spaces are designed and constructed.

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: N/A

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.