

2021 Residential Code Change Update

Building

R308.4.5 Glazing and wet surfaces.

Glazing in walls, enclosures, or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers, and indoor or outdoor swimming pools shall be considered a hazardous location if located less than 60 inches (1524 mm) measured horizontally, in a straight line, from the water's edge and the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface. This shall apply to single glazing and each pane in multiple glazing

R314.3 Location.

In the hallway and in the room open to the hallway in *dwelling units* where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches (610 mm) or more.

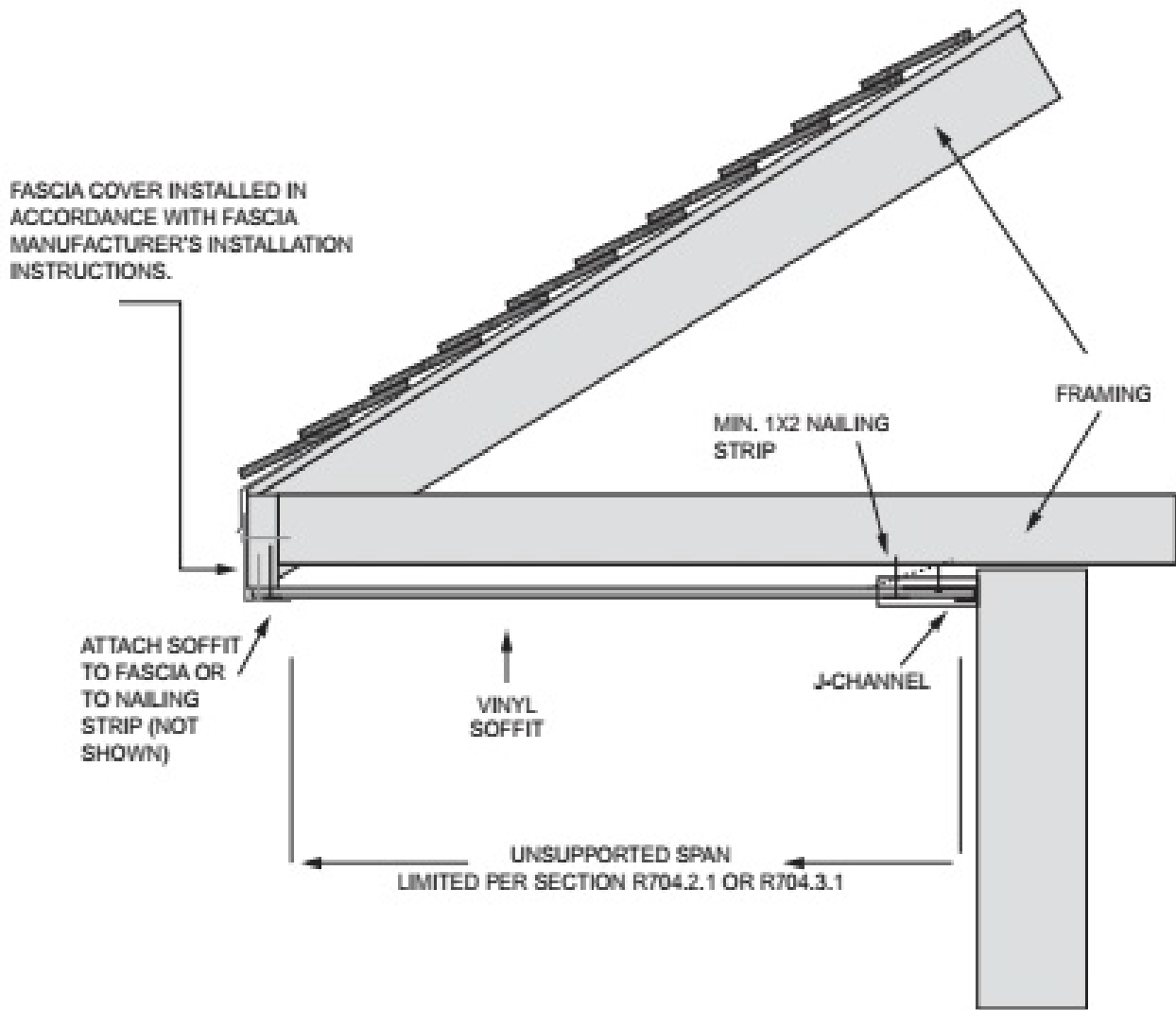
R326.3 Story above grade plane the aggregate area of the habitable attic is not greater than two-thirds of the floor area of the story below maximum of 400 square feet (37.1)

R506.2.3 Vapor retarder.

A minimum 10 mil (0.010 inch; 0.254 mm) vapor retarder conforming to ASTM E1745 Class A requirements with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where a base course does not exist.

R704.2.1 Vinyl soffit panels.

Vinyl soffit panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or sub fascia component in accordance with Figure R704.2.1(1). Where the unsupported span of soffit panels is greater than 16 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions.



N1101.14 (R401.3) Certificate.

A permanent certificate shall be completed by the builder or other *approved* party and posted on a wall in the space where the furnace is located, a utility room or an *approved* location inside the *building*. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory *label*, service disconnect *label* or other required *labels*.

1. 1.The predominant *R*-values of insulation installed in or on ceilings, roofs, walls, foundation components such as slabs, *basement walls*, *crawl space walls* and floors, and ducts outside *conditioned spaces*.

**TABLE N1102.1.3 (R402.1.3)
INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a** Ceilings R-60 or R-49 over the top plate.

N1102.2.8 (R402.2.8) Basement walls.

Basement walls shall be insulated in accordance with Table N1102.1.3.

Exception: Basement walls associated with unconditioned basements where all the following requirements are met:

1. The floor overhead, including the underside stairway stringer leading to the basement, is insulated in accordance with Section N1102.1.3 and applicable provisions of Sections N1102.2 and N1102.2.7.
2. There are no uninsulated duct, domestic hot water or hydronic heating surfaces exposed to the basement.
3. There are no HVAC supply or return diffusers serving the basement.
4. The walls surrounding the stairway and adjacent to conditioned space are insulated in accordance with Section N1102.1.3 and applicable provisions of Section N1102.2.
5. The door(s) leading to the basement from conditioned spaces are insulated in accordance with Section N1102.1.3 and applicable provisions of Section N1102.2 and weather-stripped in accordance with Section N1102.4.
6. The building thermal envelope separating the basement from adjacent conditioned spaces complies with Section N1102.4

N1102.4.1.2 (R402.4.1.2) Testing.

The building or *dwelling unit* shall be tested and verified as having an air leakage rate not exceeding 5 air changes per hour. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E779, or ASTM E1827 and reported at a pressure of 0.2 inches w.g. (50 Pa). A written report of the results of the test shall be signed by the party conducting the test and provided to the building official. Testing shall be conducted by a Virginia licensed general contractor, a Virginia licensed HVAC contractor, a Virginia licensed home inspector, a Virginia registered design professional, a certified BPI Envelope Professional, a certified HERS rater, or a certified duct and envelope tightness rater. The party conducting the test shall have been trained on the equipment used to perform the test. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

I.E. **blower door test.**

N1103.1.3 (R403.1.3) Heat pump as primary space heat source.

Electric resistance heat shall not be used as the primary heat source for electric space heating if a ducted or ductless heat pump can be installed. Electric resistance space heating may be used for defrosting, supplemental or emergency heat. A heat pump should be designed so that, except during defrost or emergency heating modes, supplemental heating does not energize unless the outdoor temperature is below 40°F (4°C).

I.E electrical base board is not approved as a main heat source.

N1103.6.3 (R403.6.3) Testing.

Mechanical ventilation systems shall be tested and verified to provide the minimum ventilation flow rates required by Section N1103.6. Testing shall be performed according to the ventilation *equipment* manufacturer's instructions, or by using a flow hood or box, flow grid, or other airflow measuring device at the mechanical ventilation fan's inlet terminals or grilles, outlet terminals or grilles, or in the connected ventilation ducts. Where required by the official code, 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.

I.E. **Duck blast testing.**

M1502.4.5 Booster fans prohibited.

Domestic booster fans shall not be installed in dryer exhaust systems.

Fuel Gas

G2447.2 (623.2) Prohibited location.

Cooking *appliances* designed, tested, *listed* and *labeled* for use in commercial occupancies shall not be installed within *dwelling units* or within any area where domestic cooking operations occur.

Exception: *Appliances* that are also *listed* as domestic cooking *appliances*

Electrical

E3601.8 Emergency disconnects.

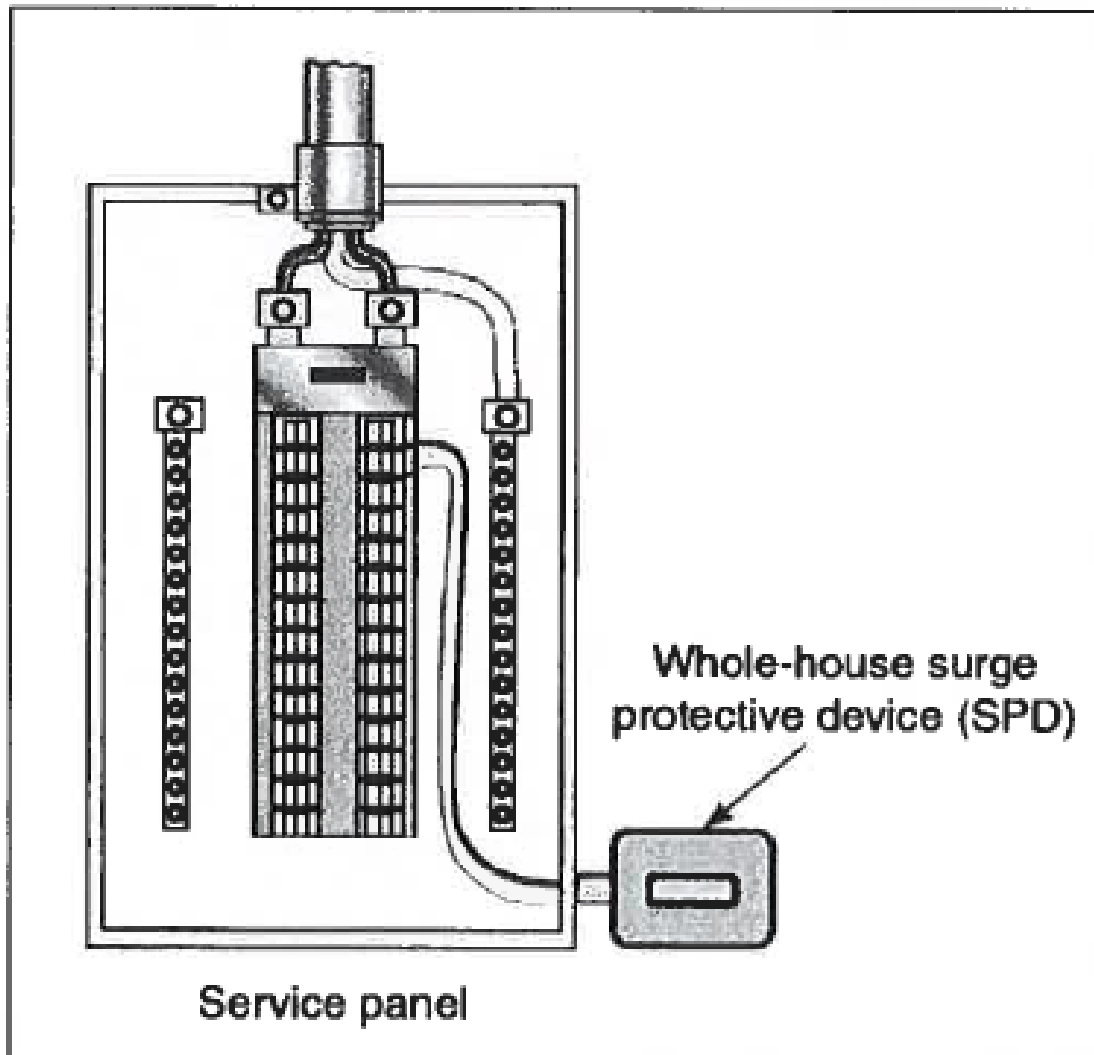
For *one- and two-family dwelling* units, all service conductors shall terminate in disconnecting means having a short-circuit current rating equal to or greater than the available fault current, installed in a readily accessible outdoor location. If more than one disconnects is provided, they shall be grouped. Each disconnect shall be one of the following:

1. 1.Service disconnects marked as follows: EMERGENCY DISCONNECT, SERVICE DISCONNECT.
2. 2. Meter disconnect switches that have a short-circuit current rating equal to or greater than the available fault current and all metal housing and service enclosures are grounded in accordance with Section E3908.7 and bonded in accordance with Section 3609. A meter disconnect switch shall be capable of interrupting the load served and shall be marked as follows: EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT.
3. 3.Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are suitable for use as service equipment and marked as follows: EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT.

Markings shall comply with Section E3404.12. [230.82 (3), 230.85]

3606.5 Surge protection.

All services supplying one- and *two-family dwelling* units shall be provided with a surge protective device (SPD) installed in accordance with Sections.



E3901.4 Countertop and work surface receptacles.

In kitchens pantries, breakfast rooms, dining rooms and similar areas of *dwelling units*, receptacle outlets for countertop and work surfaces that are 12 inches (305 mm) or wider shall be installed in accordance with Sections E3901.4.1 through E3901.4.3 and shall not be considered as the receptacle outlets required in Section E3901.2.

For the purposes of this section, we're using multioutlet assemblies, each 12 inches

E3901.4.2 Island and peninsular countertops and workspaces.

Receptacle outlets shall be installed in accordance with the following: [210.52(C)(2)]

1. At least one receptacle outlet shall be provided for the first 9 square feet (0.84 m²), or fraction thereof, of the countertop or work surface. A receptacle outlet shall be provided for every additional 18 square feet (1.7 m²), or fraction thereof, of the countertop or work surface. [210.52(C)(2)(a)]
2. At least one receptacle outlet shall be located within 2 feet (600 mm) of the outer end of a peninsular countertop or work surface. Additional receptacle outlets shall be permitted to be located as determined by the installer, designer or building owner. The location of the receptacle outlets shall be in accordance with Section E3901.4.3. [210.52(C)(2)(b)]

A peninsular countertop shall be measured from the connected perpendicular wall. [210.52(C)(2)]

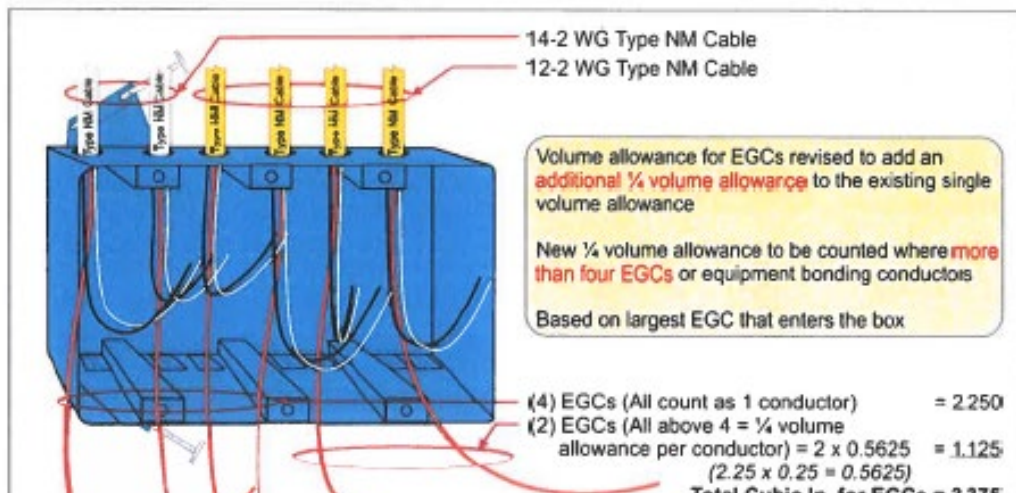
1. installer, designer or building owner. The location of the receptacle outlets shall be in accordance with Section E3901.4.3. [210.52(C)(2)(b)]

A peninsular countertop shall be measured from the connected perpendicular wall. [210.52(C)(2)]

E3905.8

outlet boxes mounted in the ceilings of habitable rooms in a location acceptable for the installation of a ceiling suspended (paddle) fan shall comply with one of the following:

1. Listed for sole support of ceiling-suspended (paddle) fans.
2. An outlet box complying with the applicable requirements of Section E3905.6 and providing access to structural framing capable of supporting a ceiling suspended (paddle) fan bracket or equipment. [314.27(C)]



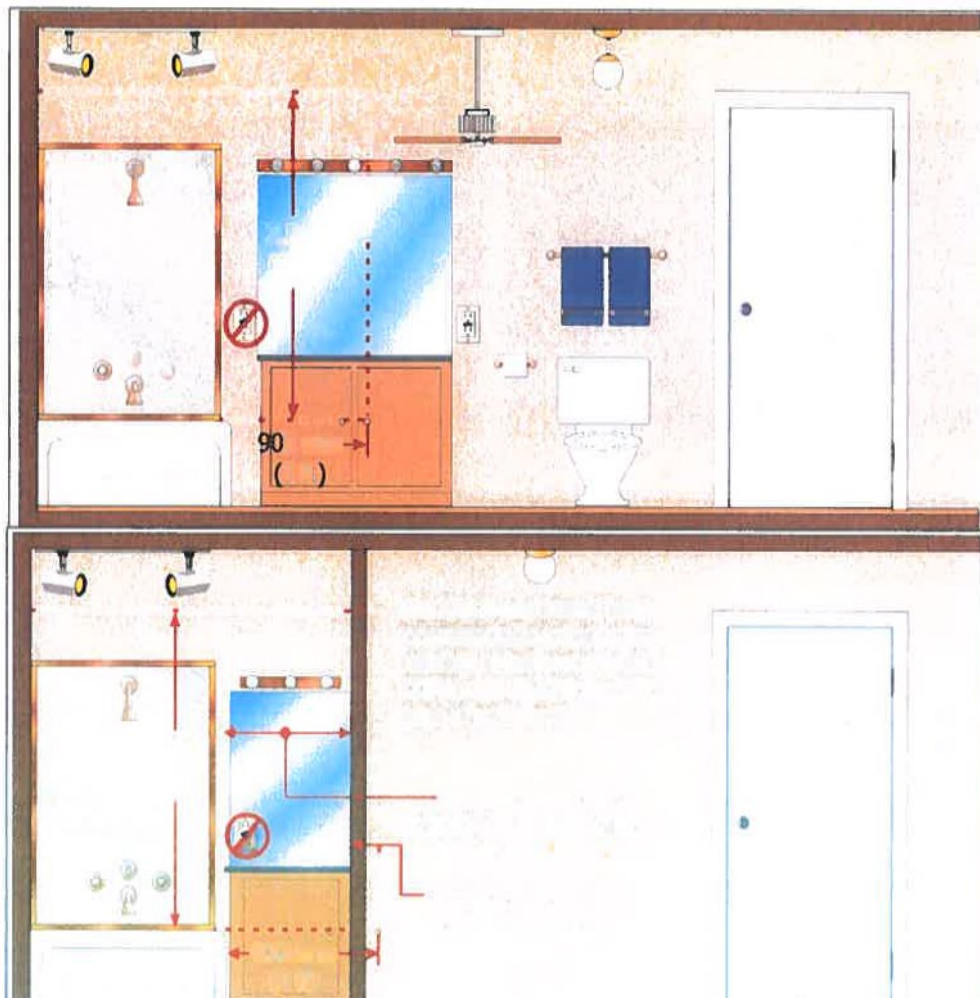
Receptacles shall not be installed within a zone measured 3 feet (90 mm) horizontally and 8 feet (2438 mm) vertically from the top of the bathtub rim or shower stall threshold. The identified zone is all-encompassing and shall include the space directly over the tub or shower stall.

Exception: In bathrooms with less than the required zone, the receptacle(s) shall be permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall in the room. [406.9(C)]

E4002.11 Bathtub and shower space.

Receptacles shall not be installed within a zone measured 3 feet (90 mm) horizontally and 8 feet (2438 mm) vertically from the top of the bathtub rim or shower stall threshold. The identified zone is all-encompassing and should include the space directly over the tub or shower stall.

Exception: In bathrooms with less than the required zone, the receptacle(s) shall be permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall in the room. [406.9(C)]



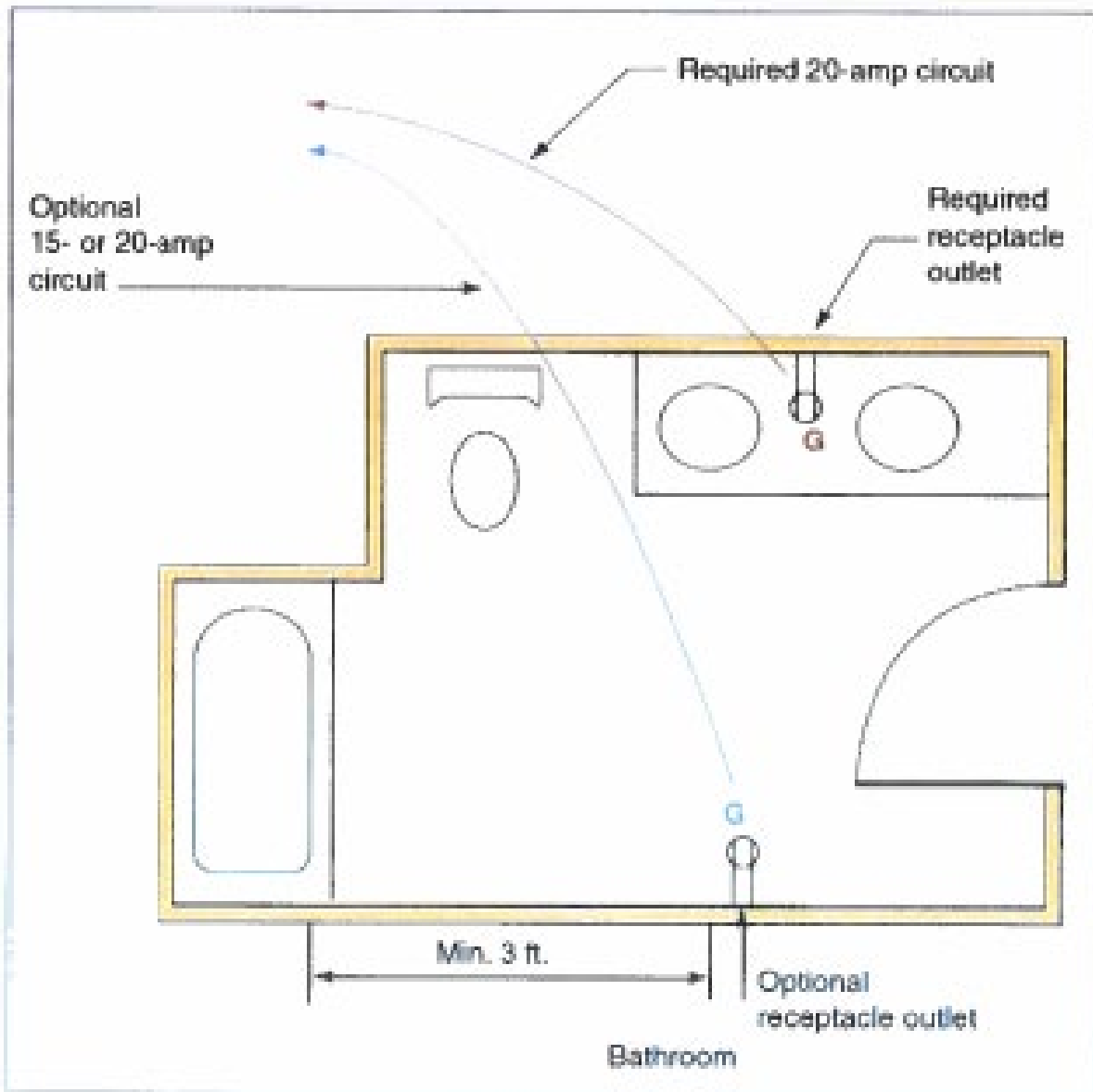
E3703.4 Bathroom Branch Circuits 210.1 (C) (3)

Change type: Clarification

Only the required bathroom receptacle or those serving a countertop need to be on the dedicated 20-amp bathroom circuit.

E3703.4 Bathroom branch circuits. A minimum of the one 20-ampere branch circuit shall be provided to supply bathroom receptacle outlet(s) required by section E3901.6 and any countertop or similar work surface receptacle outlets. Such circuits shall have no other outlets. 210.11 (C) (3)

EXCEPTION: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with Section E702. 210.11(C) (3) Exception.



Solar

R324.6.2 Setback at ridge.

Not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge.

2 m²).

NEC 690.13A

Locked disconnect is required if equipment does not have dead front guarding live conductors.

NEC 690.41 (b) PV system dc circuit's that exceed 30v/8a required to have dc fault protection.

NEC 690.56 © Label required rapid shutdown device location.

***2018 Code**

E3902.20 Arc-fault circuit interrupter protection.

Branch circuits that supply 120-volt, single-phase, 15- and 20- ampere outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, *sunrooms*, recreations rooms, closets, hallways, laundry areas and similar rooms or areas shall be protected by any of the following: [210.12(A

N1102.2.2

R-30 insulation is **limited to 500 Square** feet and shall cover the top plate.