



CITY OF SURPRISE
Board of Construction Review
16000 N. Civic Center Plaza
Surprise, AZ 85374
Thursday, February 20, 2020 @ 6:00 PM
COUNCIL CHAMBERS

- A. Call To Order
- B. Roll Call
- C. Pledge of Allegiance
- D. Staff Reports
- E. Board of Construction Review Agenda:

CONSENT AGENDA:

REGULAR AGENDA ITEM - NON-PUBLIC HEARING:

- 1. Citywide Appeal Hearing – Building Permit Application # 2019005303
None
Brigham Bennett
Community
Development
- F. Other Business and Future Agenda Items
- G. Adjournment

SHERRY ANN AGUILAR, CITY CLERK, MMC

POSTED: February 11, 2020 at 1:00 PM

SPECIAL NOTE: PERSONS WITH SPECIAL ACCESSIBILITY NEEDS, INCLUDING LARGE PRINT MATERIALS OR INTERPRETER, SHOULD CONTACT THE CITY CLERK'S OFFICE @ 623.222.1200 OR TTY 623.222.1002, BY NO LATER THAN 24 HOURS IN ADVANCE OF THE REGULAR SCHEDULED MEETING TIME.



CITY OF SURPRISE Board of Construction Review

Council Meeting Date: February 20, 2020 Contact Person: Brigham Bennett
Submitting Department: Community Development District: Citywide
Staff Recommendations: None

Consent: No Regular: No Public Hearing: Yes Report/Discussion: No

Agenda Wording:

Appeal Hearing – Building Permit Application # 2019005303

Motion:

Background:

A building permit application (#2019005303) was submitted to the City of Surprise Building Safety Division on December 4, 2019 by Jim and Peggy Dare who reside at 16501 N El Mirage Rd. Lot 1064.

This application and associated construction documents were reviewed by Plans Examiner Brigham Bennett on December 10, 2019. The Dares were notified by email in a Plan Review Comment Letter that the application was found to be non-compliant with 2018 IRC Section R302.1. The posts in question are part of a wall assembly that is located too close to the adjacent lot line.

After several emails back and forth, Mr. and Mrs. Dare applied for a formal appeal of Mr. Bennett's review decision on December 19, 2019.

Section R112 of the 2018 IRC institutes a Board of Appeals. By local amendment, Municipal Code Section 2-203 establishes the Board of Construction Review as the body that hears and decides requests for appeals of decisions of administrative authority regarding matters pertaining to enforcement, application and interpretation of building codes.

Building Safety staff fully acknowledge the building permit applicant's right to appeal a decision. Building Safety staff also fully acknowledge the Board's authority to hear said appeal.

Building Safety staff does assert, based on the provisions of Municipal Code Section 2-203 that the Board has no authority to waive or amend the requirements of any technical code adopted by the city and that the violation identified in the Plan Review process is a technical requirement.

Objective Analysis:

Building permit applicants can file an appeal of the Building Official's decision of administrative authority regarding matters pertaining to enforcement, application and interpretation of construction codes. The commission is authorized to hears such appeals and approve an alternative material, method

of construction. The board has no authority to waive or amend the requirements of any technical code adopted by the City.

Policy Compliant:

This action is compliant with City and Council policy.

Financial Impact:

This action does not have a financial impact.

Budget Impact:

This action does not have a budgetary impact.

FTE Impact:

This action does not impact FTE staffing levels.

ATTACHMENTS:

1. 20.02.05 EVR Staff Report - Appeal of Building Permit Application 2019005303
 2. BCR Appeal 2019005303
 3. 2018 IRC Section R302
 4. 2018 IRC Chapter 2
 5. 2018 IBC Definition Exterior Wall
 6. 2018 Residential Patio Cover Review 1 Comments
 7. Unofficial Appeal Request
 8. ANSI UL 263 Wall Assembly
 9. Building Permit Application and Submittal Docs 2019005303
 10. Plan Review Comment Letter Email 2019005303
 11. Request and Response for Appeal Hearing
-

Date: January 28, 2020

To: Board of Construction Review

From: Chris Boyd, Community Development Director
Keith Tanner, Fire Marshal
Brigham Bennett, Plans Examiner

Re: **Formal Appeal of Building Permit Application # 2019005303**

INTRODUCTION

A building permit application (#2019005303) was submitted to the City of Surprise Building Safety Division on December 4, 2019 by Jim and Peggy Dare ("Appellant") who reside at 16501 N El Mirage Rd. Lot 1064.

The proposed work listed in the application had actually been completed previously and is part of a current Code Enforcement case enacted at this parcel.

PLAN REVIEW PROCESS

This application and associated construction documents were reviewed by Plans Examiner Brigham Bennett on December 10, 2019. The Dares were notified by email in a Plan Review Comment Letter that the application was found to be non-compliant with 2018 IRC Section R302.1. The posts in question are part of a wall assembly that is located too close to the adjacent lot line.

After several emails back and forth, Mr. and Mrs. Dare applied for a formal appeal of Mr. Bennett's review decision on December 19, 2019.

INTERNATIONAL CODE COUNCIL

The International Code Council (ICC) was established in 1994 as a non-profit organization dedicated to developing a single set of comprehensive and coordinated national model construction codes. The ICC is a member focused association with over 64,000 Members. It is dedicated to developing model codes and standards used in the design, build and compliance process to construct safe and resilient structures. Most U.S. communities, including all major jurisdictions within Maricopa County and many global markets adopt and enforce the International Codes (I-Codes).

The I-Codes provide minimum safeguards for people at home, at school and in the workplace. The I-Codes are a complete set of comprehensive, coordinated building safety and re prevention codes. Building codes benefit public safety and support the industry's need for one set of codes without regional limitations.

All fifty states and the District of Columbia have adopted the I-Codes at the state or jurisdictional level. Federal agencies including the Architect of the Capitol, General Services Administration, National Park Service, Department of State, U.S. Forest Service and the Veterans Administration. The Department of Defense references the International Building Code for constructing military facilities, including those that house U.S. troops around the world and at home. Puerto Rico and the U.S. Virgin Islands enforce one or more of the I-Codes.

2018 INTERNATIONAL RESIDENTIAL CODE (IRC)

The 2018 International Residential Code (IRC) is the currently adopted building code in the City of Surprise. The 2018 IRC governs the construction, alteration, movement, repair, equipment, use and occupancy, location, removal and demolition of one- and two-family dwellings, townhouses and their accessory structures.

The 2018 IRC and local amendments were reviewed by this Board and formally adopted by the City of Surprise Mayor and City Council on October 15, 2019 as Ordinance 2019-031. This code became effective on November 14, 2019

BOARD OF APPEALS – BOARD OF CONSTRUCTION REVIEW

Section R112 of the 2018 IRC institutes a Board of Appeals. By local amendment, Municipal Code Section 2-203 establishes the Board of Construction Review as the body that hears and decides requests for appeals of decisions of administrative authority regarding matters pertaining to enforcement, application and interpretation of building codes. The Board is also authorized to approve an alternative material or method of construction.

AUTHORITY OF THE BOARD

Building Safety staff fully acknowledge the building permit applicant's right to appeal a decision. Building Safety staff also fully acknowledge the Board's authority to hear said appeal.

Building Safety staff does assert, based on the provisions of Municipal Code Section 2-203 that the Board has no authority to waive or amend the requirements of any technical code adopted by the city.

2018 IRC CHAPTER 3 – BUILDING DESIGN

2018 IRC Chapter 3 is a compilation of the technical code requirements specific to the building planning sector of the design and construction process. The provisions address a wide variety of elements critical to designing a building that is both safe and usable.

Wind and seismic design requirements, as well as live and dead load are outlined in Chapter 3.

The technical requirements of this chapter govern core life-safety and health elements such as wind and seismic design protections, geometric parameters for stair design, the minimum size of rescue window openings, hot water for sanitation, required heating and cooling as well as fire-resistive construction requirements for exterior walls.

WALL DESIGNS

Walls can be constructed of a multitude of materials such as wood framing, masonry units, steel framing, rammed earth or straw bales. Walls can be completely solid, contain glazing or be remain entirely open.

- 2018 IRC Section R202, definition of Walls:

WALLS. Walls shall be defined as follows:

- **Load-bearing wall.** A wall supporting any vertical load in addition to its own weight.
- **Non-bearing wall.** A wall which does not support vertical loads other than its own weight.

- 2018 IBC Section 202, definition of Exterior Wall:

EXTERIOR WALL. A wall, bearing or non-bearing, that is used as an enclosing wall for a building, other than a fire-wall, and that has a slope of 60 degrees (1.05 rad) or greater with the horizontal plain.

- 2018 IRC Section AH102 definition of Patio Cover:

Patio Cover. A structure with open or glazed walls that is used for recreational, outdoor living purposes associated with a dwelling unit.

- From R309.2 **Carports:**

“Carports shall be open on not less than two sides.”

One of the key elements of the technical code violation identified during the plan review process is the concept of an “open walled” structure. Carports and patio covers are “open walled” structures and are still very much subject to the requirements of Table R302.1(1). The subject structure of this case is “open walled” and the design is in violation of Table R302.1(1).

The Appellant asserts that the permit application is for the addition/modification of two posts. The Appellant also asserts that a post is not a wall. Building Safety agrees that a single post (in most cases) is not by definition a wall. However, two posts supporting a beam which also supports a carport roof is certainly a load-bearing wall by definition and function. By its location on the lot, this wall is also on the exterior of the structure and is subject to all requirements of 2018 IRC Section 302.1(1). **2018 IRC SECTION R302 – FIRE-RESISTIVE CONSTRUCTION**

2018 IRC Section 302 sets forth fire-resistive construction requirements for exterior walls, townhomes, two-family dwellings, garage to dwelling separations, under stair locations, floor assemblies, fireblocking, draftstopping and clearances to combustible insulation.

The threat of radiant heat exposure in a fire necessitates fire-resistance rated assemblies when structures are situated very close to the property line.

2018 IRC SECTION R302.1 – EXTERIOR WALLS

By review, it was determined that building permit application 2019005303 did not meet the provisions of this code section.

Concerning exterior wall protection, the code assumes that an owner has no control over an adjoining property. Thus, the location of structures on the owner’s property relative to property or lot lines requires regulation. The property or lot line concept is a means of protecting one structure from another as far as radiant heat and fire exposure are concerned. Radiation is the primary means of heat transfer. Exposure is the potential for heat to be transmitted from one structure to another during a fire in the exposing structure.

The construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings are required to comply with Table R302.1(1). This table applies to all applicable structures not equipped with an automatic sprinkler system.

Walls

- Walls located 5' or greater from a lot line can be constructed of any approved method, do not require any fire-resistive elements.
- Walls located less than 5' from the lot line are required to be constructed to meet the 1 Hour rating requirements of ASTM E119 or UL 263 or any of the prescriptive methods outlined in 2018 IBC Section 703.
- The ratings shall be designed with exposure from both sides.

Opening in Walls

- Walls located 5' or greater from a lot line can have unlimited openings.
- Walls located 3' from the lot line can only have 25% of the wall area be open.
- Openings are not allowed in Walls located less than 3' from the lot line.

The alteration to the existing carport is in violation of both the Wall and Wall Opening requirements.

This section provides five exceptions to these requirements. The scope of work of the building permit application does not qualify for any of the four exceptions.

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of individual dwelling units and their accessory structures located on the same lot.
3. Detached tools sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location of the lot. Projections beyond the exterior wall shall not extend over the lot line.

4. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102mm).
5. Foundation vents installed in compliance with this code are permitted.

The ICC, is the largest and foremost building code development body, being made up of Building and Fire Code professionals across the country. They have extensive history and knowledge of fire resistant wall design. If their intention was to exempt open walled structures such as carports, patio covers, ramadas or gazebos, an exception would already be in place.

RECOMMENDATION

Building Safety staff in coordination with the City of Surprise Fire Marshal assert that the provisions of Chapter 3 and specifically Section R302.1 have been interpreted and applied correctly and are technical requirements, not subject to waiver or appeal.

Board of Construction Review

Appeal Hearing – Building Permit 2019005303

February 20, 2020

Authority of the Board

- **2018 IRC Section R112**
 - **Local Amendment to Municipal Code**
- **Municipal Code Section 2-303**
 - **Hear and Decide Appeals**
 - **Enforcement, Application and Interpretation**
 - **Approve Alternative Materials & Methods**
 - **No Authority to Waive or Amend Technical Code Requirements**

International Code Council

- **64,000 Members**
- **Building & Fire Code Professionals**
- **All 50 States**
- **Federal Government**
- **All Major Jurisdictions in Arizona**



2018 International Residential Code (IRC)

- **Residential Component of the I-Code Family**
- **Single Family**
- **Townhomes**
- **Two Family (Duplex)**



IRC Chapter 3 - Building Planning (Technical Requirements)

- **Design Criteria**
 - **Wind & Seismic**
- **Fire-Resistant Construction**
- **Heating & Cooling**
- **Sanitation**
- **Emergency Openings**
- **Means of Egress**
- **Smoke Alarms**

Section R302 - Fire-Resistant Construction

- **Exterior Walls**
- **Townhouses**
- **Dwelling – Garage Separation**
- **Under Stairs**
- **Fireblock & Draftstop**
- **Insulation Flame Spread & Combustibility**

Section R302.1 - Exterior Walls

Five Exceptions:

1. **Walls Perpendicular to Line**
2. **Walls of Dwelling Units and Their Accessory Structures**
3. **Detached Tool Sheds & Exempt Structures**
4. **Detached Garages – 4” Overhang**
5. **Foundation Vents**

Definitions IRC Section R202

WALLS. Walls shall be defined as follows:

Load-bearing Wall. A wall supporting any vertical load in addition to its own weight.

Nonbearing Wall. A wall which does not support its own weight.

Definitions IBC Section 202

EXTERIOR WALL. A wall, bearing or nonbearing, that is used as an enclosing wall for a building, other than a fire wall and that has a slope of 60 degrees (1.05 rad) or greater than the horizontal plane.

Definitions R202

FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior lot line.
2. To the centerline of the street, an alley or public way.
3. To an imaginary line between two buildings on the same lot.

The distance shall be measured at a right angle from the face of the wall.

Minimum Fire Separation Distance - Walls

- **5' and Greater**
 - Any material, any configuration
- **Less than 5'**
 - 1 hour – tested in accordance with ASTM E119, UL 263 or Section 703.3 of the IBC, with exposure from both sides.

Minimum Fire Separation Distance Fire-Resistance Rating

<u>FIRE-RESISTANCE RATING REQUIREMENT</u>	<u>MINIMUM DISTANCE FROM LOT LINE</u>
0 Hours - None	5'
1 hour – tested in accordance with ASTM E119 UL 263 or IBC Section 703.3 with exposure from both sides	Less Than 5'

Minimum Fire Separation Distance - Openings

<u>OPENING REQUIREMENT</u>	<u>MINIMUM DISTANCE FROM LOT LINE</u>
Unlimited	5'
25% Maximum of Wall Area	3'
Not Allowed	Less than 3'

Wall Design – Materials

- **Wood Frame**
- **Steal Frame**
- **Masonry Units**
- **Post & Beam**
- **Colum & Beam**

Open Wall Structures

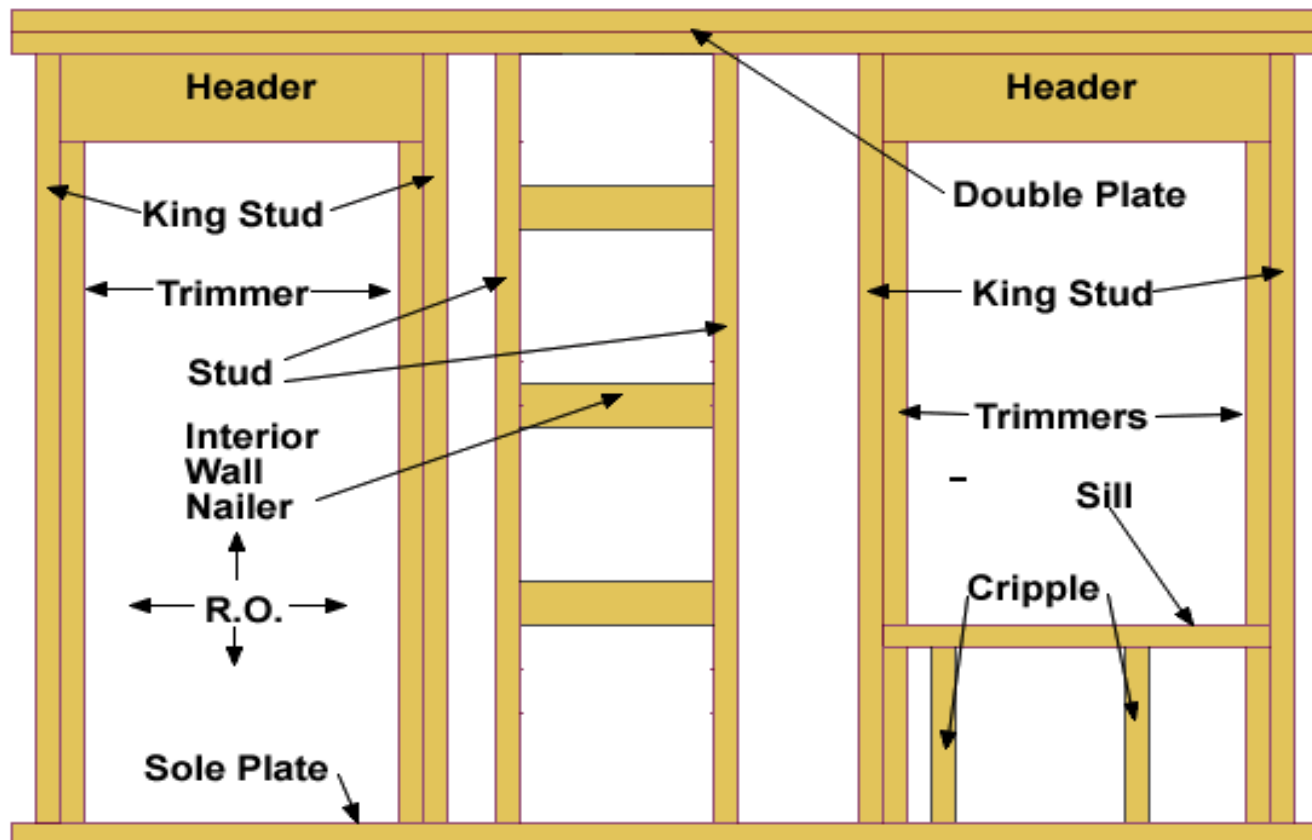
- **Carports**
- **Patio Covers**
- **Ramadas**
- **Gazebos**

Permit Application 2019005303 Specifics

- **Part of Code Enforcement Action**
- **Work Is Already Complete**
- **Not Compliant With Table R302.1(1)**
 - Fire Rated Wall Assembly
 - Openness Limitation
- **Posts Can Be Placed Back At Original Location**

Questions and Comments

Typical Wall Framing



Typical Wall Framing – Wood - Solid



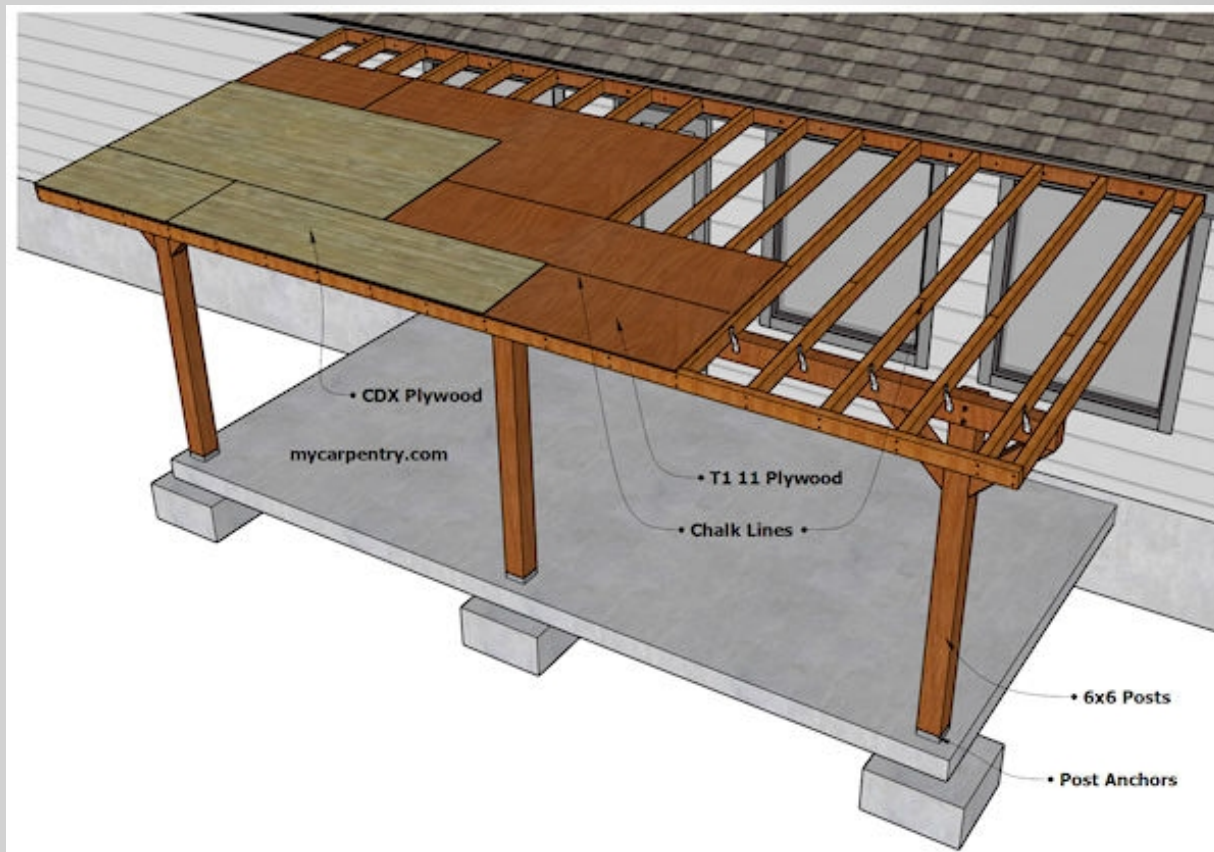
Typical Patio Framing – Wood - Open



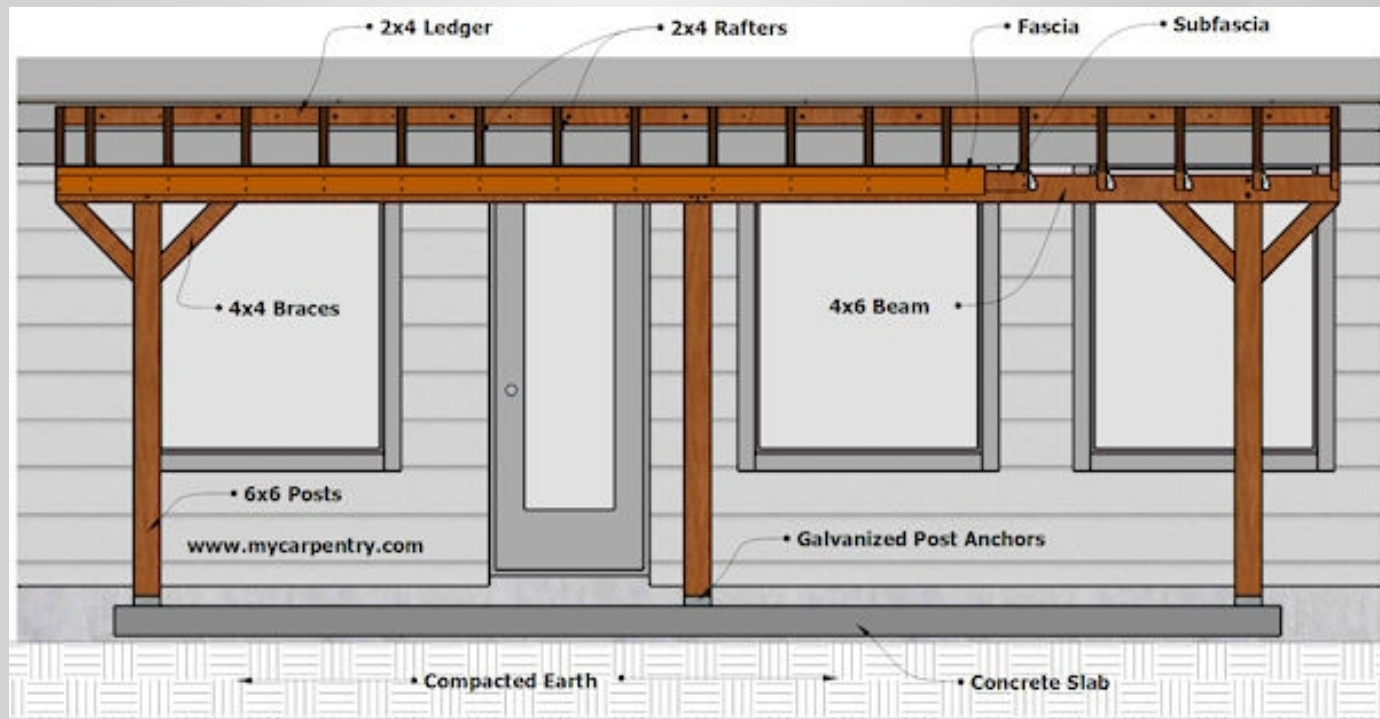
Ramada – Masonry & Timber - Open



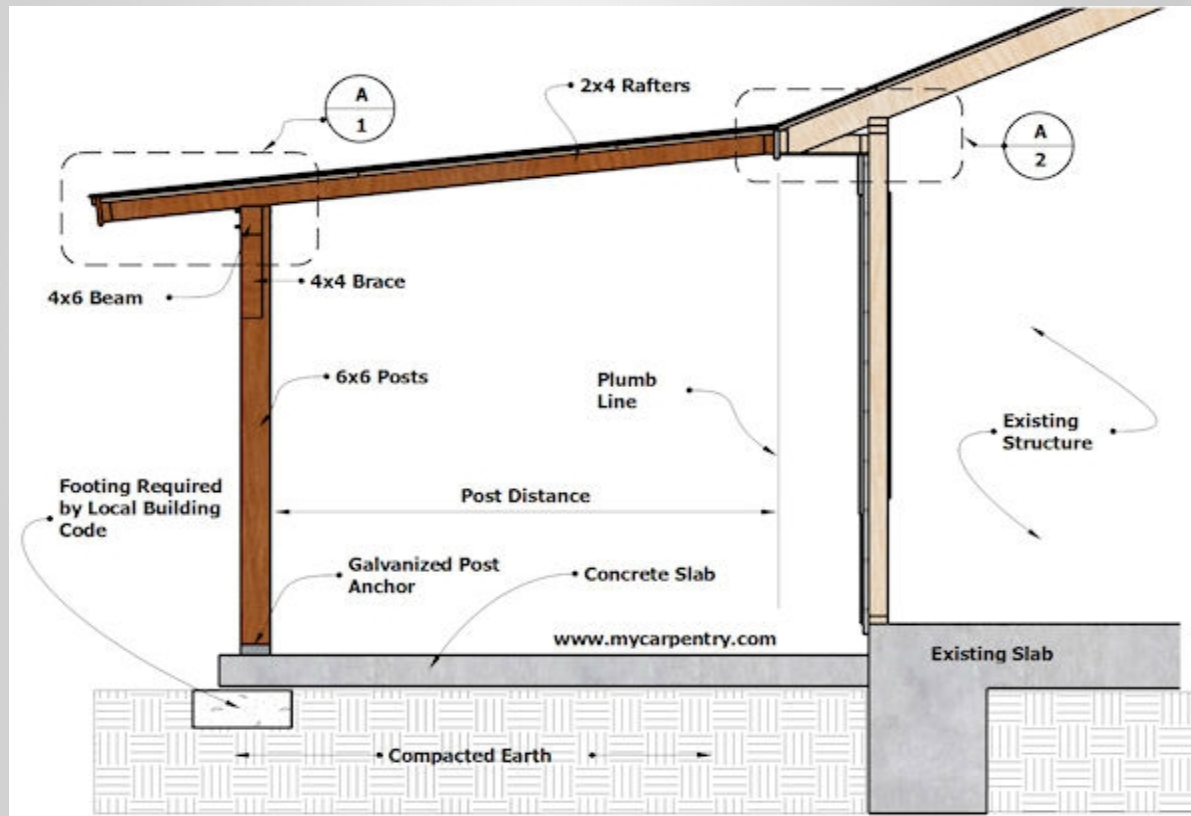
Typical Patio Framing – Diagram



Typical Patio Framing – Elevation Diagram



Typical Patio Framing – Section Diagram



Fire Rated Exterior Wall



Sunflower - Lot 1061



Sunflower - Lot 1064



TABLE R301.5—continued
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS
(in pounds per square foot)

g. Uninhabitable attics with limited storage are those where the clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses.

The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:

1. The attic area is accessed from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.
2. The slopes of the joists or truss bottom chords are not greater than 2 inches vertical to 12 units horizontal.
3. Required insulation depth is less than the joist or truss bottom chord member depth.

The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.

h. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the infill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.

R301.6 Roof load. The roof shall be designed for the live load indicated in Table R301.6 or the snow load indicated in Table R301.2(1), whichever is greater.

TABLE R301.6
MINIMUM ROOF LIVE LOADS IN POUNDS-FORCE
PER SQUARE FOOT OF HORIZONTAL PROJECTION

ROOF SLOPE	TRIBUTARY LOADED AREA IN SQUARE FEET FOR ANY STRUCTURAL MEMBER		
	0 to 200	201 to 600	Over 600
Flat or rise less than 4 inches per foot (1:3)	20	16	12
Rise 4 inches per foot (1:3) to less than 12 inches per foot (1:1)	16	14	12
Rise 12 inches per foot (1:1) and greater	12	12	12

For SI: 1 square foot = 0.0929 m², 1 pound per square foot = 0.0479 kPa, 1 inch per foot = 83.3 mm/m.

R301.7 Deflection. The allowable deflection of any structural member under the live load listed in Sections R301.5 and R301.6 or wind loads determined by Section R301.2.1 shall not exceed the values in Table R301.7.

R301.8 Nominal sizes. For the purposes of this code, dimensions of lumber specified shall be deemed to be nominal dimensions unless specifically designated as actual dimensions.

SECTION R302

FIRE-RESISTANT CONSTRUCTION

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1(1); or dwellings equipped throughout with an automatic sprinkler system

installed in accordance with Section P2904 shall comply with Table R302.1(2).

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of individual dwelling units and their accessory structures located on the same lot.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
4. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

TABLE R301.7
ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS^{b, c}

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
Rafters having slopes greater than 3:12 with finished ceiling not attached to rafters	$L/180$
Interior walls and partitions	$H/180$
Floors	$L/360$
Ceilings with brittle finishes (including plaster and stucco)	$L/360$
Ceilings with flexible finishes (including gypsum board)	$L/240$
All other structural members	$L/240$
Exterior walls—wind loads ^a with plaster or stucco finish	$H/360$
Exterior walls—wind loads ^a with other brittle finishes	$H/240$
Exterior walls—wind loads ^a with flexible finishes	$H/120^d$
Lintels supporting masonry veneer walls ^c	$L/600$

Note: L = span length, H = span height.

- a. For the purpose of the determining deflection limits herein, the wind load shall be permitted to be taken as 0.7 times the component and cladding (ASD) loads obtained from Table R301.2(2).
- b. For cantilever members, L shall be taken as twice the length of the cantilever.
- c. For aluminum structural members or panels used in roofs or walls of sunroom additions or patio covers, not supporting edge of glass or sandwich panels, the total load deflection shall not exceed $L/60$. For continuous aluminum structural members supporting edge of glass, the total load deflection shall not exceed $L/175$ for each glass lite or $L/60$ for the entire length of the member, whichever is more stringent. For sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed $L/120$.
- d. Deflection for exterior walls with interior gypsum board finish shall be limited to an allowable deflection of $H/180$.
- e. Refer to Section R703.8.2.

R302.2 Townhouses. Walls separating townhouse units shall be constructed in accordance with Section R302.2.1 or R302.2.2.

R302.2.1 Double walls. Each townhouse shall be separated by two 1-hour fire-resistance-rated wall assemblies tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.

R302.2.2 Common walls. Common walls separating townhouses shall be assigned a fire-resistance rating in accordance with Item 1 or 2. The common wall shared by two townhouses shall be constructed without plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing.

**TABLE R302.1(1)
EXTERIOR WALLS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.3 of the <i>International Building Code</i> with exposure from both sides	0 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{a, b}	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	NA	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

- a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.

**TABLE R302.1(2)
EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.3 of the <i>International Building Code</i> with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet ^a
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{b, c}	2 feet ^a
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet
	Unlimited	0 hours	3 feet ^a
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet ^a

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

- a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.
- b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.

Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.

R302.2.3 Continuity. The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for townhouses as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour

fire-resistance rating. The wall shall be rated for exposure from both sides.

R302.2.5 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), and the height shall be not less than 30 inches (762 mm).

R302.2.6 Structural independence. Each individual townhouse shall be structurally independent.

Exceptions:

1. Foundations supporting exterior walls or common walls.
2. Structural roof and wall sheathing from each unit fastened to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. Townhouses separated by a common wall as provided in Section R302.2.2, Item 1 or 2.

R302.3 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $\frac{1}{2}$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than $\frac{1}{2}$ -inch (12.7 mm) gypsum board or equivalent.

R302.3.1 Supporting construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

R302.4 Dwelling unit rated penetrations. Penetrations of wall or floor-ceiling assemblies required to be fire-resistance rated in accordance with Section R302.2 or R302.3 shall be protected in accordance with this section.

R302.4.1 Through penetrations. Through penetrations of fire-resistance-rated wall or floor assemblies shall comply with Section R302.4.1.1 or R302.4.1.2.

Exception: Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space shall be protected as follows:

1. In concrete or masonry wall or floor assemblies, concrete, grout or mortar shall be permitted where installed to the full thickness of the wall or floor assembly or the thickness required to maintain the fire-resistance rating, provided that both of the following are complied with:
 - 1.1. The nominal diameter of the penetrating item is not more than 6 inches (152 mm).
 - 1.2. The area of the opening through the wall does not exceed 144 square inches (92 900 mm²).
2. The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 or UL 263 time temperature fire conditions under a positive pressure differential of not less than 0.01 inch of water (3 Pa) at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

R302.4.1.1 Fire-resistance-rated assembly. Penetrations shall be installed as tested in the *approved* fire-resistance-rated assembly.

R302.4.1.2 Penetration firestop system. Penetrations shall be protected by an *approved* penetration firestop system installed as tested in accordance with ASTM E814 or UL 1479, with a positive pressure differential of not less than 0.01 inch of water (3 Pa) and shall have an F rating of not less than the required fire-resistance rating of the wall or floor-ceiling assembly penetrated.

R302.4.2 Membrane penetrations. Membrane penetrations shall comply with Section R302.4.1. Where walls are required to have a fire-resistance rating, recessed fixtures shall be installed so that the required fire-resistance rating will not be reduced.

Exceptions:

1. Membrane penetrations of not more than 2-hour fire-resistance-rated walls and partitions by steel electrical boxes that do not exceed 16 square inches (0.0103 m²) in area provided that the aggregate area of the openings through the membrane does not exceed 100 square inches (0.0645 m²) in any 100 square feet (9.29 m²) of wall area. The annular space between the wall membrane and the box shall not exceed $\frac{1}{8}$ inch (3.1 mm). Such boxes on opposite sides of the wall shall be separated by one of the following:
 - 1.1. By a horizontal distance of not less than 24 inches (610 mm) where the wall or

partition is constructed with individual noncommunicating stud cavities.

- 1.2. By a horizontal distance of not less than the depth of the wall cavity where the wall cavity is filled with cellulose loose-fill, rockwool or slag mineral wool insulation.
 - 1.3. By solid fireblocking in accordance with Section R302.11.
 - 1.4. By protecting both boxes with *listed* putty pads.
 - 1.5. By other *listed* materials and methods.
2. Membrane penetrations by *listed* electrical boxes of any materials provided that the boxes have been tested for use in fire-resistance-rated assemblies and are installed in accordance with the instructions included in the *listing*. The annular space between the wall membrane and the box shall not exceed $\frac{1}{8}$ inch (3.1 mm) unless *listed* otherwise. Such boxes on opposite sides of the wall shall be separated by one of the following:
 - 2.1. By the horizontal distance specified in the *listing* of the electrical boxes.
 - 2.2. By solid fireblocking in accordance with Section R302.11.
 - 2.3. By protecting both boxes with *listed* putty pads.
 - 2.4. By other *listed* materials and methods.
 3. The annular space created by the penetration of a fire sprinkler provided that it is covered by a metal escutcheon plate.
 4. Ceiling membrane penetrations by *listed* luminaires or by luminaires protected with *listed* materials that have been tested for use in fire-resistance-rated assemblies and are installed in accordance with the instructions included in the *listing*.

R302.5 Dwelling-garage opening and penetration protection. Openings and penetrations through the walls or ceilings separating the *dwelling* from the garage shall be in accordance with Sections R302.5.1 through R302.5.3.

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than $1\frac{3}{8}$ inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than $1\frac{3}{8}$ inches (35 mm) thick, or 20-minute fire-rated doors, equipped with a self-closing or automatic-closing device.

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the *dwelling* from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall not have openings into the garage.

R302.5.3 Other penetrations. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

R302.6 Dwelling-garage fire separation. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table R302.6 shall not apply to garage walls that are perpendicular to the adjacent *dwelling unit* wall.

R302.7 Under-stair protection. Enclosed space under stairs that is *accessed* by a door or access panel shall have walls, under-stair surface and any soffits protected on the enclosed side with $\frac{1}{2}$ -inch (12.7 mm) gypsum board.

R302.8 Foam plastics. For requirements for foam plastics, see Section R316.

R302.9 Flame spread index and smoke-developed index for wall and ceiling finishes. Flame spread and smoke-developed indices for wall and ceiling finishes shall be in accordance with Sections R302.9.1 through R302.9.4.

R302.9.1 Flame spread index. Wall and ceiling finishes shall have a flame spread index of not greater than 200.

Exception: Flame spread index requirements for finishes shall not apply to trim defined as picture molds, chair rails, baseboards and handrails; to doors and windows or their frames; or to materials that are less than $\frac{1}{28}$ inch (0.91 mm) in thickness cemented to the surface of walls or ceilings if these materials exhibit flame spread index values not greater than those of paper of this thickness cemented to a noncombustible backing.

R302.9.2 Smoke-developed index. Wall and ceiling finishes shall have a smoke-developed index of not greater than 450.

R302.9.3 Testing. Tests shall be made in accordance with ASTM E84 or UL 723.

R302.9.4 Alternative test method. As an alternative to having a flame spread index of not greater than 200 and a smoke-developed index of not greater than 450 where tested in accordance with ASTM E84 or UL 723, wall and ceiling finishes shall be permitted to be tested in accordance with NFPA 286. Materials tested in accordance with NFPA 286 shall meet the following criteria:

The interior finish shall comply with the following:

1. During the 40 kW exposure, flames shall not spread to the ceiling.
2. The flame shall not spread to the outer extremity of the sample on any wall or ceiling.
3. Flashover, as defined in NFPA 286, shall not occur.
4. The peak heat release rate throughout the test shall not exceed 800 kW.
5. The total smoke released throughout the test shall not exceed 1,000 m².

R302.10 Flame spread index and smoke-developed index for insulation. Flame spread and smoke-developed index for insulation shall be in accordance with Sections R302.10.1 through R302.10.5.

R302.10.1 Insulation. Insulating materials installed within floor-ceiling assemblies, roof-ceiling assemblies, wall assemblies, crawl spaces and *attics* shall comply with the requirements of this section. They shall exhibit a flame spread index not to exceed 25 and a smoke-developed index not to exceed 450 where tested in accordance with ASTM E84 or UL 723. Insulating materials, where tested in accordance with the requirements of this section, shall include facings, where used, such as vapor retarders, vapor permeable membranes and similar coverings.

Exceptions:

1. Where such materials are installed in concealed spaces, the flame spread index and smoke-developed index limitations do not apply to the facings, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.
2. Cellulose fiber loose-fill insulation that is not spray applied and that complies with the requirements of Section R302.10.3 shall not be required to meet the flame spread index requirements but shall be required to meet a smoke-developed index of not more than 450 where tested in accordance with CAN/ULC S102.2.
3. Foam plastic insulation shall comply with Section R316.

**TABLE R302.6
DWELLING-GARAGE SEPARATION**

SEPARATION	MATERIAL
From the residence and attics	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent applied to the garage side
From habitable rooms above the garage	Not less than $\frac{5}{8}$ -inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

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

R302.10.2 Loose-fill insulation. Loose-fill insulation materials that cannot be mounted in the ASTM E84 or UL 723 apparatus without a screen or artificial supports shall comply with the flame spread and smoke-developed limits of Section R302.10.1 where tested in accordance with CAN/ULC S102.2.

Exception: Cellulosic fiber loose-fill insulation shall not be required to be tested in accordance with CAN/ULC S102.2, provided that such insulation complies with the requirements of Sections R302.10.1 and R302.10.3.

R302.10.3 Cellulosic fiber loose-fill insulation. Cellulosic fiber loose-fill insulation shall comply with CPSC 16 CFR, Parts 1209 and 1404. Each package of such insulating material shall be clearly *labeled* in accordance with CPSC 16 CFR, Parts 1209 and 1404.

R302.10.4 Exposed attic insulation. Exposed insulation materials installed on *attic* floors shall have a critical radiant flux of not less than 0.12 watt per square centimeter.

R302.10.5 Testing. Tests for critical radiant flux shall be made in accordance with ASTM E970.

R302.11 Fireblocking. In combustible construction, fireblocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top *story* and the roof space.

Fireblocking shall be provided in wood-framed construction in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
 - 1.1. Vertically at the ceiling and floor levels.
 - 1.2. Horizontally at intervals not exceeding 10 feet (3048 mm).
2. At interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an *approved* material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E136 requirements.
5. For the fireblocking of chimneys and fireplaces, see Section R1003.19.
6. Fireblocking of cornices of a two-family *dwelling* is required at the line of *dwelling unit* separation.

R302.11.1 Fireblocking materials. Except as provided in Section R302.11, Item 4, fireblocking shall consist of the following materials.

1. Two-inch (51 mm) nominal lumber.

2. Two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints.
3. One thickness of $\frac{23}{32}$ -inch (18.3 mm) wood structural panels with joints backed by $\frac{23}{32}$ -inch (18.3 mm) wood structural panels.
4. One thickness of $\frac{3}{4}$ -inch (19.1 mm) particleboard with joints backed by $\frac{3}{4}$ -inch (19.1 mm) particleboard.
5. One-half-inch (12.7 mm) gypsum board.
6. One-quarter-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of mineral wool or glass fiber or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested in accordance with ASTM E119 or UL 263, for the specific application.

R302.11.1.1 Batts or blankets of mineral or glass fiber. Batts or blankets of mineral or glass fiber or other *approved* nonrigid materials shall be permitted for compliance with the 10-foot (3048 mm) horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

R302.11.1.2 Unfaced fiberglass. Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a height of not less than 16 inches (406 mm) measured vertically. Where piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.

R302.11.1.3 Loose-fill insulation material. Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

R302.11.2 Fireblocking integrity. The integrity of fireblocks shall be maintained.

R302.12 Draftstopping. In combustible construction where there is usable space both above and below the concealed space of a floor-ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet (92.9 m²). Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping shall be provided in floor-ceiling assemblies under the following circumstances:

1. Ceiling is suspended under the floor framing.
2. Floor framing is constructed of truss-type open-web or perforated members.

R302.12.1 Materials. Draftstopping materials shall be not less than $\frac{1}{2}$ -inch (12.7 mm) gypsum board, $\frac{3}{8}$ -inch (9.5 mm) wood structural panels or other *approved* materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise *approved* by the *building official*. The integrity of the draftstops shall be maintained.

R302.13 Fire protection of floors. Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wall-board membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other approved equivalent sprinkler system.
2. Floor assemblies located directly over a crawl space not intended for storage or for the installation of fuel-fired or electric-powered heating appliances.
3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:
 - 3.1. The aggregate area of the unprotected portions does not exceed 80 square feet (7.4 m²) per story.
 - 3.2. Fireblocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.
4. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

R302.14 Combustible insulation clearance. Combustible insulation shall be separated not less than 3 inches (76 mm) from recessed luminaires, fan motors and other heat-producing devices.

Exception: Where heat-producing devices are *listed* for lesser clearances, combustible insulation complying with 3the listing requirements shall be separated in accordance with the conditions stipulated in the listing.

Recessed luminaires installed in the *building thermal envelope* shall meet the requirements of Section N1102.4.5 of this code.

SECTION R303 LIGHT, VENTILATION AND HEATING

R303.1 Habitable rooms. Habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural *ventilation* shall be through windows, skylights, doors, louvers or other *approved* openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the build-

ing occupants. The openable area to the outdoors shall be not less than 4 percent of the floor area being ventilated.

Exceptions:

1. The glazed areas need not be openable where the opening is not required by Section R310 and a whole-house mechanical *ventilation* system is installed in accordance with Section M1505.
2. The glazed areas need not be installed in rooms where Exception 1 is satisfied and artificial light is provided that is capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.
3. Use of sunroom and patio covers, as defined in Section R202, shall be permitted for natural *ventilation* if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.

R303.2 Adjoining rooms. For the purpose of determining light and *ventilation* requirements, rooms shall be considered to be a portion of an adjoining room where not less than one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room and not less than 25 square feet (2.3 m²).

Exception: Openings required for light or *ventilation* shall be permitted to open into a sunroom with thermal isolation or a patio cover, provided that there is an openable area between the adjoining room and the sunroom or patio cover of not less than one-tenth of the floor area of the interior room and not less than 20 square feet (2 m²). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

R303.3 Bathrooms. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.3 m²), one-half of which shall be openable.

Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust rates shall be determined in accordance with Section M1505. Exhaust air from the space shall be exhausted directly to the outdoors.

R303.4 Mechanical ventilation. Where the air infiltration rate of a *dwelling unit* is 5 air changes per hour or less where tested with a blower door at a pressure of 0.2 inch w.c (50 Pa) in accordance with Section N1102.4.1.2, the *dwelling unit* shall be provided with whole-house mechanical ventilation in accordance with Section M1505.4.

R303.5 Opening location. Outdoor intake and exhaust openings shall be located in accordance with Sections R303.5.1 and R303.5.2.

R303.5.1 Intake openings. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) from any hazardous or noxious contami-

Part II—Definitions

CHAPTER 2 DEFINITIONS

User notes:

About this chapter: Codes, by their very nature, are technical documents. Every word, term and punctuation mark can add to or change the meaning of a technical requirement. It is necessary to maintain a consensus on the specific meaning of each term contained in the code. Chapter 2 performs this function by stating clearly what specific terms mean for the purpose of the code.

Code development reminder: Code change proposals to definitions in this chapter preceded by a bracketed letter are considered by the IRC—Building Code Development Committee [RB], the IRC—Mechanical/Plumbing Code Development Committee [MP] or the IECC—Residential Code Development Committee [RE] during the Group B (2019) Code Development cycle. See page iv for explanation.

SECTION R201 GENERAL

R201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

R201.2 Interchangeability. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

R201.3 Terms defined in other codes. Where terms are not defined in this code such terms shall have the meanings ascribed in other code publications of the International Code Council.

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION R202 DEFINITIONS

[RE] ABOVE-GRADE WALL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ACCESS (TO). That which enables a device, an appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction.

[RE] ACCESSIBLE. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ACCESSORY STRUCTURE. A structure that is accessory to and incidental to that of the *dwelling(s)* and that is located on the same *lot*.

[RB] ADDITION. An extension or increase in floor area, number of stories or height of a building or structure. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ADHERED STONE OR MASONRY VENEER. Stone or masonry veneer secured and supported through the adhesion of an *approved* bonding material applied to an *approved* backing.

[MP] AIR ADMITTANCE VALVE. A one-way valve designed to allow air into the plumbing drainage system where a negative pressure develops in the piping. This device shall close by gravity and seal the terminal under conditions of zero differential pressure (no flow conditions) and under positive internal pressure.

[RE] AIR BARRIER. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] AIR BREAK (DRAINAGE SYSTEM). An arrangement where a discharge pipe from a fixture, *appliance* or device drains indirectly into a receptor below the flood-level rim of the receptor and above the trap seal.

[MP] AIR CIRCULATION, FORCED. A means of providing space conditioning utilizing movement of air through ducts or plenums by mechanical means.

[MP] AIR-CONDITIONING SYSTEM. A system that consists of heat exchangers, blowers, filters, supply, exhaust and return-air systems, and shall include any apparatus installed in connection therewith.

[MP] AIR GAP, DRAINAGE SYSTEM. The unobstructed vertical distance through free atmosphere between the outlet of a waste pipe and the flood-level rim of the fixture or receptor into which it is discharging.

[MP] AIR GAP, WATER-DISTRIBUTION SYSTEM. The unobstructed vertical distance through free atmosphere between the lowest opening from a water supply discharge to the flood-level rim of a plumbing fixture.

[RB] AIR-IMPERMEABLE INSULATION. An insulation having an air permance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential as tested in accordance with ASTM E2178 or E283. For the definition applicable in Chapter 11, see Section N1101.6.

DEFINITIONS

[RB] ALTERATION. Any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in a building, electrical, gas, mechanical or plumbing system that involves an extension, addition or change to the arrangement, type or purpose of the original installation that requires a permit. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ALTERNATING TREAD DEVICE. A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

[RB] ANCHORED STONE OR MASONRY VENEER. Stone or masonry veneer secured with *approved* mechanical fasteners to an *approved* backing.

[MP] ANCHORS. See "Supports."

[MP] ANTISIPHON. A term applied to valves or mechanical devices that eliminate siphonage.

[MP] APPLIANCE. A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements.

[RB] APPROVED. Acceptable to the *building official*.

[RB] APPROVED AGENCY. An established and recognized agency that is regularly engaged in conducting tests, furnishing inspection services or furnishing product certification, and has been *approved* by the building official. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *building official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

[RB] ASPECT RATIO. The ratio of longest to shortest perpendicular dimensions, or for wall sections, the ratio of height to length.

[RB] ATTIC. The unfinished space between the ceiling assembly and the roof assembly.

[RB] ATTIC, HABITABLE. A finished or unfinished *habitable space* within an *attic*.

[RE] AUTOMATIC. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] BACKFLOW, DRAINAGE. A reversal of flow in the drainage system.

[MP] BACKFLOW PREVENTER. A backflow prevention assembly, a backflow prevention device or other means or method to prevent backflow into the potable water supply.

[MP] BACKFLOW PREVENTER, REDUCED-PRESSURE-ZONE TYPE. A backflow-prevention device consisting of two independently acting check valves, internally force loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to atmosphere internally loaded to a normally open position between two tightly closing shut-off valves and with means for testing for tightness of the checks and opening of relief means.

[MP] BACKFLOW, WATER DISTRIBUTION. The flow of water or other liquids into the potable water-supply piping from any sources other than its intended source. Backsiphonage is one type of backflow.

[MP] BACKPRESSURE. Pressure created by any means in the water distribution system that by being in excess of the pressure in the water supply mains causes a potential backflow condition.

[MP] BACKPRESSURE, LOW HEAD. A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

[MP] BACKSIPHONAGE. The flowing back of used or contaminated water from piping into a potable water-supply pipe due to a negative pressure in such pipe.

[MP] BACKWATER VALVE. A device installed in a drain or pipe to prevent backflow of sewage.

[RB] BASEMENT. A *story* that is not a *story above grade plane*. (see "Story above grade plane").

[RE] BASEMENT WALL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] BASIC WIND SPEED. Three-second gust speed at 33 feet (10 058 mm) above the ground in Exposure C (see Section R301.2.1) as given in Figure R301.2(5)A.

[MP] BATHROOM GROUP. A group of fixtures, including or excluding a bidet, consisting of a water closet, lavatory, and bathtub or shower. Such fixtures are located together on the same floor level.

[RB] BATTERY SYSTEM, STATIONARY STORAGE. A rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls and associated electrical *equipment* designed to provide electrical power to a building. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

[MP] BEND. A drainage fitting, designed to provide a change in direction of a drain pipe of less than the angle specified by the amount necessary to establish the desired slope of the line (see "Elbow" and "Sweep").

[MP] BOILER. A self-contained *appliance* from which hot water is circulated for heating purposes and then returned to the boiler, and that operates at water pressures not exceeding 160 pounds per square inch gage (psig) (1102 kPa gauge) and at water temperatures not exceeding 250°F (121°C).

[RB] BOND BEAM. A horizontal grouted element within masonry in which reinforcement is embedded.

[RB] BRACED WALL LINE. A straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing.

[RB] BRACED WALL LINE, CONTINUOUSLY SHEATHED. A *braced wall line* with structural sheathing applied to all sheathable surfaces including the areas above and below openings.

[RB] BRACED WALL PANEL. A full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing material and anchors.

The panel's length meets the requirements of its particular bracing method, and contributes toward the total amount of bracing required along its *braced wall line* in accordance with Section R602.10.1.

[MP] BRANCH. Any part of the piping system other than a riser, main or stack.

[MP] BRANCH, FIXTURE. See "Fixture branch, drainage."

[MP] BRANCH, HORIZONTAL. See "Horizontal branch, drainage."

[MP] BRANCH INTERVAL. A vertical measurement of distance, 8 feet (2438 mm) or more in *developed length*, between the connections of horizontal branches to a drainage stack. Measurements are taken down the stack from the highest horizontal branch connection.

[MP] BRANCH, MAIN. A water-distribution pipe that extends horizontally off a main or riser to convey water to branches or fixture groups.

[MP] BRANCH, VENT. A vent connecting two or more individual vents with a vent stack or stack vent.

[MP] BTU/H. The *listed* maximum capacity of an *appliance*, absorption unit or burner expressed in British thermal units input per hour.

[RB] BUILDING. Any one- or two-family dwelling or portion thereof, including *townhouses*, used or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, or any *accessory structure*. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] BUILDING DRAIN. The lowest piping that collects the discharge from all other drainage piping inside the house and extends 30 inches (762 mm) in *developed length* of pipe, beyond the *exterior walls* and conveys the drainage to the *building sewer*.

[RB] BUILDING, EXISTING. Existing building is a building erected prior to the adoption of this code, or one for which a legal building *permit* has been issued.

[RB] BUILDING-INTEGRATED PHOTOVOLTAIC PRODUCT. A building product that incorporates photovoltaic modules and functions as a component of the building envelope.

[RB] BUILDING-INTEGRATED PHOTOVOLTAIC ROOF PANEL (BIPV Roof Panel). A *photovoltaic panel* that functions as a component of the building envelope.

[RB] BUILDING LINE. The line established by law, beyond which a building shall not extend, except as specifically provided by law.

[RB] BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] BUILDING SEWER. That part of the drainage system that extends from the end of the *building drain* and conveys its discharge to a public sewer, private sewer, individual sewage-disposal system or other point of disposal.

[RE] BUILDING SITE. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] BUILDING THERMAL ENVELOPE. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] BUILT-UP ROOF COVERING. Two or more layers of felt cemented together and surfaced with a cap sheet, mineral aggregate, smooth coating or similar surfacing material.

[RB] CAP PLATE. The top plate of the double top plates used in structural insulated panel (SIP) construction. The cap plate is cut to match the panel thickness such that it overlaps the wood structural panel facing on both sides.

[RB] CARBON MONOXIDE ALARM. A single- or multiple-station alarm intended to detect carbon monoxide gas and alert occupants by a distinct audible signal. It incorporates a sensor, control components and an alarm notification appliance in a single unit.

[RB] CARBON MONOXIDE DETECTOR. A device with an integral sensor to detect carbon monoxide gas and transmit an alarm signal to a connected alarm control unit.

[RB] CEILING HEIGHT. The clear vertical distance from the finished floor to the finished ceiling.

[RB] CEMENT PLASTER. A mixture of portland or blended cement, Portland cement or blended cement and hydrated lime, masonry cement or plastic cement and aggregate and other *approved* materials as specified in this code.

[MP] CHIMNEY. A primary vertical structure containing one or more flues, for the purpose of carrying gaseous products of combustion and air from a fuel-burning *appliance* to the outside atmosphere.

[RB] CHANGE OF OCCUPANCY. A change in the use of a building or portion of a building that involves a change in the application of the requirements of this code.

[MP] CHIMNEY CONNECTOR. A pipe that connects a fuel-burning *appliance* to a chimney.

[MP] CHIMNEY TYPES.

Residential-type appliance. An *approved* chimney for removing the products of combustion from fuel-burning, residential-type *appliances* producing combustion gases not in excess of 1,000°F (538°C) under normal operating conditions, and capable of producing combustion gases of 1,400°F (760°C) during intermittent forces firing for periods up to 1 hour. All temperatures shall be measured at the *appliance* flue outlet. Residential-type *appliance* chimneys include masonry and factory-built types.

[MP] CIRCUIT VENT. A vent that connects to a horizontal drainage branch and vents two traps to not more than eight traps or trapped fixtures connected into a battery.

[MP] CIRCULATING HOT WATER SYSTEM. A specifically designed water distribution system where one or more pumps are operated in the service hot water piping to circulate heated water from the water-heating equipment to fixtures and back to the water-heating equipment. For the definition applicable in Chapter 11, see Section N1101.6.

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[RB] CLADDING. The exterior materials that cover the surface of the building envelope that is directly loaded by the wind.

[MP] CLEANOUT. An opening in the drainage system used for the removal of possible obstruction and located to allow for access.

[RE] CLIMATE ZONE. A geographical region based on climatic criteria as specified in this code. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] CLOSET. A small room or chamber used for storage.

[RB] COLLAPSIBLE SOILS. Soils that exhibit volumetric reduction in response to partial or full wetting under load.

[MP] COLLECTION PIPE. Unpressurized pipe used within the collection system that drains on-site nonpotable water or rainwater to a storage tank by gravity.

[MP] COMBINATION WASTE AND VENT SYSTEM. A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks, lavatories or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

[RB] COMBUSTIBLE MATERIAL. Any material not defined as noncombustible.

[MP] COMBUSTION AIR. The air provided to fuel-burning *equipment* including air for fuel combustion, draft hood dilution and ventilation of the *equipment* enclosure.

[MP] COMMON VENT. A single pipe venting two trap arms within the same *branch interval*, either back-to-back or one above the other.

[RB] COMPRESSIBLE SOILS. Soils that exhibit volumetric reduction in response to the application of load even in the absence of wetting or drying.

[MP] CONDENSATE. The liquid that separates from a gas due to a reduction in temperature; for example, water that condenses from flue gases and water that condenses from air circulating through the cooling coil in air conditioning *equipment*.

[MP] CONDENSING APPLIANCE. An *appliance* that condenses water generated by the burning of fuels.

[RB] CONDITIONED AIR. Air treated to control its temperature, relative humidity or quality.

[RE] CONDITIONED FLOOR AREA. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] CONDITIONED SPACE. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] CONSTRUCTION DOCUMENTS. Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building *permit*. Construction drawings shall be drawn to an appropriate scale.

[MP] CONTAMINATION. A high-hazard or health-hazard impairment of the quality of the potable water that creates an actual hazard to the public health through poisoning or

through the spread of disease by sewage, industrial fluids or waste.

[RE] CONTINUOUS AIR BARRIER. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] CONTINUOUS INSULATION (ci). For the definition applicable in Chapter 11, see Section N1101.6.

[MP] CONTINUOUS WASTE. A drain from two or more similar adjacent fixtures connected to a single trap.

[MP] CONTROL, LIMIT. An automatic control responsive to changes in liquid flow or level, pressure, or temperature for limiting the operation of an *appliance*.

[MP] CONTROL, PRIMARY SAFETY. A safety control responsive directly to flame properties that senses the presence or absence of flame and, in event of ignition failure or unintentional flame extinguishment, automatically causes shutdown of mechanical *equipment*.

[MP] CONVECTOR. A system incorporating a heating element in an enclosure in which air enters an opening below the heating element, is heated and leaves the enclosure through an opening located above the heating element.

[RB] CORE. The lightweight middle section of a structural insulated panel, composed of foam plastic insulation, that provides the link between the two facing shells.

[RB] CORROSION RESISTANCE. The ability of a material to withstand deterioration of its surface or its properties where exposed to its environment.

[RB] COURT. A space, open and unobstructed to the sky, located at or above *grade* level on a *lot* and bounded on three or more sides by walls or a building.

[RB] CRAWL SPACE. An underfloor space that is not a basement.

[RE] CRAWL SPACE WALL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] CRIPPLE WALL. A framed wall extending from the top of the foundation to the underside of the floor framing of the first *story above grade plane*.

[MP] CROSS CONNECTION. Any connection between two otherwise separate piping systems that allows a flow from one system to the other.

[RB] CROSS-LAMINATED TIMBER. A prefabricated engineered wood product consisting of not less than three layers of solid-sawn lumber or *structural composite lumber* where the adjacent layers are cross-oriented and bonded with structural adhesive to form a solid wood element.

[RE] CURTAIN WALL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] DALLE GLASS. A decorative composite glazing material made of individual pieces of glass that are embedded in a cast matrix of concrete or epoxy.

[MP] DAMPER, VOLUME. A device that will restrict, retard or direct the flow of air in any duct, or the products of combustion of heat-producing *equipment*, vent connector, vent or chimney.

[RB] DEAD LOADS. The weight of the materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding, and other similarly incorporated architectural and structural items, and fixed service *equipment*.

[RB] DECORATIVE GLASS. A carved, leaded or Dalle glass or glazing material with a purpose that is decorative or artistic, not functional; with coloring, texture or other design qualities or components that cannot be removed without destroying the glazing material; and with a surface, or assembly into which it is incorporated, that is divided into segments.

[RE] DEMAND RECIRCULATION WATER SYSTEM. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] DESIGN PROFESSIONAL. See “*Registered design professional*.”

[MP] DEVELOPED LENGTH. The length of a pipeline measured along the center line of the pipe and fittings.

[MP] DIAMETER. Unless specifically stated, the term “diameter” is the nominal diameter as designated by the *approved* material standard.

[RB] DIAPHRAGM. A horizontal or nearly horizontal system acting to transmit lateral forces to the vertical resisting elements. Where the term “*diaphragm*” is used, it includes horizontal bracing systems.

[MP] DILUTION AIR. Air that enters a draft hood or draft regulator and mixes with flue gases.

[MP] DIRECT SYSTEM. A solar thermal system in which the gas or liquid in the solar collector loop is not separated from the load.

[MP] DIRECT-VENT APPLIANCE. A fuel-burning *appliance* with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

[MP] DRAFT. The pressure difference existing between the *appliance* or any component part and the atmosphere, that causes a continuous flow of air and products of combustion through the gas passages of the *appliance* to the atmosphere.

Induced draft. The pressure difference created by the action of a fan, blower or ejector, that is located between the *appliance* and the chimney or vent termination.

Natural draft. The pressure difference created by a vent or chimney because of its height, and the temperature difference between the flue gases and the atmosphere.

[MP] DRAFT HOOD. A device built into an *appliance*, or a part of the vent connector from an *appliance*, that is designed to provide for the ready escape of the flue gases from the *appliance* in the event of no draft, backdraft or stoppage beyond the draft hood; prevent a backdraft from entering the *appliance*; and neutralize the effect of stack action of the chimney or gas vent on the operation of the *appliance*.

[MP] DRAFT REGULATOR. A device that functions to maintain a desired draft in the *appliance* by automatically reducing the draft to the desired value.

[RB] DRAFT STOP. A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor-ceiling assemblies, roof-ceiling assemblies and *attics*.

[MP] DRAIN. Any pipe that carries soil and waterborne wastes in a building drainage system.

[MP] DRAIN-BACK SYSTEM. A solar thermal system in which the fluid in the solar collector loop is drained from the collector into a holding tank under prescribed circumstances.

[MP] DRAINAGE FITTING. A pipe fitting designed to provide connections in the drainage system that have provisions for establishing the desired slope in the system. These fittings are made from a variety of both metals and plastics. The methods of coupling provide for required slope in the system.

[RE] DUCT. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] DUCT SYSTEM. A continuous passageway for the transmission of air that, in addition to ducts, includes duct fittings, dampers, plenums, fans and accessory air-handling *equipment* and *appliances*.

For the definition applicable in Chapter 11, see Section N1101.6.

[RB] DWELLING. Any building that contains one or two *dwelling units* used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.

[RB] DWELLING UNIT. A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] DWV. Abbreviated term for drain, waste and vent piping as used in common plumbing practice.

[MP] EFFECTIVE OPENING. The minimum cross-sectional area at the point of water-supply discharge, measured or expressed in terms of diameter of a circle and if the opening is not circular, the diameter of a circle of equivalent cross-sectional area. (This is applicable to air gap.)

[MP] ELBOW. A pressure pipe fitting designed to provide an exact change in direction of a pipe run. An elbow provides a sharp turn in the flow path (see “*Bend*” and “*Sweep*”).

[RB] EMERGENCY ESCAPE AND RESCUE OPENING. An operable exterior window, door or similar device that provides for a means of escape and access for rescue in the event of an emergency. (See also “*Grade floor opening*.”)

[RE] ENERGY ANALYSIS. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] ENERGY COST. For the definition applicable in Chapter 11, see Section N1101.6.

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[RE] ENERGY SIMULATION TOOL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ENGINEERED WOOD RIM BOARD. A full-depth structural composite lumber, wood structural panel, structural glued laminated timber or prefabricated wood I-joist member designed to transfer horizontal (shear) and vertical (compression) loads, provide attachment for *diaphragm* sheathing, siding and exterior deck ledgers and provide lateral support at the ends of floor or roof joists or rafters.

[MP] EQUIPMENT. Piping, ducts, vents, control devices and other components of systems other than *appliances* that are permanently installed and integrated to provide control of environmental conditions for buildings. This definition shall also include other systems specifically regulated in this code.

[MP] EQUIVALENT LENGTH. For determining friction losses in a piping system, the effect of a particular fitting equal to the friction loss through a straight piping length of the same nominal diameter.

[RE] ERI REFERENCE DESIGN. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ESCARPMENT. With respect to topographic wind effects, a cliff or steep slope generally separating two levels or gently sloping areas.

[MP] ESSENTIALLY NONTOXIC TRANSFER FLUIDS. Fluids having a Gosselin rating of 1, including propylene glycol; mineral oil; polydimethyl oil oxane; hydrochlorofluorocarbon, chlorofluorocarbon and hydrofluorocarbon refrigerants; and FDA-approved boiler water additives for steam boilers.

[MP] ESSENTIALLY TOXIC TRANSFER FLUIDS. Soil, water or gray water and fluids having a Gosselin rating of 2 or more including ethylene glycol, hydrocarbon oils, ammonia refrigerants and hydrazine.

[MP] EVAPORATIVE COOLER. A device used for reducing air temperature by the process of evaporating water into an airstream.

[MP] EXCESS AIR. Air that passes through the combustion chamber and the *appliance* flue in excess of what is theoretically required for complete combustion.

[MP] EXHAUST HOOD, FULL OPENING. An exhaust hood with an opening not less than the diameter of the connecting vent.

[MP] EXISTING INSTALLATIONS. Any plumbing system regulated by this code that was legally installed prior to the effective date of this code, or for which a *permit* to install has been issued.

[RB] EXPANSIVE SOILS. Soils that exhibit volumetric increase or decrease (swelling or shrinking) in response to partial or full wetting or drying under load.

[RB] EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS). EIFS are nonstructural, nonload-bearing exterior wall cladding systems that consist of an insulation board attached either adhesively or mechanically, or both, to the substrate; an integrally reinforced base coat; and a textured protective finish coat.

[RB] EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) WITH DRAINAGE. An EIFS that incorporates a means of drainage applied over a water-resistive barrier.

[RE] EXTERIOR WALL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] EXTERIOR WALL COVERING. A material or assembly of materials applied on the exterior side of exterior walls for the purpose of providing a weather-resistive barrier, insulation or for aesthetics, including but not limited to, veneers, siding, exterior insulation and finish systems, architectural trim and embellishments such as cornices, soffits, and fascias.

[RB] FACING. The wood structural panel facings that form the two outmost rigid layers of the structural insulated panel.

[MP] FACTORY-BUILT CHIMNEY. A *listed* and *labeled* chimney composed of factory-made components assembled in the field in accordance with the manufacturer's instructions and the conditions of the *listing*.

[MP] FACTORY-MADE AIR DUCT. A *listed* and *labeled* duct manufactured in a factory and assembled in the field in accordance with the manufacturer's instructions and conditions of the *listing*.

[RE] FENESTRATION. Products classified as either vertical fenestration or skylights and sloped glazing, installed in such a manner as to preserve the weather-resistant barrier of the wall or roof in which they are installed. Fenestration includes products with glass or other transparent or translucent materials.

For the definition applicable in Chapter 11, see Section N1101.6.

Skylights. For the definition applicable in Chapter 11, see Section N1101.6.

Vertical fenestration. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] FENESTRATION, VERTICAL. Windows that are fixed or movable, opaque doors, glazed doors, glazed block and combination opaque and glazed doors installed in a wall at less than 15 degrees from vertical.

For the definition applicable in Chapter 11, see Section N1101.6.

[RE] FENESTRATION PRODUCT, SITE-BUILT. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] FIBER-CEMENT (BACKERBOARD, SIDING, SOFFIT, TRIM AND UNDERLAYMENT) PRODUCTS. Manufactured thin section composites of hydraulic cementitious matrices and discrete nonasbestos fibers.

[RB] FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior *lot line*.
2. To the centerline of a street, an alley or public way.
3. To an imaginary line between two buildings on the *lot*.

The distance shall be measured at a right angle from the face of the wall.

[RB] FIREBLOCKING. Building materials or materials *approved* for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.

[RB] FIREPLACE. An assembly consisting of a hearth and fire chamber of noncombustible material and provided with a chimney, for use with solid fuels.

Factory-built fireplace. A *listed* and *labeled* fireplace and chimney system composed of factory-made components, and assembled in the field in accordance with manufacturer's instructions and the conditions of the listing.

Masonry fireplace. A field-constructed fireplace composed of *solid masonry* units, bricks, stones or concrete.

[MP] FIREPLACE STOVE. A free-standing, chimney-connected solid-fuel-burning heater designed to be operated with the fire chamber doors in either the open or closed position.

[RB] FIREPLACE THROAT. The opening between the top of the firebox and the smoke chamber.

[RB] FIRE-RETARDANT-TREATED WOOD. Pressure-treated lumber and plywood that exhibit reduced surface burning characteristics and resist propagation of fire.

Other means during manufacture. A process where the wood raw material is treated with a fire-retardant formulation while undergoing creation as a finished product.

Pressure process. A process for treating wood using an initial vacuum followed by the introduction of pressure above atmospheric.

[MP] FIXTURE. See "Plumbing fixture."

[MP] FIXTURE BRANCH, DRAINAGE. A drain serving two or more fixtures that discharges into another portion of the drainage system.

[MP] FIXTURE BRANCH, WATER-SUPPLY. A water-supply pipe between the fixture supply and a main water-distribution pipe or fixture group main.

[MP] FIXTURE DRAIN. The drain from the trap of a fixture to the junction of that drain with any other drain pipe.

[MP] FIXTURE FITTING.

Supply fitting. A fitting that controls the volume or directional flow or both of water and that is either attached to or accessed from a fixture or is used with an open or atmospheric discharge.

Waste fitting. A combination of components that conveys the sanitary waste from the outlet of a fixture to the connection of the sanitary drainage system.

[MP] FIXTURE GROUP, MAIN. The main water-distribution pipe (or secondary branch) serving a plumbing fixture grouping such as a bath, kitchen or laundry area to which two or more individual fixture branch pipes are connected.

[MP] FIXTURE SUPPLY. The water-supply pipe connecting a fixture or fixture fitting to a fixture branch.

[MP] FIXTURE UNIT, DRAINAGE (d.f.u.). A measure of probable discharge into the drainage system by various types of plumbing fixtures, used to size DWV piping systems. The drainage fixture-unit value for a particular fixture depends on

its volume rate of drainage discharge, on the time duration of a single drainage operation and on the average time between successive operations.

[MP] FIXTURE UNIT, WATER-SUPPLY (w.s.f.u.). A measure of the probable hydraulic demand on the water supply by various types of plumbing fixtures used to size water-piping systems. The water-supply fixture-unit value for a particular fixture depends on its volume rate of supply, on the time duration of a single supply operation and on the average time between successive operations.

[RB] FLAME SPREAD. The propagation of flame over a surface.

[RB] FLAME SPREAD INDEX. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84 or UL 723.

[MP] FLEXIBLE AIR CONNECTOR. A conduit for transferring air between an air duct or plenum and an air terminal unit, an air inlet or an air outlet. Such conduit is limited in its use, length and location.

[RB] FLIGHT. A continuous run of rectangular treads or winders or combination thereof from one landing to another.

[MP] FLOOD-LEVEL RIM. The edge of the receptor or fixture from which water overflows.

[MP] FLOOR DRAIN. A plumbing fixture for recess in the floor having a floor-level strainer intended for the purpose of the collection and disposal of wastewater used in cleaning the floor and for the collection and disposal of accidental spillage to the floor.

[MP] FLOOR FURNACE. A self-contained furnace suspended from the floor of the space being heated, taking air for combustion from outside such space, and with means for lighting the *appliance* from such space.

[MP] FLOW PRESSURE. The static pressure reading in the water-supply pipe near the faucet or water outlet while the faucet or water outlet is open and flowing at capacity.

[MP] FLUE. See "Vent."

[MP] FLUE, APPLIANCE. The passages within an *appliance* through which combustion products pass from the combustion chamber to the flue collar.

[MP] FLUE COLLAR. The portion of a fuel-burning *appliance* designed for the attachment of a draft hood, vent connector or venting system.

[MP] FLUE GASES. Products of combustion plus excess air in *appliance* flues or heat exchangers.

[MP] FLUSH VALVE. A device located at the bottom of a flush tank that is operated to flush water closets.

[MP] FLUSHOMETER TANK. A device integrated within an air accumulator vessel that is designed to discharge a predetermined quantity of water to fixtures for flushing purposes.

[MP] FLUSHOMETER VALVE. A flushometer valve is a device that discharges a predetermined quantity of water to

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fixtures for flushing purposes and is actuated by direct water pressure.

[RB] FOAM BACKER BOARD. Foam plastic used in siding applications where the foam plastic is a component of the siding.

[RB] FOAM PLASTIC INSULATION. A plastic that is intentionally expanded by the use of a foaming agent to produce a reduced-density plastic containing voids consisting of open or closed cells distributed throughout the plastic for thermal insulating or acoustic purposes and that has a density less than 20 pounds per cubic foot (320 kg/m³) unless it is used as interior trim.

[RB] FOAM PLASTIC INTERIOR TRIM. Exposed foam plastic used as picture molds, chair rails, crown moldings, baseboards, handrails, ceiling beams, door trim and window trim and similar decorative or protective materials used in fixed applications.

[MP] FUEL-PIPING SYSTEM. All piping, tubing, valves and fittings used to connect fuel utilization *equipment* to the point of fuel delivery.

[MP] FULL-OPEN VALVE. A water control or shutoff component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

[MP] FULLWAY VALVE. A valve that in the full open position has an opening cross-sectional area that is not less than 85 percent of the cross-sectional area of the connecting pipe.

[MP] FURNACE. A vented heating *appliance* designed or arranged to discharge heated air into a *conditioned space* or through a duct or ducts.

[RB] GLAZING AREA. The interior surface area of all glazed fenestration, including the area of sash, curbing or other framing elements, that enclose *conditioned space*. Includes the area of glazed fenestration assemblies in walls bounding conditioned *basements*.

[RB] GRADE. The finished ground level adjoining the building at all *exterior walls*.

[MP] GRADE, PIPING. See "Slope."

[RB] GRADE FLOOR OPENING. A window or other opening located such that the sill height of the opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening. (See also "Emergency escape and rescue opening.")

[RB] GRADE PLANE. A reference plane representing the average of the finished ground level adjoining the building at all *exterior walls*. Where the finished ground level slopes away from the *exterior walls*, the reference plane shall be established by the lowest points within the area between the building and the *lot line* or, where the *lot line* is more than 6 feet (1829 mm) from the building between the structure and a point 6 feet (1829 mm) from the building.

[MP] GRAY WATER. Waste discharged from lavatories, bathtubs, showers, clothes washers and laundry trays.

[MP] GRIDDED WATER DISTRIBUTION SYSTEM. A water distribution system where every water distribution pipe is interconnected so as to provide two or more paths to each fixture supply pipe.

[RB] GROSS AREA OF EXTERIOR WALLS. The normal projection of all *exterior walls*, including the area of all windows and doors installed therein.

[MP] GROUND-SOURCE HEAT PUMP LOOP SYSTEM. Piping buried in horizontal or vertical excavations or placed in a body of water for the purpose of transporting heat transfer liquid to and from a heat pump. Included in this definition are closed loop systems in which the liquid is recirculated and open loop systems in which the liquid is drawn from a well or other source.

[RB] GUARD. A building component or a system of building components located near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to the lower level.

[RB] GUESTROOM. Any room or rooms used or intended to be used by one or more guests for living or sleeping purposes.

[RB] GYPSUM BOARD. The generic name for a family of sheet products consisting of a noncombustible core primarily of gypsum with paper surfacing. Gypsum wallboard, gypsum sheathing, gypsum base for gypsum *veneer* plaster, exterior gypsum soffit board, predecorated gypsum board and water-resistant gypsum backing board complying with the standards listed in Section R702.3 and Part IX of this code are types of gypsum board.

[RB] GYPSUM PANEL PRODUCT. The general name for a family of sheet products consisting essentially of gypsum.

[RB] HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered *habitable spaces*.

[RB] HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

[MP] HANGERS. See "Supports."

[MP] HAZARDOUS LOCATION. Any location considered to be a fire hazard for flammable vapors, dust, combustible fibers or other highly combustible substances.

[MP] HEAT PUMP. An *appliance* having heating or heating and cooling capability and that uses refrigerants to extract heat from air, liquid or other sources.

[RE] HEATED SLAB. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] HEIGHT, BUILDING. The vertical distance from *grade plane* to the average height of the highest roof surface.

[RB] HEIGHT, STORY. The vertical distance from top to top of two successive tiers of beams or finished floor surfaces; and, for the topmost *story*, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

[RE] HIGH-EFFICACY LAMPS. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] HIGH-TEMPERATURE (H.T.) CHIMNEY. A high temperature chimney complying with the requirements of UL 103. A Type H.T. chimney is identifiable by the markings "Type H.T." on each chimney pipe section.

[RB] HILL. With respect to topographic wind effects, a land surface characterized by strong relief in any horizontal direction.

[RB] HISTORIC BUILDING. A building or structure that is one or more of the following:

1. Listed, or certified as eligible for listing, by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places in the National Register of Historic Places.
2. Designated as historic under an applicable state or local law.
3. Certified as a contributing resource within a National Register-listed, or a state-designated or locally designated historic district.

For the definition applicable in Chapter 11, see Section N1101.6.

[MP] HORIZONTAL BRANCH, DRAINAGE. A drain pipe extending laterally from a soil or waste stack or *building drain*, that receives the discharge from one or more *fixture drains*.

[MP] HORIZONTAL PIPE. Any pipe or fitting that makes an angle of less than 45 degrees (0.79 rad) with the horizontal.

[MP] HOT WATER. Water at a temperature greater than or equal to 110°F (43°C).

[RB] HURRICANE-PRONE REGIONS. Areas vulnerable to hurricanes, defined as the U.S. Atlantic Ocean and Gulf of Mexico coasts where the ultimate design wind speed, V_{ult} , is greater than 115 miles per hour (51 m/s), and Hawaii, Puerto Rico, Guam, Virgin Islands and America Samoa.

[MP] HYDROGEN-GENERATING APPLIANCE. A self-contained package or factory-matched packages of integrated systems for generating gaseous hydrogen. Hydrogen-generating *appliances* utilize electrolysis, reformation, chemical or other processes to generate hydrogen.

[MP] IGNITION SOURCE. A flame, spark or hot surface capable of igniting flammable vapors or fumes. Such sources include *appliance* burners, burner ignitions and electrical switching devices.

[RB] IMPACT PROTECTIVE SYSTEM. Construction that has been shown by testing to withstand the impact of test missiles and that is applied, attached, or locked over exterior glazing.

[MP] INDIRECT SYSTEM. A solar thermal system in which the gas or liquid in the solar collector loop circulates between the solar collector and a heat exchanger and such gas or liquid is not drained from the system or supplied to the load during normal operation.

[MP] INDIRECT WASTE PIPE. A waste pipe that discharges into the drainage system through an *air gap* into a trap, fixture or receptor.

[MP] INDIVIDUAL SEWAGE DISPOSAL SYSTEM. A system for disposal of sewage by means of a septic tank or mechanical treatment, designed for use apart from a public sewer to serve a single establishment or building.

[MP] INDIVIDUAL VENT. A pipe installed to vent a single *fixture drain* that connects with the vent system above or terminates independently outside the building.

[MP] INDIVIDUAL WATER SUPPLY. A supply other than an approved public water supply that serves one or more families.

[RE] INFILTRATION. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] INSULATED SIDING. A type of continuous insulation, with manufacturer-installed insulating material as an integral part of the cladding product, having a minimum *R*-value of R-2. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] INSULATED VINYL SIDING. A vinyl cladding product, with manufacturer-installed foam plastic insulating material as an integral part of the cladding product, having a thermal resistance of not less than R-2.

[RB] INSULATING CONCRETE FORM (ICF). A concrete forming system using stay-in-place forms of rigid foam plastic insulation, a hybrid of cement and foam insulation, a hybrid of cement and wood chips, or other insulating material for constructing cast-in-place concrete walls.

[RB] INSULATING SHEATHING. An insulating board having a thermal resistance of not less than R-2 of the core material.

For the definition applicable in Chapter 11, see Section N1101.6.

[RB] JURISDICTION. The governmental unit that has adopted this code.

[RB] KITCHEN. Kitchen shall mean an area used, or designated to be used, for the preparation of food.

[RB] LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an *approved agency* and that indicates that the representative sample of the product or material has been tested and evaluated by an *approved agency*. (See also "Manufacturer's designation" and "Mark.")

[RB] LABELED. *Equipment*, materials or products to which have been affixed a *label*, seal, symbol or other identifying *mark* of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of such *labeled* items and whose labeling indicates either that the *equipment*, material or product meets identified standards or has been tested and found suitable for a specified purpose. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] LIGHT-FRAME CONSTRUCTION. Construction whose vertical and horizontal structural elements are primar-

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ily formed by a system of repetitive wood or cold-formed steel framing members.

[RB] LISTED. *Equipment*, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of *listed equipment* or materials or periodic evaluation of services and whose listing states either that the *equipment*, material, product or service meets identified standards or has been tested and found suitable for a specified purpose. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] LIVE LOADS. Those loads produced by the use and occupancy of the building or other structure and do not include construction or environmental loads such as wind load, snow load, rain load, earthquake load, flood load or dead load.

[MP] LIVING SPACE. Space within a *dwelling unit* utilized for living, sleeping, eating, cooking, bathing, washing and sanitation purposes.

[MP] LOCAL EXHAUST. An exhaust system that uses one or more fans to exhaust air from a specific room or rooms within a dwelling.

[MP] LOCKING-TYPE TAMPER-RESISTANT CAP. A cap designed to be unlocked by a specially designed tool or key to prevent removal of the cap by means of hand-loosening or by commonly available tools.

[RB] LODGING HOUSE. A one-family dwelling where one or more occupants are primarily permanent in nature, and rent is paid for guestrooms.

[RB] LOT. A portion or parcel of land considered as a unit.

[RB] LOT LINE. A line dividing one *lot* from another, or from a street or any public place.

[RE] LOW-VOLTAGE LIGHTING. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] MACERATING TOILET SYSTEMS. A system comprised of a sump with macerating pump and with connections for a water closet and other plumbing fixtures, that is designed to accept, grind and pump wastes to an *approved* point of discharge.

[MP] MAIN. The principal pipe artery to which branches may be connected.

[MP] MAIN SEWER. See "Public sewer."

[MP] MANIFOLD WATER DISTRIBUTION SYSTEMS. A fabricated piping arrangement in which a large supply main is fitted with multiple branches in close proximity in which water is distributed separately to fixtures from each branch.

[RE] MANUAL. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] MANUFACTURED HOME. *Manufactured home* means a structure, transportable in one or more sections, that in the traveling mode is 8 body feet (2438 body mm) or more in width or 40 body feet (12 192 body mm) or more in length, or, where erected on site, is 320 square feet (30 m²) or more, and that is built on a permanent chassis and designed to be

used as a *dwelling* with or without a permanent foundation where connected to the required utilities, and includes the plumbing, heating, air-conditioning and electrical systems contained therein; except that such term shall include any structure that meets all the requirements of this paragraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the secretary (HUD) and complies with the standards established under this title. For mobile homes built prior to June 15, 1976, a *label* certifying compliance to the Standard for Mobile Homes, NFPA 501, in effect at the time of manufacture is required. For the purpose of these provisions, a mobile home shall be considered to be a *manufactured home*.

[RB] MANUFACTURER'S DESIGNATION. An identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules. (See also "Mark" and "Label.")

[RB] MANUFACTURER'S INSTALLATION INSTRUCTIONS. Printed instructions included with *equipment* as part of the conditions of their *listing* and *labeling*.

[RB] MARK. An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material. (See also "Manufacturer's designation" and "Label.")

[RB] MASONRY CHIMNEY. A field-constructed chimney composed of solid masonry units, bricks, stones or concrete.

[RB] MASONRY HEATER. A masonry heater is a solid fuel burning heating *appliance* constructed predominantly of concrete or solid masonry having a mass of not less than 1,100 pounds (500 kg), excluding the chimney and foundation. It is designed to absorb and store a substantial portion of heat from a fire built in the firebox by routing exhaust gases through internal heat exchange channels in which the flow path downstream of the firebox includes not less than one 180-degree (3.14-rad) change in flow direction before entering the chimney and that deliver heat by radiation through the masonry surface of the heater.

[RB] MASONRY, SOLID. Masonry consisting of solid masonry units laid contiguously with the joints between the units filled with mortar.

[RB] MASONRY UNIT. Brick, tile, stone, architectural cast stone, glass block or concrete block conforming to the requirements specified in Section 2103 of the *International Building Code*.

Clay. A building unit larger in size than a brick, composed of burned clay, shale, fire clay or mixtures thereof.

Concrete. A building unit or block larger in size than 12 inches by 4 inches by 4 inches (305 mm by 102 mm by 102 mm) made of cement and suitable aggregates.

Glass. Nonload-bearing masonry composed of glass units bonded by mortar.

Hollow. A masonry unit with a net cross-sectional area in any plane parallel to the loadbearing surface that is less than 75 percent of its gross cross-sectional area measured in the same plane.

Solid. A masonry unit with a net cross-sectional area in every plane parallel to the loadbearing surface that is 75 percent or more of its cross-sectional area measured in the same plane.

[RB] MEAN ROOF HEIGHT. The average of the roof eave height and the height to the highest point on the roof surface, except that eave height shall be used for roof angle of less than or equal to 10 degrees (0.18 rad).

[MP] MECHANICAL DRAFT SYSTEM. A venting system designed to remove flue or vent gases by mechanical means, that consists of an induced draft portion under non-positive static pressure or a forced draft portion under positive static pressure.

Forced draft venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under positive static pressure.

Induced draft venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under nonpositive static vent pressure.

Power venting system. A portion of a venting system using a fan or other mechanical means to cause the removal of flue or vent gases under positive static vent pressure.

[MP] MECHANICAL EXHAUST SYSTEM. A system for removing air from a room or space by mechanical means.

[MP] MECHANICAL JOINT.

1. A connection between pipes, fittings or pipes and fittings that is not welded, brazed, caulked, soldered, solvent cemented or heat-fused.
2. A general form of gas- or liquid-tight connections obtained by the joining of parts through a positive holding mechanical construction such as, but not limited to, flanged, screwed, clamped or flared connections.

[MP] MECHANICAL SYSTEM. A system specifically addressed and regulated in this code and composed of components, devices, *appliances* and *equipment*.

[RB] METAL ROOF PANEL. An interlocking metal sheet having an installed weather exposure of not less than 3 square feet (0.28 m²) per sheet.

[RB] METAL ROOF SHINGLE. An interlocking metal sheet having an installed weather exposure less than 3 square feet (0.28 m²) per sheet.

[RB] MEZZANINE. An intermediate level or levels between the floor and ceiling of any *story*.

[RB] MODIFIED BITUMEN ROOF COVERING. One or more layers of polymer modified asphalt sheets. The sheet materials shall be fully adhered or mechanically attached to the substrate or held in place with an *approved* ballast layer.

[RB] MULTIPLE-STATION SMOKE ALARM. Two or more single-station alarm devices that are capable of inter-connection such that actuation of one causes all integral or separate audible alarms to operate.

[RB] NAILABLE SUBSTRATE. A product or material such as framing, sheathing or furring, composed of wood or wood-based materials, or other materials and fasteners providing equivalent fastener withdrawal resistance.

[MP] NATURAL DRAFT SYSTEM. A venting system designed to remove flue or vent gases under nonpositive static vent pressure entirely by natural draft.

[RB] NATURALLY DURABLE WOOD. The heartwood of the following species with the exception that an occasional piece with corner sapwood is permitted if 90 percent or more of the width of each side on which it occurs is heartwood.

Decay resistant. Redwood, cedar, black locust and black walnut.

Termite resistant. Alaska yellow cedar, redwood, Eastern red cedar and Western red cedar including all sapwood of Western red cedar.

[RB] NONCOMBUSTIBLE MATERIAL. Materials that pass the test procedure for defining noncombustibility of elementary materials set forth in ASTM E136.

[RB] NOSING. The leading edge of treads of stairs and of landings at the top of stairway flights.

[RB] OCCUPIED SPACE. The total area of all buildings or structures on any *lot* or parcel of ground projected on a horizontal plane, excluding permitted projections as allowed by this code.

[MP] OFFSET. A combination of fittings that makes two changes in direction, bringing one section of the pipe out of line and into a line parallel with the other section.

[MP] ON-SITE NONPOTABLE WATER REUSE SYSTEMS. Water systems for the collection, treatment, storage, distribution, and reuse of nonpotable water generated on site, including but not limited to graywater systems. This definition does not include rainwater harvesting systems.

[RE] OPAQUE DOOR. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] OWNER. Any person, agent, firm or corporation having a legal or equitable interest in the property.

[RB] PAN FLASHING. Corrosion-resistant flashing at the base of an opening that is integrated into the building exterior wall to direct water to the exterior and is premanufactured, fabricated, formed or applied at the job site.

[RB] PANEL THICKNESS. Thickness of core plus two layers of structural wood panel facings.

[MP] PELLET FUEL-BURNING APPLIANCE. A closed combustion, vented *appliance* equipped with a fuel feed mechanism for burning processed pellets of solid fuel of a specified size and composition.

[MP] PELLET VENT. A vent *listed* and *labeled* for use with a *listed* pellet fuel-burning *appliance*.

[RB] PERFORMANCE CATEGORY. A designation of wood structural panels as related to the panel performance used in Chapters 4, 5, 6 and 8.

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[RB] PERMIT. An official document or certificate issued by the *building official* that authorizes performance of a specified activity.

[RB] PERSON. An individual, heirs, executors, administrators or assigns, and a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid.

[RB] PHOTOVOLTAIC MODULE. A complete, environmentally protected unit consisting of solar cells, optics and other components, exclusive of a tracker, designed to generate DC power where exposed to sunlight.

[RB] PHOTOVOLTAIC PANEL. A collection of photovoltaic modules mechanically fastened together, wired, and designed to provide a field-installable unit.

[RB] PHOTOVOLTAIC PANEL SYSTEM. A system that incorporates discrete photovoltaic panels that convert solar radiation into electricity, including rack support systems.

[RB] PHOTOVOLTAIC SHINGLES. A *roof covering* that resembles shingles and that incorporates photovoltaic modules.

[MP] PITCH. See "Slope."

[RB] PLASTIC COMPOSITE. A generic designation that refers to wood-plastic composites and plastic lumber.

[RB] PLATFORM CONSTRUCTION. A method of construction by which floor framing bears on load bearing walls that are not continuous through the *story* levels or floor framing.

[MP] PLENUM. A chamber that forms part of an air-circulation system other than the *occupied space* being conditioned.

[MP] PLUMBING. For the purpose of this code, plumbing refers to those installations, repairs, maintenance and *alterations* regulated by Chapters 25 through 33.

[MP] PLUMBING APPLIANCE. An energized household *appliance* with plumbing connections, such as a dishwasher, food waste disposer, clothes washer or water heater.

[MP] PLUMBING APPURTENANCE. A device or assembly that is an adjunct to the basic plumbing system and does not demand additional water supply or add any discharge load to the system. It is presumed that it performs some useful function in the operation, maintenance, servicing, economy or safety of the plumbing system. Examples include filters, relief valves and aerators.

[MP] PLUMBING FIXTURE. A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquidborne solid waste; or require a supply of water and discharge waste to a drainage system.

[MP] PLUMBING SYSTEMS. Includes the water distribution pipes; plumbing fixtures and traps; water-treating or water-using *equipment*; soil, waste and vent pipes; and building drains; in addition to their respective connections, devices and appurtenances within a structure or premises; and the water service, building sewer and building storm sewer serving such structure or premises.

[MP] POLLUTION. A low-hazard or nonhealth-hazard impairment of the quality of the potable water to a degree that does not create a hazard to the public health and that does adversely and unreasonably affect the aesthetic qualities of such potable water for domestic use.

[RB] POLYPROPYLENE SIDING. A shaped material, made principally from polypropylene homopolymer, or copolymer, that in some cases contains fillers or reinforcements, that is used to clad *exterior walls* or buildings.

[MP] PORTABLE-FUEL-CELL APPLIANCE. A fuel cell generator of electricity that is not fixed in place. A portable-fuel-cell *appliance* utilizes a cord and plug connection to a grid-isolated load and has an integral fuel supply.

[RB] POSITIVE ROOF DRAINAGE. The drainage condition in which consideration has been made for the loading deflections of the roof deck, and additional slope has been provided to ensure drainage of the roof within 48 hours of precipitation.

[MP] POTABLE WATER. Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming in bacteriological and chemical quality to the requirements of the public health authority having jurisdiction.

[RB] PRECAST CONCRETE. A structural concrete element cast elsewhere than its final position in the structure.

[RB] PRECAST CONCRETE FOUNDATION WALLS. Preengineered, precast concrete wall panels that are designed to withstand specified stresses and used to build below-grade foundations.

[MP] PRESSURE-RELIEF VALVE. A pressure-actuated valve held closed by a spring or other means and designed to automatically relieve pressure at the pressure at which it is set.

[RE] PROPOSED DESIGN. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] PUBLIC SEWER. A common sewer directly controlled by public authority.

[MP] PUBLIC WATER MAIN. A water-supply pipe for public use controlled by public authority.

[RB] PUBLIC WAY. Any street, alley or other parcel of land open to the outside air leading to a public street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and that has a clear width and height of not less than 10 feet (3048 mm).

[MP] PURGE. To clear of air, gas or other foreign substances.

[MP] QUICK-CLOSING VALVE. A valve or faucet that closes automatically where released manually or controlled by mechanical means for fast-action closing.

[RB] RAMP. A walking surface that has a running slope steeper than 1 unit vertical in 20 units horizontal (5-percent slope).

[RE] RATED DESIGN. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] READILY ACCESSIBLE. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] READY ACCESS (TO). That which enables a device, *appliance* or *equipment* to be directly reached, without requiring the removal or movement of any panel, door or similar obstruction.

[MP] RECEPTOR. A fixture or device that receives the discharge from indirect waste pipes.

[MP] RECLAIMED WATER. Nonpotable water that has been derived from the treatment of wastewater by a facility or system licensed or permitted to produce water meeting the *jurisdiction's* water requirements for its intended uses. Also known as "Recycled water."

[MP] REFRIGERANT. A substance used to produce refrigeration by its expansion or evaporation.

[MP] REFRIGERANT COMPRESSOR. A specific machine, with or without accessories, for compressing a given refrigerant vapor.

[MP] REFRIGERATING SYSTEM. A combination of interconnected parts forming a closed circuit in which refrigerant is circulated for the purpose of extracting, then rejecting, heat. A direct refrigerating system is one in which the evaporator or condenser of the refrigerating system is in direct contact with the air or other substances to be cooled or heated. An indirect refrigerating system is one in which a secondary coolant cooled or heated by the refrigerating system is circulated to the air or other substance to be cooled or heated.

[RB] REGISTERED DESIGN PROFESSIONAL. An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or *jurisdiction* in which the project is to be constructed.

[MP] RELIEF VALVE, VACUUM. A device to prevent excessive buildup of vacuum in a pressure vessel.

[RB] REPAIR. The reconstruction, replacement or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

For the definition applicable in Chapter 11, see Section N1101.6.

[RB] REROOFING. The process of recovering or replacing an existing roof covering. See "Roof recover."

For the definition applicable in Chapter 11, see Section N1101.6.

[RE] RESIDENTIAL BUILDING. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] RETURN AIR. Air removed from an *approved conditioned space* or location and recirculated or exhausted.

[RB] RIDGE. With respect to topographic wind effects, an elongated crest of a *hill* characterized by strong relief in two directions.

[MP] RISER (PLUMBING). A water pipe that extends vertically one full *story* or more to convey water to branches or to a group of fixtures.

[RB] RISER (STAIR). The vertical component of a step or stair.

[RB] ROOF ASSEMBLY. A system designed to provide weather protection and resistance to design loads. The system consists of a roof covering and roof deck or a single component serving as both the roof covering and the roof deck. A roof assembly includes the roof deck, underlayment and *roof covering*, and can also include a thermal barrier, ignition barrier, insulation or a vapor retarder. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ROOF COATING. A fluid-applied, adhered coating used for roof maintenance or *roof repair*, or as a component of a *roof covering* system or *roof assembly*.

[RB] ROOF COVERING. The covering applied to the roof deck for weather resistance, fire classification or appearance.

[RB] ROOF COVERING SYSTEM. See "Roof assembly."

[RB] ROOF DECK. The flat or sloped surface not including its supporting members or vertical supports.

[RB] ROOF RECOVER. The process of installing an additional *roof covering* over a prepared existing roof covering without removing the existing roof covering. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ROOF REPAIR. Reconstruction or renewal of any part of an existing roof for the purposes of its maintenance. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] ROOF REPLACEMENT. The process of removing the existing *roof covering*, repairing any damaged substrate and installing a new *roof covering*. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] ROOM HEATER. A free-standing heating *appliance* installed in the space being heated and not connected to ducts.

[MP] ROUGH-IN. The installation of the parts of the plumbing system that must be completed prior to the installation of fixtures. This includes DWV, water supply and built-in fixture supports.

[RB] RUNNING BOND. The placement of masonry units such that head joints in successive courses are horizontally offset not less than one-quarter the unit length.

[RE] R-VALUE (THERMAL RESISTANCE). For the definition applicable in Chapter 11, see Section N1101.6.

[MP] SANITARY SEWER. A sewer that carries sewage and excludes storm, surface and groundwater.

[RB] SCUPPER. An opening in a wall or parapet that allows water to drain from a roof.

[RB] SEISMIC DESIGN CATEGORY (SDC). A classification assigned to a structure based on its occupancy category and the severity of the design earthquake ground motion at the site.

[MP] SEPTIC TANK. A water-tight receptor that receives the discharge of a building sanitary drainage system and is constructed so as to separate solids from the liquid, digest organic matter through a period of detention, and allow the

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liquids to discharge into the soil outside of the tank through a system of open joint or perforated piping or a seepage pit.

[RE] SERVICE WATER HEATING. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] SEWAGE. Any liquid waste containing animal matter, vegetable matter or other impurity in suspension or solution.

[MP] SEWAGE PUMP. A permanently installed mechanical device for removing sewage or liquid waste from a sump.

[RB] SHALL. The term, where used in the code, is construed as mandatory.

[RB] SHEAR WALL. A general term for walls that are designed and constructed to resist racking from seismic and wind by use of masonry, concrete, cold-formed steel or wood framing in accordance with Chapter 6 of this code and the associated limitations in Section R301.2 of this code.

[RB] SHINGLE FASHION. A method of installing roof or wall coverings, water-resistive barriers, flashing or other building components such that upper layers of material are placed overlapping lower layers of material to provide drainage and protect against water intrusion at unsealed penetrations and joints or in combination with sealed joints.

[RB] SINGLE-PLY MEMBRANE. A roofing membrane that is field applied using one layer of membrane material (either homogeneous or composite) rather than multiple layers.

[RB] SINGLE-STATION SMOKE ALARM. An assembly incorporating the detector, control *equipment* and alarm sounding device in one unit that is operated from a power supply either in the unit or obtained at the point of installation.

[RE] SKYLIGHT. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] SKYLIGHT, UNIT. A factory assembled, glazed fenestration unit, containing one panel of glazing material, that allows for natural daylighting through an opening in the roof assembly while preserving the weather-resistant barrier of the roof.

[RB] SKYLIGHTS AND SLOPED GLAZING. Glass or other transparent or translucent glazing material installed at a slope of 15 degrees (0.26 rad) or more from vertical. Unit skylights, tubular daylighting devices and glazing materials in solariums, sunrooms, roofs and sloped walls are included in this definition. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] SLIP JOINT. A mechanical-type joint used primarily on fixture traps. The joint tightness is obtained by compressing a friction-type washer such as rubber, nylon, neoprene, lead or special packing material against the pipe by the tightening of a (slip) nut.

[MP] SLOPE. The fall (pitch) of a line of pipe in reference to a horizontal plane. In drainage, the slope is expressed as the fall in units vertical per units horizontal (percent) for a length of pipe.

[RB] SMOKE-DEVELOPED INDEX. A comparative measure, expressed as a dimensionless number, derived from

measurements of smoke obscuration versus time for a material tested in accordance with ASTM E84 or UL 723.

[MP] SOIL STACK OR PIPE. A pipe that conveys sewage containing fecal material.

[RB] SOLAR ENERGY SYSTEM. A system that converts solar radiation to usable energy, including *photovoltaic panel systems* and *solar thermal systems*.

[RE] SOLAR HEAT GAIN COEFFICIENT (SHGC). For the definition applicable in Chapter 11, see Section N1101.6.

[MP] SOLAR THERMAL COLLECTOR. Components in a *solar thermal system* that collect and convert solar radiation to thermal energy.

[MP] SOLAR THERMAL SYSTEM. A system that converts solar radiation to thermal energy for use in heating or cooling.

[RB] SOLID MASONRY. Load-bearing or nonload-bearing construction using masonry units where the net cross-sectional area of each unit in any plane parallel to the bearing surface is not less than 75 percent of its gross cross-sectional area. Solid masonry units shall conform to ASTM C55, C62, C73, C145 or C216.

[RB] SPLINE. A strip of wood structural panel cut from the same material used for the panel facings, used to connect two structural insulated panels. The strip (spline) fits into a groove cut into the vertical edges of the two structural insulated panels to be joined. Splines are used behind each facing of the structural insulated panels being connected as shown in Figure R610.8.

[MP] STACK. Any main vertical DWV line, including offsets, that extends one or more stories as directly as possible to its vent terminal.

[RB] STACK BOND. The placement of masonry units in a bond pattern is such that head joints in successive courses are vertically aligned. For the purpose of this code, requirements for stack bond shall apply to all masonry laid in other than running bond.

[MP] STACK VENT. The extension of soil or waste stack above the highest horizontal drain connected.

[RB] STAIR. A change in elevation, consisting of one or more risers.

[RB] STAIRWAY. One or more flights of stairs, either interior or exterior, with the necessary landings and connecting platforms to form a continuous and uninterrupted passage from one level to another within or attached to a building, porch or deck.

[RB] STAIRWAY, SPIRAL. A stairway with a plan view of closed circular form and uniform section-shaped treads radiating from a minimum-diameter circle.

[RE] STANDARD REFERENCE DESIGN. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] STANDARD TRUSS. Any construction that does not permit the roof-ceiling insulation to achieve the required *R*-value over the *exterior walls*.

[MP] STATIONARY FUEL CELL POWER PLANT. A self-contained package or factory-matched packages that constitute an automatically-operated assembly of integrated systems for generating useful electrical energy and recoverable thermal energy that is permanently connected and fixed in place.

[MP] STORM SEWER, DRAIN. A pipe used for conveying rainwater, surface water, subsurface water and similar liquid waste.

[RB] STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above.

[RB] STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above *grade plane*, or in which the finished surface of the floor next above is either of the following:

1. More than 6 feet (1829 mm) *above grade plane*.
2. More than 12 feet (3658 mm) above the finished ground level at any point.

[RB] STRUCTURAL COMPOSITE LUMBER. Structural members manufactured using wood elements bonded together with exterior adhesives.

Examples of structural composite lumber are:

Laminated strand lumber (LSL). A composite of wood strand elements with wood fibers primarily oriented along the length of the member, where the least dimension of the wood strand elements is 0.10 inch (2.54 mm) or less and their average lengths are not less than 150 times the least dimension of the wood strand elements.

Laminated veneer lumber (LVL). A composite of wood veneer elements with wood fibers primarily oriented along the length of the member, where the veneer element thicknesses are 0.25 inch (6.4 mm) or less.

Oriented strand lumber (OSL). A composite of wood strand elements with wood fibers primarily oriented along the length of the member, where the least dimension of the wood strand elements is 0.10 inch (2.54 mm) or less and their average lengths are not less than 75 times and less than 150 times the least dimension of the wood strand elements.

Parallel strand lumber (PSL). A composite of wood strand elements with wood fibers primarily oriented along the length of the member, where the least dimension of the wood strand elements is 0.25 inch (6.4 mm) or less and their average lengths are not less than 300 times the least dimension of the wood strand elements.

[RB] STRUCTURAL INSULATED PANEL (SIP). A structural sandwich panel that consists of a lightweight foam plastic core securely laminated between two thin, rigid wood structural panel facings.

[RB] STRUCTURE. That which is built or constructed.

[RB] SUBSOIL DRAIN. A drain that collects subsurface water or seepage water and conveys such water to a place of disposal.

[MP] SUMP. A tank or pit that receives sewage or waste, located below the normal *grade* of the gravity system and that must be emptied by mechanical means.

[MP] SUMP PUMP. A pump installed to empty a sump. These pumps are used for removing storm water only. The pump is selected for the specific head and volume of the load and is usually operated by level controllers.

[RB] SUNROOM. A one-story structure attached to a *dwelling* with a *glazing area* in excess of 40 percent of the gross area of the structure's *exterior walls* and roof.

For the definition applicable in Chapter 11, see Section N1101.6.

[MP] SUPPLY AIR. Air delivered to a *conditioned space* through ducts or plenums from the heat exchanger of a heating, cooling or ventilating system.

[MP] SUPPORTS. Devices for supporting, hanging and securing pipes, fixtures and *equipment*.

[MP] SWEEP. A drainage fitting designed to provide a change in direction of a drain pipe of less than the angle specified by the amount necessary to establish the desired slope of the line. Sweeps provide a longer turning radius than bends and a less turbulent flow pattern (see "Bend" and "Elbow").

[MP] TEMPERATURE- AND PRESSURE-RELIEF (T AND P) VALVE. A combination relief valve designed to function as both a temperature-relief and pressure-relief valve.

[MP] TEMPERATURE-RELIEF VALVE. A temperature-actuated valve designed to discharge automatically at the temperature at which it is set.

[RB] TERMITE-RESISTANT MATERIAL. Pressure-preservative-treated wood in accordance with the AWPA standards in Section R317.1, naturally durable termite-resistant wood, steel, concrete, masonry or other *approved material*.

[RE] THERMAL ISOLATION. For the definition applicable in Chapter 11, see Section N1101.6.

[RE] THERMAL RESISTANCE, R-VALUE. See "R-value."

[RE] THERMAL TRANSMITTANCE, U-FACTOR. See "U-factor."

[RE] THERMOSTAT. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] THIRD-PARTY CERTIFICATION AGENCY. An approved agency operating a product or material certification system that incorporates initial product testing, assessment and surveillance of a manufacturer's quality control system.

[MP] THIRD-PARTY CERTIFIED. Certification obtained by the manufacturer indicating that the function and performance characteristics of a product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification is in the form of identification in accordance with the requirements of the third-party certification agency.

[RB] TOWNHOUSE. A single-family *dwelling unit* constructed in a group of three or more attached units in which

DEFINITIONS

each unit extends from foundation to roof and with a *yard* or public way on not less than two sides.

[MP] TRAP. A fitting, either separate or built into a fixture, that provides a liquid seal to prevent the emission of sewer gases without materially affecting the flow of sewage or wastewater through it.

[MP] TRAP ARM. That portion of a *fixture drain* between a trap weir and the vent fitting.

[MP] TRAP PRIMER. A device or system of piping to maintain a water seal in a trap, typically installed where infrequent use of the trap would result in evaporation of the trap seal, such as floor drains.

[MP] TRAP SEAL. The trap seal is the maximum vertical depth of liquid that a trap will retain, measured between the crown weir and the top of the dip of the trap.

[RB] TRIM. Picture molds, chair rails, baseboards, handrails, door and window frames, and similar decorative or protective materials used in fixed applications.

[RB] TRUSS DESIGN DRAWING. The graphic depiction of an individual truss, that describes the design and physical characteristics of the truss.

[RB] TUBULAR DAYLIGHTING DEVICE (TDD). A nonoperable fenestration unit primarily designed to transmit daylight from a roof surface to an interior ceiling via a tubular conduit. The basic unit consists of an exterior glazed weathering surface, a light-transmitting tube with a reflective interior surface, and an interior-sealing device such as a translucent ceiling panel. The unit may be factory assembled, or field assembled from a manufactured kit.

[MP] TYPE L VENT. A *listed* and *labeled* vent conforming to UL 641 for venting oil-burning *appliances listed* for use with Type L vents or with gas *appliances listed* for use with Type B vents.

[RE] U-FACTOR (THERMAL TRANSMITTANCE). For the definition applicable in Chapter 11, see Section N1101.6.

[RB] UNDERLAYMENT. One or more layers of felt, sheathing paper, nonbituminous saturated felt, or other *approved* material over which a roof covering, with a slope of 2 to 12 (17-percent slope) or greater, is applied.

[MP] VACUUM BREAKER. A device that prevents back-siphonage of water by admitting atmospheric pressure through ports to the discharge side of the device.

[RB] VAPOR DIFFUSION PORT. A passageway for conveying water vapor from an unvented *attic* to the outside atmosphere.

[RB] VAPOR PERMEABLE. The property of having a moisture vapor permeance rating of 5 perms (2.9×10^{-10} kg/Pa • s • m²) or greater, where tested in accordance with the desiccant method using Procedure A of ASTM E96. A vapor permeable material permits the passage of moisture vapor.

[RB] VAPOR RETARDER CLASS. A measure of the ability of a material or assembly to limit the amount of moisture that passes through that material or assembly. Vapor retarder

class shall be defined using the desiccant method with Procedure A of ASTM E96 as follows:

Class I: ≤ 0.1 perm rating

Class II: > 0.1 to ≤ 1.0 perm rating

Class III: > 1.0 to ≤ 10 perm rating

[MP] VENT. A passageway for conveying flue gases from fuel-fired *appliances*, or their vent connectors, to the outside atmosphere.

[MP] VENT COLLAR. See "Flue collar."

[MP] VENT CONNECTOR. That portion of a venting system that connects the flue collar or draft hood of an *appliance* to a vent.

[MP] VENT DAMPER DEVICE, AUTOMATIC. A device intended for installation in the venting system, in the outlet of an individual, automatically operated fuel burning *appliance* and that is designed to open the venting system automatically where the *appliance* is in operation and to close off the venting system automatically where the *appliance* is in a standby or shutdown condition.

[MP] VENT GASES. Products of combustion from fuel-burning *appliances*, plus excess air and dilution air, in the venting system above the draft hood or draft regulator.

[MP] VENT STACK. A vertical vent pipe installed to provide circulation of air to and from the drainage system and that extends through one or more stories.

[MP] VENT SYSTEM. Piping installed to equalize pneumatic pressure in a drainage system to prevent trap seal loss or blowback due to siphonage or back pressure.

[RB] VENTILATION. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

For the definition applicable in Chapter 11, see Section N1101.6.

[RE] VENTILATION AIR. For the definition applicable in Chapter 11, see Section N1101.6.

[MP] VENTING. Removal of combustion products to the outdoors.

[MP] VENTING SYSTEM. A continuous open passageway from the flue collar of an *appliance* to the outside atmosphere for the purpose of removing flue or vent gases. A venting system is usually composed of a vent or a chimney and vent connector, if used, assembled to form the open passageway.

[MP] VERTICAL PIPE. Any pipe or fitting that makes an angle of 45 degrees (0.79 rad) or more with the horizontal.

[RB] VINYL SIDING. A shaped material, made principally from rigid polyvinyl chloride (PVC), that is used to cover exterior walls of buildings.

[RE] VISIBLE TRANSMITTANCE (VT). For the definition applicable in Chapter 11, see Section N1101.6.

[RB] WALL, RETAINING. A wall not laterally supported at the top, that resists lateral soil load and other imposed loads.

[RB] WALLS. Walls shall be defined as follows:

Load-bearing wall. A wall supporting any vertical load in addition to its own weight.

Nonbearing wall. A wall which does not support vertical loads other than its own weight.

[MP] WASTE. Liquidborne waste that is free of fecal matter.

[MP] WASTE PIPE OR STACK. Piping that conveys only liquid sewage not containing fecal material.

[MP] WASTE RECEPTOR. A floor sink, standpipe, hub drain or a floor drain that receives the discharge of one or more indirect waste pipes.

[MP] WATER DISTRIBUTION SYSTEM. Piping that conveys water from the service to the plumbing fixtures, *appliances*, appurtenances, *equipment*, devices or other systems served, including fittings and control valves.

[MP] WATER HEATER. Any heating *appliance* or *equipment* that heats potable water and supplies such water to the potable hot water distribution system.

[MP] WATER MAIN. A water supply pipe for public use.

[MP] WATER OUTLET. A valved discharge opening, including a hose bibb, through which water is removed from the potable water system supplying water to a plumbing fixture or plumbing *appliance* that requires either an *air gap* or backflow prevention device for protection of the supply system.

[RB] WATER-RESISTIVE BARRIER. A material behind an *exterior wall* covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the *exterior wall* assembly.

[MP] WATER SERVICE PIPE. The outside pipe from the water main or other source of potable water supply to the water distribution system inside the building, terminating at the service valve.

[MP] WATER SUPPLY SYSTEM. The water service pipe, the water-distributing pipes and the necessary connecting pipes, fittings, control valves and appurtenances in or adjacent to the building or premises.

[MP] WET VENT. A vent that receives the discharge of wastes from other fixtures.

[MP] WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM. An exhaust system, supply system, or combination thereof that is designed to mechanically exchange indoor air for outdoor air where operating continuously or through a programmed intermittent schedule to satisfy the whole-house ventilation rate.

For the definition applicable in Chapter 11, see Section N1101.6.

[RB] WINDBORNE DEBRIS REGION. Areas within *hurricane-prone regions* located in accordance with one of the following:

1. Within 1 mile (1.61 km) of the coastal mean high-water line where the ultimate design wind speed, V_{ult} , is 130 mph (58 m/s) or greater.

2. In areas where the ultimate design wind speed, V_{ult} , is 140 mph (63.6 m/s) or greater; or Hawaii.

[RB] WINDER. A tread with nonparallel edges.

[RB] WOOD STRUCTURAL PANEL. A panel manufactured from veneers; or wood strands or wafers; bonded together with waterproof synthetic resins or other suitable bonding systems. Examples of wood structural panels are plywood, orientated strand board (OSB) or composite panels.

[RB] YARD. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by this code, on the *lot* on which a building is situated.

[RE] ZONE. For the definition applicable in Chapter 11, see Section N1101.6.

that is less than the speed of sound. Examples of low explosives include, but are not limited to: black powder; safety fuse; igniters; igniter cord; fuse lighters; fireworks; and propellants, 1.3C.

Mass-detonating explosives. Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOtn Class 1 explosives. The former classification system used by DOtn included the terms “high” and “low” explosives as defined herein. The following terms further define explosives under the current system applied by DOtn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the division to specify further limitations on each division noted (i.e., the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard, but that are so insensitive there is very little probability of initiation or of transition from burning to *detonation* under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

[BE] EXTERIOR EXIT RAMP. An *exit* component that serves to meet one or more *means of egress* design require-

ments, such as required number of *exits* or *exit access* travel distance, and is open to *yards, courts* or *public ways*.

[BE] EXTERIOR EXIT STAIRWAY. An *exit* component that serves to meet one or more *means of egress* design requirements, such as required number of *exits* or *exit access* travel distance, and is open to *yards, courts* or *public ways*.

[BF] EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS). EIFS are nonstructural, nonload-bearing, *exterior wall* cladding systems that consist of an insulation board attached either adhesively or mechanically, or both, to the substrate; an integrally reinforced base coat and a textured protective finish coat.

[BF] EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) WITH DRAINAGE. An EIFS that incorporates a means of drainage applied over a *water-resistive barrier*.

[BF] EXTERIOR SURFACES. Weather-exposed surfaces.

[BF] EXTERIOR WALL. A wall, bearing or nonbearing, that is used as an enclosing wall for a building, other than a *fire wall*, and that has a slope of 60 degrees (1.05 rad) or greater with the horizontal plane.

[BF] EXTERIOR WALL COVERING. A material or assembly of materials applied on the exterior side of *exterior walls* for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, *veneers*, siding, *exterior insulation and finish systems*, architectural *trim* and embellishments such as *cornices*, soffits, facias, gutters and leaders.

[BF] EXTERIOR WALL ENVELOPE. A system or assembly of *exterior wall* components, including *exterior wall* finish materials, that provides protection of the building structural members, including framing and sheathing materials, and conditioned interior space, from the detrimental effects of the exterior environment.

[BF] F RATING. The time period that the *through-penetration firestop system* limits the spread of fire through the penetration when tested in accordance with ASTM E814 or UL 1479.

[BF] FABRIC PARTITION. A partition consisting of a finished surface made of fabric, without a continuous rigid backing, that is directly attached to a framing system in which the vertical framing members are spaced greater than 4 feet (1219 mm) on center.

[BS] FABRICATED ITEM. Structural, load-bearing or lateral load-resisting members or assemblies consisting of materials assembled prior to installation in a building or structure, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure. Materials produced in accordance with standards referenced by this code, such as rolled structural steel shapes, steel reinforcing bars, *masonry units* and *wood structural panels*, or in accordance with a referenced standard that provides requirements for quality control done under the supervision of a third-party quality control agency, are not “fabricated items.”

**Community Development Department**

Building Safety Division
16000 N Civic Center Plaza
Surprise, Arizona 85374

Phone: 623-222-3000 / Fax: 623-222-3001
TTY: 623-222-1002

Plan Review Comment Letter

Residential – Patio Cover

2018 International Residential Code

Date: 12/10/2019	Plans Examiner: Brigham Bennett
Owner: SUNFLOWER RV RESORT LLC	Permit Number: 2019005303
Address: 16501 N EL MIRAGE RD WM1	Contact #:

Wind Speed (mph)	Seismic Design Category	Subject To Damage From				Winter Design Temp	Flood Hazards
		Weathering	Frost Line Depth	Termite	Decay		
115	B	Negligible	12"	Moderate to Heavy	None to Slight	32° F	Location Specific

Plan review for code compliance for the above referenced project has been completed. The following comments are standard items required by adopted codes of the jurisdiction and must be resolved before a building permit can be issued to commence construction. The items listed shall not be construed as being all-inclusive. Please contact the Plans Examiner if you have additional questions regarding the following comments or need clarification on the plan submittal process. In order to expedite your plan approval, please submit the following after all comments have been addressed:

- Two new sets of corrected plans and applicable calculations and the previously reviewed plans and calculations (if applicable). **The new set of plans and calculations shall be clouded and referenced for all required code-related revisions and for all owner/builder specified changes. Plans that do not comply with this requirement will be rejected without being reviewed.** The owner/builder will be notified upon approval of the plans.
- Provide either a detailed response to the plan reviewer's comments or indicate the corrected sheet number in the area provided at the end of every plan review comment.

SITE PLAN

Sheet #	Construction, projections, openings and penetrations of exterior walls are measured from the lot line. Structural elements of open walled structures (patio covers, carports, ramadas etc.) cannot be located closer than 60” from the lot line.	Table R302.1(1)	Corrected Sheet #
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December 19, 2019

Sherry Aguilar, MMC
City of Surprise City Clerk
16000 N Civic Center Plaza
Surprise, AZ 85374

Date: 12-19-19
Time: 1:58 PM
Served by: Hand Carry
Badge No.: 1.98
Accepted by: 1.98
LIT/NOC No.: _____

Re: Board of Construction Review Appeal for Permit 2019005303

Dear Ms Aguilar,

Our permit application is to move two posts that support our carport roof. We are appealing the Plans Examiner's interpretation of the International Residential Code (IRC) that the two posts we wish to move constitute a wall. (We note that our application is to relocate two posts supporting our carport cover; not a patio cover as indicated in the Plans Examiner's Plan Review Comment Letter.)

The Plans Examiner has applied IRC Table R302.1(1) as a requirement. However, R302.1 explicitly applies *only* to exterior walls. Our appeal of his interpretation that the posts are a wall is detailed in the attached documentation.

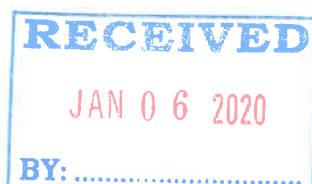
Thank you for your help with this process.

Best regards,

Margaret Dare

James Dare

James and Margaret Dare
(425) 218-0598
(206) 225-5196



City of Surprise Board of Construction Review
Permit # 2019005303
Appeal of Plans Examiner's Interpretation of City Codes

Our permit application is to move two posts that support our carport roof. We are appealing the Plans Examiner's interpretation of the IRC that the two posts we wish to move constitute a wall. The Plans Examiner has applied IRC Table R302.1(1) as a requirement. However, R302.1 applies *only* to exterior walls. Our appeal of his interpretation that the posts are a wall is based on the following:

1. Table R302.1(1) does not apply to our application to relocate two posts. The International Residential Code (IRC) clearly and explicitly states this section applies to exterior walls only:

SECTION R302

FIRE-RESISTANT CONSTRUCTION

R302.1 Exterior walls. Construction, projections, openings and penetrations of *exterior walls* of *dwellings* and accessory buildings shall comply with Table R302.1(1);

2. The proposed posts do not meet the code definition of "wall." In item 2 of his 12/17/2019 email to Peggy Dare (Appendix A), the Plans Examiner cites the definition of "wall" in the IRC Chapter 2 as well as the definition of "exterior wall" in the International Building Code (IBC).

- The IRC definition of "walls" simply distinguishes between load-bearing and nonbearing walls; it does not define "wall." It does, however, include a definition for "Above Grade Wall" (and these posts are certainly above grade).

ABOVE-GRADE WALL. A wall more than 50 percent above grade and enclosing *conditioned space*.

- The IBC definition the Plans Examiner cited is:

EXTERIOR WALL. A wall, bearing or nonbearing, that is used as an enclosing wall for a building, other than a *fire wall*, and that has a slope of 60 degrees (1.05 rad) or greater with the horizontal plane.

Both definitions make it clear that walls enclose. Carport support posts do not. This is the key difference between a carport and a garage.

3. The City code makes a clear distinction between carports and garages. IBC Chapter 4 requirements include:

406.3.3 Carports. Carports shall be open on not fewer than two sides. Carports open on fewer than two sides shall be considered to be a garage and shall comply with the requirements for private garages.

Accordingly, if the supporting posts for carport covers were to be determined to be walls, many (perhaps most) carports in Surprise would become garages and subject to the code requirements applicable to that designation. We believe this is clearly not the intention of the IBC.

4. The IRC makes a clear distinction between "enclosed" structures (e.g. attached garages) and "open" structures such as carports. IRC Chapter 6 – Wall Construction says:

R602.12.1 Circumscribed rectangle. The bracing required for each building shall be determined by circumscribing a rectangle around the entire building on each floor as shown in Figure R602.12.1. The rectangle shall surround all enclosed offsets and projections such as sunrooms and attached garages. Open structures, such as carports and decks, shall be permitted to be excluded.

5. Considering posts to be walls is inconsistent with other City publications. Patio Covers have differences from carport covers, but we have found nothing in the IRC or IBC that distinguishes between the posts that support them. If carport posts were to be considered a "wall" there is nothing to suggest that patio cover posts would not be. The City publication on patio covers (Appendix B of this package) clearly considers the supports as "posts" or "columns". If these are considered to be "walls" then IRC Appendix H – Patio Covers - Section AH103 would apply to all posts that support patio covers.

It requires that openings of enclosure walls "...shall be enclosed with any of the following:

1. Insect screening.
2. Approved translucent or transparent plastic not more than 0.125 inch (3.2 mm) in thickness.
3. Glass conforming to the provisions of Section R308.
4. Any combination of the foregoing.

We do not believe this is the intention of the City. If posts in and of themselves are not "enclosure walls" then they do not "enclose". As per the code definitions cited in item 2 above, they are not, then, walls.

6. The Plans Examiner has observed that these are posts used to support carports. In his October 30 email (Appendix C) to Brennan Newberry (a manager of the Sunflower RV Resort), Mr. Bennett says (last paragraph on page 1):

"The work in question are offset posts used to support patio covers and/or carports."

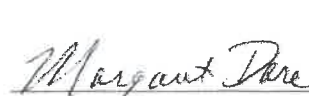
7. A post is not a wall. The IRC does not define the term "post." However, Chapter 2 – Definitions says:

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Merriam-Webster defines "post" as "a piece (as of timber or metal) fixed firmly in an upright position especially as a stay or support;" This is what our permit application is for. And, again, these posts do not meet the IRC or IBC definitions of walls.

In summary, we maintain these are posts; not a wall. To classify them as a wall has potentially far-reaching implications for the administration of other portions of the City codes. The terms "post" and "column" (also not defined, but essentially a round post) appear frequently throughout both the IRC and the IBC. We do not believe it is the City's intent to begin administering these sections as if they are referring to walls. If the posts are not walls, IRC Section 302.1 requirements do not apply.

Accordingly, we ask that the Board of Construction Review approve our permit application to move two posts used to support our carport cover.

	
Margaret (Peggy) Dare	James Dare
19 Dec 2019	12/19/2019
Date	Date



Design No. U387
Design No. U387
BXUV.U387
Fire-resistance Ratings - ANSI/UL 263

[Page Bottom](#)

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
 - Authorities Having Jurisdiction should be consulted before construction.
 - Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
 - When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
 - Only products which bear UL's Mark are considered Certified.
-

Design/System/Construction/Assembly Usage Disclaimer

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-

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

[See General Information for Fire-resistance Ratings - ANSI/UL 263](#)

[See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada](#)

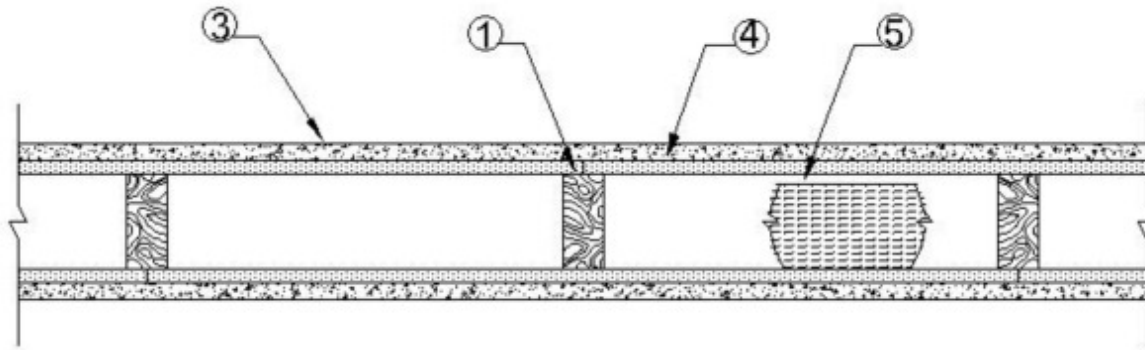
Design No. U387

May 27, 2016

Bearing Wall Rating — 1 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide [BXUV](#) or [BXUV7](#)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. Wood Studs — Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. Joints and Nail-Heads — (Not Shown) — Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. Gypsum Board* — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 2 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1, Type AGX-11 or Type AG-C.

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1.

CERTAINTEEED GYPSUM INC — Type 1, Type SF3, FRPC, ProRoc Type C, ProRoc Type X or Type EGRG

CGC INC — Type AR, Type C, Type FCV, Type IP-AR, Type IPC-AR, Type IP-X1, Type IP-X2, Type SCX, Type SHX, Type WRC or Type WRX .

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A, Type LGFC2A, Type LGFC-WD or Type LGFC-C/A.

GEORGIA-PACIFIC GYPSUM L L C — Type 5, Type 6, Type 9, Type C, Type DGG, Type GPFS1, Type GPFS2, Type GPFS6, Type DS, Type DAP, Type DD, Type DA, Type LS, TG-C, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W.

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-2, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C or Type FSMR-C.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2, PG-3, Types PG-3W, PG-5W, Type PG-4, Type PG-6, Types PG-3WS, PG-5WS, Types PG-5, PG-9 or Type PG-C.

PANEL REY S A — Type PRX.

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1.

UNITED STATES GYPSUM CO — Type AR, Type SCX, Type C, Type WRX, Type WRC, Type IP-X1, Type FCV, Type IP-X2, Type SHX, Type FRX-G, Type IP-AR, Type IPC-AR.

USG MEXICO S A DE C V — Type AR, Type C, Type WRX, Type WRC, Type IP-X1, Type FCV, Type IP-X2, Type SHX, SCX, Type IP-AR, Type IPC-AR.

4. **Mineral and Fiber Board** — 1/2 in. thick 4 ft wide, square edge, applied vertically to both sides of the assembly. Installed with 1-1/4 in. long Type W bugle head coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board.

BLUE RIDGE FIBERBOARD INC — SoundStop

5. **Batts and Blankets*** — 3-1/2 in thick glass fiber or mineral wool insulation shall be placed to completely fill the stud cavities and may be friction fit or secured to the studs with staples, nails or screws.

CERTAINTED CORP

KNAUF INSULATION LLC

JOHNS MANVILLE

KNAUF INSULATION LLC

OWENS CORNING HT INC, DIV OF OWENS CORNING — Corning Fiberglas Corp.

ROCK WOOL MANUFACTURING CO — Delta Board.

ROXUL INC

THERMAFIBER INC — Type SAFB.

5A. **Glass Fiber Insulation** — (As an alternate to Item 5) — 3-1/2 in. thick glass fiber batts with a minimum density of 0.65 pcf either generic or bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall, friction fit or mechanically attached to the face of the studs. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5B. **Fiber, Sprayed*** — (Not Shown) — As an Alternate to Items 5 and 5A - Spray applied granulated mineral fiber material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (BNST).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-05-27

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The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

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Community Development
16000 N. Civic Center Plaza
Surprise, AZ 85374
Ph 623-222-3000
Fax 623-222-3002
TTY 623-222-1002

Permit/Plan Review Application

Request:

Description of Request: Replace two carport posts with two offset posts, to add room to open car door. Aluminum construction to be replaced by rigid, welded steel, set into ground in concrete. Three inches square each, 18 sq. inches, plus underground footings, diameter each (18"), Attached 3 sheets
Project Valuation: \$800

Property Information:

Property Address: 16501 N El Mirage Rd. Lot 1064
Property Location: Surprise, AZ 85378
Parcel Number: ~~501-24-010~~, 501-24-011 Lot Number: —
Subdivision Name: — MCR: —
Business Name: Sunflower RV Resort

Property Owner Information:

Name: Jim and Peggy Dare / Sunflower RV Resort LLC
Address: 16501 N. El Mirage Rd., Lot 1064
City: Surprise State: AZ ZIP: 85378
Phone: 706-225-5196 Alternate: 425-218-0598 E-mail: pdare@comcast.net

Check here if proposed construction will be owner/builder ☒
(Residential projects only)

Property Owner and Applicant Authorization:

The owner or authorized agent for the owner of the subject lot or parcel guarantees the information and plans provided are correct to the best of their knowledge including recorded lot dimensions and structure locations.

Margaret Dare
Margaret L Dare Nov. 4, 2019 Margaret Dare Nov 4, 2019
Owner/Agent Printed Name Date Owner/Agent Signature Date

Internal Use Only	
Received By: <u>JW</u>	Date: <u>DEC 04 2019</u>
Permit Number: <u>2019005303</u>	BY:



Community Development
16000 N. Civic Center Plaza
Surprise, AZ 85374
Ph 623-222-3000
Fax 623-222-3002
TTY 623-222-1002

Contractor/Contact Supplemental

General Contractor:

Company Name: _____
Address: _____
City: _____ State: _____ Zip Code: _____
ROC License Number: _____ Business License Number: _____
Contact: _____ Title: _____
Phone: _____ Email: _____
Project Valuation: _____

Subcontractor(s):

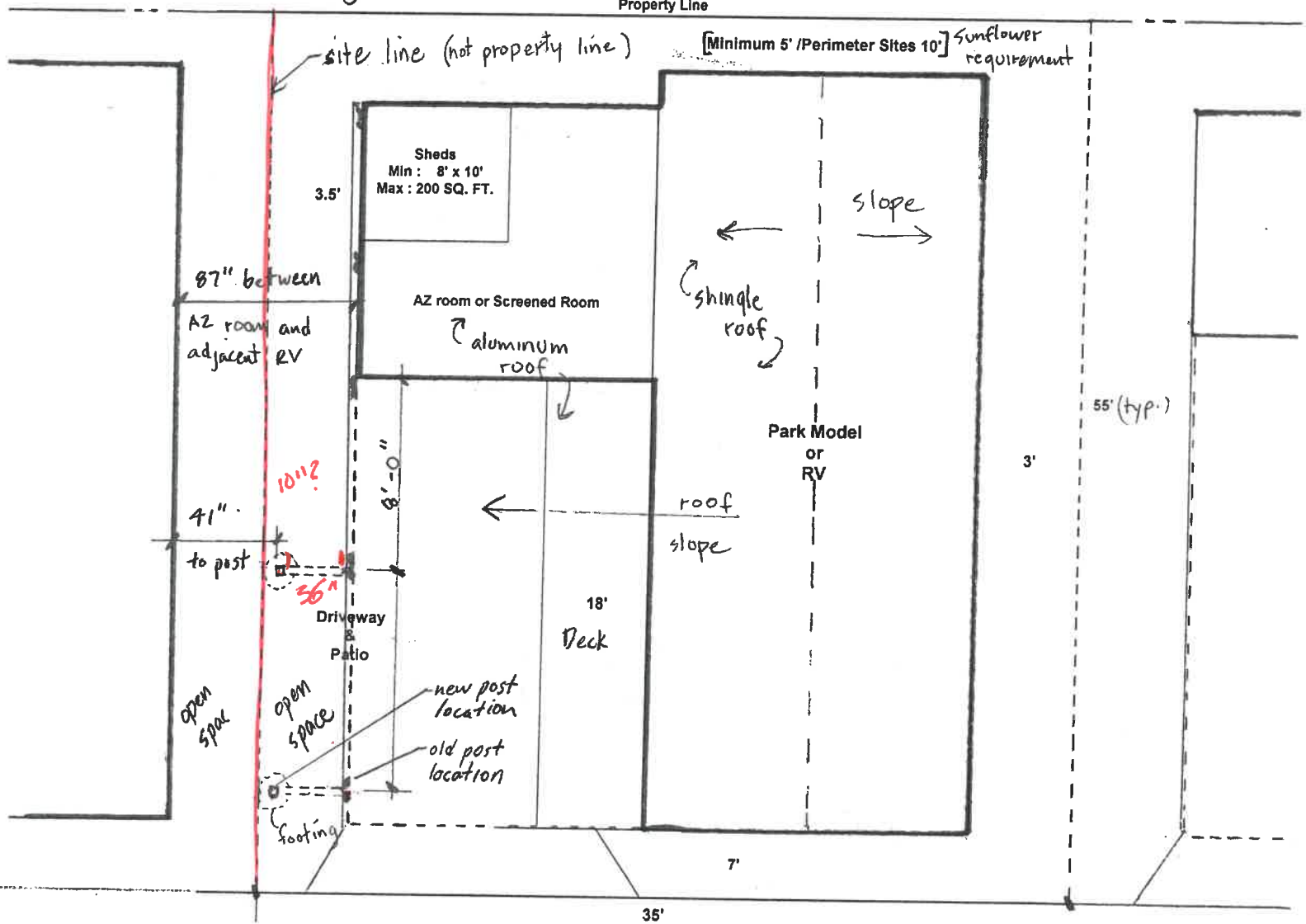
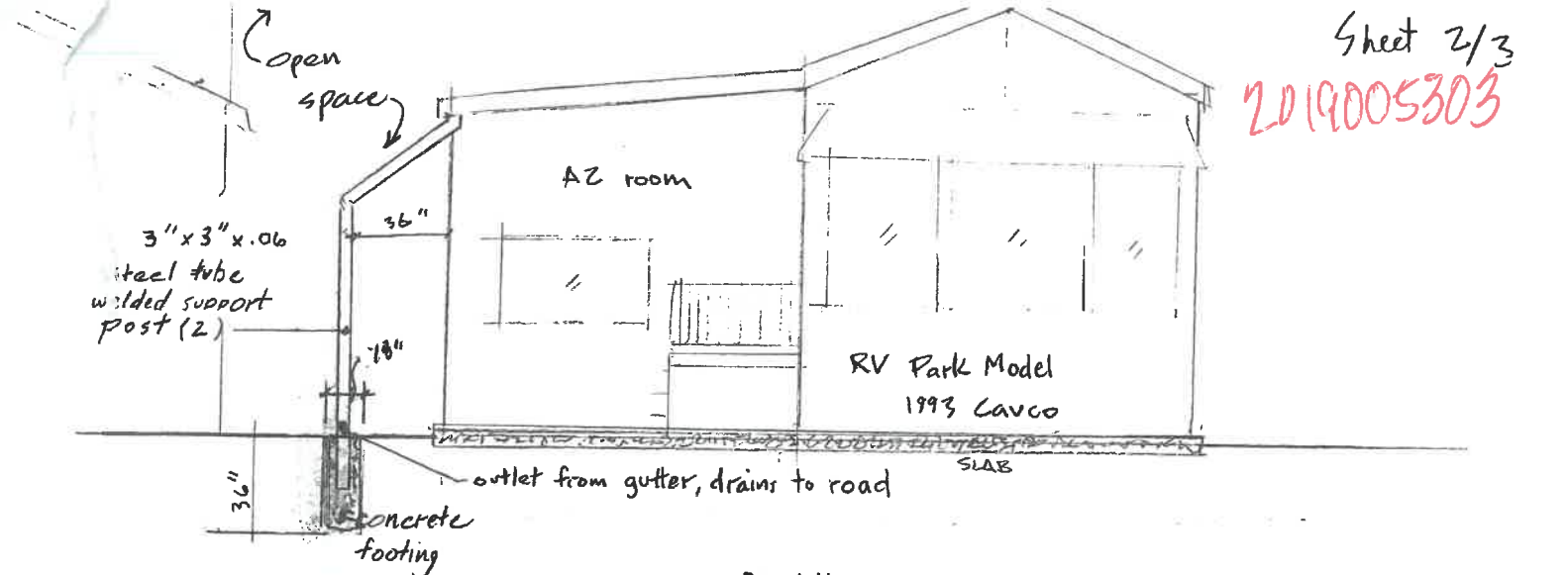
Company Name: _____
ROC License Number: _____ Business License Number: _____
Company Name: _____
ROC License Number: _____ Business License Number: _____
Company Name: _____
ROC License Number: _____ Business License Number: _____

Falsification of information on this document for the purpose of evading State Licensing Laws is a Class II Misdemeanor per State Law.

Primary Contact:

Primary Contact: _____ Title: _____
Phone: _____ Email: _____
Company Name: _____
Alternate Contact: _____ Title: _____
Phone: _____ Email: _____
Company Name: _____

Internal Use Only	
Received By: <u> <i>HW</i> </u>	Date: <u> <i>DEC 04 2019</i> </u>
Permit Number: <u> <i>2019005303</i> </u>	BY: _____

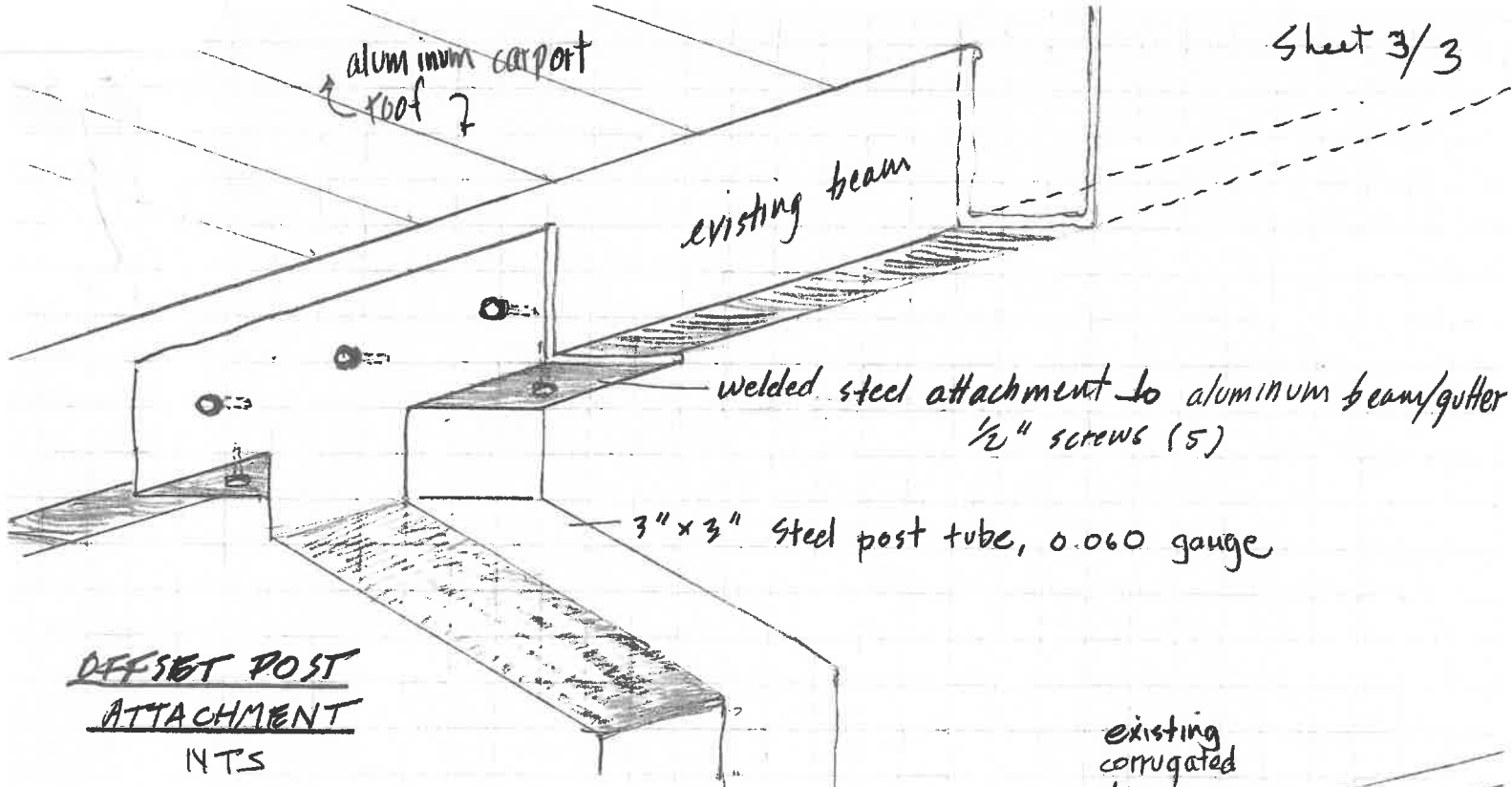


Application for Improvement Permit, New Posts **Typical Site Layout**

RECEIVED
DEC 04 2019
BY:

nts, dimensions shown are accurate

Jim & Peggy Dare, Lot 1064, Sunflower RV Resort



OFFSET POST ATTACHMENT
NTS

existing Aluminum beam gutter/ roof support

no awning, open to sky

existing corrugated aluminum roof

welded "T" bracket attachment

Remove existing 1 1/2" aluminum posts (2)

(AZ Room behind)

Front Elevation
DETAIL
OFFSET POSTS
1/4" = 6"

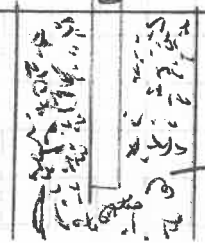
DARE UNIT 1064
Sunflower RV Resort

36" offset
New steel posts (2) -
welded 3"x3"
x 0.06



18" drain outlet

existing concrete slab



concrete foundation 18" W x 36" deep

Brigham Bennett

From: Brigham Bennett
Sent: Tuesday, December 10, 2019 2:08 PM
To: 'PDARE@COMCAST.NET'
Cc: Tammy Willemin
Subject: City of Surprise Building Permit 2019005503
Attachments: 2018 Residential Patio Cover Review 1 Comments 2019005303.pdf

Peggy,

All assigned City Departments have reviewed the building permit application referenced above. I have attached a copy of the Plan Review Comment Letter for your convenience. If you have any questions, you can contact me directly.

Regards,

Brigham Bennett, CBO
Building Plans Examiner
City of Surprise

623 222 3056 PHONE
623 222 3005 FAX

brigham.bennett@surpriseaz.gov

BOARD OF CONSTRUCTION REVIEW APPEAL FORM

Applicant Name: Jim & Peggy DARE

Address: 16501 N EL MIRAGE RD, LOT 1064

City, State ZIP: SURPRISE, AZ, 85378

Phone Number: 425-218-0598 206-225-5196

Email: JAMESDARE@COMCAST.NET PDARE@COMCAST.NET

Property Owner Name: JAMES DARE

Assessor Property
Parcel Number: 501-24-010, 501-24-011

Description of Dispute: Plans Examiner is interpreting the IRC differently than we
do. He considers two posts to constitute a wall, but both
the IRC and IBC define walls as enclosing space.

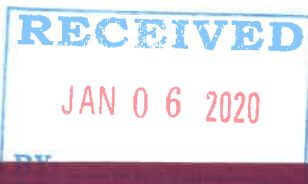
Documentation
Provided In Support of
Appeal (please attach) DEC 19, 2019 Letter of APPEAL TO City Clerk

City Use Only:

Building Permit # 2019005303

Invoice # 242-212-26-0070

Appeal Fee
Received \$ 250.00





COMMUNITY DEVELOPMENT
CITY OF SURPRISE

16000 N. CIVIC CENTER PLAZA
SURPRISE, AZ 85374

T. 623-222-3000

December 27, 2019

Mr. James Dare
Mrs. Margaret Dare
16501 N. El Mirage Road #1064
Surprise Arizona 85378

Re: Appeal to City of Surprise Board of Construction Review

Dear Mr. and Mrs. Dare:

Your appeal to the Board of Construction Review was received by the City Clerk on December 19, 2019. After a review of your documentation, your appeal has been determined to be eligible to be heard by the Board of Construction Review.

Attached is the Board of Construction Review Appeal form. Please complete the form and submit it to the Development Center within City Hall located at 16000 N. Civic Center Plaza, Surprise, Arizona, along with the appeal fee of \$250.00. Your appeal may not proceed until the completed form has been received and the fee has been paid.

Once you submit the completed Board of Construction Review Appeal form and pay the fee, your appeal will be scheduled for a Board of Construction Review meeting. Depending on when we receive the completed appeal form and payment of the appeal fee, your appeal will be scheduled for the January 16, 2020 or February 6, 2020 regular meeting. You will be provided a formal written notice of the hearing date that will also include information as to how the hearing will proceed and be conducted.

Should you have any questions, please do not hesitate to contact Brigham Bennett at (623) 222-3230 or brigham.bennett@surpriseaz.gov.

Sincerely,

Chris Boyd
Director, Community Development

Attachment