

CHAPTER 1 - SCOPE AND ADMINISTRATION

SECTION 101 - SCOPE AND GENERAL REQUIREMENTS

Amend Section 101.1 to read as follows:

101.1 Title. These regulations shall be known as the 2024 International Fire Code (IFC) with Rio Verde Fire District Amendments, hereinafter referred to or cited as “this code” or the Rio Verde Fire District (RVFD) Fire Code.

Delete and replace Subsection 101.2.1 as follows:

101.2.1 Appendices. The following appendices are included as part of this code by the Rio Verde Fire District: B, C, D, E, F, H, I, N, P and Q as added, adopted and/or amended:

Appendix B	Fire-Flow Requirements for Buildings
Appendix C	Fire Hydrant Locations and Distribution
Appendix D	Fire Apparatus Access Roads
Appendix E	Hazard Categories
Appendix F	Hazard Ranking
Appendix H	Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) Instructions
Appendix I	Fire Protection Systems—Noncompliant Conditions
Appendix N	Indoor Trade Shows and Exhibitions
Appendix P	Excavation and Confinement
Appendix Q	Fire District Standard Details and Interpretations

SECTION 102 – APPLICABILITY

Amend Subsection 102.7.1 as follows:

102.7.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the higher standard for the promotion of the safety and welfare of the emergency responders and the public will apply.

Delete Subsection 102.7.2 in its entirety.

SECTION 104 – DUTIES AND POWERS OF THE FIRE CODE OFFICIAL

Amend Section 104.10 as follows:

104.10 Fire Investigations. The Rio Verde Fire District shall have the authority to investigate or cause to be investigated the origin, cause and circumstances of any fire, explosion, or hazardous condition within the District and coming to the District’s attention.

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Information that could be related to trade secrets or processes shall not be made part of a public record, except as directed by a court of law.

Add Subsection 104.10.2 as follows:

104.10.2 Suspicious origin. If the fire or explosion appears to be of suspicious origin or involves loss of life, the fire investigator or designee shall notify the Maricopa County Sheriff's Office (MCSO) and shall secure the scene until MCSO assumes control of the scene and investigation.

Add Section 104.12 as follows:

104.12 Fees. The Fire Chief is authorized to establish and collect, with the approval of the RVFD Fire Board, any amount established by resolution, fees for any or all inspections, permits, special event staffing, copies of records and reports, or other operational services authorized by this code. Permit and inspection fees and other operational fees of the Fire District may be determined by the Fire Chief or designee and established through resolution.

SECTION 105 – PERMITS

Amend Subsection 105.5.9 by adding the following exception to the existing one as follows:

Carbon Dioxide (Inert and simple asphyxiant) shall require a permit for 200 cubic feet or more at NTP.

Amend Subsection 105.5.30 as follows:

105.5.30 LP-gas. An operational permit is required for:

1. Storage and use of LP-gas.

Exception: A permit is not required for individual containers having less than a 10-gallon (37.85L) water capacity or multiple container systems having an aggregate quantity less than a 10-gallon (37.85L) water capacity serving Group R-3 occupancies.

2. Operation of cargo tankers that transport LP-gas.

SECTION 108 - FEES

Amend Section 108.2 as follows:

108.2 Schedule of permit fees. A fee for each permit shall be paid as required, in accordance with the most current permit fee schedule approved by the RVFD Fire Board.

Amend Section 108.4 as follows:

108.4 Work commencing before permit issuance. Any person who commences work, activity, or operation regulated by this code before obtaining the necessary permit(s) may be

subject to 300 percent of the usual permit fee, which shall be in addition to the required permit fee.

Add Section 108.7 as follows:

108.7 Exemption. Where no legal agreement with the RVFD exists, when a governmental or quasi-governmental entity declares itself exempt from the requirements of this code, including payment of applicable fees, the *fire code official* may elect not to provide inspections, plan reviews or similar services to the exempt building(s) or site(s).

SECTION 109 – INSPECTIONS

Add Section 109.5 as follows:

109.5 Reinspection. A reinspection fee may be assessed for each permitted inspection or reinspection when such portion of work for which inspection is called, is not complete or when corrections called for are not made. If the items that were identified during the first reinspection of a particular phase are not corrected at the time of the reinspection, the permit will be locked out and further inspections will not be scheduled until a reinspection fee is paid. Reinspection fees may also be assessed when:

1. The permit is not posted on the work site.
2. The approved plans are not readily available to the inspector.
3. Access to the site is not provided on the date for which the inspection is scheduled.
4. A competent, responsible party representative is not on-site at the time of inspection.
5. Significant deviations from the approved plans are found that have not been approved by the *fire code official*.
6. The correct address is not provided, so that an inspection can be made as scheduled.

Each reinspection will be assessed this fee. This procedure will be repeated on each phase of the inspection process.

SECTION 110 – MAINTENANCE

Amend Section 110.3 by adding to the end of the paragraph as follows:

110.3 Recordkeeping.

All records of inspections, testing, servicing, and maintenance performed by vendors or contractors are required to be submitted within 30 days of the inspection or service date. Such records shall be submitted through a third-party web-based system, e.g., The Compliance Engine or iWorQ, or directly to the Fire District as directed by the *fire code official*. The third-party vendor shall forward all tracking and compliance reports to RVFD.

SECTION 112 – MEANS OF APPEALS

Amend Section 112.1 as follows:

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112.1 General. To hear and decide appeals of orders, decisions or determinations of the *fire code official*, there shall be and is hereby created a Board of Appeals. Whenever an applicant disputes the application or interpretation of this code by District staff, a written appeal may be filed with the fire chief within 14 calendar days.

1. The appeal will be heard by the fire chief or an authorized representative within 10 working days of the receipt of the appeal.
2. Adequate information shall be provided by the applicant on the Petition of Appeal to fully describe the condition(s) in question.
3. The fire chief shall consult with the *fire code official* and/or an authorized representative, as deemed appropriate, to provide additional information regarding the appeal.
4. The applicant may, but is not required to, meet with the fire chief or a designated representative to discuss the appeal.
5. If the appeal is denied, the applicant shall comply with the requirement(s) of this code or file an appeal with the Rio Verde Fire District Board within 30 calendar days from the date the appeal was denied.

Delete Section 112.2 Limitations on authority in its entirety and replace it as follows:

112.2 Administration. The *fire code official* shall act without delay in accordance with the decision of the fire chief.

Delete Section 112.3 in its entirety.

Delete Section 112.4 in its entirety.

SECTION 113 – VIOLATIONS

Amend Section 113.4 as follows:

113.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the *fire code official*, or of a permit or certificate used under provisions of this code, shall be guilty of a criminal infraction with associated penalties as determined by the appropriate law enforcement agency having jurisdiction and the applicable court system.

SECTION 114 - STOP WORK ORDER

Amend Section 114.4 as follows:

114.4 Failure to comply. Any person who shall continue any work after having been served with a stop-work order, except such work as that person is directed to perform to correct a violation or unsafe condition, shall be guilty of a violation penalty in accordance with Section 113.4.

Add Section 116 as follows:

SECTION 116 – FIRE WATCH

116.1 Where required. Fire watch shall be provided as follows:

1. Where required by other sections of this code.
2. Where the *fire code official* deems a condition essential for public safety.
3. Where the fire officer determines that conditions may result in a rekindle.

116.1.1 Financial responsibility. The property owner, the tenant or the occupant in control of the premises shall be responsible for the cost of providing a fire watch.

116.2 Qualifications. Personnel assigned to fire watch duties shall possess the following minimum qualifications:

1. Shall be at least 18 years of age.
2. Shall be able to speak, read and understand English.
3. Shall be capable of executing the duties and responsibilities as specified in Section 115.4.
4. Shall be capable of operating a mobile telephone or portable radio, or both.
5. Shall be capable of walking the assigned watch area.

116.3 Number and hours. The *fire code official* shall specify the number of fire watch personnel required and the hours during which they must be present based on the conditions and size of the facility.

116.4 Duties and responsibilities. Fire watch duties and responsibilities include, but are not limited to, the following:

1. Know the address of the facility being watched.
2. Be equipped with a mobile telephone that can be used to contact 9-1-1 or a portable radio that can be used to communicate with a constantly attended security/communications center.
3. Continuously make rounds and monitor all assigned areas.
4. Immediately report any sign of smoke, fire or other emergency to 9-1-1 or to the security/communications center.
5. Activate the fire alarm system where the building is equipped with such a system or notify those present to evacuate the building or area.
6. Assist with the evacuation of people present in the area.
7. Keep a fire watch log that includes the following information:
 - 7.1. Identifies the building or area by name and address that is under watch.
 - 7.2. The date and time each round or tour is completed, plus comments on what was observed. Each entry shall contain the name and signature of the person conducting the watch. Fire watch logs shall be immediately accessible for review by the *fire code official*. A copy of the fire watch log shall be submitted to the RVFD.
8. Continue the fire watch until permission has been received from the RVFD or the authority having jurisdiction of the scene to terminate the fire watch activities.

9. The proper use of portable fire extinguishers.

Fire watch personnel shall not be assigned additional duties during their fire watch tour.

CHAPTER 2 – DEFINITIONS

SECTION 202 – GENERAL DEFINITIONS

Add to or amend Section 202 as follows:

ACCESS CHALLENGED RESIDENCE. Single family homes with additional challenges including, but not limited to, access, or size, as determined by the *fire code official*.

BIG BOX SINGLE FAMILY RESIDENCE (BB-SFR). Single family residences over 12,000 square feet in area.

CRITICAL HAZARD OCCUPANCY. Those occupancies that have vital assets, systems, networks, or structures whose damage or destruction would have a debilitating effect on the community. Examples include such things as power plants, water treatment facilities or public safety buildings.

CROWD MANAGER. An individual designated to maintain safe conditions and assist with evacuations prior to and during a special event where crowds exceed 500 attendees.

DRIVEWAY. A vehicular ingress and egress route that connects a building or structure to a fire department access road.

FIRE FLOW. The flow rate of a water supply, measured at 20 psi (137 kPa) residual pressure that is available for firefighting.

FIRE LANE/EMERGENCY APPARATUS LANE. A road or other passageway developed to allow the passage of fire/emergency apparatus. A fire/emergency apparatus lane is not necessarily intended for vehicular traffic other than fire/emergency apparatus.

INTERIOR TENANT NOTIFICATION. Notification appliances placed within the interior space of occupancies equipped with an automatic sprinkler system. These appliances are intended to alert occupants of a potential fire condition within the building when the automatic sprinkler system water flow switch is activated.

LANDLORD. Shall have the meanings given in Arizona Revised Statutes.

MAINTENANCE. The repair or replacement of defective or damaged equipment, systems, or programming with an exact duplicate model. Maintenance also includes testing equipment.

MAG. Maricopa Association of Governments, 302 N. First Ave., Suite 200, Phoenix, AZ 85003

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MODIFICATION. Any change or reprogramming of any existing fire and life safety equipment or system regulated by this code, that is not the exact same model, area or programming from the original equipment or installation.

MULTIPLE SINGLE-FAMILY. Attached single family dwellings not more than three (3) stories in height with a separate means of egress constructed under the International Residential Code (IRC).

NICET. National Institute for the Certification of Engineering Technologies, 1420 King Street, Alexandria, VA. 22314-2794

NST. National Standard Thread

PEDESTRIAN GATES. Gates used by pedestrians to provide access to or egress from buildings, yards, patios, courts, swimming pools and similar areas.

PREEMPTION DEVICE. An approved electronic device attached to a controlled access gate that is used to open the gate when an electronic signal is received from an emergency vehicle.

RENTAL AGREEMENT. Shall have the meanings given in Arizona Revised Statutes.

RVFD. Rio Verde Fire District, 17619 E. Rio Verde Drive, Rio Verde, AZ 85263.

SHELL BUILDING. A building shell, or envelope, includes all components that separate the interior space within a structure from the surrounding exterior areas. The shell may be composed of many different features, including walls, windows, doors, roofing, footers, and foundations that are constructed without prior knowledge of the specific occupants, improvements, interior finishes or hazards that will be present within the structure.

Amend Sky Lantern as follows:

SKY LANTERN An unmanned device with a fuel source that incorporates an open flame to make the device airborne. Also known by such names as aerial lantern, Chinese lantern, fire balloon, floating lantern, paper balloon, Kongming lantern, sky candle or wish lantern.

STRIP MALL. A single commercial building, of two or fewer floors, that is divided into separate spaces for business users such as retail stores, drinking and dining establishments, offices, or other similar establishments, which have separate outside entrances and exits and share a parking lot.

TENANT. Shall have the meanings given in Arizona Revised Statutes.

CHAPTER 3 – GENERAL REQUIREMENTS

SECTION 303 – ASPHALT KETTLES

Amend Section 303.1 by adding the following sentence after the first sentence:

Section 303.1 Transporting.

All kettle doors shall be tightly closed and latched when in transit.

SECTION 308 – OPEN FLAMES

Amend Subsection 308.1.7 as follows:

308.1.7 Sky lanterns. A person shall not release or cause to be released a tethered or untethered sky lantern.

SECTION 315 – GENERAL STORAGE

Add Subsection 315.4.3 as follows:

315.4.3 Separation from buildings. Outside storage of combustible materials or combustible waste shall not be located within 20 feet (6096 mm) of a building.

Exception: Commercial trash receptacles.

CHAPTER 4 – EMERGENCY PLANNING AND PREPAREDNESS

SECTION 403 – EMERGENCY PREPAREDNESS REQUIREMENTS

Add Subsection 403.9.4 as follows:

403.9.4 Group R-3 occupancies. Group R-3 occupancies utilized as group care home/assisted living occupancies and care facilities that are licensed to provide directive care shall prepare and maintain an approved fire safety plan in accordance with Section 404. Such occupancies shall comply with the requirements outlined in Subsection 403.9.3.

CHAPTER 5 – FIRE SERVICE FEATURES

SECTION 501 – GENERAL

Add Section 501.5 as follows:

501.5 Inspection of fire apparatus access roads. Roads used for apparatus access shall be subject to field inspection and may be subject to testing using fire apparatus. The owner is responsible for any repairs necessary due to the inadequate design of the fire apparatus access road.

SECTION 503 - FIRE APPARATUS ACCESS ROADS

Add Subsection 503.2.1.1 as follows:

503.2.1.1 Dimensions for temporary fire department access. Prior to and during construction of every facility, building or portion of a building, a temporary fire department access roadway 16'-0" (4.88 m) wide minimum with an unobstructed vertical clearance of 13'6" (4.11 m) shall be installed and maintained.

Amend Subsection 503.2.3 as follows:

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced with asphalt, concrete or other approved driving surface to provide all-weather driving capabilities in accordance with MAG standards.

Add Subsections 503.2.3.1, 503.2.3.2 and 503.2.3.3 as follows:

503.2.3.1 Stabilized edge. A stabilized edge meeting MAG standards or equivalent is required on fire apparatus access roads.

503.2.3.2 Live loads. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and the imposed live load of 70,000 pounds (31,752 kg) with a maximum axle load of 28,000 pounds (12,701 kg).

503.2.3.3 Surface for temporary fire department access. Prior to and during construction of every facility, building or portion of a building, a temporary fire department access roadway shall be installed and maintained with a minimum 0'-4" (101.6 mm) thickness of aggregate base course or decomposed granite compacted to a 90% density where natural soil will not meet compaction requirements.

Amend Subsection 503.2.4 as follows:

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall have a minimum 45-foot (13.716 m) centerline radius [35-foot (10.668 m) inside radius, 55-foot (16.764 m) outside radius] on curves. Where site challenges exist, the *fire code official* may determine an acceptable alternative.

Amend Subsection 503.2.7 as follows:

503.2.7 Grade. The grade of the fire apparatus access road shall not exceed 15 percent (15 feet in 100 feet) (4.572 m in 30.480 m). Cross-slope of an access road shall not exceed a depth of 6 inches (152.4 mm) unless approved by Maricopa County and the *fire code official*.

Add Subsection 503.2.7.1 as follows:

503.2.7.1 Drainage. Water drainage shall be directed away from the fire apparatus access road or piped under fire apparatus access roads. Ponding water on a fire apparatus access road shall not exceed a depth of 6 inches (152.4 mm).

Amend Section 503.3 as follows:

503.3 Marking. Where required by the *fire code official*, approved signs or other approved notices shall be provided for fire department access roads (fire lanes) to identify such roads or prohibit the obstruction thereof on public and private property. Signs or notices shall be always maintained in a clean and legible condition and shall be replaced or repaired when necessary to provide adequate visibility. All fire lanes shall be marked in the following manner:

1. Fire lane signs - Design Procedures and Criteria per section D103.6, and / or
2. Curb, street or driveway painted red to indicate fire lane and labeled
“FIRE LANE NO PARKING” in white block letters. Stenciling shall be a minimum of 3 inches (76.2 mm) high with a 1/2-inch (12.7 mm) brush stroke, on the vertical face of the curb to indicate fire lane. Where no curb exists, or a rolled curb is installed, a 6-inch (152.4 mm) wide red stripe shall be applied the full length of the fire apparatus access road or the *fire code official* may determine alternate height, stroke and spacing dimensions for the horizontal curb.
3. Lettering sections shall not be greater than 50'-0" (15.24 m) apart and shall be posted at the beginning and end of the fire lane.
4. Every fire apparatus access roadway required under the authority of this section, upon direction of the *fire code official*, shall be posted with signs installed at points no less than 15 feet (4.57 m) from the beginning and end of the fire lane and not more than one hundred (100) feet (30.48 m) apart along the length of the required fire apparatus access roadway. The bottom of every such sign shall not be less than 7 feet (2.13 m) or more than 10 feet (3.05 m) from the ground surface level. The *fire code official* is authorized to reduce the height requirement when the maximum distance between signs is reduced in a correlation acceptable to the *fire code official*.
5. Signs shall be posted to face the direction of travel, be set back from the curb line or sidewalk not less than 12 inches (304.8 mm) or greater than 18 inches (457.2 mm) and shall be plainly visible at all times. Construction, installation, and maintenance of the signs shall be done at Owner's expense. Materials and locations of each sign shall be indicated in the plans submitted to the Fire District.

Add Subsection 503.3.1 as follows:

503.3.1 Marking not required. A fire apparatus access road that is greater than 36 feet (10.97 m) in clear width shall not be required to have signs and painted curbs on either side of the fire apparatus access road.

Amend Section 503.4 as follows:

503.4 Obstruction of fire apparatus access roads. Excluding authorized emergency vehicles, fire apparatus access roads shall not be obstructed in any manner, including the

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parking of vehicles. The minimum widths and clearances established by Section 503.2 shall be maintained at all times. Any vehicle, equipment or device found parked in or blocking a fire lane shall be cited as authorized by the laws of the State of Arizona and the County of Maricopa.

Add Subsection 503.4.2 as follows:

503.4.2 Traffic control spikes. Traffic control spikes or similar devices that immobilize a vehicle shall be prohibited.

Amend Section 503.6 by adding Subsections 503.6.1, 503.6.1.1, and 503.6.2 as follows:

503.6.1 Key switch and sensor pre-emption location. A key switch and preemption sensor shall be required on all electric entry control gates. The key switch shall be installed in a location on the gate control panel that is readily visible and accessible. The pre-emption sensor shall be at or behind the gate with detectors pointing toward both the approach and the exit path of the emergency vehicle.

503.6.1.1 Single family residence. A key switch shall be installed in a location on the gate control panel that is readily visible and accessible. A pre-emption sensor is optional.

503.6.2 Manual gates. An approved dual padlock locking system shall be used on manual gates. A RVFD approved Knox padlock shall be used on one side and the owner's/management's on the other.

SECTION 505 – PREMISES IDENTIFICATION

Amend Section 505.1 *Address identification* as follows:

505.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetic letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (101.6 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the *fire code official*, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, or the building is a podium building or has multiple fire separations with interior corridors, a monument, pole or other sign or means shall be used to identify the structure and features. Address identification shall be maintained clearly visible and free from obstructions, including landscaping, and shall be kept current.

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Add Subsections 505.1.1, 505.1.2, 505.1.3, 505.1.4, 505.1.5, 505.1.6 and 505.1.7 as follows:

505.1.1 Commercial Building and Tenant addresses. Commercial address numbers including separate building numbers (i.e., any structure other than one- and two-family dwellings) shall contrast with their background and be sized according to the minimum specifications listed in Table 505.1.1 or Subsection 505.1.3 below. The numbers shall be externally or internally illuminated.

Individual tenant spaces in multiple-tenant buildings, e.g., strip malls, shall have their address or suite identification posted on or above the front entrance and rear access doors or at a location approved by the *fire code official*. This identification shall be not less than 6 inches (152.4 mm) high with a 1-inch (25.4 mm) brush stroke on a contrasting background.

Table 505.1.1

0 to 50 feet (0 - 15.24 m) from the roadway, numbers shall be 9 inches in height, 1.5-inch stroke.
51 to 99 feet (15.54 - 30.18 m) from the roadway, numbers shall be 12 inches in height, 2-inch stroke.
100 feet (30.48 m) or more from the roadway, numbers shall be 15 inches in height, 3-inch stroke.

505.1.2 Buildings more than 100 feet (30.48 m) long. Where buildings are more than 100 feet (30.48 m) long, not fewer than two building address numbers shall be provided on opposite ends of the building visible from the fire apparatus access road.

505.1.3 Buildings more than 200 feet. Buildings more than 200 feet (60.96 m) long and set back from the road 100 feet (30.48 m) or more shall be identified with a building address that is not less than 24 inches (609.6 mm) high with a 4-inch (101.6 mm) brush stroke of a contrasting color. The address shall be visible from all access directions.

505.1.4 Buildings more than 500 feet. Buildings greater than 500 feet (152.40 m) in length shall have building addresses that are visible from all access directions.

505.1.5 Buildings not visible or with multiple fire apparatus access points. Where buildings are not visible from the access point or have multiple fire apparatus access points, address and/or unit identification(s) shall be provided as determined by the *fire code official* to facilitate emergency response.

505.1.6 Apartment or unit numbers. Individual apartment or unit numbers shall be not less than 4 inches (101.6 mm) high with a minimum 3/8-inch (9.52mm) brush stroke on a contrasting background.

505.1.7 Interior room numbers. New and existing buildings shall have an approved room and suite number identification placed in positions that are plainly legible, visible and contrast with their background. Interior suite and room numbers shall be Arabic numeral or alphabet letters and be a minimum of 1.25 (1 ¼) inches (31.75 mm) high with a brush stroke width of 0.25 (1/4) inches (6.35 mm).

SECTION 506 - KEY BOXES

Section 506.1 is amended to read as follows:

506.1 Where required. A key box shall be required on all commercial structures that contain off-site monitored fire systems or where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for lifesaving or firefighting purposes. The *fire code official* is authorized to require a key box to be installed in an approved location(s). The key box shall be of an approved type and shall contain keys to gain necessary access as required by the *fire code official*. Authorized lock boxes may be ordered online through Knox's website or by submitting a signed order form to Knox.

1. The first key box shall be installed at the main entrance of the structure. Additional key boxes may be required based on the size, layout, and location of the fire sprinkler riser room(s). (Example: strip malls may have one centered on the front and at the riser room(s); large office, warehouses and big box retail buildings would have boxes at the main entry, rear or additional entry and the riser room(s).
2. The key box shall be installed between 3'6" (1.07 m) to 5'-6" (1.68 m) above finished grade or as otherwise directed by the *fire code official*. The key box shall be immediately visible to fire personnel from the emergency apparatus or placed in a location approved by the *fire code official* that is immediately visible to firefighting personnel as they approach the front of the building or any alternative location(s). Posts, fences, vehicles, vegetation, trash, storage and other materials shall not be placed or kept near the key boxes in a manner that would prevent the key boxes from being immediately discernible.

Add Subsection 506.1.3 and 506.1.4 as follows:

506.1.3 Swimming Pool Gates. All pedestrian gates in residential and commercial occupancies that provide access to swimming pools open to the public or controlled by a homeowners association or similar entity shall have an approved RVFD lock box mounted near the gate containing a key, fob, or card reader providing access to the pedestrian gate. Other means of emergency access, e.g., providing an entry code for a facility keypad at the gate, may be utilized if acceptable to the *fire code official*.

Add Section 506.3 as follows:

506.3 Residential key boxes. Residential key boxes are optional. When utilized, residential key boxes shall be installed at the first possible position, practical for mounting, to the right of the main entry door between 2'6" (762 mm) and 5'0" (1524 mm) above finished grade. The key box shall be maintained in a condition that makes it accessible and readily visible to emergency personnel.

SECTION 507 - FIRE PROTECTION WATER SUPPLIES

Amend Section 507.1 by adding the following to the end of the paragraph:

507.1 Required water supply.

In areas where municipal or private water supply is not available, NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting, may be utilized to calculate required fire flows.

Amend Section 507.3 as follows:

507.3 Fire flow. Fire-flow requirements for buildings or portions of buildings and facilities shall be in accordance with Appendix B.

Add Subsections 507.5.7, 507.5.8, 507.5.8.1, 507.5.9 and 507.5.9.1 as follows:

507.5.7 Fire hydrant type. Fire hydrants shall have three (3) ports minimum to include one (1) – 4.5 inch (4.5”) NST port and two (2) – 2.5 inch (2.5”) NST ports. Hydrants shall be of an NFPA approved type and may be dry barrel or wet barrel. Irrespective of hydrant ownership or naming terminology, if a hydrant is part of a system used for fire protection, required to achieve an ISO rating or required for building construction and/or occupancy, these requirements shall apply.

507.5.8 Fire hydrant color. All PUBLIC fire hydrants, i.e., those utilized in community developments or settings, shall have above ground barrels painted with a primer coat plus two (2) coats of OSHA yellow paint. All PRIVATE fire hydrants shall have above ground barrels painted with a primer coat plus two (2) coats of OSHA Red paint.

507.5.8.1 Reclaimed water fire hydrant color. All fire hydrants using a reclaimed water supply shall have the caps and bonnet painted with a prime coat plus two (2) coats of purple paint. A placard shall be affixed to the hydrant in English and Spanish stating "DO NOT DRINK WATER."

507.5.9 Reflective pavement markers. Fire hydrants and automatic fire sprinkler fire department connections shall be identified by the installation of approved 4 inch (10 cm) by 4 inch (10 cm) reflective raised pavement markers placed in an approved location and installed per RVFD standard detail.

507.5.9.1 Replacement during renovations. It shall be the responsibility of the company contracted to complete such work, to replace and /or install missing or damaged markers at the time of resurfacing or other street renovations or improvements.

SECTION 510 - EMERGENCY RESPONDER COMMUNICATION ENHANCEMENT SYSTEMS

Add Subsection 510.5.6 as follows:

510.5.6 Emergency responder communication enhancement system (ERCES)

infrastructure. New buildings or structure shall be required to install, at a minimum, two-inch (2") Electrical Metallic Tubing (EMT) conduit (between floors, where applicable) dedicated for potential ERCES use. The conduit will have a breakout box in an equipment room for cables to be pulled. Guide wire will be provided in the conduit (between each floor, where applicable) in the breakout box. Conduit and breakout boxes shall be installed in accordance with NFPA 70. The conduit and breakout box will be labeled "PUBLIC SAFETY USE ONLY". If it is determined that after all construction is complete that ERCES equipment is required, the conduit will make installation easier and more economical to the building owner. Such ERCES infrastructure shall be provided for the following:

1. New multi-story or multi-level buildings or structures;
2. New single-story buildings or structures totaling 45,000 square feet (4,180.64 m²) or more in size;
3. New buildings or structures containing a basement or other subterranean space totaling 250 square feet (23.23 m²) or more in size;
4. Any new building or structure that the *fire code official* has determined to have been constructed in a manner which may limit, or with materials will be likely to limit, the ability of emergency response personnel to effectively use radio communication while within that building or structure.

New buildings or structures containing any underground parking area will be required to provide the capability for a future rooftop antenna to be installed, if deemed necessary, in addition to the above requirements for ERCES infrastructure.

510.5.6.1 Acceptance. As part of the installation, a final inspection of the ERCES infrastructure shall be required prior to the issuance of an approved Final Fire inspection report.

Add new Section 511 as follows:

SECTION 511 - CONTROLLED ACCESS GATES

511.1 General. New and existing controlled access gates installed across fire department access roads and driveways shall be approved by the *fire code official*. The provisions of this chapter shall apply to the installation, operation, and maintenance of controlled access gates, including those installed in accordance with Section 503.5 and/or 503.6.

Exception: Controlled access gates installed across driveways serving one, individual single-family residence.

511.1.1 Controlled access gate type. All new and existing controlled access gates installed across fire department access roads shall be of an approved manual or automatic type.

Exception: Automatic gates are prohibited across dead end fire department access roads without approved turnarounds installed in accordance with Appendix D.

511.2 Compliance. New and existing controlled access gates regulated by Section 503.5, 503.6, or elsewhere in this code, shall be constructed, installed and maintained in accordance with UL 325, ASTM F2200 and the manufacturer's instructions.

Add new Section 512 as follows:

SECTION 512 - DRIVEWAYS

512.1 General. Driveways exceeding 200 feet (60.96 m) shall provide a minimum unobstructed width of 14 feet (4.27 m) and a minimum unobstructed height of 13 feet 6 inches (4.11 m). Such driveways shall not exceed 10% in grade.

Exception: Where provided with a residential dry standpipe in accordance with Sections 905.8.1 and 905.8.2 and approved by the *fire code official*.

CHAPTER 9 - FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 901 – GENERAL

Amend Section 901.2 by adding a second paragraph and Subsections 901.2.2, 901.2.3, 901.2.4 and 901.2.5 as follows:

901.2 Construction documents.

Automatic fire protection system hydraulic calculations shall be based on a curve that is 90 percent of the available water supply curve as determined by current flow test information. The *fire code official* or designee shall witness all flow tests.

901.2.2 Plan certification for fire alarm systems and occupant notification. All fire monitoring and occupant notification system plans submitted to the fire district for review and approval shall bear a qualified registrant's seal or review certification of a minimum NICET level III in Fire Alarm Systems.

901.2.3 Plan certification for fire sprinkler systems. All fire sprinkler plans submitted to the fire district for review and approval shall bear a qualified registrant's seal or review certification of a minimum NICET level III in Water Based Systems Layout.

901.2.4 Plan certification for all other fire protection systems. Plan certifications for all other fire protection systems will be accompanied by a certification of competence when required.

901.2.5 On-site plans. Plans and specifications shall be submitted to the fire district for review and approval prior to construction. One set of fire district approved plans shall be on the job site for each inspection.

Amend Section 901.4 by adding the following after the first sentence:

901.4 Fire protection and life safety systems.

The layout, calculation and installation of fire protection systems shall be performed by individuals knowledgeable and trained in such systems. Only qualified professionals (NICET Level III or higher) or qualified Arizona registrants shall design or modify fire alarm systems or sprinkler systems requiring hydraulic calculations engineered to the standards outlined in Section 903.3.1. Contractors are required to possess a current Arizona License from the Registrar of Contractors to install fire protection systems. The installer shall follow all manufacturer guidelines for installation, inspection and testing. The *fire code official* is authorized to require additional testing where deemed necessary. Contractors shall maintain certification when required by the manufacturer.

Add new Subsection 901.4.5.1 as follows:

901.4.5.1 Additional Horn and Strobe Device. An additional weatherproof electric horn and strobe device shall be installed at an approved location (typically on the front exterior of the building, or as required by the *fire code official*) in addition to a water gong or electric bell at the riser. The horn and strobe shall be installed on the front or address side of the building as approved by the *fire code official*. This additional Horn/Strobe device shall activate on waterflow signal only.

Add new Subsections 901.4.7.5 and 901.4.7.6 as follows:

901.4.7.5 Minimum size. Rooms containing fire pump equipment and fire riser rooms for sprinkler systems installed in accordance with Section 903.3.1.1 shall be a minimum of four feet (1.22 m) by four feet (1.22 m) in size. Size reductions may be allowed for prefabricated structures as approved by the *fire code official*.

901.4.7.6 Room access. Pump and fire riser rooms shall have a door directly accessible from the exterior of the building.

Amend Subsection 901.6.1 by adding the following sentence after the first sentence:

901.6.1 Standards.

Where no minimum maintenance standards exist, inspections shall be not less than annually.

Add Subsection 901.6.3.2 as follows:

901.6.3.2 Inspection and testing tags. Upon completion of the inspection and testing of fire protection systems, a tag shall be attached to the system in a conspicuous location. The tag shall document the date of the inspection or test, the name of the qualified contractor company, the name of the individual performing the inspection or tests and whether the system has any deficiencies.

Amend Section 901.7 as follows:

901.7 Systems out of service. Where a required fire protection system is out of service and where required by the *fire code official*, the building shall either be evacuated and/or an approved fire watch shall be provided for until the fire protection system has been returned to service.

Amend Subsection 901.8.1 as follows:

901.8.1 Removal of or tampering with appurtenances. Locks, gates, key boxes, key switches, preemption devices, doors, barricades, chains, enclosures, signs, tags or seals that have been installed by or at the direction of the *fire code official* shall not be removed, unlocked, destroyed, tampered with or otherwise vandalized in any manner.

Add Section 901.11 as follows:

901.11 Clearance Around Fire-Protection Systems and Equipment. A minimum 3-foot (0.91 m) clear space, on a minimum of 2 sides, shall be maintained for access to fire protection equipment, including control valves and control panels.

SECTION 903 - AUTOMATIC SPRINKLER SYSTEMS

Section 903.2 is amended by replacing it as follows:

903.2 Where required. Approved automatic sprinkler systems shall be installed throughout all levels of all new Group A, B, F, H, I, M, R, S and U occupancies of more than zero (0) square feet. In accordance with section 903, and the RVFD Construction and Installation Manual, and as set in this section. Group E occupancies shall be as noted in subsection 903.2.3.

1. In every story or basement of all buildings.
2. At the top of rubbish and linen chutes and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Sprinkler heads shall be accessible for servicing.
3. In rooms where nitrate film is stored or handled. See also IFC Section 306.
4. In protected combustible fiber storage vaults.
5. In any building that has a change in occupancy as defined in the building code.

6. In any bathroom regardless of square footage.

Exception: The following accessory structures shall be exempt from fire sprinkler requirements:

1. Gazebos, ramadas and pool equipment for residential and multi-family public use.
2. Independent rest room buildings that are associated with golf courses, parks and similar uses, up to 1500 square feet (139.35 m²) with no hazardous material storage.
3. Guardhouses for residential and commercial developments.
4. Detached non-combustible carports for residential and commercial developments with covered parking less than 15,000 square feet (1393.55 m²).
5. Barns and agricultural buildings for private, residential, non-commercial use, not exceeding 1,500 square feet (139.35 m²), with no habitable areas.
6. Detached storage sheds for private, residential, or non-commercial use, not exceeding 1,500 square feet (139.35 m²).
7. Detached garages not exceeding 1,000 square feet (92.9 m²) (without habitable spaces) in existing R-3 developed parcels.
8. Supervised fuel dispensing canopies not exceeding 1,500 square feet (139.35 m²).
9. Open shade horse stalls of non-combustible construction for private, residential, non-commercial use, not exceeding 5,000 square feet (464.52 m²) and no storage of combustible products, vehicles, or agricultural equipment.
10. Detached one story accessory building used as tool or storage shed of non-hazardous materials and not exceeding 200 square feet (18.58 m²).
11. Special use non-combustible structures as approved by the *fire code official*, such as pump rooms.
12. Open equestrian arenas for riding only.
13. Detached cell phone equipment structures that have no occupiable space.
14. Factory built buildings utilized as temporary office buildings like real estate sales and leasing offices and construction offices provided that the building is equipped with smoke detectors or similar occupant notification devices.
15. Detached or standalone car washes not exceeding 5,000 square feet (464.52 m²) constructed of limited or non-combustible materials without office, mercantile or similar spaces separated from the nearest structure by not less than 10 feet (3.05 m).

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.2 Group B. An automatic sprinkler system shall be installed throughout all Group B occupancies in accordance with NFPA 13 and, where applicable, the RVFD Construction and Installation Manual.

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m²) in area.
2. The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

3. The Group E fire area has an occupational load of 300 or more.

903.2.4 Group F-1. An automatic sprinkler system shall be provided throughout all Group F-1 occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.5 Group H. Automatic sprinkler systems shall be provided throughout all high hazard occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.6 Group I. An automatic sprinkler system shall be provided throughout all Group I occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.7 Group M. An automatic sprinkler system shall be provided throughout all Group M occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.8 Group R and IRC. An automatic sprinkler system shall be provided throughout all Group R and IRC occupancies in accordance with NFPA 13, 13-R or 13-D installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all Group S-1 occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.10 Group S-2. An automatic sprinkler system shall be provided throughout all Group S-2 occupancies in accordance with NFPA 13 installation of sprinkler systems and, where applicable, the RVFD Construction and Installation Manual.

903.2.11 Additions, alterations and repairs. When additions, alterations or repairs within a twenty-four (24) month period exceed fifty (50) percent of the value

or square footage of an existing building or structure, such building or structure shall be made to conform to the requirements for new buildings or structures. Additionally, if additions, alterations or repairs involve removing the framing of more than fifty (50) percent of the exterior walls of the structure; or if fifty (50) percent or more of the roof structure is replaced or repaired or if the ceiling of the residence is removed exposing the roof support system, the structure shall be made to conform to the requirements for new buildings and structures regardless of project cost or square footage added.

Exception: Such buildings or structures shall be equipped with an approved fire sprinkler system when work exceeds ten (10) percent of the value for an existing Group A (assembly) building, or twenty-five (25) percent of the value for an existing building or structure of other occupancies except Group R.

903.2.12 During Construction. Automatic sprinkler systems required during construction, alteration and demolition operations shall be provided in accordance with Section 3307.

903.2.13 Shell Buildings. At a minimum, nominal inch orifice, 5.6K, standard spray upright and pendent sprinklers shall be used in shell building fire sprinkler system designs and installations. Reduction in remote areas of operation for hydraulically designed systems shall be prohibited when utilizing quick response sprinklers in shell building fire sprinkler system designs and installations and extended coverage sprinklers shall be prohibited in the design and installation of shell building fire sprinkler systems.

Section 903.3 is amended as follows:

903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with NFPA 13, 13-R, or 13-D installation of sprinkler systems as modified by the RVFD Construction and Installation Manual.

Exception: Group E occupancies are not subject to any modifications of the RVFD Construction and Installation Manual.

903.3.1.1.2 Bathrooms. All occupancies, including Group R occupancies, or areas utilized as Group R areas within another occupancy, that are equipped with an automatic sprinkler system in accordance with Sections 903.3.1.1, 903.3.1.2, or 903.3.1.3, and this code shall be required to provide sprinkler protection in all bathroom areas.

903.3.6 Hose threads. Fire hose threads and fittings used in connection with automatic sprinkler systems shall be national standard thread (NST).

903.3.7 Fire department connections. The fire department connections shall be located in accordance with Section 912 or as approved by the *fire code official*.

Section 903.4 is amended as follows:

903.4 Sprinkler system supervision and alarms. Automatic sprinkler system supervision and alarms shall comply with Sections 903.4.1 through 903.4.3 and, where applicable, the RVFD Construction and Installation Manual.

SECTION 904 - ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS

Amend Subsection 904.14.2 as follows:

904.14.2 System interconnection. The actuation of the fire-extinguishing system shall automatically shut down the fuel and electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual. If the fire extinguishing system is listed as effective with the commercial cooking exhaust system on or off, the system shall remain on.

Add new Section 904.16 as follows:

904.16 Portable fryer appliances. Portable fryer appliances must be Underwriters Laboratories (UL) listed for their application and installed in accordance with the manufacturer's specifications. Portable fryers shall be set up in an approved location and shall not be relocated without the approval of both the *fire code official* and the governing health department. Portable fryers must have their factory appliance cables plugged directly into a permanent power receptacle without the use of intervening electrical components. Portable fryers with an oil capacity exceeding 6 gallons (22.71 L) must have their internal fire suppression system tied into the buildings occupant notification system, where applicable, in accordance with Section 907.5.

SECTION 905 - STANDPIPE SYSTEMS

Add Subsection 905.3.8 as follows:

905.3.8 Stages. Stages greater than 1,000 square feet in area (92.9 m²) shall be equipped with a Class I wet standpipe system with 2.5" NST hose connections on each side of the stage supplied from the automatic fire sprinkler system and shall have a flow rate of not less than that required for Class 1 standpipes.

Amend Section 905.8 as follows:

905.8 Dry standpipes. Dry standpipes shall not be installed.

Exception: Where subject to freezing, where installed in accordance with NFPA 14, when required by Section 905.8.1 or when needed to supply water for firefighting purposes to portions of structures inaccessible to fire apparatus. Dry standpipes shall be labeled in an approved manner.

Add Subsections 905.8.1 and 905.8.2 as follows:

905.8.1 Residential dry standpipes. Residential dry standpipes shall be installed when driveways do not meet the requirements outlined in Section 512 or as required by the *fire code official*.

905.8.2 Installation requirements. Residential dry standpipes required by Section 905.8.1 shall be installed in accordance with their respective standards and, where applicable, the RVFD Construction and Installation Manual.

Add Section 905.13 as follows:

905.13 Hose connections for access challenges. Buildings exceeding 10,000 square feet (929.03 m²) in area per story not otherwise required to be equipped with a standpipe system by section 905.3 of the 2024 IFC, shall be equipped with Class I manual hose connections (2-1/2" NST) for fire department use. The hose connections may be combined with the fire sprinkler system. The system shall be sized to deliver 250 gallons per minute at 100 psi (or a pressure acceptable to the *fire code official* based on operational capabilities) from the most hydraulically remote outlet, using 150 psi fire department pump-in pressure. The location of the hose connections will be determined by the *fire code official* based on building design and distance from fire apparatus access roads. Calculations for hose demand shall be submitted with sprinkler plans. Single story structures are not required to have hose connections except in those interior portions of the building that exceed 200 feet (60.96 m) of travel from an emergency access road.

SECTION 906 - PORTABLE FIRE EXTINGUISHERS

Amend Section 906.1 by amending subpoint 1 to add R-3 Residential Care/Assisted Living Facilities; the remaining portions of Section 906.1 remain as in the 2024 IFC, including the Exceptions:

906.1 Where required. Portable fire extinguishers shall be installed in all of the following locations:

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-3 Residential Care/Assisted Living Facilities, R-4 and S occupancies.

SECTION 907 - FIRE ALARM AND DETECTION SYSTEMS

Section 907.2 is hereby deleted including the Exceptions and is replaced as follows:

Section 907.2 Where required – new buildings and structures. All new commercial occupancies (any structure other than one- and two-family dwellings) for which a building or construction permit is obtained shall be protected throughout the entire structure by a fully automatic fire alarm system. Installation of the fire alarm system shall be in accordance with the requirements of NFPA 72, unless otherwise approved by the *fire code official* or designee. All fire alarms shall be addressable systems with Class "A" wiring. An

approved, fully automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Monitoring shall be by a central station as defined by NFPA 72. Devices, combinations of devices, appliances, and equipment shall comply with Section 907.1.3. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detectors shall be installed in spaces such as boiler rooms, utility rooms and janitor closets with water heater and sink, where, during normal operation, products of combustion are present in sufficient quantity to actuate a smoke detector.

Exception: Group U occupancies and the accessory structures granted an exception to the fire sprinkler requirements of 903.2 as approved by the *fire code official*.

Add new Subsection 907.7.4 as follows:

907.7.4 Activation. Where an alarm notification system is required by another section of this code, it shall be activated by:

1. Required automatic fire alarm system.
2. Sprinkler water-flow devices.
 - a. Multi-level structures: All multilevel structures are required to have a flow switch and tampered control valve per floor.
3. Required manual fire alarm boxes.

SECTION 912 - FIRE DEPARTMENT CONNECTIONS

Amend Section 912.2 as follows:

Section 912.2 Location. With respect to hydrants, driveways, buildings, and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of the fire department connection shall be remote from the building and between 24 inches (.61 m) and 42 inches (1.07 m) above grade. The fire department connection shall be located no further than 150 feet (45.72 m) from a hydrant. Additionally, fire department connections shall be located within 4 feet (1.22 m) to 8 feet (2.44 m) of the curb line of an access road or public street, or as otherwise specified, and arranged so that hose lines can be readily connected. The *fire code official* is authorized to alter minimum and maximum distances where site layout challenges exist.

Exception: If site layout does not allow for a remote fire department connection, a wall mounted connection may be utilized in occupancies not over Ordinary Hazard, Group 2 where the following conditions are met:

1. The structure is not classified as an “H” occupancy.
2. There are no structural openings including glazed openings within 5 feet (1.52 m) horizontally from the inlet connection.

3. The fire department connection is within 50 feet (15.24 m) of an approved roadway or driveway and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects including buildings, fences, posts, plantings or other fire department connections.

SECTION 913 -Fire Pumps

Amend Section 913.2 as follows:

913.2 Protection against interruption of service. The fire pump, driver and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions. Where a required or optional electrical emergency or standby power system is installed and an electric fire pump is installed, the fire pump shall be connected to both the normal electrical service and the standby power system. A UL-listed automatic transfer switch is required to be installed on the power supply to this pump. Where the building, or a portion of the building, served by the fire pump is intended to remain occupied during a utility power outage, the electric fire pump shall be connected to both the normal electrical service and emergency or standby power system.

CHAPTER 11 - CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

SECTION 1103 - FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDINGS

Section 1103.5 is amended as follows:

1103.5 Sprinkler systems. An automatic sprinkler system shall be provided in existing buildings in accordance with section 1103.5.1 through 1103.5.6.

Add new Subsection 1103.5.6 as follows:

1103.5.6 Group R-4. An automatic sprinkler system shall be installed in accordance with Section 903.2.8.

Section 1103.7 is amended as follows:

Section 1103.7 Fire alarm systems. An approved fire alarm system shall be installed in existing buildings and structures in accordance with 1103.7.1 through 1103.7.7 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code.

Add new Subsection 1103.7.7 as follows:

1103.7.7 Remodeling and conversions. Group R-1, R-2 & R-3 occupancies without a sprinkler system, if remodeled, shall be equipped with smoke alarms with a power source as outlined in Section 907.2.11.6.

Exception: Where not in conflict with other applicable codes, if remodeling or conversion does not expose the building framing, smoke alarms may be battery-operated only with a non-removable, long-life lithium battery, or its equivalent.

CHAPTER 12 – ENERGY SYSTEMS

SECTION 1203 – EMERGENCY AND STANDBY POWER SYSTEMS

Subsection 1203.1.1 is amended as follows:

1203.1.1 Stationary Generators. Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200. Associated flammable or combustible liquid tanks shall also comply with IFC Chapters 50 and 57.

SECTION 1205 – SOLAR PHOTOVOLTAIC POWER SYSTEMS

Add Subsection 1205.1.1 as follows:

1205.1.1 Permits. Permits shall be obtained for solar photovoltaic power systems in accordance with Subsection 105.6.21.

Exception: Solar photovoltaic systems with less than 3 kW alternating current nameplate rating.

SECTION 1207 - ELECTRICAL ENERGY STORAGE SYSTEMS (ESS)

Amend Table 1207.1.3 as follows:

TABLE 1207.1.3 - ENERGY STORAGE SYSTEMS (ESS) THRESHOLD QUANTITIES

Technology	Energy Capacity ^a
Capacitor ESS	3 kWh
Flow batteries ^b	20 kWh
Lead acid batteries, all types	70 kWh ^c
Lithium-ion batteries	20 kWh
Nickel-cadmium (Ni-Cd), nickel metal hydride (Ni-MH) and nickel zinc (Ni-Zn) batteries	70 kWh
Nonelectrochemical ESS ^d	70 kWh
Other battery technologies	10 kWh

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Other electrochemical ESS technologies	3 kWh
Sodium nickel chloride batteries	70 kWh
Zinc manganese dioxide batteries (Zn-MnO ₂)	70 kWh
Stationary ESS in R-3 and R-4 occupancies	3 kWh
For SI 1 kilowatt hour = 3.6 megajoules a. Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1,000. b. Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies. c. Fifty gallons of lead-acid battery electrolyte shall be considered equivalent to 70 kWh. d. Covers nonelectrochemical technologies such as flywheel and thermal ESS.	

Amend Subsection 1207.1.6.1, item #4 as follows:

1207.1.6.1 Fault conditions.

4. Failure of any required protection system external to the ESS, including but not limited to ventilation (HVAC), exhaust ventilation, smoke detection, fire detection, gas detection, temperature control or fire suppression system.

Amend Subsection 1207.1.8 by adding a second sentence to the first paragraph as follows:

Section 1207.1.8 Fire remediation.

The *fire code official* may also require a forensic analysis of the cause of failure by an independent laboratory approved by the *fire code official*, in accordance with Section 104.10.3.

Amend Section 1207.3.4 by adding Subsection 1207.3.4.1 as follows:

1207.3.4.1 Annunciator panel. The approved annunciator panel shall visibly indicate any hazardous temperature or other conditions. The location of the annunciator panel shall be approved by the *fire code official*.

Subsection 1207.11.2 is amended by adding a sentence at the end as follows:

1207.11.2 Installation.

ESS that have the potential to release toxic or highly toxic gas during charging, discharging and normal use conditions shall not be installed within Group R-3 or R-4 occupancies.

Subsection 1207.11.3 is amended by deleting item #4

1207.11.3 Location.

~~4. Enclosed utility closets, basements, and storage or utility spaces within dwelling units and sleeping units with finished or noncombustible walls and ceilings. Walls and ceilings of~~

~~unfinished wood framed construction shall be provided with not less than 5/8 inch Type X gypsum wallboard.~~

Add Subsection 1207.11.10 as follows:

1207.11.10 Signage. Approved signs warning of the presence of an ESS shall be provided on or adjacent to the main electrical panel. The signage shall include the following or equivalent:

1. WARNING: ESS INSIDE GARAGE
2. WARNING: ESS ON HOUSE EXTERIOR

CHAPTER 23 - MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

SECTION 2301 – GENERAL

Section 2301.4 is amended as follows including the deletion of subsection 2301.4.1:

2301.4 Indoor motor fuel-dispensing facilities. Motor fuel-dispensing facilities located inside buildings are prohibited.

Add new Section 2301.7 as follows:

2301.7 Fire Protection. Fire sprinkler protection shall be designed in accordance with the building code as required for minimum Ordinary Group Hazard 2.

Subsection 2304.3.6 is amended as follows:

Subsection 2304.3.6 Communications. A telephone not requiring a coin or card to operate or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the *fire code official*.

Exception: An approved mobile or cellular communication device can be used to notify the fire department.

CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

SECTION 3307 - FIRE DEPARTMENT SITE ACCESS AND WATER SUPPLY

Amend Section 3307.1 by adding a second paragraph as follows:

3307.1 Required Access.

All open trenches shall have steel plates capable of maintaining the integrity of the access road design when these trenches cross an access road. These access roads may be temporary or permanent. This policy applies only during construction and/or demolition.

Permanent access, per the fire code, shall be in place prior to any final inspection or approval for certificate of occupancy.

Add Subsection 3307.1.4 as follows:

3307.1.4 Access road signs. During construction, approved signs shall be erected and located to direct emergency responders into and through the construction site.

CHAPTER 57 FLAMMABLE AND COMBUSTIBLE LIQUIDS

Amend Subsection 5704.2.13.1.4 as follows:

5704.2.13.1.4 Tanks abandoned in place. Tanks abandoned in place shall be prohibited within the entire Fire District.

CHAPTER 61 LIQUEFIED PETROLEUM GASES

SECTION 6101 GENERAL

Amend Section 6101.2 with an added exception as follows:

6101.2 Permits. Permits shall be required as set forth in Sections 105.5 and 105.6.

Exception: A permit is not required to install or maintain portable containers of less than 10 gallons (37.9 L) aggregate water capacity.

SECTION 6110 - LP GAS CONTAINERS NOT IN SERVICE

Amend Section 6110.2 by adding an exception as follows:

6110.2 Removal from site. LP gas containers discontinued from service shall be removed from the site.

Exception: If removal from site causes an undue burden (financial reasons alone are not considered to be an undue burden) as determined by the *fire code official*, the tank may be abandoned in place if the following conditions are met:

1. The tank and connected piping is completely emptied of LP gas.
2. The fill valve, gauge and associated elements are removed.
3. The tank is entirely filled with an approved solid inert material(s).
4. Any unused, remaining underground piping is removed or capped/plugged where removal is not feasible.
5. Any remaining, unused above ground exterior piping is removed.
6. A record of the tank's size, location and date of abandonment is retained.
7. The property owner(s) affected agree to disclose the abandonment to subsequent property owner(s).

APPENDIX B – FIRE FLOW REQUIREMENTS FOR BUILDINGS

SECTION B105 – FIRE FLOW REQUIREMENTS FOR BUILDINGS

Amend TABLE B105.2 as follows:

TABLE B105.2 REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES		
AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the International Fire Code	50% of the value in Table B105.1(2)a	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the International Fire Code	50% of the value in Table B105.1(2)b	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.

- a. The reduced fire flow shall be not less than 1,500 gallons per minute.
- b. The reduced fire flow shall be not less than 1,500 gallons per minute.

- a. The required fire flow shall not be less than 1,500 gallons per minute.
- b. The required fire flow shall not be less than 1,500 gallons per minute.

APPENDIX C – FIRE HYDRANT LOCATIONS AND DISTRIBUTION

Amend Table C102.1, Items f. and g. as follows:

- f. A 50% spacing increase may be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Fire Code*.
- g. A 25% spacing increase may be permitted where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2 or 903.3.1.3 of this code or Section P2904 of the *International Residential Code*.

Amend Section C103.1 by adding the following sentence to the end of the paragraph:

C103.1 Hydrant Spacing.

The average and maximum spacing distances outlined in Table C102.1 shall be achieved utilizing common path of vehicle travel. Measurements achieved by utilizing routes that cannot be traversed by a fire apparatus are not allowed.

APPENDIX D – FIRE APPARATUS ACCESS ROADS

Amend Section D 103.3 as follows:

D103.3 Turning Radius. The required turning radius of a fire apparatus access road shall be in compliance with Subsection 503.2.4.

Add APPENDIX P as follows:

APPENDIX P - EXCAVATION AND CONFINEMENT

SECTION P101 - GENERAL

P101.1 Scope. The provisions of this appendix shall apply to any man-made cut, cavity, trench or depression in an earth surface formed by earth removal, and the provisions identify procedures to protect employees from the hazards of entry into confined spaces.

SECTION P102 - DEFINITIONS

P102.1 Definitions. The following words and terms shall, for the purpose of this appendix and as used elsewhere in this code, have the meanings shown herein.

CONFINED SPACE. Is a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit;
3. Is not designed for continuous employee occupancy.

EXCAVATION. Any man-made cut, cavity, trench or depression in an earth surface, formed by earth removal.

TRENCH. A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the form or structures to the side of the excavation to 15 feet or less, the excavation is a trench.

SECTION P103 – EXCAVATION AND TRENCHES

P103.1 Excavation and trenches. Excavation and trenches shall be in accordance with 29 CFR, Part 1926, Subpart P, Sections 1926.650-652.

SECTION P104 - CONFINED SPACES

P104.1 Confined spaces. Confined spaces shall be in accordance with 29 CFR, Part 1910.146. Other recognized standards that must be adhered to include 40 CFR, Part 280 - Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST) and Part 281 - Approval of State Underground Storage Tank Programs.

SECTION P105 - UNSAFE CONDITIONS

P105.1 Unsafe conditions. When in the opinion of the *fire code official* or his/her designee, an unsafe condition exists, excavation and confined space operations shall cease until such time as adequate means have been taken to provide for the safety of persons working in or around the excavation or confined space. Failure to do so may result in citations and fines.

Add APPENDIX Q as follows:

APPENDIX Q – FIRE DISTRICT STANDARD DETAILS AND INTERPRETATIONS

SECTION P101 - GENERAL

Q101.1 Scope. The Rio Verde Fire District has approved standard details, interpretations and applications for both new and existing buildings located within the Fire District. These details, interpretations and applications can be used by building owners, property representatives, design professionals and contractors to determine acceptable installation standards. Details, interpretations and applications can be modified, reviewed and approved by the Rio Verde Fire District as needed.

Q101.2 Compliance. All standard details for new and existing buildings regulated by this code shall be constructed, installed, and maintained in accordance with the current Rio Verde Fire District Construction and Installation Manual and all interpretations and applications shall be followed unless specifically exempted by the *fire code official*. This includes, but is not limited to, all processes, installations, markings, signage, fire department access, construction, and fire service feature requirements.