

“The 2024 Suite of Building and Fire Codes and Related Amendments to City Code, Title 4, Building Regulations, and Title 5, Fire Code”

**TITLE 4
BUILDING REGULATIONS**

CHAPTERS:

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CHAPTER 4-01 ADMINISTRATIVE ENACTMENTS

SECTIONS:

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4-01-001-0001 DEFINITIONS

As used in all of the adopted model codes referenced herein, as amended, the following terms shall have the meaning herein prescribed:

A. Wherever the word “Municipality” or “[Name of Jurisdiction]” is used, it shall mean the City of Flagstaff.

B. Wherever the term “Department of Building Safety” is used, it shall mean “Planning & Development Services Division.”

C. Wherever the term “Corporation Counsel” is used, it shall mean the Attorney for the City of Flagstaff.

D. Wherever the term “Administrative Authority” is used in conjunction with publicly provided utilities (natural gas, electricity, internet and broadband service, telephone, and cable television), it shall mean the current contract company providing the respective service. Wherever the term “Administrative Authority” is used in conjunction with publicly provided utilities or permits (water, sewer, storm water management and/or building permits), it shall mean the City of Flagstaff.

4-01-001-0002 ADOPTION OF MODEL CODES

There are hereby adopted by the City Council of the City of Flagstaff for the purposes of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, maintenance of buildings and structures, including permits and penalties, those certain model codes known and referred to with particularity as:

2024 International Building Code (IBC)*

2024 International Residential Code (IRC)*

2024 International Existing Building Code (IEBC)*

2024 International Mechanical Code (IMC)*

2024 International Plumbing Code (IPC)*

2024 International Fuel Gas Code (IFGC)*

2024 International Energy Conservation Code (IECC)*

2024 International Swimming Pool and Spa Code (ISPSC)*

National Electrical Code (NEC), 2023 Edition**

ICC A117.1-2017, Accessible and Usable Building and Facilities*

1997 Uniform Housing Code***

1997 Uniform Administrative Code***

1997 Uniform Code for the Abatement of Dangerous Buildings***

***Published by International Code Council (ICC)**

**** Published by National Fire Protection Association (NFPA)**

***** Published by International Conference of Building Officials (ICBO)**

One (1) electronic copy of each model code listed above, and any amendments to said codes, are on file in the office of the City Clerk of the City of Flagstaff, and the same is made part hereof by this reference as if fully and completely herein set forth. The provisions of the aforestated codes shall be controlling for construction within the corporate limits of the City of Flagstaff.

4-01-001-0003 SAVING CLAUSE

Nothing in this Chapter or in the 2024 International Codes, 2023 National Electrical Code, ICC A117.1-2017, and Uniform Codes hereby adopted shall be construed to affect any suit or proceeding now pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinances replaced hereby. Nor shall any right or remedy of any character be lost, impaired, or affected by this Chapter.

4-01-001-0004 VIOLATION AND PENALTIES

A. Violations. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert, demolish, equip, use or maintain any building or permit the same to be done in violation of the model codes adopted in section 4-01-001-0002 above, as amended.

B. Penalties. Any person, firm, or corporation violating any provision of this Code shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punishable by a fine and/or imprisonment set forth by Flagstaff City Code, Title I, Chapter 1-04 General Penalty. Each separate day or any portion thereof, during which any violation of this Code occurs or continues, shall be deemed to constitute a separate offense.

CHAPTER 4-02

2024 INTERNATIONAL BUILDING CODE

4-02-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Building Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section 101 General

Amend 2024 IBC 101.2.1, Appendices, by adding:

The following Appendices are hereby adopted as part of the IBC:

APPENDIX C – Group U – Agricultural Buildings

APPENDIX I – Patio Covers

APPENDIX J – Grading

APPENDIX N – Replicable Buildings

Section 103 Department of Building Safety

Amend 2024 IBC 103.1, Creation of enforcement agency, by deleting and replacing with:

The City of Flagstaff Building Safety & Code Compliance Section is appointed as the enforcement agency for purposes of this code, and the official in charge thereof shall be known as the Building Official. The function of the Section shall be the implementation, administration, and enforcement of the provisions of this code.

Section 105 Permits

Amend 2024 IBC 105.1, Required, by adding:

Approved portable equipment used in conjunction with special events in public locations (parks, parking lots, publicly owned land, et cetera) of 25 kW generator or greater shall have an Over-the-Counter Permit issued and a licensed electrical contractor for installation or setup. The Building Inspector must be given immediate notice when an installation is ready for either rough or final inspection.

Amend 2024 IBC 105.1 by adding subsections 105.1.3 through 105.1.7.1:

105.1.3 Application and fees. Application for an annual permit shall be filed with the Building Official, along with the application fee set forth in the City Fee Schedule.

105.1.4 Renewal application and fee. Annual permits expire on December 31. Application to renew an annual permit shall be filed with the Building Official by December 15, along with the renewal application fee set forth in the City Fee Schedule.

105.1.5 Denial of application. If the application or renewal is denied, the fee shall be refunded. The applicant may appeal the denial to the Building and Fire Code Board of Appeals within 10 calendar days after notice of the denial.

105.1.6 Suspension and revocation. The Building Official may suspend or revoke an annual permit upon violation of this code, including failure to apply for permits and inspections when required. Written notice of suspension or revocation shall be sent to the permit holder at least 10 calendar days before suspension or revocation. Appeal may be made to the Building and Fire Code Board of Appeals within 10 calendar days after notice of suspension or revocation. There is no fee refund if an annual permit is suspended or revoked.

105.1.7 Inspections. The Building Official, or their designee, may inspect all work and reject work or request corrections for any work in violation of this code.

105.1.7.1 Record exceptions. Work reports are not required for:

1. Installing machines, equipment, and processes related to production or testing.
2. Moving cases, counters, and partitions not over 5 feet 9 inches tall.

Amend 2024 IBC 105.4 Validity of permit, by adding:

A permit shall not be valid until a copy of the issued permit is signed and returned to the Building Safety & Code Compliance Section.

Amend 2024 IBC 105.5, Expiration, by deleting, replacing and adding sub sections 105.5.1 through 105.5.3:

Commercial Building Permits issued for new construction, remodels, additions, and alterations shall expire 24 months (730 days) from the date of issuance, unless extended as provided herein.

105.5.1: A permit shall become invalid if the work authorized by such permit is not commenced within 180 days from the date of issuance, or if the work is suspended or abandoned for a period of 180 days after commencement.

105.5.2: Only one extension not to exceed 365 days, may be granted by the Building Official upon written request and payment of a fee equal to one-half of the original building permit fee (excluding plan review fees).

Permits that exceed 1095 days (3 years) from the date of issuance, including extensions, and have not received final inspection approval shall expire. A new permit shall be required to complete the work, and all applicable fees shall be paid.

105.5.3: Over the counter permits (plumbing, mechanical, electrical, and re-roofing) shall expire if the work authorized by the permit is not commenced within 180 days from the date of issuance, or if the work is suspended or abandoned for a period of 180 days. Such permits shall not remain valid for more than 180 days from the date of issuance unless an extension is approved by the Building Official.

Section 107 Submittal Documents

Amend 2024 IBC 107.1, General, by adding:

Where required by Arizona Revised Statutes, construction documents for new construction, additions, alterations, or repairs to commercial occupancies within the City of Flagstaff shall be prepared by an Arizona-registered design professional (i.e. architect and engineers) in good standing when:

1. The total square footage of any building exceeds 3,000 square feet, or
2. The total occupancy of the building exceeds twenty (20) persons, or
3. Any structural member required for the project exceeds twenty (20) feet in length

The Arizona Registered Design Professional of Record shall affix their seal to all construction documents. Construction documents not prepared by the Registered Design Professional of Record shall be identified as such; and the design professional's seal shall be affixed to all sheets in the construction document set to indicate that the project was prepared under the responsible control and coordination of the Registered Design Professional of Record.

Construction documents for retaining walls subject to surcharge loads from adjacent structural elements or other unbalanced loading that exceeds four (4) feet in height, shall be prepared by an Arizona Registered Design Professional.

Construction documents for electrical service equipment rated at 600 amperes or greater shall be prepared by an Arizona Registered Design Professional.

Section 109 Fees

Amend 2024 IBC 109.2, Schedule of permit fees, by adding:

The current schedule of permit fees is on file in the Office of Building Safety and available on the City of Flagstaff website (www.flagstaff.az.gov).

Amend 2024 IBC 109.4, Work commencing before permit issuance, by adding:

Any person who commences any work to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to an investigation fee of \$94.00 or twice the permit fee, whichever is greater.

Amend 2024 IBC 109.5, Related fees, by adding:

Re-inspection fees may be assessed for each inspection or re-inspection when the portion of work for which the inspection was scheduled is not complete or when corrections from a previous inspection are not made. Other events which may require the imposition of a re-inspection fee are:

1. Failure to have the inspection record on the job site when the inspector arrives.
2. The approved plans are not on the job site at the time of inspection.
3. Failure to provide access to the job site or area to be reviewed by the inspector.

Appeals for such fees are made to the Building Official. A \$94.00 re-inspection fee shall be paid through the Building Permit Portal before a re-inspection may be scheduled, after the inspector has issued notice that such fee will be assessed.

Amend 2024 IBC 109.6, Refunds, by adding:

A refund of up to 80 percent of the building permit fee, excluding plan review fees, may be authorized by the Building Official, provided that no work has commenced and no inspections have been performed. Plan review fees shall not be refundable.

The Building Official is authorized to determine the amount of any refund based on the extent of administrative processing and work completed. No refund shall be issued for any required deposit once administrative routing or plan review has commenced.

Section 111 Certificate of Occupancy

Amend 2024 IBC 111.3, Temporary occupancy, by deleting and replacing with:

The Building Official is authorized to issue a Temporary Certificate of Occupancy (TCO) for residential construction, including detached one- and two-family dwellings, where the structure is safe for occupancy and no substantial hazard to life, health, or safety exists.

A Temporary Certificate of Occupancy shall only be issued when:

1. All required life-safety systems are complete and operational, including but not limited to means of egress, smoke and carbon monoxide alarms, required guards and handrails, and all utilities.

2. Any remaining work is limited to non-life-safety items, including but not limited to exterior flatwork, landscaping, or unfinished accessory spaces such as basements or bonus rooms, which shall be documented as “not inspected.”
3. A bond or other financial assurance is provided when required by the Building Official for incomplete exterior improvements, including driveway approaches, where weather or other conditions prevent completion.
4. The Temporary Certificate of Occupancy shall be valid for a period not to exceed 60 days, unless extended by the Building Official for good cause.
5. Failure to complete the remaining work prior to expiration of the Temporary Certificate of Occupancy may result in revocation of occupancy approval and/or issuance of enforcement actions.

Occupancy of a structure prior to the issuance of a Certificate of Occupancy or Temporary Certificate of Occupancy is prohibited and may result in enforcement action, including issuance of a “No Occupancy” notice.

Section 113: Means of Appeals

Amend 2024 IBC 113.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IBC Sections 113.2 through 113.4, by deleting in their entirety.

Section 1505 Fire Classification

Amend 2024 IBC 1505.4, Class C roof assemblies, by deleting in its entirety.

Amend 2024 IBC 1505.5, Nonclassified roofing, by deleting in its entirety.

Section 1506 Materials

Amend 2024 IBC 1506.3, Product identification, by adding:

All roofing materials used must be a class “A” or “B” material and rolled roofing is to be of a self-adhering polymer bitumen type material.

Section 1507 Requirements for Roof Coverings

Amend 2024 IBC 1507.8, Wood shingles, by deleting in its entirety.

Amend 2024 IBC 1507.9, Wood shakes, by deleting in its entirety.

CHAPTER 16 STRUCTURAL DESIGN

Section 1607 Live Loads

Amend 2024 IBC Table 1607.1, Minimum Uniformly Distributed Live Loads and Minimum Concentrated Live Loads, by revising the following values:

Habitable attics and sleeping areas: 40 psf

Section 1608 Snow Loads

Amend 2024 IBC 1608.2, Ground snow loads, by deleting and replacing with:

The ground snow *loads* to be used in determining the design snow *loads* for roofs shall be determined in accordance with the reliability-targeted (strength based) ground snow load values in Chapter 7 of

ASCE/SEI 7. Site-specific case studies shall be determined in accordance with Chapter 7 of ASCE/SEI 7 and shall be *approved* by the *building official*.

Section 1612 Flood Loads

Amend 2024 IBC 1612.3, Establishment of flood hazard areas, as follows:

Replace “[INSERT DATE OF ISSUANCE]” with “09-03-2010”.

APPENDIX J GRADING

Section J104 Permit Application and Submittals

Amend Appendix J by adding Section J104.5, Stormwater requirements, as follows:

1. Contractor shall submit to the Arizona Department of Environmental Quality a Notice of Intent (NOI) and a Notice of Termination (NOT) pursuant to the requirements of ARS Title 49, Chapter 2, Article 3.1. A copy of the submitted NOI and the NOT shall be provided to the City of Flagstaff Stormwater Section. The NOI shall be submitted prior to issuance of any City of Flagstaff grading, building, or offsite permits. The NOT shall be submitted prior to final acceptance of off-site improvements and the Certificate of Occupancy.

2. An Erosion Control Plan (ECP) shall be submitted to the City of Flagstaff Stormwater Section for review and approval as required by the City of Flagstaff Stormwater Manager. The ECP shall be prepared in accordance with the Arizona Department of Transportation (ADOT) Best Management Practices (BMP) Manual (or other BMPs as may be approved by the City of Flagstaff Stormwater Manager). Submittal shall be made concurrent with its respective permit application(s) and/or attached to the Civil Construction Document Plan Set submittal. Review timeframes shall be the same as the permit or civil reviews. City of Flagstaff permits that require an ECP will not be issued without review and approval by the City of Flagstaff Stormwater Section.

3. The ECP BMPs shall be set in place by the contractor, and the work inspected and approved by the City of Flagstaff Stormwater Section prior to commencement of grading activities. The contractor shall contact the City of Flagstaff Stormwater Section for this pre-grading inspection.

4. During construction, the ECP BMPs shall remain in place, and shall be maintained until project completion as witnessed by a Final Grading Certification and the filing of a NOT. Failure to maintain ECP BMPs may result in a Stop Work Order. Permits will not be closed or finalized unless the site has been inspected and approved for final stabilization by the City of Flagstaff Stormwater Section. The contractor shall contact the City of Flagstaff Stormwater Section for this closure inspection.

5. In accordance with the provisions of this section, the City of Flagstaff may withhold permits, occupancy or enforce by other remedy in order to ensure compliance.

CHAPTER 4-03

2024 INTERNATIONAL RESIDENTIAL CODE

4-03-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Residential Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section R101: Scope and General Requirements

Amend 2024 IRC R101.2.1, Appendices, by adding:

The following Appendices are hereby adopted as part of the IRC:

APPENDIX BE — Radon Control Methods

APPENDIX BB — Tiny Houses

APPENDIX BI — Light Straw-Clay Construction

APPENDIX BJ — Strawbale Construction

APPENDIX NB — Solar-Ready Provisions

APPENDIX NE — Electric Vehicle Charging Infrastructure

APPENDIX NK — Electric-Ready Building Provisions

APPENDIX NL — Renewable Energy Infrastructure

IBC APPENDIX J — Grading (as amended)

Section R103 Code Compliance Agency

Amend 2024 IRC R103.1, Creation of agency, by deleting and replacing with:

The City of Flagstaff Building Safety & Code Compliance Section is appointed as the regulating office and the official in charge thereof shall be known as the Building Official.

Section R105 Permits

Amend 2024 IRC R105.1, Required, by adding:

All manufactured housing (housing classified as modular, factory built or manufactured house) installed within the City of Flagstaff will be designed to meet Arizona Department of Housing, Office of Manufactured Housing standards. The City of Flagstaff enforces a 70 pound per square foot (psf) ground snow load for site-built construction. Arizona Department of Housing standards for snow winter areas in Arizona is not consistent with local conditions and owners should be aware of the differences.

For “used” manufactured housing or “resale”/relocated manufactured housing being brought into the City of Flagstaff, the following applies: As per direction from the Arizona Department of Housing, Office of Manufactured Housing, Arizona Revised Statutes Title 41, requires that all manufactured housing units be certified to meet the minimum standards of the United States Department of Housing and Urban Development and are to be designed in accordance with consistent Arizona Department of Housing standards for manufactured homes and related industries. An applicant requesting an installation permit and inspection will be required to provide proof to the Building Official of the current State certification or re-certification of the unit.

Amend 2024 IRC R105.5, Expiration, by deleting, replacing with new section R105.5, and adding subsections 105.5.1 through 105.5.5:

Section R105.5 Expiration.

Every residential building permit issued shall become invalid unless the work authorized by such permit is completed and a Certificate of Occupancy is issued within two (2) years from the date of permit issuance.

R105.5.1: A permit shall become invalid if the work authorized by such permit is not commenced within 180 days from the date of issuance, or if the work is suspended or abandoned for a period of 180 days after commencement.

R105.5.2: The Building Official is authorized to grant, upon written request submitted prior to permit expiration, one (1) extension of time not to exceed three hundred sixty-five (365) days, provided that:

1. The request includes documentation demonstrating justifiable cause, including but not limited to financial hardship, weather delays, or material delivery issues; and
2. Payment of a fee equal to one-half (½) of the original building permit fee, excluding plan review fees, is received.

R105.5.3: Under no circumstances shall a permit remain valid for more than three (3) years from the date of issuance.

105.5.4: Failure to obtain a Certificate of Occupancy within the maximum time allowed shall result in the permit expiring. In such cases, the Building Official may record a notice with the Coconino County Recorder's Office identifying the property as having incomplete construction or lacking a final inspection or Certificate of Occupancy.

105.5.5: All residential Over the Counter Permits for plumbing, mechanical, electrical, and re-roofing shall be valid for a maximum period of 180 days.

Section R106 Construction Documents

Amend 2024 IRC R106.1, Submittal documents, by adding:

Residential, single family detached, structures are exempt from the requirements for a Registered Design Professional under Arizona Revised Statutes unless circumstances dictate the necessity for professional design submittal. Duplexes and triplex units which do not exceed 3,000 square feet, two stories or a total occupant load of twenty (20), may also be designed by a non-registrant as long as the units have only one owner.

Sub-assemblies, such as commercially manufactured roof trusses or floor beams that indicate all imposed loading may be submitted without the seal of an Arizona Registered Design Professional. If a Registered Design Professional has sealed the construction documents, the Registered Design Professional shall state they have reviewed and approved of the design either on the construction documents or by providing a written letter stating as such, signed, sealed, and dated.

Construction documents for retaining walls subject to surcharge loads from adjacent structural elements or other unbalanced loading that exceeds four (4) feet in height, shall be prepared by an Arizona Registered Design Professional.

Amend 2024 IRC R106.1 Submittal documents, by adding subsection R106.1.6, Model plans:

R106.1.5 Model plans. An applicant may submit a model plan, which is a residential construction plan used two or more times. If approved, only modifications not shown on the model plan must be submitted for review. All modifications shall be clearly identified by clouded symbols, deltas, or other appropriate means. The review fee for modifications only will be hourly in accordance with the City Fee Schedule. If,

in Building Official's judgement, the modifications are excessive or inadequately defined, the full plan review fee will be charged.

Section R108 Fees

Amend 2024 IRC R108.2, Schedule of permit fees, by adding:

The current schedule of permit fees is on file in the Office of Building Safety and available on the City of Flagstaff website (www.flagstaff.az.gov).

Amend 2024 IRC 108.4, Related fees, by adding:

Re-inspection fees may be assessed for each inspection or re-inspection when the portion of work for which the inspection was scheduled is not complete or when corrections from a previous inspection are not made. Other events which may require the imposition of a re-inspection fee are:

1. Failure to have the inspection record on the job site when the inspector arrives.
2. The approved plans are not on the job site at the time of inspection.
3. Failure to provide access to the job site or area to be reviewed by the inspector.

Appeals for such fees are made to the Building Official. A \$94.00 re-inspection fee shall be paid through the Building Permit Portal before a re-inspection may be scheduled, after the inspector has issued notice that such fee will be assessed.

Amend 2024 IRC R108.5, Refunds, by adding:

A refund of up to 80 percent of the building permit fee, excluding plan review fees, may be authorized by the Building Official, provided that no work has commenced and no inspections have been performed. Plan review fees shall not be refundable.

The Building Official is authorized to determine the amount of any refund based on the extent of administrative processing and work completed. No refund shall be issued for any required deposit once administrative routing or plan review has commenced.

Amend 2024 IRC R108.6, Work commencing before permit issuance, by adding:

Any person who commences any work on a building, structure, electrical, gas, mechanical, or plumbing system before obtaining the necessary permits shall be subject to an investigation fee of \$94.00 or twice the permit fee, whichever is greater.

Amend 2024 IRC R109, Inspections, by adding the following subsections:

R109.1.1.1: Damp-proofing and waterproofing: Damp-proofing and waterproofing and foundation drainage as required in Chapter 4 shall be inspected prior to covering.

R109.1.1.2: Utility service provisions: Underground utility service provisions for water, building sewer, and electricity shall be inspected prior to covering.

R109.1.4.1: Roofing underlayment: Roofing underlayment shall be inspected prior to installation of roof covering materials as required in Chapter 9 of this code.

R109.1.4.2: Weather resistive barrier and window flashing: Weather resistive barrier and window flashing shall be inspected prior to installation of exterior wall coverings as required in Chapter 7 of this code.

R109.1.4.3: **Energy efficiency inspections:** Inspections shall be made to determine compliance with Chapter 13 and shall include, but not be limited to, inspections for: envelope insulation R- and U-values, fenestration U-value, duct system R-value, and HVAC and water-heating equipment efficiency.

Section R112 Means of Appeals

Amend 2024 IRC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IRC Sections 112.2 through 112.4, by deleting in their entirety.

CHAPTER 2 DEFINITIONS

Section R202 Definitions

Amend 2024 IRC Section R202 by adding:

ACCESSORY DWELLING UNIT. Accessory dwelling units (ADU) are defined by the Flagstaff City Code, Title 10 - Flagstaff Zoning Code.

ACCESSORY ENERGY SYSTEM. An accessory energy system will include wind turbines, PV solar, thermal solar, geothermal, biomass and other technologies that provide heating, cooling or electrical energy. The systems will be subject to a building permit and limited by zoning ordinances for visual, design, height and setback requirements.

CHAPTER 3 BUILDING PLANNING

Section R301 Design Criteria

Amend 2024 IRC Table R301.2, Climatic and Geographic Design Criteria, as follows:

Ground snow load: 70 psf
Wind design – Speed (mph): 115mph (Vult) Exposure B
Wind design - Topographic Effects: NO
Wind design – Special wind region: NO
Wind design – Windborne debris zone: NO
Seismic design category: C
Subject to damage from – Weathering: Moderate
Subject to damage from – Frost line depth: 30 inches
Subject to damage from - Termite: Slight to moderate
Winter design temperature: 4 degrees F
Ice barrier underlayment required: YES
Flood hazards: a)12-16-1975, b)01-19-1983, c)09-03-2010*
Mean annual temperature: 45 degrees F

Residential heating and cooling equipment sizing using Manual J is optional per 2024 IRC M1401.3. When opting to use ACCA Manual J for HVAC system design, the criteria shall be from ACCA Manual J, Table 1A for Arizona, Flagstaff AP.

*The flood hazard dates reflect the current National Flood Insurance Program and the date of the currently effective "FIRM" Map (used by the City of Flagstaff). These maps are updated by the issuing agency and adopted by Storm Water Management without notice.

Amend 2024 IRC R301.2.3, Snow Loads, by deleting and replacing with:

Ground snow loads shall be 70psf or shall be determined in accordance in with Section 1608 of the *International Building Code*. Wood-framed construction, cold-formed, steel-framed construction and

masonry and concrete construction, and *structural insulated panel* construction in regions with allowable stress design ground snow loads, $p_{g(asd)}$, 70 pounds per square foot (3.35 kPa) or less, shall be in accordance with Chapters 5, 6 and 8. *Buildings* in regions with allowable stress design ground snow loads, $p_{g(asd)}$, greater than 70 pounds per square foot (3.35 kPa) shall be designed in accordance with accepted engineering practice.

Amend 2024 IRC Table R301.5, Minimum Uniformly Distributed Live Loads, by revising the following values:

Residential - Habitable attics and sleeping areas: 40 psf

Section R302 Fire-Resistant Construction

Amend 2024 IRC R302.13, Fire protection of floors, by adding the following to Exceptions:

6. Floor assemblies located directly over crawl spaces with fuel-fired or electric-powered heating appliances where the maximum distance from crawl space floor to finish floor above does not exceed four (4) feet at any point.

Section R309 Automatic Fire Sprinkler Systems

Amend 2024 IRC R309.2, One- and two-family dwellings automatic fire sprinkler systems, by deleting and replacing with:

An automatic residential fire sprinkler system may be installed in one- and two-family dwellings. Arizona Revised Statutes prohibits jurisdictions from adopting any ordinance that mandates fire sprinklers in newly constructed one- and two-family dwellings.

Section R317 Garages and Carports

Amend 2024 IRC R317.5, Fire sprinklers, by deleting in its entirety.

Section R325 Light, Ventilation and Heating

Amend 2024 IRC R325.3, Mechanical ventilation, by deleting and replacing with:

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 wg (50 Pa) in accordance with Section N1102.4.1.2, the *dwelling unit* may be provided with whole-house mechanical ventilation in accordance with Section M1505.4.

CHAPTER 4 FOUNDATIONS

Section R401 General

Amend 2024 IRC R401.4.1, Geotechnical evaluation, by deleting and replacing with:

Construction in all new residential subdivisions require a geotechnical evaluation with foundation design recommendations. In established areas of the City of Flagstaff, “in-fill” lots or vacant lots in subdivisions established prior to 1996, the designer may use a load-bearing pressure of 1500 pounds per square foot (psf) in lieu of a geotechnical evaluation. Upon site excavation of foundation, where the Building Official determines that in-place soils with an allowable bearing capacity of less than 1500 pounds per square foot (psf) are likely to be present at the site, then allowable bearing capacity shall be determined by a geotechnical evaluation at the expense of the permit applicant.

Section R403 Footings

Amend 2024 IRC R403.1, General, by adding:

All footings located less than eighteen (18) inches below existing grade to be air entrained, 3,500 psi concrete (severe weather), and pinned to rock at intervals specified for foundation wall vertical reinforcements or as specified by the Arizona Registered Design Professional of Record.

CHAPTER 5 FLOORS

Section R502 Wood Floor Framing

Amend 2024 IRC R502.3, Allowable joist spans, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R502.3.1(1) and R502.3.1(2)

Amend 2024 IRC R502.3.1, Sleeping areas and attic joists, by deleting and replacing with:

Table R502.3.1(1) shall be used to determine the maximum allowable span of floor joists that support sleeping areas and *attics* that are accessed by means of a fixed stairway in accordance with Section R318.7 provided that the design live load does not exceed 40 pounds per square foot (1.44 kPa) and the design dead load does not exceed 20 pounds per square foot (0.96 kPa). The allowable span of ceiling joists that support attics used for limited storage or no storage shall be determined in accordance with Section R802.5.

Section R507 Exterior Decks

Amend 2024 IRC R507.5, Deck beams, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R507.5(4).

Amend 2024 IRC R507.6, Deck joists, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Table R507.6.

Amend 2024 IRC R507.9.2, Lateral connection, by adding:

Exception: Attached first floor decks that do not exceed 30 inches above grade at any point.

CHAPTER 7 WALL COVERING

Section R702 Interior Covering

Amend 2024 IRC R702.7, Vapor retarders, by deleting the following:

The requirement for Class I or Class II vapor retarders on the interior side of frame walls in Climate Zones 5, 6, 7, 8, and Marine 4. The use of vapor retarders shall be permitted but not required.

CHAPTER 8 ROOF-CEILING CONSTRUCTION

Section R802 Wood Roof Framing

Amend 2024 IRC R802.4.1, Rafter size, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R802.4.1(1) through R802.4.1(8).

CHAPTER 9 ROOF ASSEMBLIES

Section R904 Materials

Amend 2024 IRC R904.3, Material specifications and physical characteristics, by adding:

All roofing materials used shall be Class "A" or "B" and rolled roofing shall be a Class A or B material and shall be a self-adhering, polymer modified bitumen material.

Section R905 Requirements for Roof Coverings

Amend 2024 IRC R905.7, Wood shingles, by deleting in its entirety.

Amend 2024 IRC R905.8, Wood shakes, by deleting in its entirety.

CHAPTER 11 ENERGY EFFICIENCY

Section N1102 Building Thermal Envelope

Amend 2024 IRC N1102.1.2, Insulation and fenestration criteria, by revising/adding the following to Table N1102.1.2 as follows:

Climate Zone 5, Wood frame wall R-value, shall be 15 high density in existing 2x4 framed walls in remodel work only.

Footnote b, add Exception: Windows used for the installation of glazing for an approved passive solar design.

Amend 2024 IRC table N1102.1.3, Insulation Minimum R-Values and Fenestration Requirements by Components, column 5 and 4 Marine, row Wood-Framed Wall R-Value by revising as follows:

21, or 13+5ci, or 0+15 ci

Section N1103 (R403) Systems

Amend Section N1103.7 (R403.7), Equipment sizing and efficiency rating, by deleting and replacing with the following:

Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. Furnaces installed in new construction shall comply with the standards in Section N1103.7.2 and air source heat pumps installed in new construction shall comply with the standards in Section N1103.7.3. Replacement heating and cooling equipment in existing buildings shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed. Replacement heating and cooling equipment is encouraged, but not required, to comply with the standards in Section N1103.7.2 and Section 1103.7.3.

Add Section N1103.7.2 (R403.7.2), Furnaces, to read as follows:

Furnaces installed in new construction shall be not less than 95 percent annual fuel utilization efficiency (AFUE) and shall be condensing-type furnaces.

Exception: Replacement furnaces in existing buildings are encouraged, but not required, to meet the provisions of this section.

Add Section N1103.7.3 (R403.7.3), Air Source Heat Pumps, to read as follows:

Air-source heat pumps installed in new construction shall be cold-climate heat pumps and shall comply with all of the following:

1. Have a coefficient of performance (COP) at 5°F of not less than 1.75 at maximum capacity operation, or a heating capacity at 5°F of not less than 70 percent of the maximum rated capacity.
2. Ducted systems shall have a heating seasonal performance factor (HSPF2) of not less than 7.7 and a seasonal energy efficiency ratio (SEER2) of not less than 14.3.
3. Non-ducted systems shall have an HSPF2 of not less than 8.5 and a SEER2 of not less than 15.0.

Exception: Replacement air-source heat pumps in existing buildings are encouraged, but not required, to meet the provisions of this section.

Section N1104 Electric Power, Lighting and Renewable Energy Systems

Amend 2024 IRC N1104, Electrical Power, Lighting, and Renewable Energy Systems, by deleting Sections N1104.2 through N1104.3.1 in their entirety.

CHAPTER 20 BOILERS AND WATER HEATERS

Section M2005 Water Heaters

Amend 2024 IRC M2005.1, General, by adding:

Water heaters shall be capable of being removed without first removing a permanent portion of the building structure or any other appliance.

CHAPTER 24 FUEL GAS

Amend 2024 IRC, section G2415.3, Prohibited locations, by adding: Piping shall not be installed to a structure that is not attached to a permanent foundation.

Section G2415.12 Minimum Burial Depth

Amend 2024 G2415.12, Minimum burial depth, by deleting and replacing with:

Underground piping systems shall be installed a minimum depth of 18 inches below grade, except as provided for in Section G2415.12.1.

Section G2445 Unvented Room Heaters

Amend 2024 IRC Section G2445, Unvented Room Heaters, by deleting in its entirety.

CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

Section P2601 General

Amend 2024 IRC Section P2601, General, by adding subsection P2601.4, Prohibited Locations, as follows:

P2601.4: Prohibited locations.

Water and waste plumbing systems shall not be installed to a structure that is not attached to a permanent foundation.

Section P2602 Individual Water Supply and Sewage Disposal

Amend 2024 IRC P2602.1, General, by adding:

Building sanitary drainage piping and systems that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality prior to installation.

Section P2603 Structural and Piping Protection

Amend 2024 IRC P2603.5.1, Sewer depth, by deleting and replacing with:

Building sewers that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality. *Building sewers* that connect to the City of Flagstaff's sewage disposal system shall be not less than twelve (12) inches below grade.

CHAPTER 29 WATER SUPPLY AND DISTRIBUTION

Section P2903 Water Supply System

Amend 2024 IRC Table P2903.2, Maximum Flow Rates and Consumption for Plumbing Fixtures and Fixture Fittings, by revising and adding as follows:

<u>PLUMBING FIXTURE OR FIXTURE FITTING</u>	<u>MAXIMUM FLOW RATE OR QUANTITY</u>
Lavatory faucet	1.5 gpm at 60 psi and WaterSense labeled
Showerhead ^a	1.8 gpm at 80 psi and WaterSense labeled
Sink faucet	2.2 gpm at 60 psi and WaterSense labeled
Water closet	1.28 gallons per flushing cycle and WaterSense labeled and has a Maximum Performance (MaP) rating score of at least 600 grams per flush. Dual-flush water closets: The effective flush volume shall not exceed 1.28 gallons (4.8

	liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.
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CHAPTER 31 VENTS

Section P3103 Vent Terminals

Amend 2024 IRC P3103.1.1, Roof extension, as follows:

Replace “6” with “twelve (12)” and delete “or 6 inches (mm) above the anticipated snow accumulation, whichever is greater”.

CHAPTER 39 POWER AND LIGHTING DISTRIBUTION

Section E3901 Receptacle Outlets

Amend 2024 IRC E3901.4.2, Island and peninsular countertops and work surfaces, by deleting and replacing with:

At least one receptacle outlet shall be installed at each island countertop space with a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. [210.52(C)(2)]. Not less than one receptacle outlet shall be installed at each peninsular countertop long dimension space having a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. A peninsular countertop is measured from the connected perpendicular wall. [210.52(C)(3)].

Amend 2024 IRC E3902.5, Basement receptacles, by deleting in its entirety.

APPENDIX BE – RADON CONTROL METHODS

Section BE101 General

Amend 2024 IRC Section BE101.1, General, by deleting (including Figure BE101.1 and Table BE101.1) and replacing with the following:

Radon-resistant construction in accordance with this appendix shall be required for all new construction.

APPENDIX NB – SOLAR-READY PROVISIONS – DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

Section NB103.6 (RB103.6)

Amend 2024 IRC NB103.6 (RB103.6), Capped roof penetration sleeve, by deleting in its entirety.

APPENDIX NE – ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Section NE101(RE101)

Amend 2024 IRC Section NE101.1 (RE101.1), Definitions, by deleting and replacing the definition of “Electric Vehicle Supply Equipment (EVSE)” with the following:

Electric Vehicle Supply Equipment (EVSE).

Equipment for plug-in power transfer, including ungrounded, grounded and equipment grounding conductors; electric vehicle connectors; attached plugs; any personal protection system; and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*. There are three types of EVSE, categorized by voltage and charging speed: Level 1, Level 2, and Direct Current Fast Charging (DCFC).

Amend 2024 IRC Section NE101.2.1 (RE101.2.1), Quantity, by deleting and replacing with the following:

New one- and two-family dwellings and townhouses with a designated attached or detached garage or other on-site private parking provided adjacent to the *dwelling unit* shall be provided with one *EV ready space* or *Level 2 EVSE space* per *dwelling unit*. Two-family dwellings without a designated attached or detached garage shall be permitted to provide one *EV ready space* or *Level 2 EVSE space* for use by both dwelling units. It shall be located in a common-use area and be accessible to all occupants.

Exception:

1. New detached garages or carports where electricity is not provided shall not be required to provide EV charging infrastructure.

Amend 2024 IRC Section NE101.2.3 (RE101.2.3), EV Ready Spaces, by deleting and replacing with the following:

Each branch circuit serving an EV ready space shall comply with all of the following:

1. Be a 208/240-volt, 50-ampere branch circuit.
2. Terminate in a NEMA 14-50R receptacle outlet located within 6 feet (1828 mm) of each EV ready space it serves and marked “For electric vehicle supply equipment (EVSE).”
3. Be designated on the panelboard or other electrical distribution equipment directory as “For electric vehicle supply equipment (EVSE).”
4. Be installed in compliance with the currently adopted International Residential Code and National Electrical Code.

Amend 2024 IRC Section NE101.2.4 (RE101.2.4), EVSE Spaces, by deleting and replacing with the following:

An installed *Level 2 EVSE* with multiple output connections shall be permitted to serve multiple *Level 2 EVSE spaces*. Each *Level 2 EVSE* serving either a single *Level 2 EVSE space* or multiple *Level 2 EVSE spaces* shall comply with all of the following:

1. Be served by an electrical distribution system in accordance with Section NE101.2.5.
2. Have a nameplate charging capacity of not less than 8.3 kVA (or 50A at 208/240V) per *Level 2 EVSE space* served. Where a *Level 2 EVSE* serves three or more *Level 2 EVSE spaces* and is controlled by an energy management system in accordance with Section RE101.2.5, the nameplate charging capacity shall be not less than 2.1 kVA per *Level 2 EVSE space* served.
3. Be located within 6 feet (1828 mm) of each *Level 2 EVSE space* it serves.
4. Be installed in accordance with NFPA 70 and be *listed* and *labeled* in accordance with UL 2202 or UL 2594.

Amend 2024 IRC Section NE101.2.5 (RE101.2.5), Electrical Distribution System Capacity, by deleting and replacing with the following:

The branch circuits and electrical distribution system serving each *EV capable space*, *EV ready space* and *Level 2 EVSE space* used to comply with Section NE101.2.1 (RE101.2.1) shall comply with all of the following:

1. Sized for a calculated *EV* charging load of not less than 8.3 kVA per *Level 2 EVSE*, *EV ready* or *EV capable space*. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.
2. The capacity of the electrical distribution system and each branch circuit serving multiple *Level 2 EVSE spaces*, *EV ready spaces* or *EV capable spaces* designed to be controlled by an energy management system in accordance with NFPA 70 shall be sized for a calculated *EV* charging load of not less than 2.1 kVA per space. Where an energy management system is used to

control *EV* charging loads for the purposes of this section, it shall not be configured to turn off electrical power to *Level 2 EVSE* or *EV ready spaces* used to comply with Section NE101.2.1 (RE101.2.1).

Amend 2024 IRC Section NE101.2: (RE101.2), Electric vehicle power transfer infrastructure, by adding subsection NE101.2.6 (RE101.2.6), Construction Documents, as follows:

NE101.2.6: (RE101.2.6) Construction Documents.

Construction documents shall designate all *EVSE spaces*, *EV ready spaces*, and *EV capable spaces*, and indicate the locations of raceway and/or conduit and termination points serving them. The circuits or spaces reserved for *EVSE spaces*, *EV ready spaces*, and *EV capable spaces* shall be clearly identified in the panel or subpanel directory. The raceway and/or conduit for *EV capable spaces* and *EV ready spaces* shall be clearly identified at both the panel or subpanel, and the termination point at the parking space.

APPENDIX NK –

ELECTRIC READY RESIDENTIAL PROVISIONS

Section NK101 (RK101)

Amend 2024 IRC Section NK101.1 (RK101.1), Electric Readiness, by adding:

Exception:

1. New one- and two-family dwellings and townhomes can request an exception to the requirements in this appendix from the Building Official if electrical load calculations indicate a 400-amp electric service panel is required to meet the minimum requirements of the 2024 International Residential Code. Exceptions will be granted at the discretion of the Building Official.

Amend 2024 IRC Section NK101.1.1 (RK101.1.1), Cooking appliances, by deleting and replacing with the following:

A dedicated branch circuit outlet with a rating not less than 240 volts and not less than 50 amperes shall be installed and terminate within 3 feet (914 mm) of conventional cooking tops, conventional ovens or cooking appliances combining both.

Exception: Cooking appliances not installed in an individual *dwelling unit*.

CHAPTER 4-04

2024 INTERNATIONAL EXISTING BUILDING CODE

4-04-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Existing Building Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section 105 Permits

Amend 2024 IEBC 105.1, Required, by adding:

Refer to the 2024 Amendments to Flagstaff City Code, Title 4, Building Regulations to the 2024 International Building Code (IBC) and 2024 International Residential Code (IRC) for building permit requirements.

Amend 2024 IEBC 105.5, Expiration, by deleting and replacing with:

Refer to the 2024 Amendments to Flagstaff City Code, Title 4, Building Regulations to the 2024 International Building Code (IBC) and 2024 International Residential Code (IRC) for the duration of building permits.

Section 112 Means of Appeals

Amend 2024 IEBC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IEBC Sections 112.2 through 112.4, by deleting in their entirety.

CHAPTER 4 REPAIRS

Section 408 Plumbing

Amend 2024 IEBC 408.2, Water closet replacement, by deleting and replacing with:

The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.28 gallons (4.84 liters) per flushing cycle or lower.

Dual-flush water closets: The effective flush volume for dual-flush toilets shall not exceed 1.28 gallons (4.84 liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.

CHAPTER 12 HISTORIC BUILDINGS

Section 1201 General

Amend 2024 IEBC 1201.2, Report, by adding subsection 1201.2.1, Heritage Preservation Commission:

1201.2.1: Heritage Preservation Commission. Any exterior changes to a structure over 50 years old at the time of application shall be reviewed by the Heritage Preservation Officer and Current Planning Section, Planning & Development Services Division, prior to issuing a building permit. The project may be referred to the City's Inter-Division Staff (IDS) committee and/or the Heritage Preservation Commission for review. Heritage Preservation review will be conducted pursuant to Flagstaff Zoning Code Division 10-30.30: Heritage Preservation.

CHAPTER 4-05

2024 INTERNATIONAL MECHANICAL CODE

4-05-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Mechanical Code (IMC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section 108 Fees

Amend 2024 IMC 108.6, Refunds, by deleting and replacing with:

Refunds shall be in accordance with 2024 IBC 109.6, as adopted and amended by the City of Flagstaff.

Section 112 Means of Appeal

Amend 2024 IMC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IMC Sections 112.2 through 113.1, by deleting in their entirety.

Section 114 Violations

Amend 2024 IMC 114.4, Violation penalties, by deleting and replacing with:

Violation penalties shall be in accordance with Flagstaff City Code Section 4-01-001-004, Violation and Penalties.

Amend 2024 IMC 115, Stop work orders, by deleting and replacing with:

Stop work orders shall be in accordance with 2024 IBC Section 115, as adopted and amended by the City of Flagstaff.

CHAPTER 3 GENERAL REGULATIONS

Section 304 Installation

Amend 2024 IMC 304.2, Conflicts, by deleting and replacing with:

Where conflicts occur between the provisions of this code and the conditions of the listing or the manufacturer's installation instructions, the listing and manufacturer's installation instructions shall govern.

CHAPTER 4 VENTILATION

Amend 2024 IMC Chapter 4, Ventilation, by adding Section 408, Cannabis Related Occupancies, as follows:

408.1 General.

Any building used to cultivate, produce, infuse, or dispense cannabis shall be designed such that there shall be no emission of dust, fumes, vapors, or odors into the environment from the premises. A ventilation system shall be designed to prevent the distribution of odors to other occupied parts of the building or adjacent properties. Design of the odor control system shall be based on accepted engineering practices. All equipment and filter media shall be listed and labeled for the application. Exhaust systems used in odor control systems shall meet the requirements of Section 501. 408.1.1 Exhaust outlets. The termination point for exhaust outlets shall be in 65 accordance with Section 501.3. Exhaust from cultivation and production facilities shall be in accordance with Section 501.3.1(2) and for dispensaries in accordance with Section 501.3.1(3).

CHAPTER 5 EXHAUST SYSTEMS

Section 511, Sub-slab Soil Exhaust Systems

Amend 2024 IMC 511.1, General, by deleting and replacing with:

Sub-slab soil exhaust systems shall be required for all new construction within the jurisdiction where buildings are constructed in contact with the ground. Where a sub-slab soil exhaust system is provided, the system shall comply with the requirements of this section.

CHAPTER 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT

Section 903 Factory-Built Fireplaces

Amend 2024 IMC 903.3, Unvented gas log heaters, by deleting and replacing with:

An unvented gas log heater shall not be installed at any time unless first approved by the local gas utility company. A signed and dated letter of such approval shall be submitted to the Building Official before a permit can be issued.

CHAPTER 10 BOILERS, WATER HEATERS AND PRESSURE VESSELS

Section 1002 Water Heaters

Amend 2024 IMC 1002.1, General, by revising the second sentence to read:

Water heaters shall be capable of being removed without first removing a permanent portion of the building structure or any other appliance.

CHAPTER 4-06 2024 INTERNATIONAL PLUMBING CODE

4-06-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Plumbing Code (IPC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section 108 Fees

Amend 2024 IPC 108.2, Schedule of permit fees, by deleting and replacing with:

The fees for all plumbing work shall be in accordance with 2024 IBC 109.2, as adopted and amended by the City of Flagstaff.

Amend 2024 IPC 108.6, Fee refunds, by deleting and replacing with:

Refunds shall be in accordance with 2024 IBC 109.6, as adopted and amended by the City of Flagstaff.

Section 112 Means of Appeal

Amend 2024 IPC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IPC Sections 112.2 through 113.1, by deleting in their entirety.

Section 114 Violations

Amend 2024 IPC 114.4, Violation penalties, by deleting and replacing with:

Violation penalties shall be in accordance with Flagstaff City Code Section 4-01-001-004, Violation and Penalties.

CHAPTER 3 GENERAL REGULATIONS

Section 301 General

Amend 2024 IPC 301.6, Prohibited locations, by adding:

Water and waste plumbing systems shall not be installed to a structure that is not attached to a permanent foundation.

Amend 2024 IPC 301.7, Conflicts, by deleting and replacing with:

Where conflicts between this Code and the conditions of the listing or the manufacturer's installation instructions occur, the listing or manufacturer's installation requirements shall apply.

Section 305 Protection of Pipes and Plumbing System Components

Amend 2024 IPC 305.4, Freezing, by revising the last sentence to read:

Exterior water supply piping shall be installed not less than thirty (30) inches below grade.

Amend 2024 IPC 305.4.1, Sewer depth, by deleting and replacing with:

Building sewers that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality prior to installation. Building sewers that connect to City-provided sewer shall be a minimum of twelve (12) inches below grade.

Section 312 Tests and Inspections

Amend 2024 IPC 312.1, Required tests, by replacing the fourth sentence with:

All plumbing system piping shall be tested with either water or air.

Amend 2024 IPC 312.3, Drainage and vent air test, by deleting the first sentence.

Amend 2024 IPC 312.5, Drainage and vent final test, by deleting in its entirety.

Amend 2024 IPC 312.7, Gravity sewer test, by deleting in its entirety.

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

Section 604 Design of Building Water Distribution System

Amend 2024 IPC Table 604.4, Maximum flow rates and consumption for plumbing fixtures and fixture fittings, by revising the following values:

<u>PLUMBING FIXTURE OR FIXTURE FITTING</u>	<u>MAXIMUM FLOW RATE OR QUANTITY^b</u>
Lavatory faucet, private	1.5 gpm at 60 psi and WaterSense labeled
Lavatory faucet, public (metering)	0.25 gallon per metering cycle and WaterSense labeled
Lavatory faucet, public (other than metering)	0.5 gpm at 60 psi and WaterSense labeled
Showerhead ^{a, c}	1.8 gpm at 80 psi and WaterSense labeled
Sink faucet	2.2 gpm at 60 psi and WaterSense labeled
Urinal	0.125 gallons (1 pint) per flushing cycle and WaterSense labeled
Water closet	1.28 gallons per flushing cycle and WaterSense labeled and has a Maximum Performance (MaP) rating score of at least 600 grams per flush. Dual-flush water closets: The effective flush volume for dual-flush toilets shall not exceed 1.28 gallons (4.84 liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

- A hand-held shower spray is a shower head.
- Consumption tolerances shall be determined from referenced standards.
- Shower heads shall comply with all requirements for high-efficiency showerheads in [ASME A112.18.1-2020/CSA B125.1](#).

CHAPTER 7 SANITARY DRAINAGE

Section 703 Building Sewer

Amend 2024 IPC 703, Building sewer, by adding section 703.7, Building sewer locating means:

703.7 Building Sewer Locating Means. All non-metallic building sewer piping shall be installed with a plastic covered No. 12 AWG Type UF 600V tracer wire taped to the top of the piping with a minimum 10 mil tape. The building sewer tracer wire shall be green in color.

CHAPTER 9 VENTS

Section 903 Vent Terminals

Amend 2024 IPC 903.1.1, Roof extension unprotected, as follows:

Replace “[NUMBER]” with “twelve (12)” and replace “(mm)” with “(304.8 mm)”.

CHAPTER 4-07 2024 INTERNATIONAL FUEL GAS CODE

4-07-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Fuel Gas Code (IFGC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND APPLICATION

Section 108 Fees

Amend 2024 IFGC 108.6, Refunds, by deleting and replacing with:

Refunds shall be in accordance with 2024 IBC 109.6, as adopted and amended by the City of Flagstaff.

Section 112 Means of Appeals

Amend 2024 IFGC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IFGC Sections 112.2 through 112.4, by deleting in their entirety.

Section 113 Violations

Amend 2024 IFGC 113.4, Violation penalties, by deleting and replacing with:

Violation penalties shall be in accordance with Flagstaff City Code Section 4-01-001-004, Violation and Penalties.

CHAPTER 3 GENERAL REGULATIONS

Section 303 Appliance Location

Amend 2024 IFGC 303.3, Prohibited locations, by deleting numbers 3 and 4.

CHAPTER 4 GAS PIPING INSTALLATIONS

Section 403 Piping Materials

Amend 2024 IFGC 403.3.3, Copper and copper alloy, by deleting and replacing with:

Copper and brass, threaded copper, brass, and aluminum piping shall not be used for gas piping installations within the City of Flagstaff.

Section 404 Piping System Installation

Amend 2024 IFGC 404.3, Prohibited locations, by adding:

Piping shall not be installed to a structure that is not attached to a permanent foundation.

Amend 2024 IFGC 404.12, Minimum burial depth, by deleting and replacing with:

Underground piping systems shall be installed a minimum depth of 18 inches below grade, except as provided for in Section 404.12.1.

CHAPTER 6 SPECIFIC APPLIANCES

Section 621 Unvented Room Heaters

Amend 2024 IFGC Section 621, Unvented Room Heaters, by deleting in its entirety.

CHAPTER 4-08

2024 INTERNATIONAL ENERGY CONSERVATION CODE

4-08-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Energy Conservation Code (IECC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

COMMERCIAL PROVISIONS

CHAPTER [CE] 1 SCOPE AND ADMINISTRATION

Section C101 Scope and General Requirements

Section C101.2 Scope

Amend 2024 IECC Section C101.2, Scope, by adding the following:

Group R-2 buildings, where defined as residential buildings by Section C202, shall be permitted to comply with the Residential Provisions of this code, regardless of height. Such election shall be indicated on the construction documents at the time of submittal.

Section C101.2.1 Appendices

Amend 2024 IECC Section C101.2.1, Appendices, by adding:

The following Appendices are hereby adopted as part of the IECC:

APPENDIX CB – Solar-Ready Zone – Commercial

APPENDIX CG – Electric Vehicle Charging Infrastructure

APPENDIX CH – Electric – Ready Commercial Building Provisions

APPENDIX CI – Demand Responsive Controls

Section C101.4 Compliance

Amend 2024 IECC Section C101.4, Compliance, by adding the following:

Residential buildings shall comply with the Residential Provisions of this code. Commercial buildings shall comply with the Commercial Provisions of this code. Group R-2 buildings, where defined as residential buildings by Section C202, shall be permitted to comply with the Residential Provisions of this code, regardless of height. Where such election is made, all applicable Residential Provisions shall be followed in their entirety. Once selected, the compliance path shall not be changed without approval of the Building Official.

Section C109 Means of Appeals

Amend 2024 IECC C109.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IECC Sections C109.2 through 109.4, by deleting in their entirety.

CHAPTER [CE] 2 DEFINITIONS

Section C202 General Definitions

Amend 2024 IECC Section C202, General definitions, by deleting and replacing the definition of “Residential Building” with the following:

RESIDENTIAL BUILDING. For this code, includes detached one- and two-family dwellings and townhouses, as well as Group R-2, R-3, and R-4 buildings. Group R-2 buildings, regardless of height, shall

be permitted to comply with the Residential Provisions of this code, provided such designation is identified on the construction documents. Where a building includes accessory common uses and/or commercial spaces, those portions of the building shall comply with the applicable commercial provisions of the International Energy Conservation Code.

CHAPTER [CE] 4 COMMERCIAL ENERGY EFFICIENCY

Amend 2024 IECC table C402.1.3, Opaque Building Thermal Envelope Insulation Component Minimum Requirements, R-Value Method, Column 5 and Marine 4, sub-columns All other and Group R, row Wood framed and other by revising as follows:

R-0+R-16ci, or R-13+R-7.5ci, or R20+R3.8, or R-21

Section C405.12 Automatic Receptacle Control

Amend 2024 IECC C405.12 & 405.12.1, Automatic Receptacle Control, by deleting in their entirety.

Section C405.13 Energy Monitoring

Amend 2024 IECC Section C405.13, Energy Monitoring, by adding the following:

Compliance with the provisions of this section is optional.

Section C405.15 Renewable Energy Systems

Amend 2024 IECC Section C405.15, Renewable Energy Systems, as follows:

Replace “shall” with “may” and add the following second sentence: Compliance with the provisions of Sections C405.15.1 through C405.15.4 is optional.

APPENDIX CG – ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Section CG101.1 Definitions

Amend 2024 IECC Section CG101.1, Definitions, by deleting and replacing the definition of “Electric Vehicle Supply Equipment (EVSE)” with the following:

Equipment for plug-in power transfer, including ungrounded, grounded and equipment grounding conductors; electric vehicle connectors; attached plugs; any personal protection system; and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle. There are three types of EVSE, categorized by voltage and charging speed: Level 1, Level 2, and Direct Current Fast Charging (DCFC).

Section CG101.2.1 Quantity

Amend 2024 IECC Section CG101.2.1, Quantity, by deleting and replacing with the following:

The number of required *Level 2 electric vehicle supply equipment (EVSE)* spaces, *EV capable spaces* and *EV ready spaces* shall be determined in accordance with this section and Table CG101.2.1 based on the total number of *automobile parking spaces* and shall be rounded up to the nearest whole number. For Group R-2 buildings, the Table CG101.2.1 requirements shall be based on the total number of *dwelling units* or the total number of *automobile parking spaces*, whichever is less.

1. Where more than one parking facility is provided on a *building site*, the number of required *automobile parking spaces* required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.
3. Installed *Level 2 EVSE spaces* that exceed the minimum requirements of this section may be used to meet the minimum requirements for *EV ready spaces* and/or *EV capable spaces* on a one-to-one ratio.

4. Installed *EV ready spaces* that exceed the minimum requirements of this section may be used to meet the minimum requirements for *EV capable spaces* on a one-to-one ratio.
5. Where the number of *EV ready spaces* allocated for R-2 occupancies is equal to the number of *dwelling units* or to the number of *automobile parking spaces* allocated to R-2 occupancies, whichever is less, requirements for *Level 2 EVSE spaces* for R-2 occupancies shall not apply.
6. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new automobile spaces do not serve specific occupancies, the values for Group S-2 parking garage in Table CG101.2.1 shall be used.
7. For buildings that install *DCFC EVSE* spaces, each *DCFC EVSE* space shall be permitted to substitute up to 10 required *EV capable, EV ready, or Level 2 EVSE* spaces.
8. Group R-2 occupancies shall be permitted to install three *Level 1 EVSE* spaces for every required *Level 2 EVSE space* or *EV ready space* but cannot exceed 50 percent of the required Level 2 EVSE spaces or EV ready spaces.
9. All attached garages with direct connection to a *dwelling unit* will be required to have one *EV ready or Level 2 EVSE space*.
10. When the calculation of required *EV capable, EV ready, and/or Level 2 EVSE spaces* results in a decimal number, a decimal of 0.5 or more shall be adjusted to the next higher whole number, and a decimal of less than 0.5 shall be adjusted to the next lower whole number.

Exception: Parking facilities serving occupancies other than R2 with fewer than 15 *automobile parking spaces*.

Amend 2024 IECC table CG101.2.1, Required EV Power Transfer Infrastructure, by deleting and replacing with the following:

TABLE CG101.2.1 REQUIRED EV POWER TRANSFER INFRASTRUCTURE

OCCUPANCY	LEVEL 2 EVSE SPACES	EV READY SPACES	EV CAPABLE SPACES
Group A	5%	0%	10%
Group B	5%	5%	10%
Group E	5%	5%	10%
Group F	2%	0%	5%
Group H	1%	0%	0%
Group I	5%	0%	10%
Group M	5%	0%	10%
Group R-1	5%	10%	15%
Group R-2	5%	10%	15%

Groups R-3 and R-4	0%	2%	5%
Group S exclusive of parking garages	1%	0%	0%
Group S-2 parking garages	15%	0%	30%

CG101.2.2 EV Capable Spaces.

Amend 2024 IECC Section CG101.2.2, EV Capable Spaces, by deleting and replacing with the following:

Each *EV capable space* used to meet the requirements of Section CG101.2.1 shall comply with all of the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the *EV capable space* and electrical distribution equipment.
2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with Section CG101.2.5.
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have dedicated overcurrent protection device space and electrical capacity to supply a calculated load in accordance with Section CG101.2.5.
4. The enclosure or outlet and the electrical distribution equipment directory shall be marked: "For electric vehicle supply equipment (EVSE)."

CG101.2.3 EV Ready Spaces.

Amend 2024 IECC Section CG101.2.3, EV Ready Spaces, by deleting and replacing with the following:

Each branch circuit serving *EV ready spaces* used to meet the requirements of Section CG101.2.1 shall comply with all of the following:

1. Be a 208/240-volt, 50-ampere branch circuit.
2. Terminate in a NEMA 14-50R receptacle outlet located within 3 feet (914 mm) of each EV ready space it serves.
3. Have a minimum system and circuit capacity in accordance with Section CG101.2.5.
4. The electrical distribution equipment directory shall designate the branch circuit as "For electric vehicle supply equipment (EVSE)" and the outlet or enclosure shall be marked "For electric vehicle supply equipment (EVSE)."
5. Be installed in compliance with the currently adopted National Electrical Code.

CG101.2.4: EVSE Spaces

Amend 2024 IECC Section CG101.2.4, EVSE Spaces, by deleting and replacing with the following:

CG101.2.4.1: Level 2 EVSE spaces.

An installed *Level 2 EVSE* with multiple output connections shall be permitted to serve multiple *Level 2 EVSE spaces*. Each *Level 2 EVSE* installed to meet the requirements of Section CG101.2.1, serving either a single *Level 2 EVSE* or multiple *Level 2 EVSE*, shall comply with all of the following:

1. Have a minimum system and circuit capacity in accordance with Section CG101.2.5.
2. Have a nameplate rating not less than 8.3 kW.
3. Be located within 3 feet (914 mm) of each *Level 2 EVSE space* it serves.
4. Be installed in accordance with Section CG101.2.6.

CG101.2.4.2: Level 1 EVSE Spaces.

Each *Level 1 EVSE space* shall comply with all the following:

1. The receptacle shall be located within 3 feet (914 mm) of each *Level 1 EVSE space* it serves.
2. Have a minimum circuit capacity of 1.8 kVA (15 amperes 120 volts).
3. The electrical panel, electrical distribution equipment directory, and all receptacles or enclosures shall be marked “Level 1 Electric vehicle supply equipment (EVSE).”

CG101.2: Electric Vehicle Power Infrastructure.

Amend 2024 IECC Section CG101.2, Electric Vehicle Power Infrastructure, as follows:

Change “CG101.2.6” to “CG101.2.7”.

Amend 2024 IECC Section CG101.2, Electric Vehicle Power Infrastructure, by adding Section CG101.2.7, Construction Documents, to read as follows:

Construction documents shall designate all *EVSE spaces*, *EV ready spaces*, and *EV capable spaces*, and indicate the locations of raceway and/or conduit and termination points serving them. The circuits or spaces reserved for *EVSE spaces*, *EV ready spaces*, and *EV capable spaces* shall be clearly identified in the panel or subpanel directory. The raceway and/or conduit for *EV ready spaces* and *EV capable spaces* shall be clearly identified at both the panel or subpanel, and the termination point at the parking space.

APPENDIX CI: DEMAND RESPONSIVE CONTROLS

Section CI103.1 Demand Responsive Lighting Controls

Amend 2024 IECC Section CI103, Demand Responsive Lighting Controls, by deleting in its entirety.

RESIDENTIAL PROVISIONS

CHAPTER [RE] 1 SCOPE AND ADMINISTRATION

Section R101 Scope and General Requirements

Amend 2024 IECC Section R101.2.1, Appendices, by adding.

The following Appendices are hereby adopted as part of the IECC:

APPENDIX RB– SOLAR-READY PROVISIONS – DETACHED ONE- AND TWO – FAMILY DWELLINGS AND TOWNHOUSES

APPENDIX RE – ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

APPENDIX RK – ELECTRIC READY RESIDENTIAL BUILDING PROVISIONS

APPENDIX RL – RENEWABLE ENERGY INFRASTRUCTURE

Section R109 Means of Appeals

Amend 2024 IECC R109.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 IECC Sections R109.2 through 109.4, by deleting in their entirety.

CHAPTER [RE] 2 DEFINITIONS

Section R202 General Definitions

Amend 2024 IECC R202, General definitions, by replacing the definition of “Residential Building” with the following:

RESIDENTIAL BUILDING. For this code, includes detached one- and two-family dwellings and townhouses, as well as Group R-2, R-3, and R-4 buildings. Group R-2 buildings, regardless of height, shall be permitted to comply with the Residential Provisions of this code, provided such designation is identified on the construction documents. Where a building includes accessory common uses and/or commercial spaces, those portions of the building shall comply with the applicable commercial provisions of the International Energy Conservation Code.

CHAPTER [RE] 4 RESIDENTIAL ENERGY EFFICIENCY

Section R402 Building Thermal Envelope

Amend 2024 IECC Table R402.1.2, Maximum Assembly U-Factors and Fenestration Requirements, by adding the following:

Footnote b, Exception: Windows used for the installation of glazing for approved passive solar design.

Amend 2024 IECC Table R402.1.3, Insulation Minimum R-Values and Fenestration Requirements by Component, column 5 and 4 Marine, row Wood-Framed Wall R-Value by revising as follows:

21, or 13+5ci, or 0+15 ci (R15 high density shall be permissible in existing 2x4 framed walls)

Section R403 Systems

Amend 2024 IECC Section R403.7, Equipment sizing and efficiency rating, by deleting and replacing with the following:

Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. Furnaces installed in new construction shall comply with the standards in Section N1103.7.2 and air source heat pumps installed in new construction shall comply with the standards in Section N1103.7.3. Replacement heating and cooling equipment in existing buildings shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed. Replacement heating and cooling equipment is encouraged, but not required, to comply with the standards in Section R403.7.2 and R403.7.3.

Amend 2024 IECC Section R403.7, Equipment sizing and efficiency rating, by adding Section R403.7.2, Furnaces, as follows:

R403.7.2: Furnaces.

Furnaces installed in new construction shall be not less than 95 percent annual fuel utilization efficiency (AFUE) and shall be condensing-type furnaces.

Exception: Replacement furnaces in existing buildings are encouraged, but not required, to meet the provisions of this section.

Amend 2024 IECC Section R403.7, Equipment sizing and efficiency rating, by adding Section R403.7.3, Air Source Heat Pumps, as follows:

R403.7.3: Air source heat pumps.

Air-source heat pumps installed in new construction shall be cold-climate heat pumps and shall comply with all of the following:

1. Have a coefficient of performance (COP) at 5°F of not less than 1.75 at maximum capacity operation, or a heating capacity at 5°F of not less than 70 percent of the maximum rated capacity.
2. Ducted systems shall have a heating seasonal performance factor (HSPF2) of not less than 7.7 and a seasonal energy efficiency ratio (SEER2) of not less than 14.3.
3. Non-ducted systems shall have an HSPF2 of not less than 8.5 and a SEER2 of not less than 15.0.

Exception: Replacement air-source heat pumps in existing buildings are encouraged, but not required, to meet the provisions of this section.

Section R404 Electric Power, Lighting and Renewable Energy Systems

Amend 2024 IRC R404, Electrical Power, Lighting, and Renewable Energy Systems, by deleting Sections R404.2 through R404.3.1 in their entirety.

APPENDIX RB – SOLAR-READY PROVISIONS – DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

Amend 2024 IECC RB103.6, Capped roof penetration sleeve, by deleting in its entirety.

APPENDIX RE – ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Section RE101.1

Amend 2024 IECC Section RE101.1, Definitions, by deleting and replacing the definition of “Electric Vehicle Supply Equipment (EVSE)” with the following:

Electric Vehicle Supply Equipment (EVSE). Equipment for plug-in power transfer, including ungrounded, grounded and equipment grounding conductors; electric vehicle connectors; attached plugs; any personal protection system; and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*. There are three types of EVSE, categorized by voltage and charging speed: Level 1, Level 2, and Direct Current Fast Charging (DCFC).

Section RE101.2

Amend 2024 IECC Section RE101.2, Electric vehicle power infrastructure, as follows:

Change “RE101.2.5” to “RE101.2.6”.

Amend 2024 IECC Section RE101.2, Electric vehicle power transfer infrastructure, by adding:

Exceptions:

New detached garages or carports where electricity is not provided shall not be required to provide EV charging infrastructure.

Amend 2024 IECC Section RE101.2.1, Quantity, by deleting and replacing with the following sections RE101.2.1.1 - RE101.2.1.4.3:

Section RE101.2.1.1 One- and Two- Family Dwellings and Townhouses

New one- and two-family dwellings and townhouses with a designated attached or detached garage or other on-site private parking provided adjacent to the *dwelling unit* shall be provided with one *EV ready space* or *Level 2 EVSE space* per *dwelling unit*. Two-family dwellings without a designated attached or detached garage shall be permitted to provide one *EV ready space* or *Level 2 EVSE space* for use by both dwelling units. It shall be located in a common-use area and be accessible to all occupants.

Section RE101.2.1.2 Other Residential Occupancies

R-2 occupancies, allocated parking for R-2 occupancies in mixed-use *buildings*, R-3 occupancies (excluding one- and two-family dwellings and townhomes), and R-4 occupancies shall meet the requirements in Table RE101.2.1.2(1) for *EV capable*, *EV ready*, or *EVSE* spaces. At least one *EV capable*, *EV ready* or *EVSE space* shall be located in a common-use area and be available for use by all occupants.

When the calculation of required *EV capable*, *EV ready*, and *EVSE spaces* results in a decimal number, a decimal of 0.5 or more shall be adjusted to the next higher whole number, and a decimal of less than 0.5 shall be adjusted to the next lower whole number.

Table RE101.2.1.2(1) EV Infrastructure Requirements for Other Residential Occupancies

Building Type	Level 2 EVSE spaces	EV capable or EV ready spaces
Group R-2 occupancies three stories or less in height above grade plane with 15 or fewer parking spaces	20% of spaces shall be either <i>Level 2 EVSE</i> , <i>EV ready</i> , or <i>EV capable</i> (not fewer than 1 space).	
Group R-2 occupancies less than three stories in height above grade plane with more than 15 parking spaces	5%	15%
Group R-2 occupancies taller than three stories in height above grade plane	5%	25%
Group R-3 and R-4 occupancies three stories or less in height above grade plane with more than 15 parking spaces	0	7%

Exceptions:

1. R-3 and R-4 occupancies where fewer than 15 parking spaces are provided.
2. Where the local electric distribution entity certifies in writing that it is not able to provide 100 percent of the necessary distribution capacity within 2 years after the estimated certificate of occupancy date, the required EV charging infrastructure shall be reduced based on the available existing electric distribution capacity.
3. Where substantiation is approved that meeting the requirements of Section RE101.2.5 will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the builder or developer by more than \$450 per dwelling unit.

RE101.2.1.3 Attached garages. All attached garages with direct connection to a dwelling unit shall be required to have one EV ready space or EVSE space.

RE101.2.1.4 Parking Space Type Substitutions. Group R-2, R-3, and R-4 occupancies shall be permitted to substitute EV parking spaces required in Table 101.2.1.2(1) according to sections RE101.2.1.4.1 – RE101.2.1.4.3.

RE101.2.1.4.1 DC Fast Charging. For Group R-2, R-3, R-4 buildings that install *DCFC EVSE* spaces, each *DCFC EVSE* space shall be permitted to substitute up to 10 required *EV capable*, *EV ready*, or *Level 2 EVSE spaces* in Table RE101.2.1.2(1).

RE101.2.1.4.2 Level 1 EV Charging. For Group R-2 buildings that install *Level 1 EVSE spaces* in accordance with section RE101.2.5, three *Level 1 EVSE spaces* shall be permitted to substitute every *Level 2 EVSE space*, but cannot exceed 50 percent of the required *Level 2 EVSE spaces* in Table RE101.2.1.2(1).

RE101.2.1.4.3 Excess Level 2 EVSE Spaces. *Level 2 EVSE spaces* installed in accordance with Section RE101.2.4 that exceed the minimum requirements in Table RE101.2.1.2(1) are permitted to be used to meet the minimum requirements for *EV capable* or *EV ready spaces* on a one-to-one ratio.

Amend 2024 IECC Section RE101.2.3, EV Ready Spaces, by deleting and replacing with the following:

Each branch circuit serving an EV ready space shall comply with all of the following:

1. Be a 208/240-volt, 50-ampere branch circuit.
2. Terminate in a NEMA 14-50R receptacle outlet located within 6 feet (1828 mm) of each EV ready space it serves and marked “For electric vehicle supply equipment (EVSE).”
3. Be designated on the panelboard or other electrical distribution equipment directory as “For electric vehicle supply equipment (EVSE).”
4. Installation shall comply with the currently adopted National Electrical Code.

Amend 2024 IECC Section RE101.2.4, EVSE Spaces, by deleting and replacing with the following:

RE101.2.4.1 Level 2 EVSE Spaces

An installed *Level 2 EVSE* with multiple output connections shall be permitted to serve multiple *Level 2 EVSE spaces*. Each *Level 2 EVSE* serving either a single *Level 2 EVSE space* or multiple *Level 2 EVSE spaces* shall comply with all of the following:

1. Be served by an electrical distribution system in accordance with Section RE101.2.5.
2. Have a nameplate charging capacity of not less than 8.3 kVA (or 50A at 208/240V) per *Level 2 EVSE space* served. Where a *Level 2 EVSE* serves three or more *Level 2 EVSE spaces* and is controlled by an energy management system in accordance with Section RE101.2.5, the nameplate charging capacity shall be not less than 2.1 kVA per *Level 2 EVSE space* served.
3. Be located within 6 feet (1828 mm) of each *Level 2 EVSE space* it serves.
4. Be installed in accordance with NFPA 70 and be *listed* and *labeled* in accordance with UL 2202 or UL 2594.

RE101.2.4.2 Level 1 EVSE Spaces.

Each *Level 1 EVSE space* shall comply with all the following:

1. The receptacle shall be located within 6 feet (1828 mm) of each *Level 1 EVSE space* it serves.
2. Have a minimum circuit capacity of 1.8 kVA (15A 120V).

3. The electrical panel, electrical distribution equipment directory, and all receptacles or enclosures shall be marked “Level 1 Electric vehicle supply equipment (EVSE).”

Amend 2024 IECC Section RE101.2.5, Electrical Distribution System Capacity, by deleting and replacing with the following:

The branch circuits and electrical distribution system serving each *EV capable space*, *EV ready space* and *Level 2 EVSE space* used to comply with Section RE101.2.1 shall comply with one of the following:

1. Sized for a calculated *EV* charging load of not less than 8.3 kVA per *Level 2 EVSE*, *EV ready* or *EV capable space*. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.
2. The capacity of the electrical distribution system and each branch circuit serving multiple *Level 2 EVSE spaces*, *EV ready spaces* or *EV capable spaces* designed to be controlled by an energy management system in accordance with NFPA 70 shall be sized for a calculated *EV* charging load of not less than 2.1 kVA per space. Where an energy management system is used to control *EV* charging loads for the purposes of this section, it shall not be configured to turn off electrical power to *Level 2 EVSE* or *EV ready spaces* used to comply with Section RE101.2.1.

Amend 2024 IECC Section RE101.2, Electric vehicle power transfer infrastructure, by adding Section RE101.2.6, Construction Documents, as follows:

RE101.2.6: Construction documents.

Construction documents shall designate all *EVSE spaces*, *EV ready spaces*, and *EV capable spaces*, and indicate the locations of raceway and/or conduit and termination points serving them. The circuits or spaces reserved for *EVSE spaces*, *EV ready spaces*, and *EV capable spaces* shall be clearly identified in the panel or subpanel directory. The raceway and/or conduit for *EV ready spaces* and *EV capable spaces* shall be clearly identified at both the panel or subpanel, and the termination point at the parking space.

APPENDIX RK – ELECTRIC READY RESIDENTIAL CONSTRUCTION

Section RK101

Amend 2024 IECC Section RK101.1, Electric readiness, to add:

Exception:

1. New one- and two-family dwellings and townhomes can request an exception to the requirements in this appendix from the Building Official if electrical load calculations indicate a 400-amp electric service panel is required to meet the minimum requirements of the 2024 International Residential Code. Exceptions will be granted at the discretion of the Building Official.

Amend 2024 IECC Section RK101.1.1, Cooking appliances, by deleting and replacing with the following:

A dedicated branch circuit outlet with a rating not less than 240 volts and not less than 50 amperes shall be installed and terminate within 3 feet (914 mm) of conventional cooking tops, conventional ovens or cooking appliances combining both.

Exception: Cooking appliances not installed in an individual *dwelling unit*.

APPENDIX RL – RENEWABLE ENERGY INFRASTRUCTURE

Section RL101

Amend 2024 IECC Section RL101.1, Renewable energy infrastructure, by deleting and replacing with the following:

The *building* shall comply with the requirements of Section RL101.1.2.

Solar-ready construction in accordance with this appendix shall be required for all new Group R occupancies, excluding one- and two-family dwellings and townhouses regulated under the 2024 International Residential Code.

Amend 2024 IECC Section RL101.1.1, One- and two-family dwellings and townhouses, by deleting entirely

CHAPTER 4-10

2024 INTERNATIONAL SWIMMING POOL AND SPA CODE

4-10-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2024 International Swimming Pool and Spa Code (ISPSC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 SCOPE AND ADMINISTRATION

Section 112 Means of Appeals

Amend 2024 ISPSC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2024 ISPSC Sections 112.2 through 112.4, by deleting in their entirety.

Section 113 Violations

Amend 2024 IMC 113.4, Violation penalties, by deleting and replacing with:

Violation penalties shall be in accordance with Flagstaff City Code Section 4-01-001-004, Violation and Penalties.

CHAPTER 2 DEFINITIONS

Section 202 Definitions

Amend 2024 ISPSC Section 202, Definitions, by deleting and replacing the definition of “Residential Swimming Pool (Residential Pool)” with the following:

RESIDENTIAL SWIMMING POOL (Residential Pool). A pool intended for use that is accessory to a residential setting and available only to the household and its guests including any structure intended for swimming or recreational bathing that contains water over eighteen (18) inches in depth. This includes in-ground, above ground, and on-ground swimming pools, hot tubs, spas, and fixed in place wading pools. Other pools shall be considered to be public pools for purposes of this code.

CHAPTER 3 GENERAL COMPLIANCE

Section 305 Barrier Requirements

Amend 2024 ISPSC 305.2.1, Barrier height and clearances, by revising subsection 1 as follows:

Replace “48 inches” with “60 inches” and “1219 mm” with “1524 mm”.

CHAPTER 4-11 NATIONAL ELECTRICAL CODE

4-11-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the National Electrical Code (NEC), 2023 Edition, adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

CHAPTER 1 GENERAL

Article 110 General Requirements for Electrical Installations

Part I General

Amend 2023 NEC Article 110.2, Approval, by deleting and replacing with:

All electrical conductors, components, material, and equipment shall be listed and labeled.

Amend 2023 NEC Article 110.5, Conductors, by deleting and replacing with:

Conductors used to carry current shall be copper. Aluminum or copper-clad aluminum conductors shall be permitted only for feeders and service-entrance conductors, where installed in accordance with this Code. Aluminum and copper-clad aluminum conductors shall not be used for branch-circuit wiring.

Where conductor material is not specifically identified, the conductor sizes and requirements of this Code shall be based on copper conductors.

Amend 2023 NEC Article 110.7, Wiring Integrity, by deleting and replacing with:

All equipment rated at 1000 amperes or more shall be tested for insulation breakdown, mechanical integrity, and workmanship prior to the equipment being energized. A certified high potential voltage test (hi-pot) shall be performed and a certificate issued to the Building Official. This test shall be performed in the presence of a Building Inspector and conducted by a testing firm approved by the Building Official.

Said test shall be performed for a period of one (1) minute, the application of a 60 hertz alternating potential of 1000 volts plus twice the rated phase to phase voltage of the equipment.

This test shall be performed between all phases to ground, phase to phase, and neutral if isolated.

CHAPTER 2 WIRING AND PROTECTION

Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal

Part I General

Amend 2023 NEC Article 210.5, Identification for Branch Circuits, by adding:

(D) **Color Code.** Where 15, 20, or 30 ampere branch circuits requiring a neutral are installed in raceways or cable assemblies, the conductor of branch circuits connected to the same system shall conform to the following color code:

<u>Volts</u>	<u>Phase</u>	<u>System</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>
120/208	3	Wye	Black	Red	Blue	White
120/240	3	Delta	Black	Orange	Blue	White
277/480	3	Wye	Brown	Orange	Yellow	Gray

Article

Amend 2023 NEC Article 210.8, Ground-Fault Circuit-Interrupter Protection for Personnel, by deleting subsection 210.8(A)(5) in its entirety.

Article 210.52

Amend 2023 NEC Article 210.52(C)(2), Island and peninsular countertops and work surfaces, by deleting and replacing with the following:

At least one receptacle outlet shall be installed at each island countertop space with a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. Not less than one receptacle outlet shall be installed at each peninsular countertop long dimension space having a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. A peninsular countertop is measured from the connected perpendicular wall. Receptacle outlets shall be installed in accordance with 210.52(C)(3).

Article 250 Grounding and Bonding

Part II System Grounding

Amend 2023 NEC Article 250.30, Grounding Separately Derived Alternating-Current Systems, (A) Grounded Systems, (4) Grounding Electrode, by adding:

All new building construction shall have a one-piece concrete-encased electrode and electrode conductor (Ufer ground), a minimum twenty (20) feet length in the footing, sized from the following table:

0-200 ampere service: 1 piece #4 copper (electrode and electrode conductor)

201-400 ampere service: 1 piece 1/0 copper (electrode and electrode conductor)

401-800 ampere service: 1 piece 2/0 copper (electrode and electrode conductor)

Larger than 800 ampere service: 1 piece 3/0 copper (electrode and electrode conductor)

Where the Ufer has been lost, damaged, or cannot be located, a ground ring or modification of the same consisting of thirty (30) feet of #2 bare copper wire, buried a minimum of thirty (30) inches deep in a trench, or a plate electrode per Article 250.53 (H) shall be required in lieu of a concrete-encased electrode.