6.3.3 Fire Protection

A. General

1. **Purpose.**
   The purpose of this section is to ensure that proposed development is reviewed in consideration of the need to provide adequate fire protection, minimize the hazard to public health, safety, and welfare, and provide requirements for the protection of structures and facilities.

2. **Applicability.**
   This section shall apply to all development applications and permits within the unincorporated areas of El Paso County that are outside the boundaries of a Fire District.

3. **No Permit or Approval Granted without Compliance.**
   No development permit shall be approved or issued unless in compliance with the provisions of this section. Notwithstanding the foregoing, the PCD Director has the authority to grant administrative variances to the design standards of this section provided the alternative design is completed by a qualified professional and meets the intent of this section.

4. **Development Outside Fire Authority Boundaries.**
   Proposed subdivisions outside the boundaries of a Fire District shall petition for inclusion into a district. Waivers of this requirement may only be approved by the BOCC. An applicant's waiver request shall, at a minimum, include the following:
   - A letter from the nearest Fire District justifying why inclusion is not feasible; and
   - A letter or report from a Third-Party Fire Reviewer providing a recommendation to the BOCC that the proposed development complies with this section.

   If a waiver of this requirement is approved, evidence of a contract for service from a Fire District is required.

5. **Combustible Materials for Commercial Use.** Propane tanks and other combustible liquids storage shall conform to NFPA 30: Flammable and Combustible Liquids Code and NFPA 58: Liquefied Petroleum Gas Code. A Fire Protection Report and/or a report detailing mitigation of wildland fuels may be required.

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B. Reports and Standards for Subdivisions

1. **Fire Protection Report.**
   A Fire Protection Report is required for all subdivision applications, or other development application as determined by the PCD Director, and shall include at a minimum the following:
   - A letter of commitment from the Fire Authority to provide structural fire protection (only applicable if inclusion is not feasible);
   - Water supply for fire suppression; and
   - An analysis of compliance with this Code.

   A Fire Protection Report prepared by a qualified professional may be required as determined by the PCD Director.

2. **Water Supply.**
   a. **General.** Water supply systems used for fire protection purposes shall be installed and maintained in accordance with current NFPA standards 22, 24, 1140 and 1142, as applicable. The required fire flow for one or more buildings shall be calculated per the following conditions:

      - For areas without municipal-type water systems, NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting, shall be applied.
      - For those areas with municipal-type water systems, nationally recognized criteria, such as NFPA, National Fire Academy (NFA), and International Organization for Standardization (ISO), shall be applied.

   b. **Automatic Fire Protection.** Design for automatic fire protection shall comply with the latest edition of NFPA 13, 13R, or 13D as applicable.

   c. **Areas with Central Water Systems.** This paragraph is applicable to a water supply system installed and maintained by a public utility company or other public entity on public property, in the road, or in an approved dedicated easement.

      i. **Water Distribution System Pressure.** The water supply system shall be capable of delivering fire flow at a minimum rating of 20 pounds per square inch for each hydrant connected to the system within the proposed subdivision.
      ii. **Dead-End Mains.** Dead-end mains shall not exceed 600 feet in length for main sizes less than 10 inches in diameter.

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iii. **Fire Hydrant Spacing.** Fire hydrants shall be located so that all residential structures are within 500 feet, and all nonresidential structures are within 400 feet of a hydrant. Fire hydrants shall be installed adjacent to a road or emergency vehicle lane at a spacing not to exceed 1000 feet of vehicle travel distance. The PCD Director may recommend a greater spacing distance or require additional hydrants and closer spacing based upon NFPA standards where the proposed buildings warrant.

iv. **Fire Hydrant Accessibility.** Fire hydrants shall be accessible to a Fire Authority apparatus from maintained public roads, privately maintained roads, or emergency vehicle access roads or unobstructed emergency vehicle lanes such as driveways, parking drive aisles, or emergency vehicle lanes.

v. **Fire Hydrant Supply Lines.** Fire hydrants shall be supplied by not less than a six-inch diameter main installed on a looped system, or by not less than an eight-inch diameter main if the system is not looped or the fire hydrant is installed on a dead-end main exceeding 300 feet in length.

vi. **Fire Hydrants in Parking Areas.** Fire hydrants located in parking areas shall be protected by barriers that will prevent physical damage from vehicles without obstructing hydrant operation.

vii. **Fire Hydrant Relationship to Roads.** Fire hydrants shall be located within twelve feet of the edge of the pavement unless there is a conflict with the ECM. All roads and emergency vehicle lanes shall be designed to maintain a minimum unobstructed clearance of three feet around fire hydrants.

viii. **Fire Hydrant Easements.** Easements for fire hydrants shall be provided and dedicated for fire and water authority use when the hydrants are not within a public road right-of-way. The easement shall afford accessibility to the hydrant from the right-of-way.

ix. **Release of Financial Assurance for Water Supply Systems.** The contractor, installer, or owner of water supply systems shall provide a letter of acceptance from the water district or public utility prior to release of construction financial assurance for the system.

d. Areas without Central Water Systems

i. **Fire Cisterns**.

- **Fire Cisterns Required.** Fire cisterns shall be provided in areas which are not served by hydrants, unless an alternative fire protection water supply that complies with NFPA standards is approved. All currently recognized water supplies may be considered when determining the need for and the placement of new water storage sites.
- **Construction and Design Standards.** Construction and design of fire cisterns shall be in accordance with the approved plans and conform

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to the requirements of NFPA 1142 for construction, size of cistern, and capacity.

- **Cistern Turnaround.** A dedicated turnaround shall be placed no more than fifty feet from a fire cistern, and the standpipe shall be within twelve feet of the nearest usable portion of the dedicated right-of-way or approved easement, unless otherwise recommended and approved by the County.
- **Easements Required.** Fire cistern easements shall be provided and dedicated to the appropriate Fire Authority at the time of platting to afford accessibility of the cistern from a public road. Easements shall be of sufficient size to facilitate maintenance.
- **Travel Distance.** The County may determine that a cistern is not required upon an evaluation from a qualified professional on recognized water supplies within a two (2) mile travel distance.

ii. Dry Hydrants

- **Use of Dry Hydrants.** Dry hydrants shall be provided in combination with fire cisterns or other approved fire protection water supply systems. Plans for dry hydrants shall be identified on the final plat and/or site development plans. Dry hydrants shall comply with NFPA 1142.
- **Maintenance of Dry Hydrant.** The County shall approve the ownership and maintenance responsibilities for dry hydrant facilities per the NFPA 1142 Standards.
- **Easements Required.** Dry hydrant easements shall be provided and dedicated to the appropriate Fire Authority to afford accessibility of the dry hydrant from a public road. Easements shall be of sufficient size to facilitate maintenance.

iii. Water Supply Requirements. The owner of the cistern or dry hydrant is responsible for planning, developing, permitting, and continual provision of a sufficient water supply necessary to maintain the fire protection requirements of a cistern or dry hydrant system, to the satisfaction of the County.

3. Roads.

This paragraph shall apply to all roads providing access to a development whether or not they are dedicated as County-maintained public roads.

a. Roads Constructed to County Standards. All roads, including private roads and emergency vehicle access roads, shall be designed and constructed according to this Code and the ECM. Emergency vehicle access roads shall, at

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a minimum, be constructed to the County's gravel road standard if open to the public. Emergency vehicle access roads which are not open to public travel shall meet the non-road access standards.

b. Roads within 150 Feet of Development. Roads or emergency vehicle lanes shall be provided within 150 feet of all development except single family residential development.

c. Two Access Routes Required. Access to a development shall be provided by a minimum of two separate routes in accordance with the requirements of this Code and the ECM if a single access exceeds the cul-de-sac length allowed by the ECM. The distance between the access routes shall be half the frontage length of the development.

d. Turnaround Required on Dead-End Roads. Every dead-end road more than 300 feet in length shall have a roadway termination meeting ECM standards.

4. Non-Road Access.

The following minimum standards shall apply to emergency vehicle lanes, driveways, and parking lot drive lanes serving as emergency vehicle lanes.

a. Emergency Access Provided. Access for emergency responders, ingress, egress, and evacuation shall be provided for all buildings.

b. Driveways Required. Where any point of a building is greater than 150 feet from a road, a driveway meeting the standards of this Code shall be provided to within 150 feet of the furthest point on the building.

c. Emergency Vehicle Lanes Required. The County may require that emergency vehicle lanes be provided per Chapter 18 of NFPA to ensure fire-fighting apparatuses can gain reasonable access to a building. The responding Fire District may recommend emergency vehicles lanes be provided.

d. Emergency Vehicle Lane Design. An emergency vehicle lane shall be designed and constructed to enable fire-fighting apparatus to maneuver broadside or directly forward within a minimum of five feet and a maximum of 25 feet of buildings.

e. Driveway and Emergency Vehicle Lanes.

i. Driveways. Driveways greater than 150 feet in length and no more than 300 feet in length shall not be less than 10 feet in unobstructed width. Where the driveway is greater than 300 feet, it shall be provided with turnouts or turnarounds at locations approved by the County.

ii. Emergency Vehicle Lanes. Emergency vehicle lanes providing one-way travel shall be a minimum of 16 feet in width, and emergency vehicle lanes with two-way travel shall be a minimum of 24 feet in width. Dead-end emergency vehicle lanes in excess of 300 feet in length shall be provided with turnouts and turnarounds approved by the

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County. The turnaround at the terminus shall have a minimum radius of 50 feet. The County may approve, as an alternative, a "hammerhead" turnaround to provide emergency vehicles with a three-point turnaround.

f. **Vertical Clearance.** At least 13 and one-half feet of vertical clearance shall be provided and maintained over the full width of an emergency vehicle lane or driveway.

g. **Turns.** Driveways shall be designed, constructed, and maintained to accommodate the turning radius of the largest apparatus typically used to respond to that location. A turn in an emergency vehicle lane shall be constructed with a minimum radius of 25 feet at the inside curb line and a minimum radius of 50 feet at the outside curb line.

h. **Grades.** Road grades steeper than 10 percent may be allowed where the County agrees that the mitigation measures are adequate and the County approves the mitigation measure.

i. **Emergency Vehicle Lanes Connecting to Roads.** Emergency vehicle lanes connecting to roads shall be provided with curb cuts extending at least two feet beyond each edge of the fire lane.

j. **Load Design.** Emergency vehicle lanes and driveways shall be designed, constructed, and maintained to accommodate the load of the largest apparatus that typically is used to respond to that location

k. **Bridges or Drainage Crossings.** A bridge or drainage crossing on an emergency vehicle lane or driveway shall be designed to accommodate the load of the largest apparatus typically used to respond to that location. The load limit shall be clearly posted at the approaches to the bridge.

l. **Landscaping Maintained.** Landscaping or other obstructions shall be maintained in a manner that provides unobstructed access for Fire Authority operations.

5. Gates.

a. **Gate Location and Dimensions.** Gates shall be located at a minimum of 30 feet from the public right-of-way and shall not open outward. The clear opening provided through a gate shall be a minimum of 16 feet in width.

b. **Locks.** Fire District personnel shall have ready access to locking mechanisms on a gate restricting access. Use of Knox products shall be coordinated with the applicable Fire Authority.

6.3.4. Wildland-Urban Interface Areas

A. Applicability

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This section applies to areas within unincorporated El Paso County that are not located within a Fire District and are located within the Wildland-Urban Interface as defined in Appendix E to the Code. Where there is a conflict between Appendix E and the other provisions of this Code, Appendix E shall govern.

B. General

1. **Wildland-Urban Interface Requirements.** Properties within the Wildland-Urban Interface must comply with Appendix E.

2. **Road Grades within Wildland-Urban Interface Areas.** Within Wildland-Urban Interface Areas, road grades steeper than 10 percent may be permitted where the County recommends that the mitigation measures are adequate and approves the mitigation measure.

3. **Plat Notes Required.** Notice of any wildfire mitigation issues or obligations may be required by the County through conditions of approval or notes placed on the face of the plat.

C. Wildland Hazard and Mitigation Plan

A. **Wildland Hazard and Mitigation Plan.** When a subject lot, parcel, or tract falls within the Wildland Urban Interface area, a wildland fire risk and hazard mitigation plan prepared by a qualified professional may be required by the PCD Director. A wildland fire risk and hazard mitigation plan shall include, at a minimum, the following:

- Access, ingress, egress, and evacuation.
- Water supply.
- Construction, location, and design of structures.
- Ignition potential.
- Implementation of mitigation measures relative to vegetation, other combustibles, and construction criteria.
- Structure hardening and defensible space requirements
- The history of local wind, relative humidity, temperature, and fine fuel moisture content shall be considered in determining defensible space.
- All vegetative fuels and other combustible materials shall be evaluated for their potential to contribute to the intensity and spread of wildland fire.
- Slope and aspect shall be evaluated as to their potential to increase the threat of wildland fire to life or improved lot, parcel, or tract.
- The factors determining required defensible space shall include the history of wildland fire for the area.

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- Fire-safe routes for emergency service apparatus and for egress shall be evaluated.
- Other factors that can affect the risk of ignition or the spread of wildland fire on improved lot, parcel, or tract, including the risk of structure fires spreading to vegetation, shall be part of the analysis.

6.3.5. DEVELOPMENT LOCATED WITHIN THE BOUNDARIES OF A FIRE DISTRICT

1. **Applicability.**
   This section shall apply to all areas within the unincorporated areas of El Paso County that are within the boundaries of a Fire Authority.

2. **Relationship to Other Standards.**
   When located within the boundaries of a Fire Authority, the Fire Authority is responsible for determining compliance with the adopted Fire Code. The County shall determine compliance with ECM requirements. The Fire Authority may apply the standards of this Code for fire protection and wildfire mitigation when the adopted Fire Code does not provide specific regulations.

3. **Letter of Compliance.**
   The PCD Director may require a letter from the applicable Fire Authority stating the proposed development complies with the requirements of the adopted Fire Code.

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