



L. Wildland Fire Risk and Hazard Mitigation Plan

For

Williams Creek Generating Station

Colorado Springs Utilities Williams Creek Generating Station

Wildland Fire Risk and Hazard Mitigation Plan

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Overview:

The proposed Williams Creek Generating Station is located on a new parcel to be created from a larger parent property exceeding 3,000 acres in southern El Paso County, Colorado, southeast of the City of Fountain in the vicinity of Irradiance Road and Williams Creek Road (legal description to be confirmed from the final plat). The project will disturb less than 200 acres of the parent parcel for construction of the power plant facility, including individual exhaust stacks, towers, water storage tanks, a wastewater treatment facility, process and containment ponds, a control building, and related structures. The site is bordered by existing utility-scale solar development and undeveloped land, with Calhan Reservoir located to the northwest. Site access will be provided via a proposed extension of the existing roadway serving the property, per the initial civil site exhibit.

The Williams Creek site lies within an open grassland and rangeland environment. Existing vegetation consists primarily of field grasses and weeds, with no significant forest canopy or ponderosa pine present on or immediately adjacent to the site. Topography generally slopes toward a drainage that runs north to south through the center of the property. This open, largely unobstructed terrain, combined with grass and light fuel loading and the presence of adjacent solar arrays and overhead utility infrastructure, will influence potential fire behavior and spread rates across the site and has been considered in developing the mitigation recommendations in this plan.

According to the USDA Natural Resources Conservation Service Web Soil Survey, two principal soil map units occur on the property: Midway clay loam, dry, 1 to 15 percent slopes, covering approximately 95.6 percent of the site, and Manzanola silty clay loam, saline, 0 to 2 percent slopes, covering the remaining 4.4 percent. The Midway soils are shallow and well drained, formed over calcareous clay shale bedrock, and carry a high shrink-swell potential along with a moderate erosion hazard on the steeper portions of the property. The Manzanola soils are very deep, well drained, and fine-textured; the saline phase mapped on site limits permeability and vegetation establishment, and is consistent with the elevated soluble sulfate content identified in the project's geotechnical investigation. The site's vegetation, soil characteristics, drainage patterns, and topography have been considered throughout this Wildland Fire Risk and Hazard Mitigation Plan.

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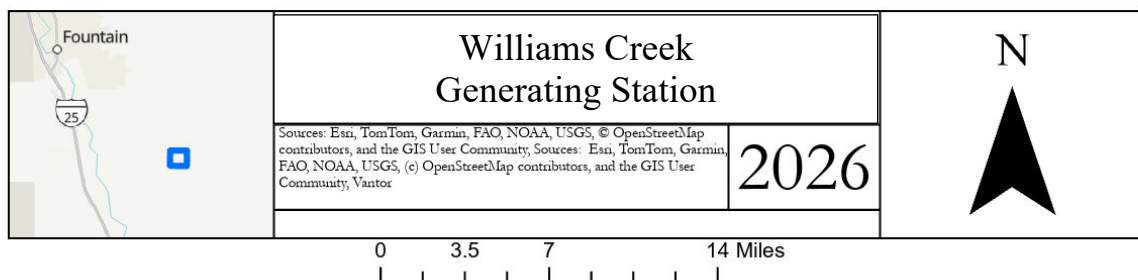
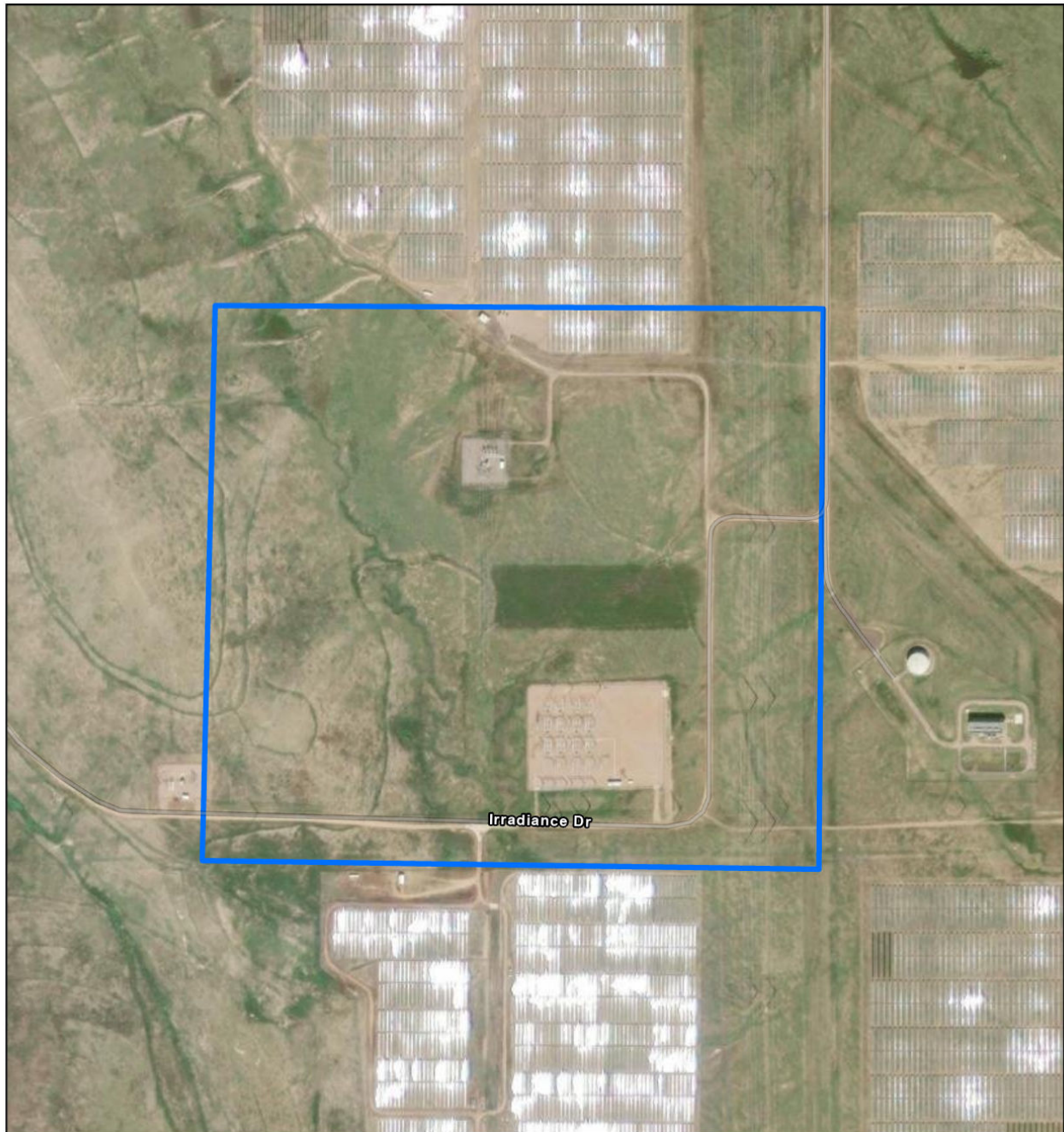


Figure 1. Project Location Map –Williams Creek Generating Station, El Paso County, Colorado
Source: El Paso County GIS / Project Development Plans

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Topography:

The proposed Williams Creek Generating Station is located southeast of Fountain in southern El Paso County. The site consists of open grassland and rangeland within a parent parcel exceeding 3,000 acres, with disturbance for the facility itself expected to total less than 200 acres. No forested vegetation or ponderosa pine stands are present on or immediately adjacent to the site; existing vegetation is limited to field grasses and weeds. The property is bordered by existing utility-scale solar arrays and undeveloped grassland, with an existing electrical substation and associated overhead lines located in the southeast portion of the site.

Topography across the site generally slopes toward a drainage that runs north to south through the center of the property, with no significant slope breaks or terrain features elsewhere on site. Because the surrounding terrain is largely open and unobstructed, wind-driven fire spread, rather than slope- or terrain-driven behavior, is the primary hazard of concern. The fine, flashy grass fuels present across the site could support rapid surface fire spread under dry and windy conditions, with the central drainage acting as a localized channel for wind movement and potential fire spread across the property.

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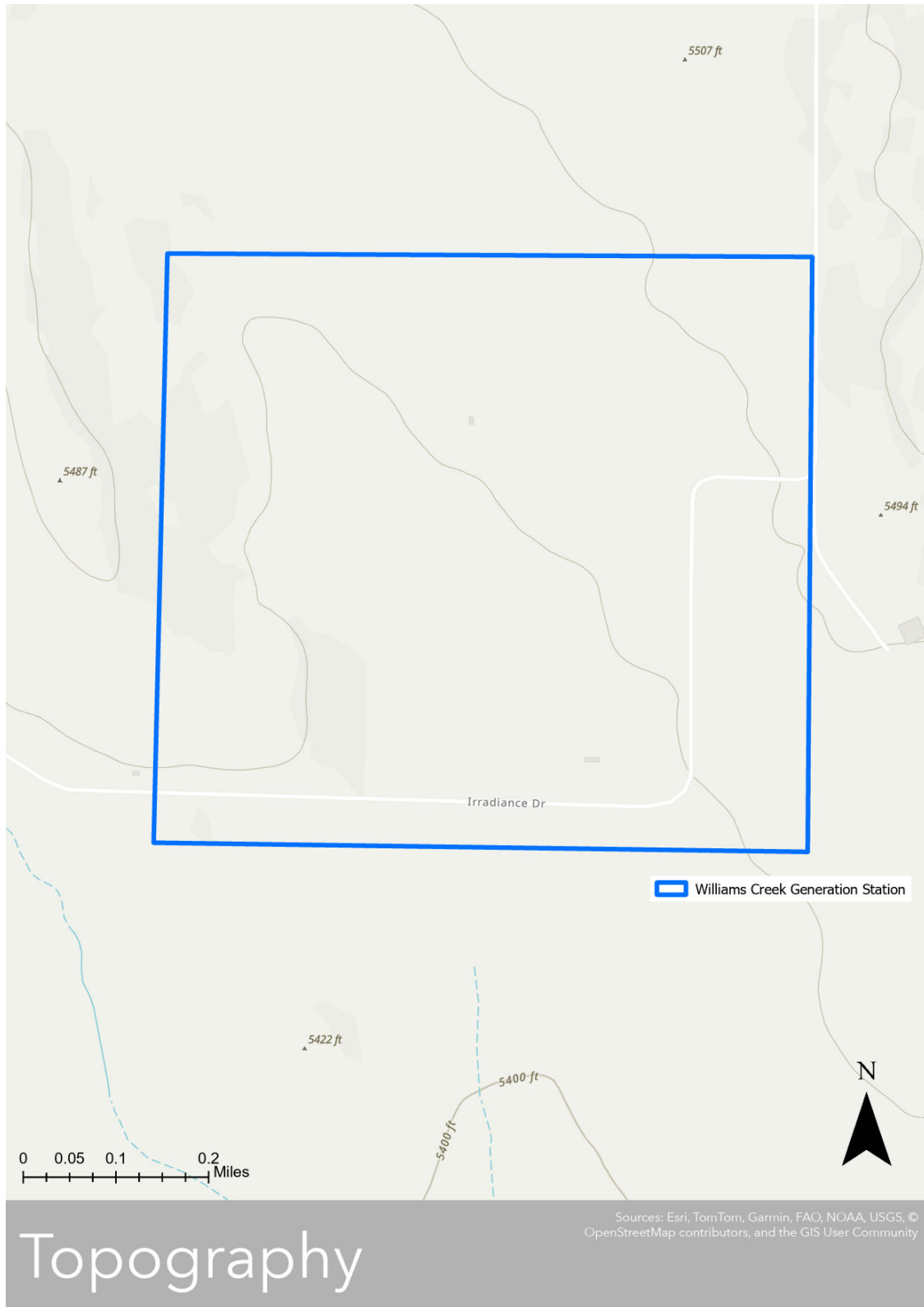


Figure 2. Project Topographic Map – Williams Creek Generating Station, El Paso County, Colorado

Source: ArcGIS / USGS

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Land Cover

The USA National Land Cover Database (NLCD) classifies the Williams Creek Generating Station site and surrounding parcel primarily as grassland/herbaceous cover, with [confirm any shrub/scrub or developed classes shown on Figure 3]. No forest classes are mapped on or adjacent to the site, which matches field conditions of open grassland with field grasses and weeds. Cured grass is the primary wildfire fuel on the site and can support rapid, wind-driven surface fire spread during dry conditions.

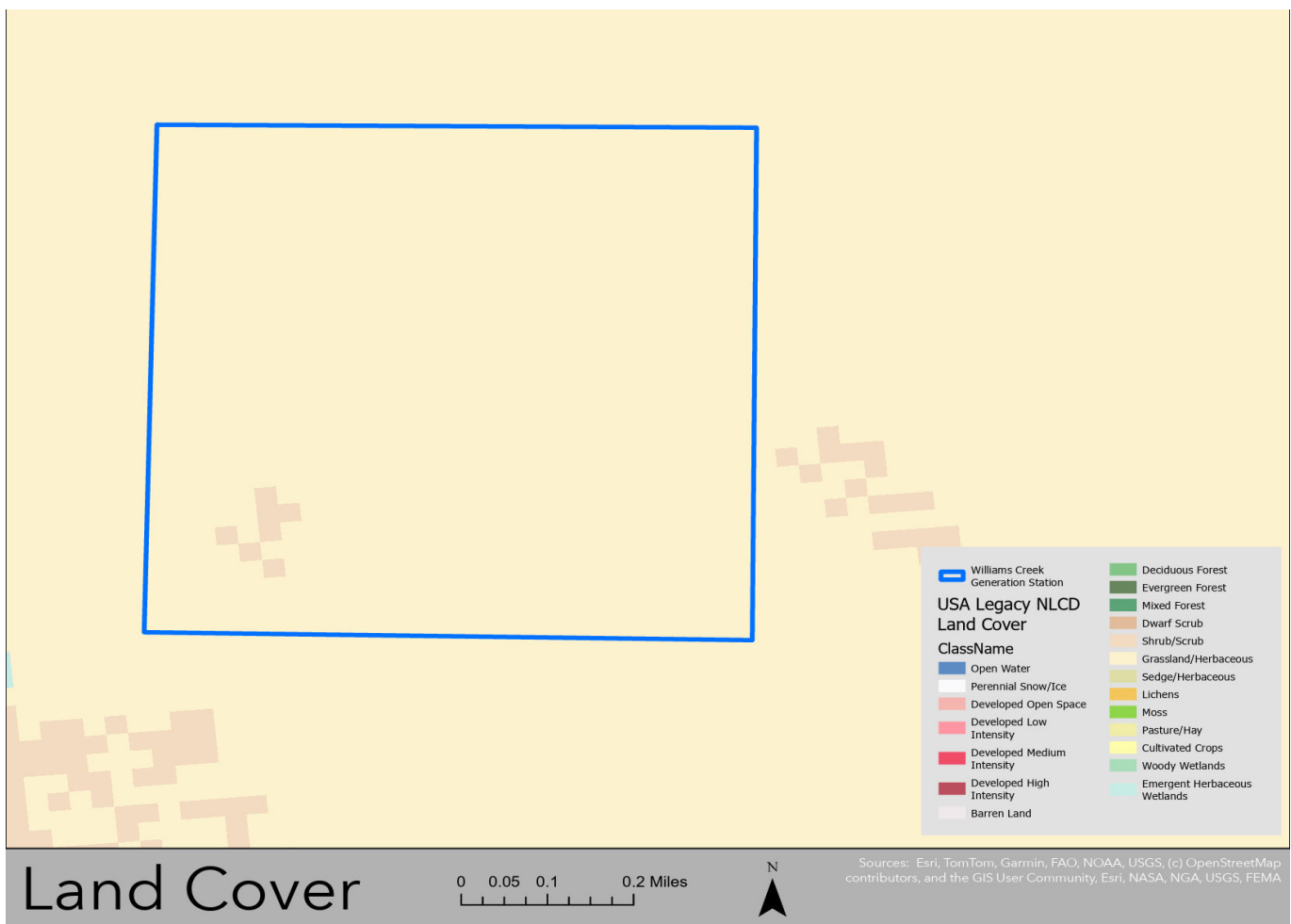


Figure 3. Land Cover Map – Williams Creek Generating Station, El Paso County, Colorado

Source: USA National Land Cover Database (NLCD)

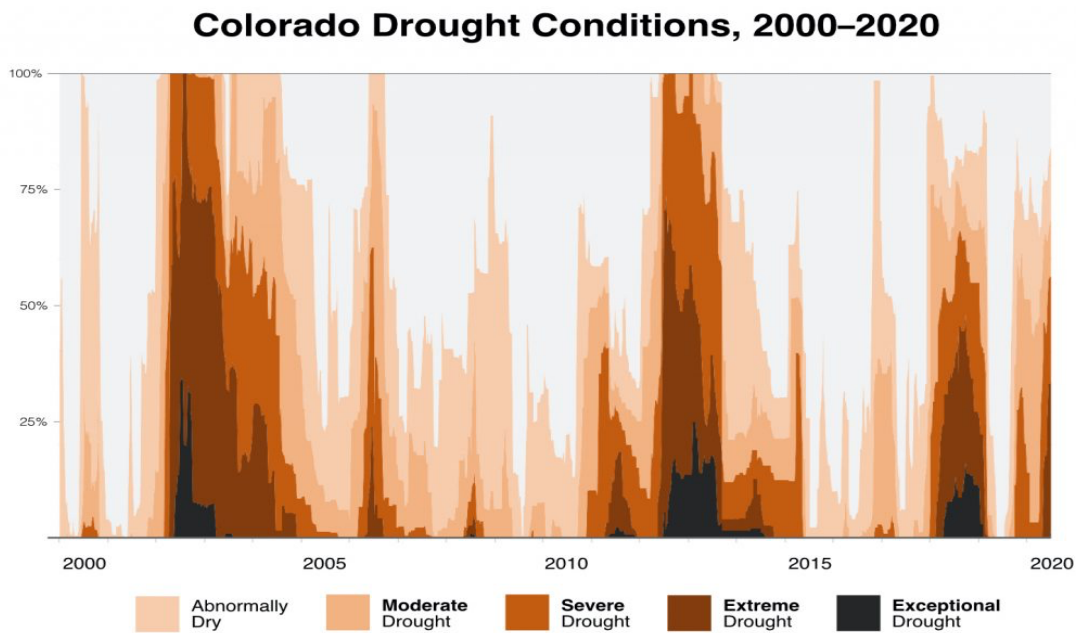
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Weather of the Region

The annual average temperature of the Colorado Springs region is 48.7 degrees Fahrenheit. The average temperature in the "traditional fire season" (Summer months) in the Colorado Springs region is 67.7 degrees Fahrenheit. The average precipitation in the Summer months is 7.51 inches, and this precipitation falls typically in the form of rain during this time of the year.

Local weather patterns directly influence drought and wildfire conditions. El Paso County has experienced recurring periods of drought since the late 1990s. Reduced precipitation, elevated seasonal temperatures, low relative humidity, and prolonged dry weather can increase ignition potential, fire intensity, and rates of spread.

The chart below shows the percentage of Colorado lands classified under drought conditions from 2000 through 2020.



COLORADO **NEWSLINE**

Source: U.S. Drought Monitor

Figure 4. Colorado Drought Conditions (2000–2020)
Source: EPA Climate Indicators / U.S. Drought Monitor

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Wildfire Risk

The Wildfire Hazard Potential rating represents the potential wildfire exposure of an area based on the likelihood of wildfire occurrence and the expected intensity if a wildfire occurs. Wildfire Hazard combines modeled wildfire likelihood and fire intensity to identify areas where wildfire conditions may create increased risk to communities, infrastructure, and natural resources. The USFS Wildfire Risk to Communities dataset evaluates wildfire conditions using factors such as burn probability, flame length, fire intensity, vegetation type, topography, and historical wildfire occurrence. These factors help identify areas where wildfire mitigation, emergency planning, and fire-adapted construction practices may reduce wildfire impacts. Source: USFS Wildfire Risk to Communities



Figure 5. Wildfire Hazard Potential Map
Source: USFS Wildfire Risk to Communities Program

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Wildfire Burn Probability

Burn Probability (BP) represents the annual likelihood of a wildfire occurring at a specific location. Burn probability is modeled using the large fire simulation system (FSim), which evaluates potential wildfire occurrence and spread based on fuels, vegetation, weather patterns, and landscape conditions. The model is calibrated using historical fire occurrence data from the Rocky Mountain Research Station and Missoula Fire Sciences Laboratory. Underlying data is derived from LANDFIRE fuels and vegetation datasets and is used to estimate potential wildfire exposure across the landscape.

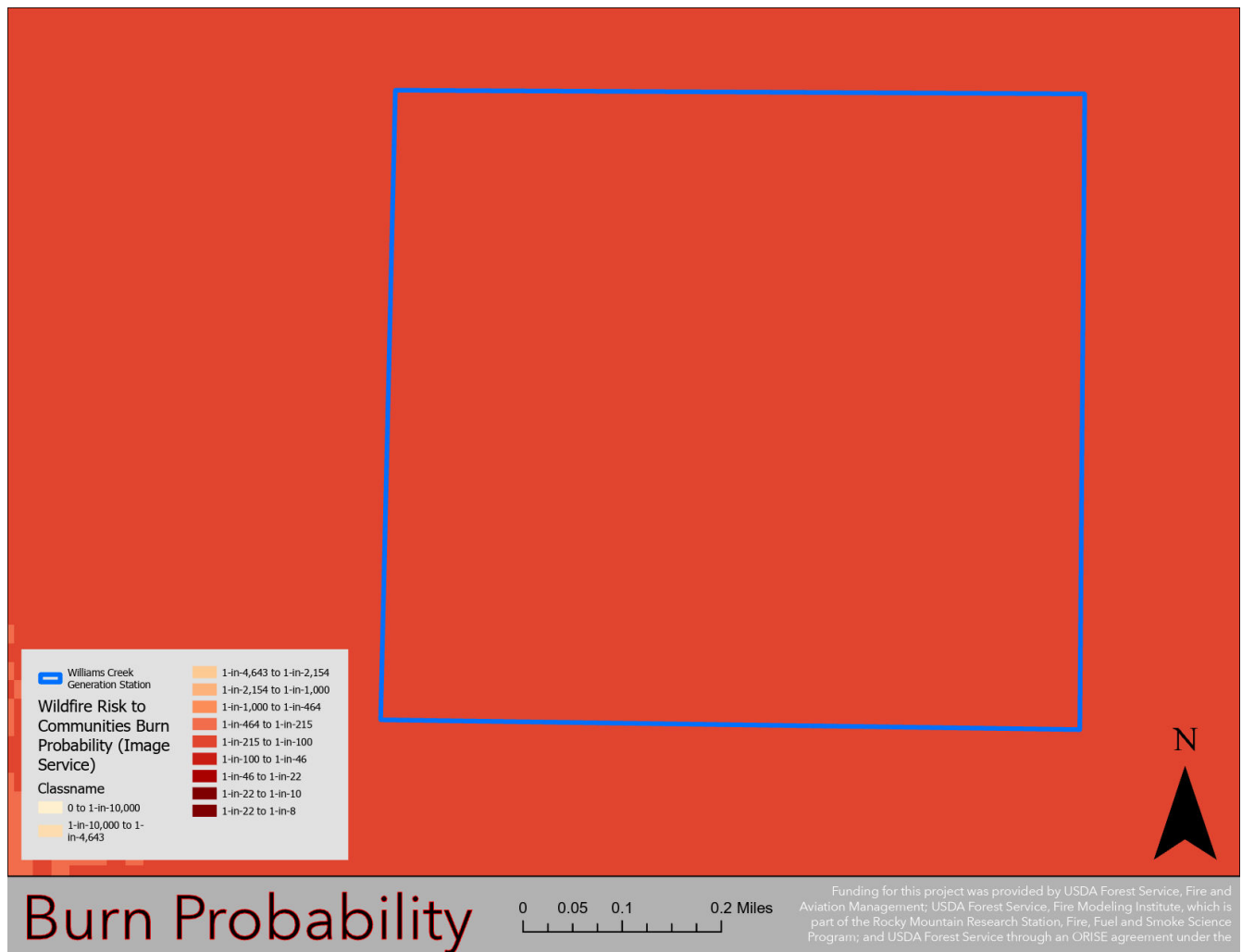


Figure 6. Wildfire Burn Probability Map

Source: USFS Wildfire Risk to Communities – Burn Probability Image Service

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Fire Intensity Scale

The Fire Intensity Scale (FIS) identifies areas where significant fuel hazards and potentially dangerous fire behavior may occur. Similar to the Richter scale for earthquakes, the FIS provides a standardized method for describing potential wildfire intensity. The scale consists of five classes, with each class representing an order-of-magnitude increase in potential fire intensity. Class 1 represents very low wildfire intensity, while Class 5 represents exceptionally high wildfire intensity.

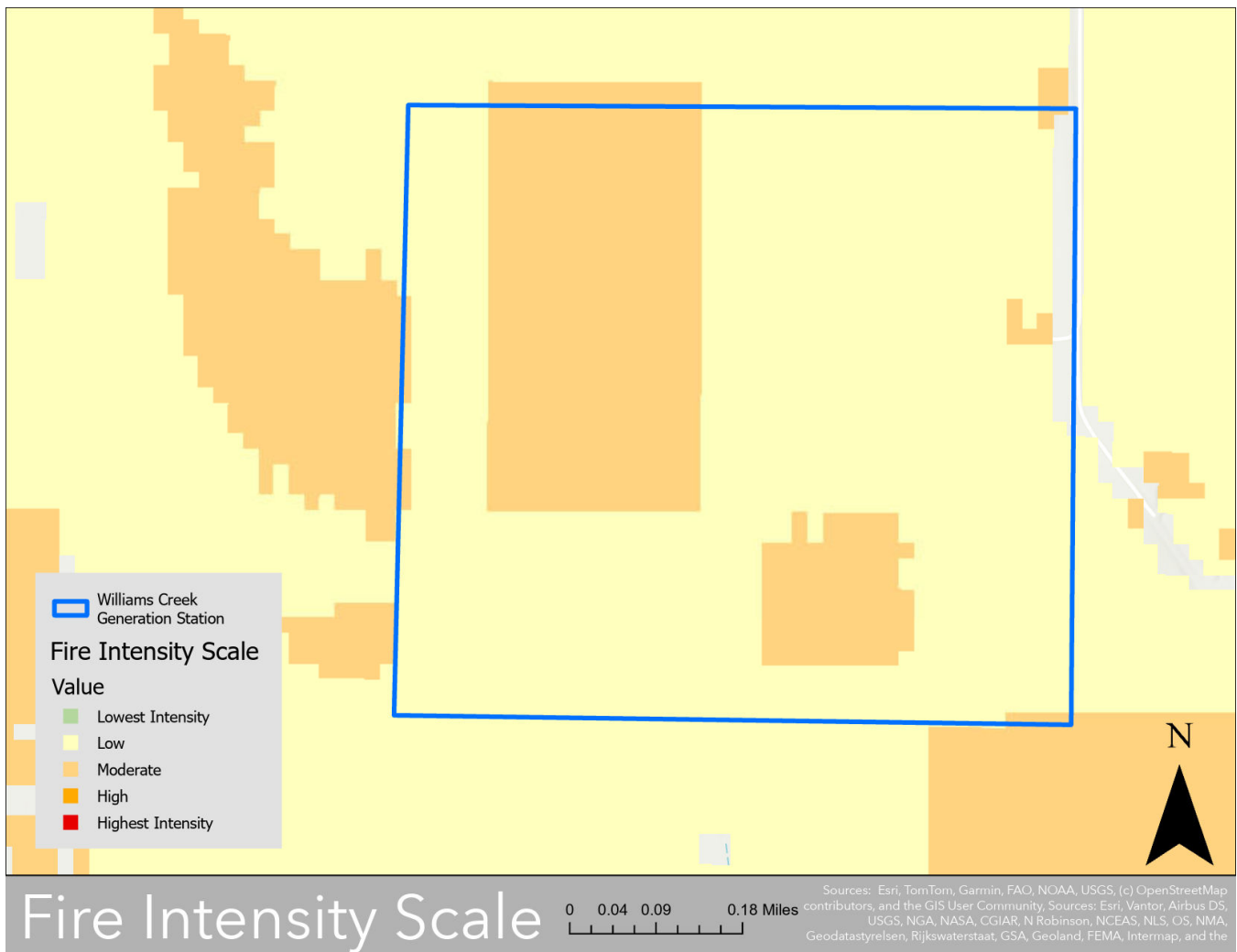


Figure 7. Wildfire Intensity Scale Map

Source: Colorado State University-2022 Colorado Wildfire Risk Assessment

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Wildland Fire Risk to Structures / Defensible Space

Two primary factors determine whether a home can survive a wildfire: **defensible space** around the structure and the **structure's ignitability**. Together, these factors form the concept known as the **Home Ignition Zone (HIZ)**. To protect a home or other structure from wildfire, the goal is to **reduce or eliminate fuels and ignition sources within the HIZ**. Doing so significantly decreases the likelihood that the structure will ignite during a wildfire event. Below is a graphic developed by the **NFPA Firewise USA®** program illustrating the components of the Home Ignition Zone.

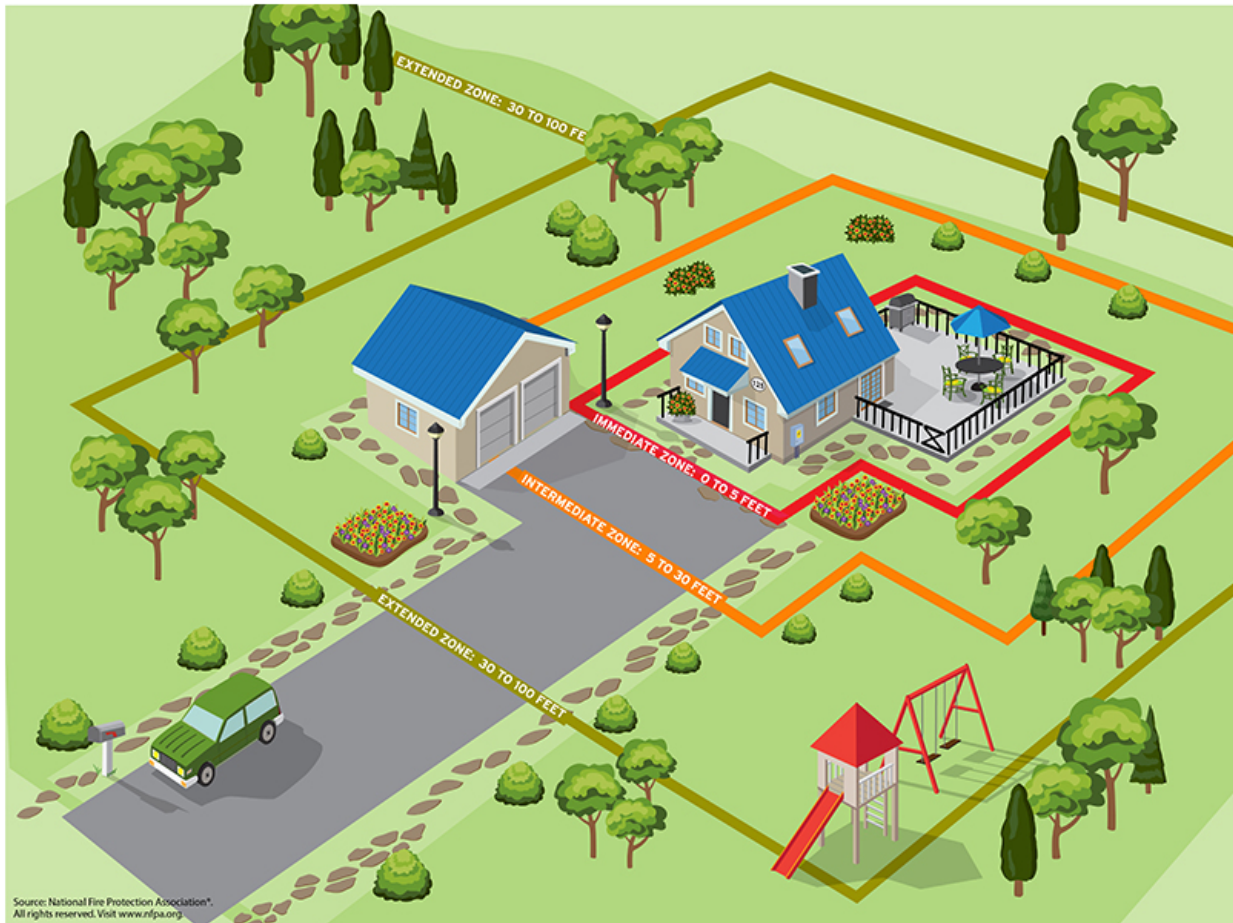


Figure 8. Home Ignition Zone (HIZ) Diagram
Source: National Fire Protection Association (NFPA) Firewise USA®

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Colorado State University Defensible Space Zones

Three zones need to be addressed when creating defensible space:

Zone 1 is the area nearest the home and other structures. This zone requires maximum hazard reduction.

The width of Zone 1 extends a minimum distance of 15-30 feet outward from a structure, depending on property size. Most flammable vegetation is removed from this zone, with the possible exception of a few low-growing shrubs or fire-resistant plants. Avoid landscaping with common ground junipers, which are highly flammable.

Zone 2 is a transitional area of fuel reduction between Zones 1 and 3.

Zone 2 is an area of fuel reduction designed to diminish the intensity of a fire approaching your home. The width of Zone 2 depends on the slope of the ground where the structure is built. Typically, the defensible space in Zone 2 should extend at least 100 feet from all structures. If this distance stretches beyond your property lines, try to work with the adjoining property owners to complete an appropriate, defensible space.

Zone 3 is the area farthest from the home. It extends from the edge of Zone 2 to the property boundary 100 feet or more from the structures.

Zone 3 has no specified width. It should provide a gradual transition from Zone 2 to areas farther from the home with other forest management objectives. This zone offers an opportunity for you to improve the health of the forest through proper management.

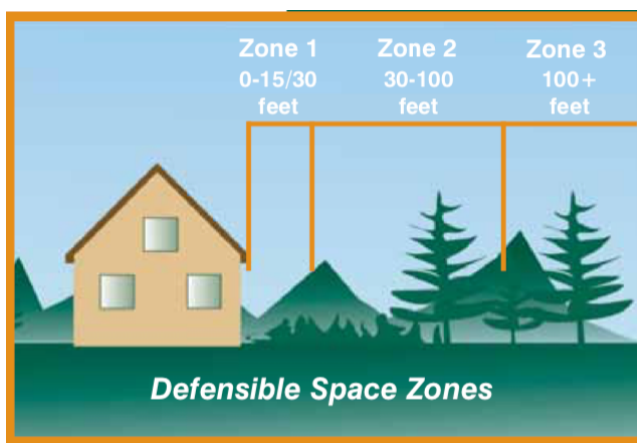


Figure 9. Colorado Defensible Space Management Zones
Source: Colorado State Forest Service (CSFS)

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Wildland Fire Mitigation & Defensible Space

(CWRC, NFPA 1140, NFPA 1141)

All development within the Wildland-Urban Interface (WUI) shall incorporate wildfire mitigation and structure hardening measures consistent with the Colorado Wildfire Resiliency Code.

Required mitigation measures may include:

Structure Hardening

- Class A fire-rated roofing materials
- Ignition-resistant or noncombustible exterior siding
- Ember-resistant attic and foundation vents
- Tempered or multi-pane glazing
- Enclosed soffits and ignition-resistant decking materials

Defensible Space / Home Ignition Zone (HIZ)

Vegetation management shall establish defensible space zones surrounding structures, including:

- Immediate Zone: 0–5 feet
- Intermediate Zone: 5–30 feet
- Extended Zone: 30–100 feet or greater as site conditions require

Vegetation Management

Mitigation plans may include:

- Fuel breaks
- Tree thinning and spacing
- Ladder fuel reduction
- Removal of dead or diseased vegetation
- Ongoing maintenance requirements

A long-term vegetation maintenance plan may be required as part of final approval.

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Recommended Wildland Fire Mitigation Measures

Site Fuels and Wildfire Risk

The Williams Creek Generating Station site sits within open shortgrass prairie with no meaningful tree canopy. The wildfire risk on this site comes almost entirely from grass. Shortgrass prairie is a fine, continuous fuel bed that cures early in the year, dries within hours after rain, and ignites from very small heat sources. Once burning, grass fire spreads primarily with the wind, and under the strong winds common to southern El Paso County it can move across open ground faster than a person can run. The fire front passes quickly, but in that short window it produces enough heat and flame to ignite anything combustible in its path.

For a facility like this one, the danger is a fast grass fire running up to the edge of the site and finding a path to buildings, equipment, vehicles, stored materials, or debris. Whether that happens depends almost entirely on what fuel is allowed to grow adjacent to the facility.

Mile Marker 117 Fire

The Mile Marker 117 Fire shows the type of wildfire this area faces. It ignited on April 17, 2018, near Interstate 25 mile marker 117 between Fountain and Pueblo, in the Hanover area. Driven by wind gusts of 50 to 60 miles per hour, the fire burned 42,795 acres and destroyed homes. The likely cause was a car dragging its muffler. A fire of this size and speed can happen again in this landscape at any time conditions are dry and windy, and it can start from something as simple as a single spark. That risk is why vegetation management and fuel reduction around the facility are critical. A grass fire of this kind cannot be stopped at the fire front, so the facility's protection depends on having fuels already reduced and maintained around every structure before a fire arrives.

Mitigation Measures

The goal of mitigation at this site is to break the continuity of grass fuel around every structure so a wind-driven grass fire loses its path to the facility. Grass fire needs continuous fuel to keep moving. When it reaches low-cut grass, flame lengths drop and the fire slows. When it reaches bare gravel, it stops. Each of the measures below builds on that principle, moving from the structures outward.

Fuels Directly Adjacent to Structures. The area immediately around buildings, equipment pads, transformers, and enclosures is where fire is most likely to cause damage, so it should hold no fuel at all. Weeds and grass growing along foundations, under equipment, and along conduit runs can carry fire directly to the structure. Wind-blown debris, dead grass, and tumbleweeds tend to pile up against walls, doors, vents, and equipment on the downwind side, creating a concentrated fuel source right where it does the most harm. This zone should be kept surfaced and completely clear, and inspected regularly for anything that has blown in (especially tumbleweeds) or grown up.

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Recommended Wildland Fire Mitigation Measures (Cont.)

Noncombustible Perimeter. A gravel, crushed rock, or paved surface should extend a minimum of 30 feet from all buildings, generating equipment, transformers, fuel handling areas, and the switchyard. The distance keeps radiant heat from the passing fire front away from structures. The perimeter only works if it stays clean. Wood mulch, ornamental landscaping, stored pallets, cable spools, lumber, packaging, and other combustible materials should not be kept anywhere within it. Parking areas and laydown yards that fall within this distance should be surfaced and maintained the same way.

Fence Lines. Perimeter security fencing presents a specific risk in grass country. Fences catch tumbleweeds and blown debris, and during a wind-driven fire, a fence line packed with dry tumbleweeds can act as a fuse that carries fire straight to the facility edge or into the facility. A minimum 10 foot vegetation clear strip should be maintained on both sides of all perimeter fencing, and fence lines should be cleared regularly and after every high wind event.

Managed Fuel Break. Beyond the noncombustible perimeter, a mowed fuel break extending a minimum of 100 feet outward reduces the intensity of an approaching fire before it reaches the gravel.. Grass within the fuel break should be kept at 4 inches or less year-round. Wind-driven grass fires in this area are not limited to summer, and the 117 Fire burned in April before spring green-up, when grass is fully cured and winds are strong. Grass kept short produces much shorter flames and spreads more slowly than full-height cured grass, which reduces heat exposure to the facility and gives the gravel perimeter a weaker fire to stop. Native grass should stay in place within the fuel break rather than being bladed to bare soil, since bare ground erodes and quickly fills in with noxious weeds that are more flammable than the native grass they replace. Any yucca, cholla, or woody plants within the fuel break should be removed.

Access Roads. Grass should be mowed a minimum of 10 feet on each side of all on-site roads. Mowed road edges reduce the chance of vehicle ignitions from hot exhaust and undercarriages, the same kind of ignition that likely started the 117 Fire. They also allow roads to serve as control lines during firefighting and keep hydrants, turnarounds, and gates visible and usable.

The Need for Long-Term Maintenance

The mitigation measures above only protect the facility if they are maintained. Grass grows back every year. A fuel break mowed in May is tall again by fall, and a gravel perimeter left alone for a season will fill with weeds. Grass fuel mitigation must be kept up year-round for the life of the facility.

Several conditions at this site make ongoing maintenance especially important:

Wet years produce more fuel. A wet spring grows a heavier grass crop, and when that grass cures in a dry summer or fall, fire risk is higher than in a drought year. Fuel break maintenance cannot be reduced in wet years. Those are often the years it matters most. Construction disturbance invites weeds. Soil disturbed during construction is quickly colonized by kochia, Russian thistle, and cheatgrass. Kochia and Russian thistle become tumbleweeds that break loose and pile against fences and structures.

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Recommended Wildland Fire Mitigation Measures (Cont.)

Cheatgrass cures earlier in the spring than native grasses and lengthens the fire season. Disturbed areas should be reseeded with native grasses and monitored for weeds for several years after construction.

Tumbleweeds are a recurring hazard. Tumbleweeds will blow onto the site from the surrounding rangeland every year regardless of how well the site itself is maintained. Fence lines and structure perimeters will need regular clearing on an ongoing basis.

Colorado Springs Utilities, as the facility owner, will be responsible for long-term vegetation management of the noncombustible perimeter, fence lines, fuel break, and road corridors. Grass fuels in the fuel break and along roads can be maintained by mowing, managed grazing, or a combination of both.

Mowing. The fuel break and road corridors should be kept mowed to 4 inches or less year-round. Mowing will be most frequent during the growing season, with additional mowing as needed through fall and winter to keep grass at the target height going into the spring fire season. Mowing should not be done on Red Flag Warning days or in high wind, since mower blades striking rock can start a fire.

Grazing. Where the larger parcel is already grazed, managed grazing is an effective, low-cost way to keep grass fuel loads down on the rangeland surrounding the fuel break. Grazing should be timed and stocked so grass stays short year-round without being grazed down to bare ground, which would open the site to weeds and erosion. Where grazing cannot hold the fuel break at the target height, it should be supplemented with mowing.

Weed control within the noncombustible perimeter and fence line clearing should be done on a regular schedule throughout the year, with a full inspection and cleanup before spring fire season. These responsibilities should be written into the facility's operations and maintenance procedures, so vegetation management continues on a set schedule for the life of the facility.

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Liability Disclaimer:

This Wildland Fire Risk and Hazard Mitigation Plan and Construction Guidelines are provided for informational and planning purposes only. While the recommendations outlined herein are based on nationally recognized best practices and current scientific understanding of wildfire behavior, the implementation of these guidelines does not guarantee the prevention of structure loss or wildfire damage.

Property owners, developers, and contractors are solely responsible for ensuring compliance with all applicable local, state, and federal laws, codes, and regulations, including but not limited to those adopted by the El Paso County Board of County Commissioners, the local fire protection district, and the Colorado State Forest Service. The authors and issuing agencies of this document assume no liability for any damages, losses, or injuries resulting from the use, misuse, or reliance upon the information contained in this plan.

It is strongly recommended that all mitigation work be conducted in coordination with qualified fire mitigation professionals and local fire authorities to ensure that actions taken are appropriate for site-specific conditions and remain consistent with current wildfire risk reduction standards.