



Koinonia Ranch (Bartels) Wildfire Mitigation Plan 2021

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KOINONIA RANCH (BARTELS) PLANNED DEVELOPMENT WILDFIRE MITIGATION PLAN

Introduction

This plan has been prepared to aid the developer with reduction of wildfire risks for its future lots in all phases of the newly created Koinonia Ranch (a.k.a. Bartels) Planned Development. The property is currently forest and range land with one existing residence. **Figure 1** shows a vicinity map of the property location on Old Ranch Road.

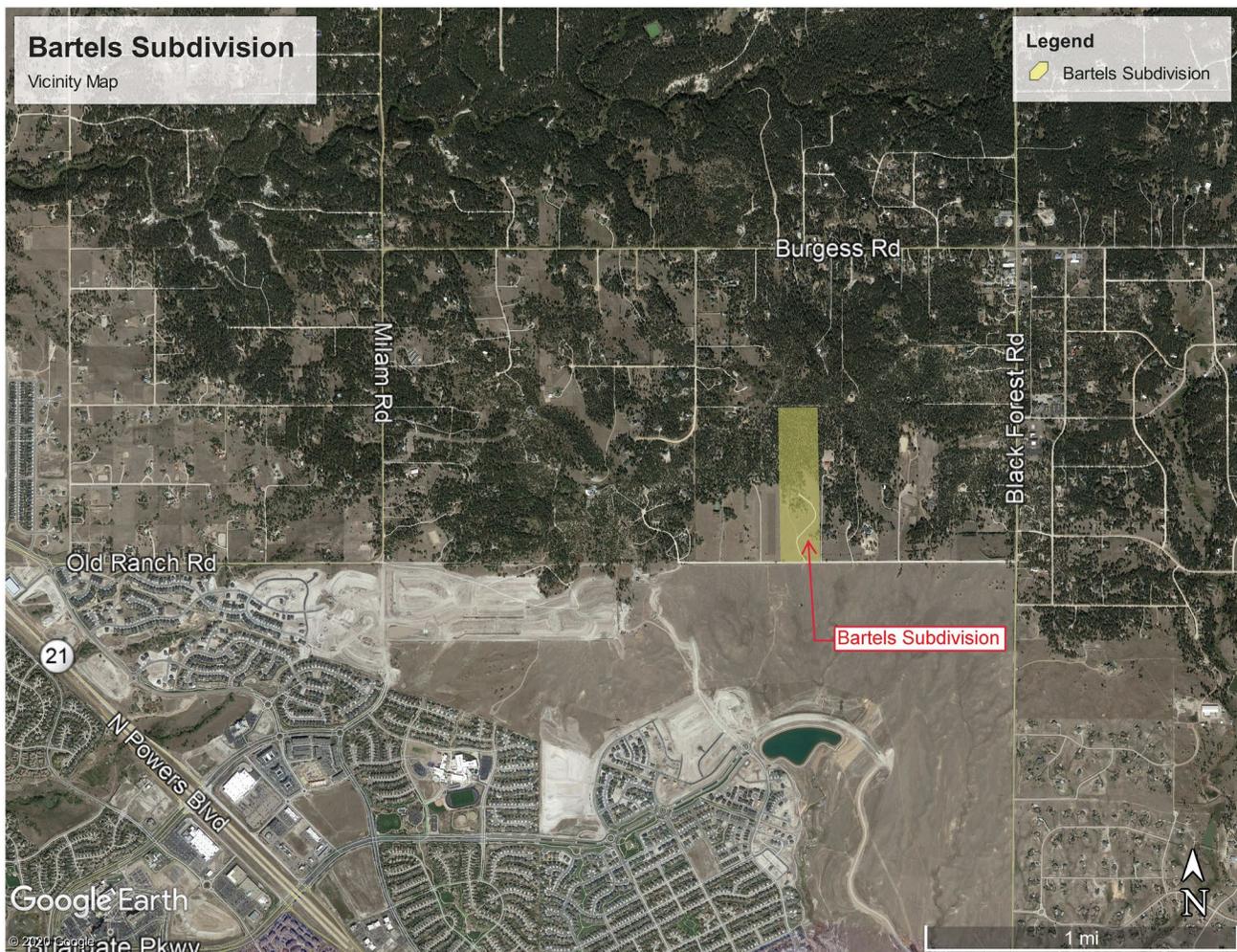


Figure 1. Bartels Vicinity Map

The 39.09 acre (m/l) site is proposed for subdivision into 6 residential lots and one tract (see Figure 2).

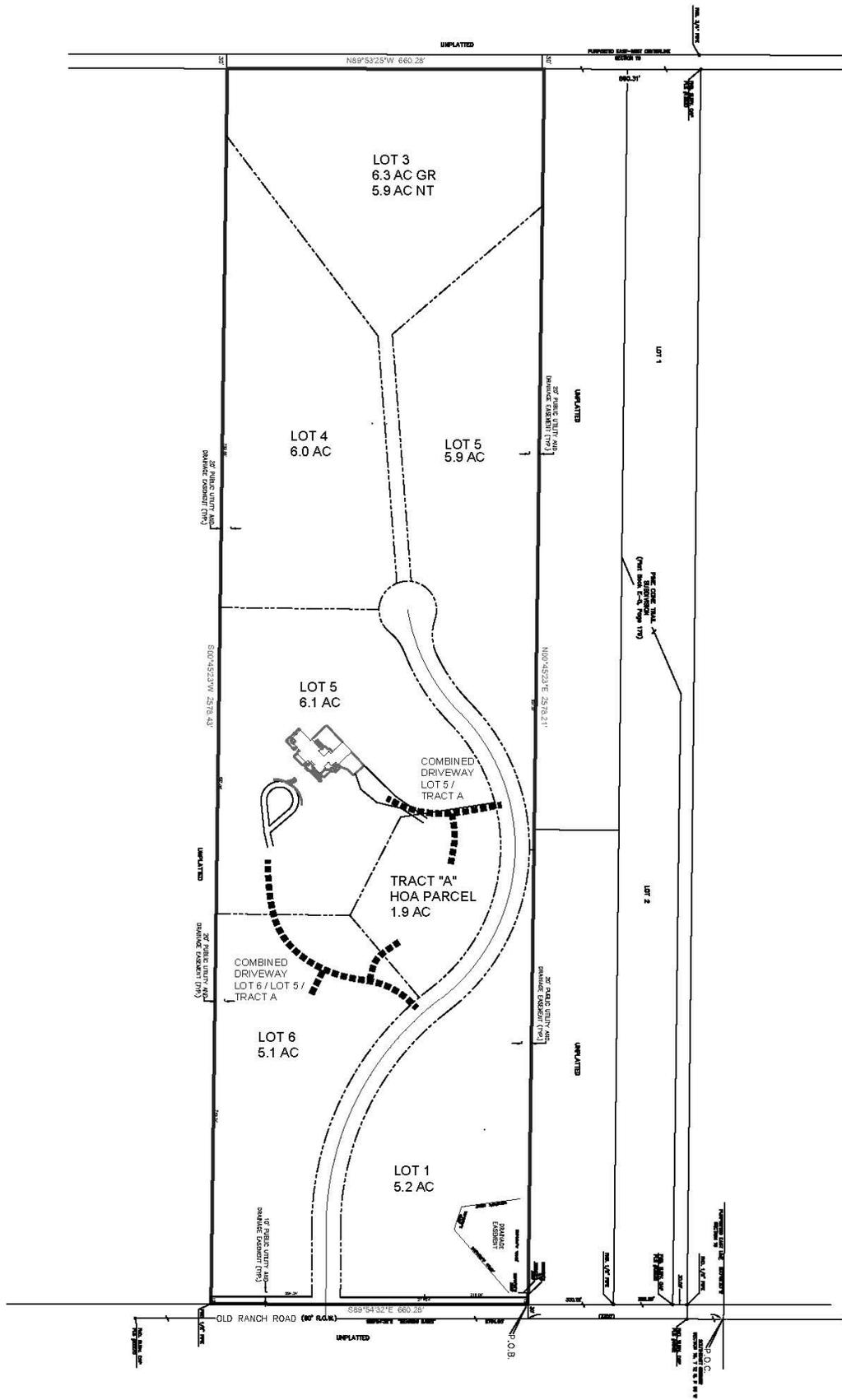


Figure 2. Proposed Plat showing residential planning areas and tracts. (Note: Final plan subject to change. Fire mitigation recommendations will remain the same.)

The aerial map shown in Figure 3 shows the area covered by this plan.

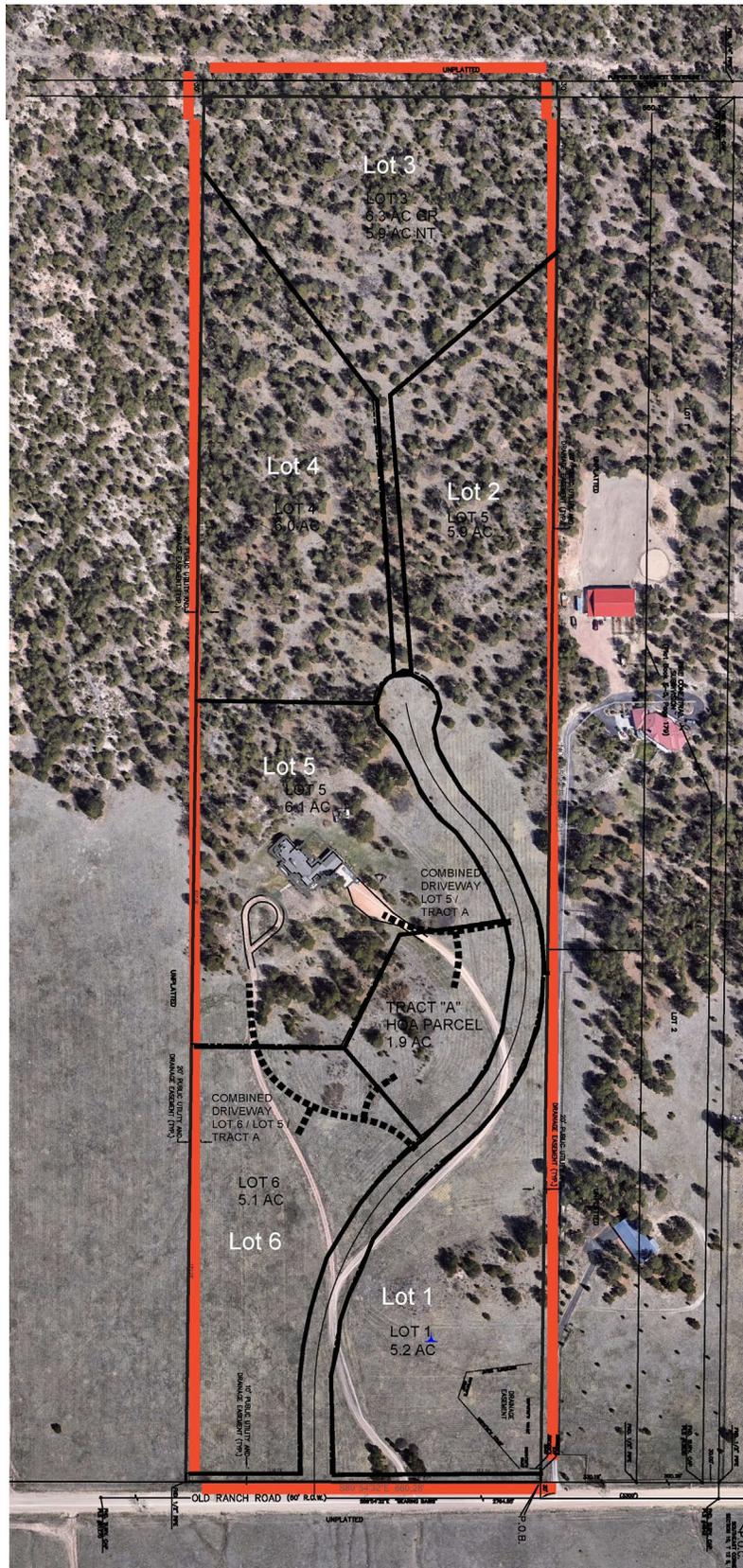


Figure 3. Aerial of property outlined in red.

El Paso County Wildfire Regulations

The subdivision is in the wildland area of El Paso County (EPCO). A Wildfire Assessment and Mitigation Plan is required for approval.

The site is in the Black Forest Fire Protection District, served by the Black Forest Fire Rescue Department (BFFRD). The agency operates under mutual-aid agreements that allow response by the closest available resources. The area has an ISO rating of 5.

No central community water supply is provided. No cisterns are proposed. All homes will have individual wells and septic systems. If a cistern is installed, it should meet hydrant fire flow standards for residential firefighting based on one structure on fire at one time (minimum of 33,000 gallons of water). All cisterns should be constructed with standardized connections as recommended by BFFRD or Colorado Department of Fire Prevention and Control. An all-weather surface turn-out should be provided at each location and able to accommodate a full-size fire apparatus. All fuels around the cistern location should be managed to allow firefighter access during extreme fire behavior.

NOTE: Water provided in cisterns should be considered a structural firefighting resource; not a wildland firefighting water resource. During wildfires, hundreds of homes are threatened at one time, and requires mobility for firefighting apparatus.

Access

The site will be accessed via Old Ranch Road. One main entrance is proposed. Roads should be constructed following El Paso County Rural Local Road Standards, or as required by El Paso County Engineering standards.

All roads will be gravel and provide a minimum of 24 feet of all-weather driving surface. Roads that terminate with cul-de-sacs in right-of-way's should have 65 feet radius (50 feet radius for driving surface).

Emergency Ingress/Egress

Any deviation from EPCO standards, may require road rights-of-way to be considered "Fire Lanes", and posted as such, if required by BFFPD. If on-street parking is allowed, parking should be allowed on both sides.

If other emergency vehicles access easements are proposed, these should be in an easement reserved by El Paso County, and the Homeowners Association. The following items should be considered for all emergency-only egress routes:

1. Any emergency egress, not part of full-time ingress/egress, should be covered by permanent agreements that clearly spell out responsibilities for funding, operation and maintenance.
2. Coordination with BFFRD for any controlled access (example: installation of Knox Locks® for 24/7 emergency responder access).
3. Appropriate signage will be necessary to direct evacuees during emergencies. All signage should meet MUTCD¹ criteria for evacuation routes.
4. Egress ROW width and driving surface should meet minimum requirements for allowance of two full travel lanes, with parking on both sides (24 feet minimum driving surface).

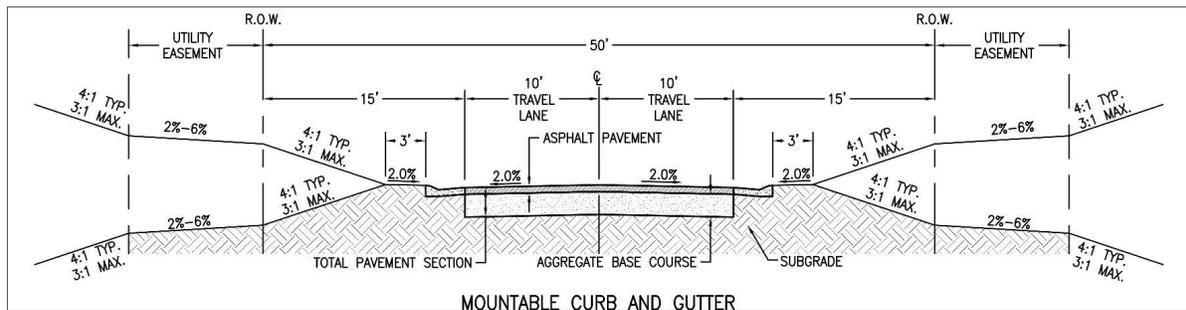


Figure 5. Recommended Minimum Standard for Roadways.

Interior Sprinkler Systems

Residents should consider installation of residential sprinkler systems (RSS) in areas with a single point of access, non-standard (narrow) road widths, or long cul-de-sac lengths. These have not been identified.

If used, interior sprinkler systems should not be considered part of the overall wildfire mitigation for the site, given that wildfire-caused structural ignitions typically occur on the exterior of the home. If RSSs are required, these should be considered as part of the structural fire protection system (based on structural protection standards for one structure on

¹ MUTCD is the “Manual of Uniform Traffic Control Devices, 9th Edition” available at www.mutcd.fhwa.dot.gov

fire at one time, often expressed as an ISO² Rating, as opposed to wildland fires in which hundreds of homes are threatened at one time).

Wildland Fire Characteristics That Could Threaten the Area (Fuel, Weather and Topography)³

Fire intensity and spread rate depend on the **fuel** type and condition (live/dead), the **weather** conditions prior and during ignition, and the **topography**. Generally, the following relationships hold between the fire behavior and the fuel, weather and topography.

- Fine fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels. Grasses are the predominant fine fuel in the community, and wind driven wildfires can be anticipated to move quickly, threatening multiple homes. Open meadows interconnect throughout the neighborhoods. Gambel oak (scrub oak) is also continuous from west to east.
- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. The lower the relative humidity and the greater the sun exposure, the lower will be the fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.
- Wind speed significantly influences the rate of fire spread and fire intensity. The higher the wind speed, the greater the spread rate and intensity. Winds are predominantly out of the west. However, low-pressure weather systems may produce upslope conditions that will generate winds out of the south and southeast.
- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity. Slopes in Koinonia range from 5 to 25 percent, with an average slope of 15%. Aspect is generally to the south and southwest.
- Wildfire events will tend to be fast moving and short duration. Continuity of grasses and Gambel oak, if pushed by high winds, can be expected to move through the entire community within one operational period.

² ISO Rating typically determined by International Organization for Standardization (ISO), www.iso.org. Often based on water supplies, fire station proximity, department staffing and apparatus available for structural fires.

³ Firewise Communities/USA® Community Assessment Template, *Firewise Communities Program*® www.firewise.org.

- Human caused fire starts pose the greatest risk on a day-to-day basis. Surrounding subdivisions can also be a source of human caused ignitions. Other potential fire sources are illegal fireworks, and human carelessness. Lightning strikes are common during the summer due to fast moving afternoon/evening thunderstorms.

When fuel, weather and topography are factored together, an overall wildfire rate-of-spread can be predicted as shown in **Figure 6**.

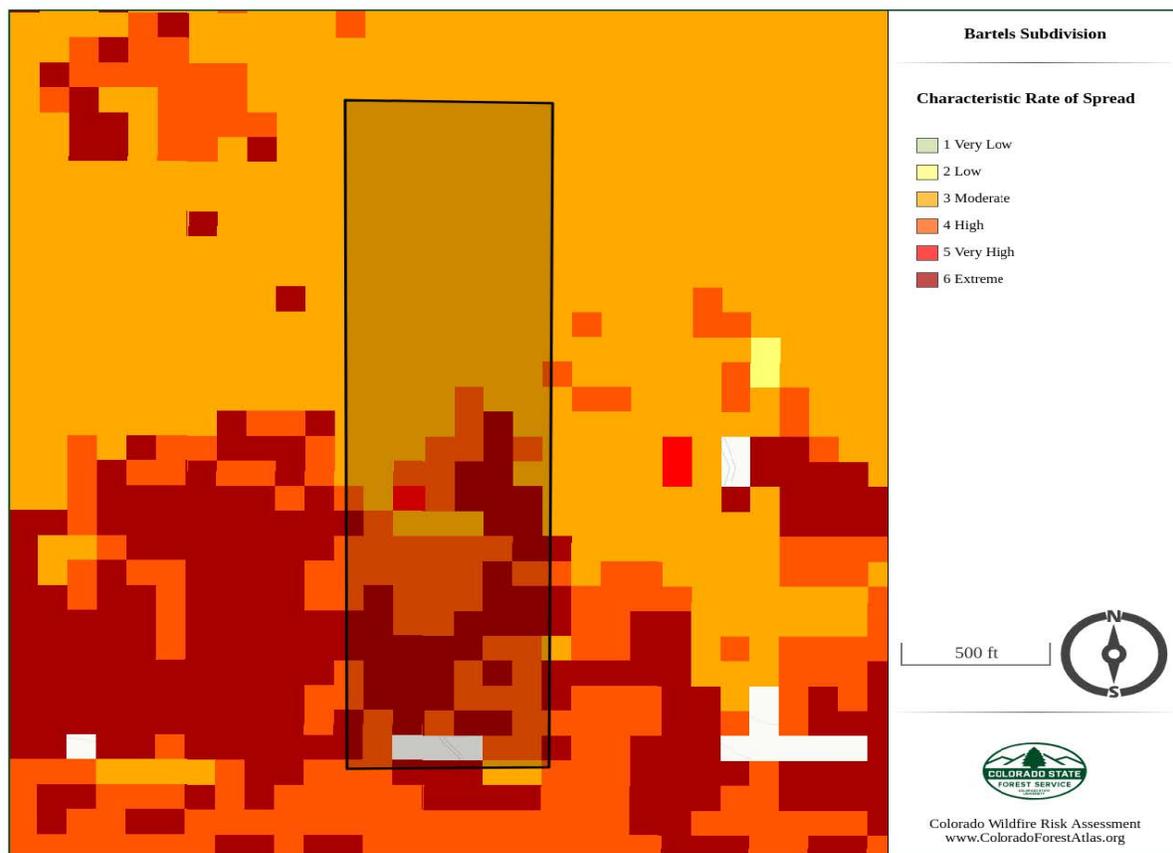


Figure 6. Wildfire Rate-of-Spread Assessment for Koinonia. 1 Chain = 66 feet. Source: Co-
WRAP

Current Fuel Conditions

The site is comprised of three fuel types. The first is prairie grass fuels. The second is shrub fuels with scattered ponderosa pines. The third is dense stands of second-growth ponderosa pines. An aerial photo of the site is shown in **Figure 7**. The three main fuel types are shown

in **Figure 8**, with mountain mahogany and pines dominating the site. Dwarf mistletoe, a major forest pest, was observed and might contribute to dead fuels.

Valley bottoms are dominated by black willow, cottonwoods, hawthorn and chokecherry. While the wildfire hazard in these areas may be low, any retained trees should be pruned, and dead trees removed. Any Russian Olives should be treated as noxious weeds and removed.



Figure 7. Aerial Photo of Site. North is at top of photo. Source: Google Earth Mapping Tool

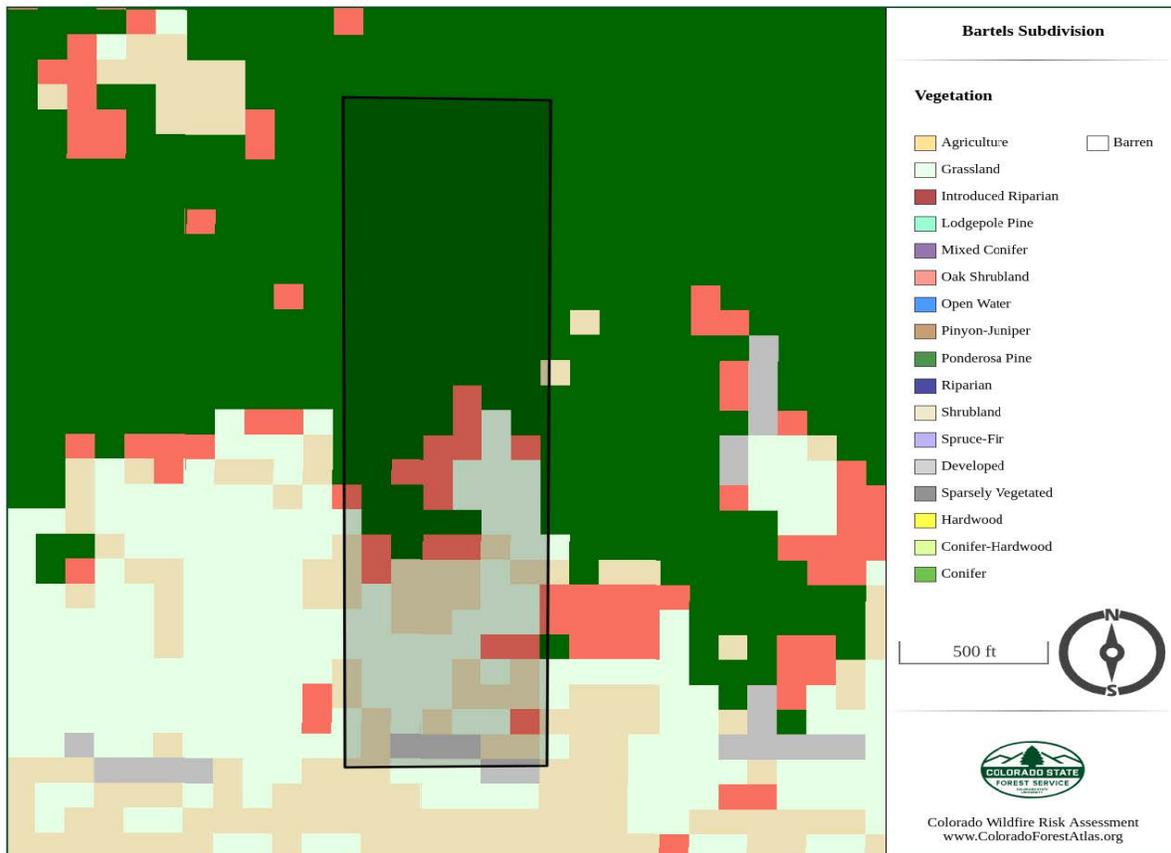


Figure 8. Vegetation Map. North is at top of map. Source: Co-WRAP

Gambel oak and continuous Mountain Mahogany are considered heavy fuels. It is a dense to moderately-dense, flammable vegetation averaging 5-10' high, with abundant litter and/or herbaceous fuel. Flame heights of 5-20' high, and of brief duration with high spread rates, at least 40 acres/hour. can be anticipated. Humans cannot safely pass through flames but can occupy burned area within about 15 minutes. Short range spotting from blowing embers is common (Source: CSFS).

Current analysis of the density and varieties of vegetation is an integral part of deciding when to schedule projects. Fuel models for the two fuel types, using **Andersons Aids for Determining**

Fuel Models for Estimating Fire Behavior (FBO) ⁴ and USDA Forest Service National Fire Danger Rating System (NFDRS) ⁵, are listed below.

1. Mature Brush- (NFDRS Type B/O, FBO Type 4) Areas with **heavy** brush (gambel oak, three-leaf sumac and mountain mahogany). Brush affected by frost and drought kill. Heavy cattle grazing has pruned taller shrubs of lower branches.
 - a. Prescription for treatment is to break up fuel continuity both horizontally and vertically. Remove dead material and prune clumps to a three-foot height. Recommended clump size and spacing is: Clumps should not be wider than two times their height. Clump separation should be at least 2.5 times their height. Estimated fuel treatment cost is \$800 to \$1,800 per acre (est. cost based on use of mastication equipment. If hand treated, est. cost can be as high as \$2,500/acre).

2. Heavy Forest Fuels, Second Growth Ponderosa Pine Forest (NFDRS Models **U** and **L** FBO Fuel Models **1** and **9**) Vegetation in the study area is dominated by a second-growth ponderosa pine forests with a high percentage of closed crowns, and dense pine understory. Gamble oak present in the understory along meadows.
 - a. Prescription for treatment is to remove understory trees that can act as ladder fuels. Areas abutting heavy forest fuels should be thinned to provide 10-20 feet of crown separation, following CSFS shaded fuel break guidelines. Interior forested areas should be thinned to reduce ladder fuel and improve tree separation necessary to promote forest health.

3. Grasslands, native prairie- (NFDRS Type A/L, FBO Type 1) Typically **light**, flashy fuels with scattered yucca, three-leaf sumac and noxious weeds.
 - a. Prescription for treatment is regular mowing and regular noxious weed control. Timing of mowing is typically at time of grass curing/drying (July/August). Areas not mowed in late summer or fall should be mowed in the spring if insufficient snow was present to lay down aerial fuels. Mowing should also be timed to allow for adequate reseeding of native grasses and wildflowers. Estimated fuel treatment cost is \$100 to \$220 per acre.

Weather

Weather and climatic events can have a significant impact on wildfire behavior. Two recent wildfires in the region, the Waldo Canyon Fire (2012) and Black Forest Fire (2013), exhibited extreme behavior due to a combination of high winds and extended drought conditions.

The area is prone to high winds from the west, often exacerbated by nearby thunderstorm activity, and related frontal passages. Periodic winds also occur from the south and

⁴ *Aids to Determining Fuel Models For Estimating Fire Behavior*, Hal E. Anderson, USDA Forest Service General Technical Report INT-122, April 1982.

⁵ *Gaining an Understanding of the National Fire Danger Rating System (NFDRS)*, PMS 932/NFES 2665, National Wildfire Coordinating Group (NWCG), 2002.

southeast during upslope weather fronts. It is not unusual for winds to shift 90 degrees within a burning cycle, as frontal passages occur, making fire containment or control difficult.

Topography

Overall, topography on the site is considered gentle to moderate, and is broken up by a series of small ridgelines running north to south. Orientation, or aspect, is generally to the south and southwest. Draws and valleys that bisect the property can have an impact on fire behavior. These act as venturi that can increase wind speeds at ground level. Topography is shown in Figure 9.

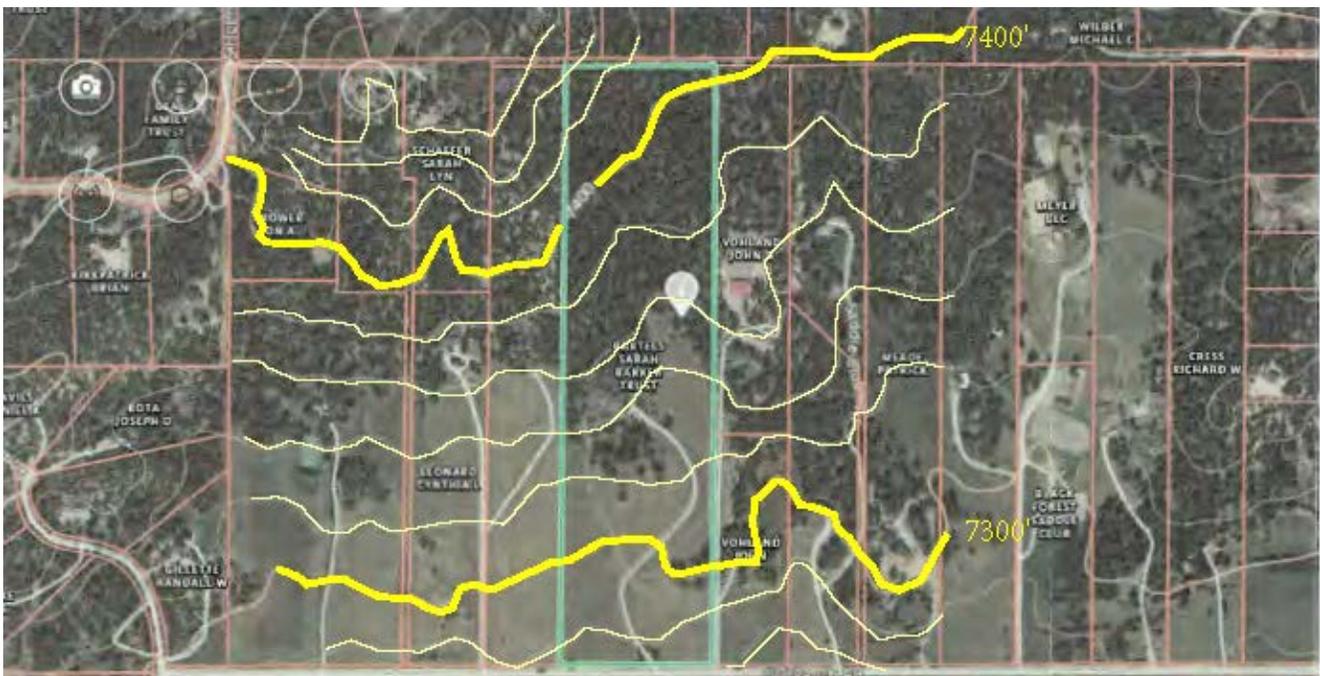


Figure 9. Topography. 20' Contours

Fuel, weather and topography factors, when combined, provide an analysis of wildfire behavior under extreme conditions. This is shown in Figure 10.

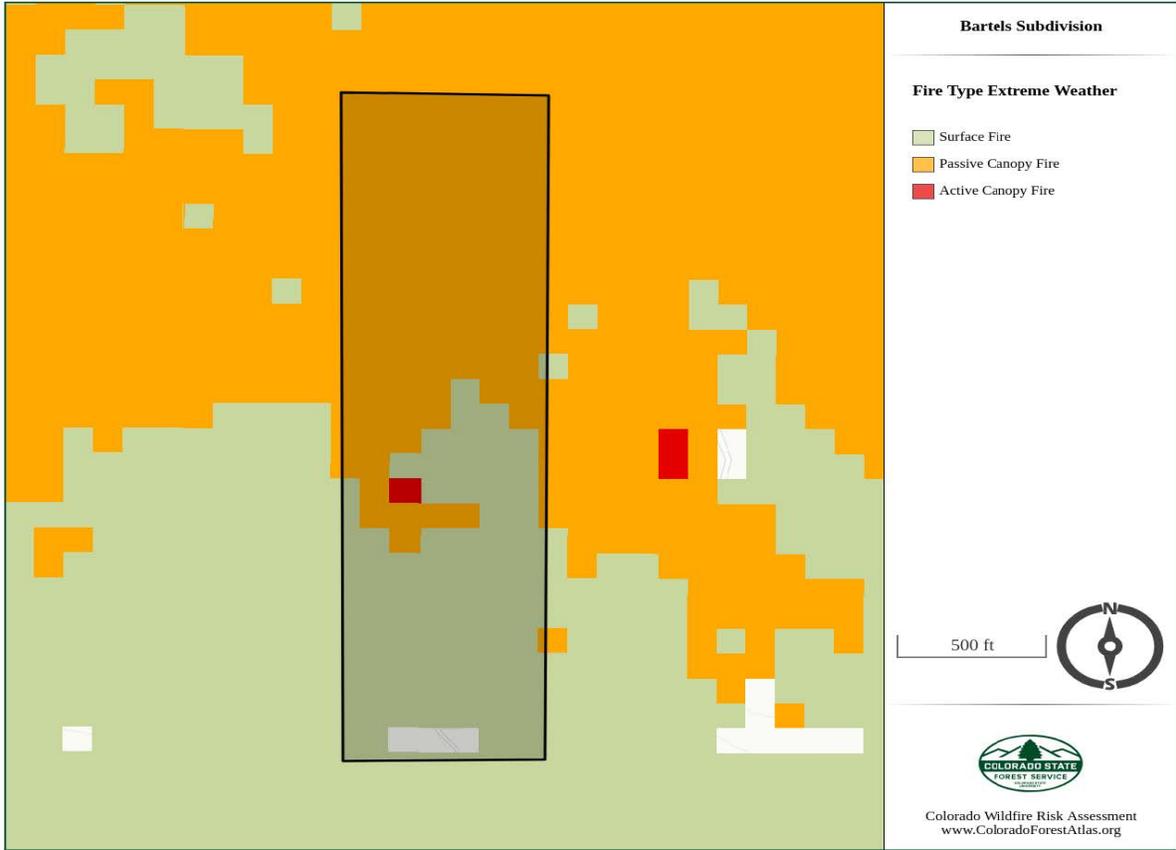


Figure 10. Affects of Extreme Weather. Source: Co-WRAP

Building sites in these zones will require greater setbacks from fuels.

WILDFIRE HAZARD MITIGATION

This section of the Wildfire Mitigation Plan addresses the prioritization of fuel mitigation treatments for high-risk wildfire hazards impacting both the site and surrounding community.

Methodology and Strategies

Wildfire behavior in the proposed subdivision will be affected by fuel, weather, and topography. No attempt was made to use fuel modeling for determining fire behavior for any one event. Instead, all areas should be treated as if fire can start at any point in or around the community and be affected by an infinite number of probabilities. Wildfire can come from any direction. Therefore, every home and all fuel treatment areas should be treated to allow for an inevitable fire that will burn at a rate and intensity more consistent with past historic levels.

Firefighting strategies often must rely on the use of fire by firefighters to protect structures. Terms like “black lining”, burning out, and “backfiring” are becoming more familiar to wildland residents as media coverage increases. The long-range goal of the community should be to treat all forest and brush areas so that use of fire is a viable firefighting tool.

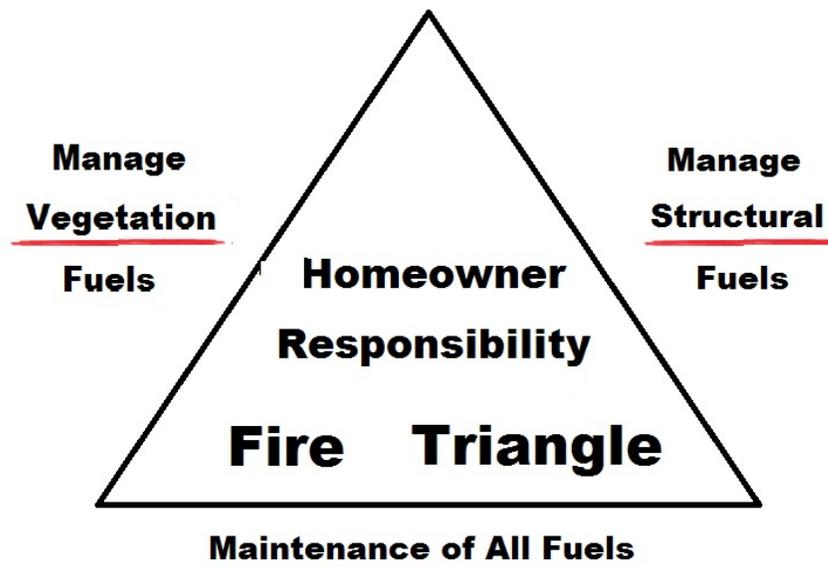
Priorities for Treatment

Three main areas are targeted for treatment. These are:

1. Egress/Evacuation Routes- Road rights-of-way are typically 30 feet wide throughout the community. All continuous heavy fuels along roadways should be treated to reduce fire intensity to a level that can be survived while in a vehicle. The long-range goal for all roadways is to have flames on the ground in lighter fuels versus dangerous flame lengths that may extend into the roadway. Landscaping along all roads should avoid use of highly combustible plants, such as junipers. Colorado State Forest Service (CSFS) publications *6.303 Fire Resistant Landscaping*, and *6.305 Firewise Plant Materials* should be used as guidelines for landscaping along all roadways.
2. Home Ignition Zones- All homes and lots should be treated to a level sufficient to prevent home ignition from both flame impingement and aerial firebrands (embers). This goal will be accomplished primarily through education. Home insurability will also factor into decisions by homeowners to mitigate their homes and properties. Note: All structures must adhere to applicable El Paso County or BFFRD Wildfire Mitigation Regulations at the time of construction. Defensible space or HIZ may be required prior to issuance of a Certificate of Occupancy. The following references should be incorporated into the design guidelines for all neighborhoods in Koinonia:

- a. CSFS publication *6.302 Creating Wildfire Defensible Zones*, or;
- b. CSFS publication *FIRE 2021 The Home Ignition Zone* (also referred to as “HIZ Quick Guide)
- c. CSFS publication *Firewise Construction: Site Design and Building Material* (December 2012)

Wildfire risk is an on-going exposure. Therefore, maintenance of all structural and landscape fuels is necessary to coexist with wildfire. The following diagram summarizes homeowner responsibility for his or her fuels:



Homeowner Responsibility Fire Triangle

3. Open Spaces or surrounding areas- Areas of heavy native fuels that will affect fire behavior from one lot to the next, or from outside the community. This may include the more remote areas of residential lots well outside the lot owners home ignition zone. Open space trail systems will be part of the community-wide wildfire containment system and should be maintained as pre-existing firelines. Open space treatments will generally follow two guiding documents:
 - a. CSFS publication *Fuel Break Guidelines for Forested Subdivisions and Communities*
 - b. CSFS publication *6.311 Managing Gambel Oak* (also guideline for other shrub species)

Fuel Treatment Zones

Proposed fuel treatment zones are shown in **Figure 11**. These areas should be treated as part of the land development construction process, and prior to issuance of building permits. Specific treatment zone widths may be dependent on land development activities such as over-

lot grading, road construction and installation of site utilities (drainage, sewer and water lines, detention ponds, etc.). Any area where construction activities remove the vegetation cover should be considered “mitigated”. Utility corridors can be used as anchor points for treatment projects. Community wide fuel treatment widths are based on the distance from rear lot lines.

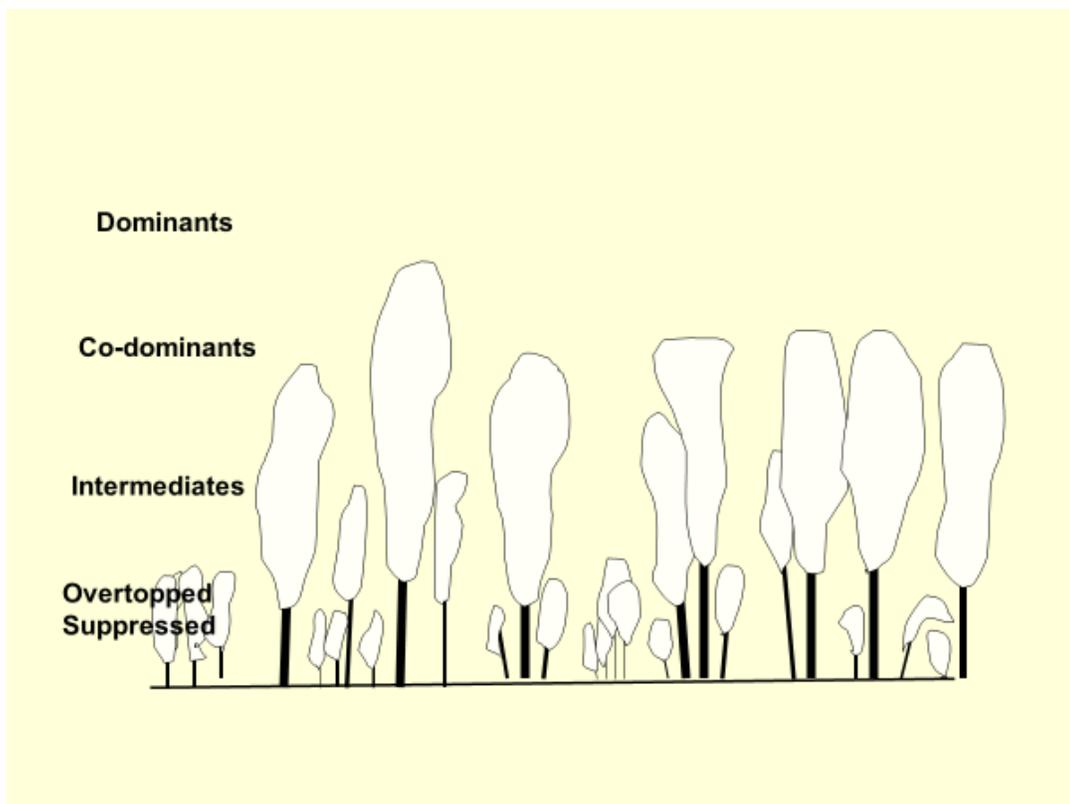


Figure 11. Fuel Treatment Zones as part of land development implementation shown as yellow (SFB) areas.

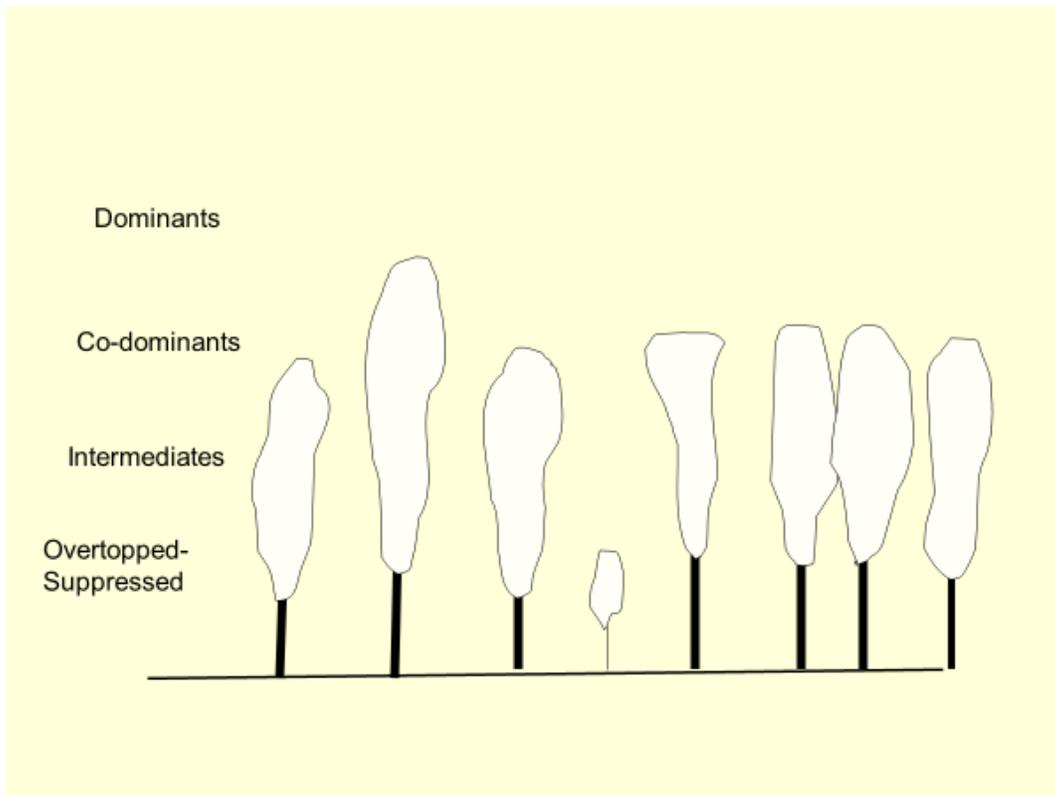
Two main fuel treatment zones are proposed. The first is a community-wide (or phase-wide) zone (shown as yellow areas in Figure 11). The objective is to manage crown fire behavior by implementing “Shaded Fuel Breaks” (SFB) as described in CSFS Publication *Fuel Break Guidelines for Forested Subdivision and Communities*. Tree crown separation is the primary measurement within these zones, along with management of ladder fuels. This guideline primarily addresses forest fuels in coniferous forests. However, the same concepts apply in areas with shrub species. Instead of tree or crown spacing, shrub clump spacing will apply as

described in CSFS Publication *6.311 Managing Gambel Oak*. These should be an average of 300 feet wide if abutting unmitigated fuels. Guidelines listed above for open spaces should be followed.

The second zone includes all interior lots with forest or brush fuels or along roads. These will be described as “Forest Management Areas” (red areas shown on Figure 12). It is recommended these areas be treated as one large body of fuels, with no attention paid to interior property lines. Forest health and ladder fuels management are the primary objectives in these areas. Less emphasis can be placed on tree crown separation so long as overall stand densities are reduced. Typically, “overtopped/suppressed” and “intermediate” trees (see diagrams below) will be removed from the forest canopy due to their poor health or condition. Shrub clump spacing in brush fuels will depend on steepness of the slope below the future structure.



Existing Stand Structure



Recommended Stand Structure

Shrub Treatments to Manage Crown Fire Behavior

Wildfire behavior in shrub areas can be managed by modifying its horizontal and vertical fuel arrangement. Treatment methods may differ depending on location within the community and relationship to structures or roadways. The first method for community-wide guidelines was covered in the previous section. It is important to note that Mountain Mahogany and Gambel oak can be treated to manage wildfire behavior while maintaining its aesthetic qualities.

The photos below show before and after fuel treatments in Gambel oak fuels (shots taken in the Woodlands/Escavera neighborhoods, Castle Rock, Co.). All followed CSFS guidelines.



Before Photo- Heavy Gambel Oak fuels located in the Woodlands “Bowl”



After Photo of the same area. Shrub clump spacing per CSFS 6.311.

It is important to note that community-wide shrub treatments, like those proposed here, had a significant impact on wildfire behavior during the 2012 Waldo Canyon Fire above the Cedar Heights community. Treatment projects implemented by the Colorado Springs Fire Department

in the years preceding the fire allowed safer firefighter access and increased effectiveness of aerial firefighting resources.

The second type of shrub treatment is intended for shrub vegetation to be retained within the defensible space of homes or within 100 feet of roadways. It is applicable for retained shrub clumps where overall fuel continuity has been interrupted following community-wide treatments. The following techniques can be used to reduce the fuel volume of clumps:

1. Shrub clumps or deciduous trees with average diameters greater than 5" should be retained as long as horizontal continuity of fuels can be interrupted to meet SFB objectives.
2. Shrub clumps retained within defensible spaces or within 100 feet of roadways may be retained if clumps are treated to reduce ladder fuel within the clump. The following may apply:
 - a. Overall clump shape is to be retained and crown closure of the oak canopy maintained.
 - b. Dead and overtopped stems and branches should be removed. Note: Gambel oak is a "shade-intolerant" plant. Stems within clumps that are shaded by the overhead canopy will die off and should be removed at initial entry into the clump.
 - c. Stems located around the perimeter of clumps leaning at less than 60 degrees from horizontal should be removed.
 - d. Shrubs within the driplines of retained pines should be removed.
 - e. Loose leaf litter within the clump should reduce. However, a "duff" layer of decomposing leaf litter, 4-6" deep, should be retained.
 - f. Less combustible plants, such as chokecherry, currant, snowberry, or wild plum, may be retained in the understory of the oak clump if dead stems are removed.
 - g. Grass fuels within 20 feet of the treated clump should be kept mown during the wildfire season.

The photos below are examples of how wildfire behavior was modified where oak was retained within the defensible spaces of homes in the Mountain Shadows neighborhood, affected by the Waldo Canyon Fire. In both examples, firebrands started spot fires in native grasses below the homes. Fire remained on the surface, burned under the oak, and stopped at landscape improvements (lawns, retaining walls, paths, etc.) located above the clumps. Little or no firefighter intervention was present.



Example #1 of managed oak fuels, Mountain Shadows, Waldo Canyon Fire



Example #2 of managed oak fuels, Mountain Shadows, Waldo Canyon Fire

No restrictions should be placed on fuel treatment zones that might prohibit future fuels management. Maintenance responsibility of treated areas should be clearly spelled out and required as part of the subdivision approval process. Re-treatment of shrub fuels will be required, at a minimum, every five years. If owned by a Homeowners Association, maintenance responsibility should be included in the by-laws, covenants, regulations and/or design guidelines. Builders and developers should caution their sales staffs to inform prospective buyers of the on-going need (requirement?) for maintenance of open spaces.

Fuel treatments recommended for implementation as part of the land development construction process are summarized in **Table 2** and **Figure 12** as follows:

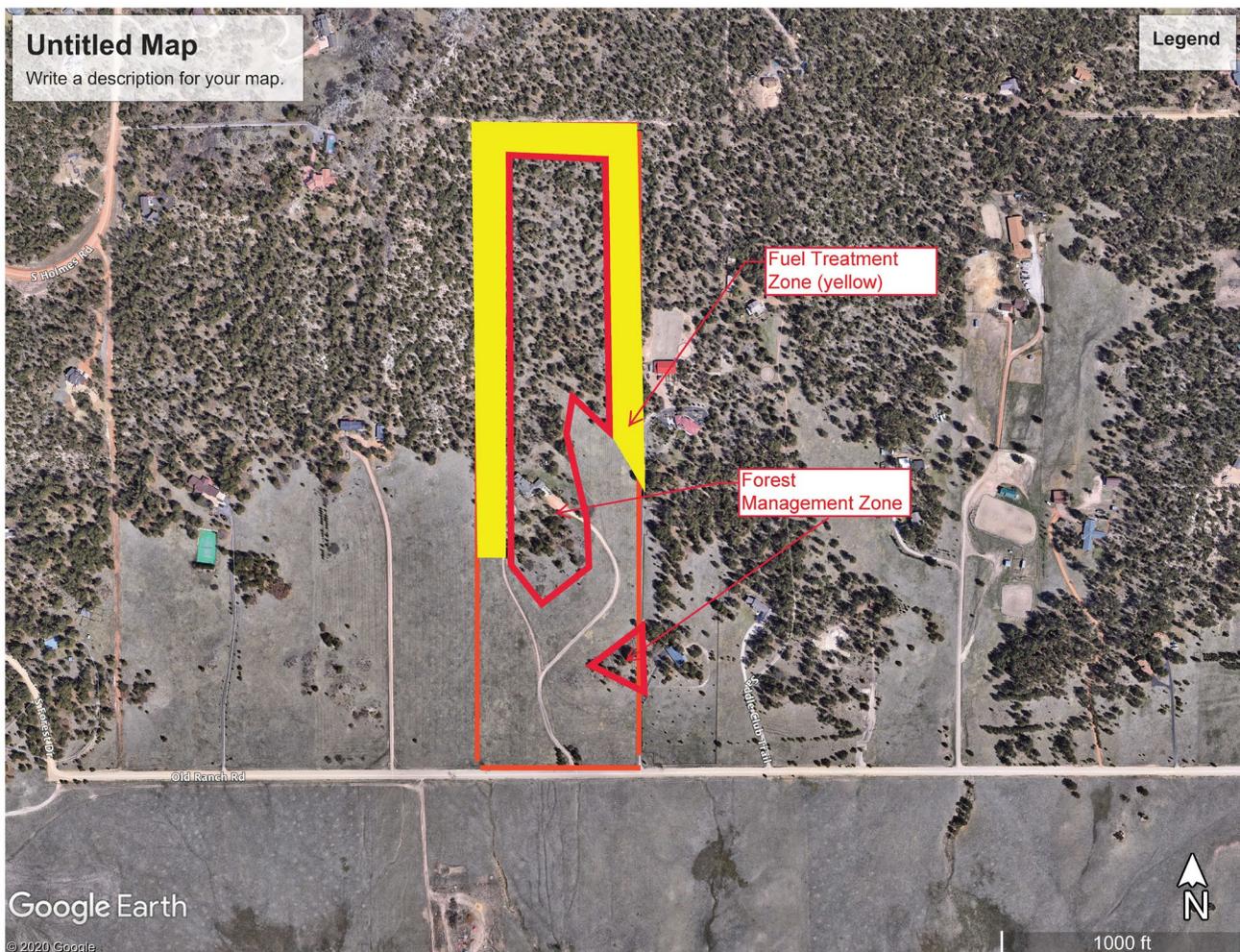


Figure 12, Fuel Treatment Zone (yellow) and Forest Management (red) Units

Table 2, Fuel Treatment Zone Summary

Zone	Acres	Tract or Lots	Prescription
SFB 1	5.0 acres	Perimeter fuel treatment zone	CSFS SFB Guidelines for forest and shrub fuels.
FM 1	15 acres	Interior lotted areas	Forest management thinning to promote forest health and manage ladder fuels.
Other	19 acres	Prairie or Riparian areas	Seasonal treatment to manage fine fuels and noxious weeds.
Total	39 acres		

All acreages in **Table 2** are approximate. Final acreages cannot be determined until final grading and utility plans are completed. These land development activities will reduce the acreage based on over-lot grading, utility construction corridors and detention pond locations.

Wildlife Habitat Enhancement and Wildfire Mitigation

It important to note that all wildfire mitigation proposed in this plan is consistent with both protection and enhancement of wildlife habitats. These treatments will serve as vegetation renewal and restoration of diversity necessary for stable wildlife habitats. In effect, fuel treatments can best be described as “mechanical fire” in formerly fire adapted ecosystems.

STRUCTURAL IGNITABILITY

All new structures in Koinonia Ranch should follow wildfire mitigation guidelines established by El Paso County and FFRD, as part of Building Codes for the area. At a minimum, builders and developers should follow guidelines per **CSFS Publication The Home Ignition Zone (formerly FIRE-2012-1 Protecting Your Home from Wildfire: Creating Wildfire- Defensible Zones)**. These publications may be updated from time to time, as knowledge of wildfire science evolves.

Insurability of Future Residences

Wildfire is now a concern for insurance companies, given recent losses in what could be described as traditional residential communities. An example is the Mountain Shadows neighborhood impacted by the 2012 Waldo Canyon Fire (City of Colorado Springs). Over 340 structures were lost, and numerous other structures suffered smoke damage in what should be considered a typical suburban area.

Insurability will have a market impact on sales. The following will be of concern to builders in Koinonia:

1. Most insurance companies have access to wildfire hazard mapping resources. These often delineate zones from low, to moderate, to high, to severe risk. It is predicted Koinonia will fall within the “high” category.
2. Aerial mapping is generally available to insurers that shows the presence of some level of vegetative fuels.
3. By use of both tools listed above, an underwriter sitting in cubicle in Any City, USA, may make a determination on insurability of the home.
4. ISO rating, as discussed earlier, may be available but is not relied on. This rating is based on resources available to protect one structure on fire at one time. During a wildfire, hundreds of homes are threatened at one time. For example, it is estimated over 2,000 homes were threatened at one time in Mountain Shadows, with multiple structures on fire at one time.
5. Proximity to large bodies of native fuels can impact typical suburban communities. Primary exposure is from embers (firebrands) carried by high winds into the community.

It was estimated that only 10% of the home losses in Mountain Shadows directly abutted native fuels.⁶

6. 100% of future homes in Koinonia will be susceptible to wildfire exposure from embers that can come from either outside or inside the community. These embers enter communities in a horizontal alignment pushed by high wind speeds, parallel to ground surface. Embers don't typically rain down on the community. Delivery is like wind-driven snow, in a blizzard. Wildfire professionals refer to these as "ember blizzards". IBHS research has been demonstrated this under laboratory conditions.⁷
7. Pro-active measures can be taken by developers and builders within wildfire prone areas.

Pro-active Marketing Actions for Koinonia Ranch

Wildfire is a manageable risk. Steps can be taken to manage the risk and promote (sell) values afforded by living in Koinonia. Values may include views, proximity to open spaces, natural environment (being close to nature), wildlife viewing and trails. All the wildfire mitigation activities described in the previous section easily fit with these values. Most of the suggestions that follow will primarily affect structural ignitability.

1. Follow all construction recommendations contained in CSFS publication *Firewise Construction: Site Design and Building Material (December 2012)*
2. Follow IBHS recommendations regarding structural ignitability from ember exposures.⁸ These can be incorporated into current building practices with minimal additional costs. Most fall within criteria already established for programs such as LEED® or EnergyStar® that address energy efficiency. Weatherization practices will aid in ember resistance.
3. Incorporate Firewise® building and landscaping guidelines into all homeowner association (HOA) governing documents for all neighborhoods in Koinonia.
4. Upon establishment of HOAs or sub-HOAs insure inclusion of budget line-items for maintenance of past fuel treatments on common areas or open spaces. Enforcement costs should also be included. Meadow/prairie areas directly abutting lots should be part of any maintenance program.

⁶ Fire Adapted Communities Mitigation Assessment Team Findings: Lessons Learned from Waldo Canyon, 2013. Complete document available at www.fireadapted.org

⁷ Institute for Business and Home Safety (IBHS) ember research and videos viewable at www.disastersafety.org

⁸ Recommendations from "proposed" IBHS "Wildfire Fortified" program.

5. Obtain Firewise USA® site recognition for Koinonia. This can be done at minimal cost and involves coordination with CSFS and BFFRD. This plan can serve as the required “community assessment”. No residents are required at the time of implementation. The guiding document is *Safer from the Start: A Guide to Firewise Friendly Developments*.⁹ Note: USAA currently provides a small discount to its customers residing in a Firewise USA® site.
6. Partner with organizations that are raising wildfire awareness. These include:
 - a. Rocky Mountain Insurance Information Association (RMIIA)¹⁰
 - b. Colorado Association of Realtors and their Colorado Project Wildfire program.¹¹
7. Partner with Black Forest Fire Rescue Department and El Paso County Sheriff’s Office to promote community awareness and readiness. Evacuation planning and notifications should be included with all new homeowner packets. Most important is sign-up with 911 reverse-calling (Regional 911 Authority) for emergency notifications.¹² Homeowners without a traditional land-line through CenturyLink will not be in the system. VOIP and mobile phones are not in the system and must be registered with EPSO.

Koinonia Ranch is planned as a low-density suburban community. It will take a unified community-wide wildfire management approach to minimize impacts from wildfires. Wildfires are a given.

All homeowners, even those well away from zones with heavy fuels, should take measures to protect their homes from embers (fire brands). In addition to ember blizzards, embers can be lofted high into the air and carried up to a mile, placing all homes in the community at risk. Prevention measures can be as simple as regular mowing of high grasses or by periodic irrigation. Landscaping using Firewise plants (CSU Extension Publication 6.305) is recommended in all areas. Junipers and other flammable vegetation are readily ignited by fire brands lofted or blown into the neighborhood.

⁹ Document available at www.firewise.org

¹⁰ RMIIA Wildfire and Insurance brochure available at www.rmiia.org

¹¹ CAR website at www.car.org

¹² Homeowners can sign up at www.elpasocounty.com VOIP (voice over internet provider) numbers must be registered.

Susceptibility to wildfire for individual homes is the responsibility of each homeowner. Efforts must be focused on educating owners of their risk. The shared element, fuel, is the only element that can be managed.

Summary

Wildfire is one of the few natural hazards that can be mitigated ahead of time. If done properly, fuels management can reduce risk of losses, while enhancing aesthetics and wildlife habitats. The ability of future home buyers to obtain affordable insurance in wildfire prone areas is no longer a given. Recommendations in this plan, along with current regulations, will add to marketability of home sites.

Wildfire Information

Colorado State Forest Service- www.csfs.colostate.edu

Pikes Peak Wildfire Prevention Partners- www.ppwpp.org

1. Black Forest Fire Assessment Report
2. Black Forest Fire Video

911 Authority (El Paso County emergency notification system, a.k.a. “Reverse 911”)
www.elpasocounty.com

Douglas County homeowners who do not have Century Link land lines are not in the emergency notification system. Voice-Over-Internet-Phones (VIOP), such as Comcast, and mobile lines are not in the system. These must be registered at the sheriff’s office web site listed above.

Firewise Communities- www.firewise.org

Ready! Set! Go! (RSG)- www.wildlandfirersg.org

Insurance Institute for Business and Home Safety (IBHS)

Web site: www.disastersafety.org

1. Site has regional guides for retrofitting homes for wildfire.
2. Wildfire Home Assessment & Checklist
3. View videos of ember ignition lab tests.

Fire Adapted Communities (FAC)- www.fireadapted.org

MUST SEE VIDEOS:

- **Wildfire! Preventing Home Ignitions** View at www.firewise.org
- YouTube videos: View at www.youtube.com
 - o Type “Melody Lane Fire” in the browser (see a wildfire in real time destroy 5 homes)
 - o Type “IBHS, Ember” in the browser (see a home ignited by embers in a laboratory setting)