

Summit County, Colorado



Recommendations for Policies and Regulations Related to Reducing Community Wildfire Risk

March 2015



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Acronyms Used

CSFS	Colorado State Forest Service
CWPP	Community Wildfire Protection Plan
FBAN	Fire Behavior Analyst
FEMA	Federal Emergency Management Agency
HFRA	Healthy Forests Restoration Act
HIZ	Home Ignition Zone
MHMP	Multi-Hazard Mitigation Plan
NASF	National Association of State Foresters
NIFC	National Interagency Fire Center
NFPA	National Fire Protection Association
SCWC	Summit County Wildfire Council
WUI	Wildland-Urban Interface

1. SUMMARY AND PROJECT OVERVIEW

Introduction

Throughout the United States there is a growing need to address the widespread threat that wildfire hazard poses to communities. There are many reasons that the wildfire problem is gaining attention and urgency: more development is occurring in wildfire-prone areas, past forest management



and wildfire suppression practices have produced an abundance of hazardous fuels, invasive species have left forests more vulnerable to wildfire threat, and a changing climate is exacerbating drought conditions and increasing the average length of the wildfire “season.”

As a result of these factors, more people – and communities – are at risk to wildfire. The National Association of State Foresters (NASF) estimates that more than 72,000 communities across the U.S. are considered “communities at risk” to wildfire (NASF 2013). Nearly one-third of housing units and one-tenth of all land with housing is situated in an area commonly referred to as the “wildland-urban interface” (Stein and others 2013). It is important to note that although the degree of wildfire risk may vary throughout the WUI, under the right conditions wildfire can affect people and their homes in almost any location where wildland vegetation is found (Finney and Cohen 2003).

The implications of these factors have never been more apparent. More acres and structures are burning every year. Since 1990, the average number of structures burned from a wildfire has more than tripled (Headwaters Economics 2014). Recent years have seen as high as 5,000 structures burned (Headwaters). Wildland firefighter fatalities also continue to rise. During the 1990s, the average number of wildland firefighter fatalities per year was 16.9; during the 2000s firefighter fatalities climbed to an average of 19.3 deaths per year (NIFC 2014).

In addition to public safety and environmental concerns, the economic burden to address the country’s wildfire situation is staggering. The federal government now spends an average of \$3 billion per year on addressing wildfire – a figure that has tripled since the 1990s and is still typically not enough to cover the national suppression bill without shortchanging other programs (Headwaters). If local governments were burdened with more of these suppression costs, the results could be devastating.

The WUI...

*The **wildland-urban interface (WUI)** is commonly defined as an area where structures and vegetation meet or mingle. A more accurate way of thinking about the WUI is by a set of conditions that can exist in nearly every community and influence wildfire risk, including: the amount, type, and distribution of vegetation; flammability of structures, and their proximity to fire-prone vegetation or other combustible structures; weather patterns and climate conditions; topography; hydrology; lot size (NFPA).*

The full story of wildfire impacts to local economies, however, is left untold. Displaced residents, tourism losses, dropped insurance coverage policies, post-fire flooding and erosion, lost business revenues, infrastructure shutdowns, and decreased property taxes are just a few of the long-term and complex costs that impact communities following a wildfire. The Western Forestry Leadership Coalition (WFLC) estimates that the true costs of wildfire are anywhere from two to 30 times the more commonly reported suppression costs (WFLC 2010).

Why have costs ballooned to an unsustainable level and what can be done to address this? The growing number of homes in the wildland-urban interface is largely responsible for these increased costs. The stakes are much higher to managing fires in areas where there are people, homes, schools, hospitals, businesses, highways, utilities, watersheds, and more. In short, the more development that occurs in the WUI, the more damaging the consequences to a community and the more expensive wildfire response and suppression becomes (Stein and others 2013).

There aren't enough resources to stop damaging wildfires from occurring to communities. There are, however, many national programs and local efforts aimed at reducing community wildfire risk. These prevention and mitigation activities range from voluntary national programs that are implemented at the local level (e.g., Ready, Set, Go!, Firewise Communities, and Community Wildfire Protection Plans) to locally driven initiatives such as building code standards that require fire-resistant construction, mapped risk and prioritized fuel reduction treatments, and resident outreach programs.

Rarely do local efforts emphasize outcomes that fundamentally redirect, limit, or modify development in wildfire-prone areas. There is a unique opportunity to reduce the impacts of wildfire on a community – particularly with respect to reducing the number of homes lost – by influencing the location and type of development through the application of land use planning and zoning tools.

In 2014, Headwaters Economics – in collaboration with Wildfire Planning International and Clarion Associates – embarked on the challenge to rethink community wildfire risk through a land use planning lens. With generous funding from the LOR Foundation, the project team worked with Summit County, Colorado to analyze and recommend forward-thinking changes to key planning documents and development regulations. These changes focus primarily on integrating the goals of wildfire risk reduction with land use policies and regulations – creating new opportunities to strengthen community approaches to wildfire, and defining more rigorous requirements for future growth and development.

At the outset of the project, the consulting team and Summit County developed a Memorandum of Understanding (MOU). This MOU outlined the appropriate documents to be reviewed and evaluated by the consulting team, defined the purpose and intent of the project, and provided terms and conditions of the partnership between Summit County and the consulting team. Throughout the course of this project, the consulting team received significant support from the Summit County Wildfire Council (SCWC) and members of the Community Development Division to contribute knowledge, local expertise, and assistance with providing important document information.

Although wildfires can be destructive, they also can bring many ecological benefits. To better service our communities and ecosystems, we must adapt our built environment to fire by managing our values at risk more appropriately.



Figure 1.1: Summit County's wildland-urban interface provides many opportunities to address wildfire risk (credit: M. Mowery)

Project Purpose and Outcomes

This project focuses on how communities can reduce their wildfire risk through the improved application of land use policies and tools. There are typically multiple management objectives when it comes to wildfire – for example, protecting forests and watersheds from severe wildfires through better forest management practices, improving firefighting response through increased training and equipment upgrades, educating the public on wildfire safety, etc. Because the majority of WUI suppression costs are currently associated with protecting homes, and a significant consequence of current development patterns is the loss of homes during WUI fires, this project focuses primarily on reducing the risk of home loss in the WUI. Secondary areas of focus include protecting other values at risk (e.g., community assets such as hospitals, schools, businesses, etc.) from wildfire damages. This project does not provide any guidance on other land use planning topics, nor does it encompass the full array of other wildfire risk reduction topics.

In order to effectively address these two areas of focus, the project team reviewed the following Summit County planning documents:

- Community Wildfire Protection Plan (CWPP);
- Land Use and Development Code;
- Countywide Comprehensive Plan;
- Basin and Subbasin Master Plans; and
- Multi-Hazard Mitigation Plan.

Each of these documents plays an important function in its ability to address community wildfire risk reduction (see Figure 1.2 below). The challenge and

opportunity lies within ensuring that these documents are appropriately linked to one another and that they reinforce intended goals and policies.

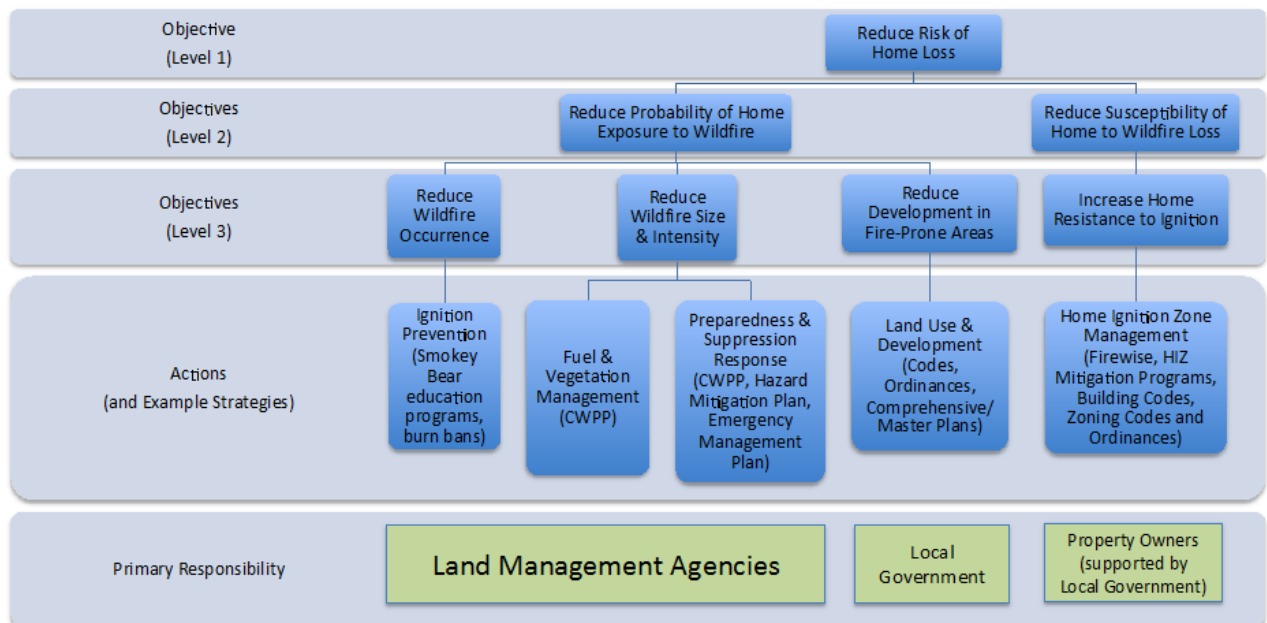


Figure 1.2: When managing with the primary objective of reducing the risk of home losses from wildfire, there are many actions that policymakers and property owners can take. The opportunity and challenge is for the chosen strategies to link with and reinforce one another. (Adapted from original source published in PNAS volume 111, no. 2)

The intended project’s outcomes are twofold:

- 1) Provide Summit County with recommendations to improve, strengthen, and refine key documents with respect to community wildfire risk reduction.
- 2) Enable other communities to learn from Summit County by extrapolating insights, best practices, and lessons learned that can be shared with a broader audience.

Report Organization

This report contains four parts and is organized as follows:

- **Part 1: Summary and Project Overview.** This part provides the reader with an introduction to the project and its purpose, and a summary of recommendations.
- **Part 2: Community Wildfire Protection Plan.** This part provides background information on CWPPs, and focuses primarily on suggestions to improve and strengthen Summit County’s CWPP. A brief section is also devoted to Summit County’s Hazard Mitigation Plan.
- **Part 3: Long-Range Plans and Land Use Development Regulations.** This part provides background information on the Land Use and Development Code and comprehensive plans, and focuses primarily

on suggestions to improve and strengthen Summit County’s planning documents with respect to wildfire risk reduction.

- **Part 4: Detailed Review of Current Plans, Policies, and Regulations.** This part includes specific detailed comments and recommendations based on our review of the various plans and codes.
- **Part 5: Resources and References.** This part highlights resources that will provide the reader with additional information to further understand, guide, or aid the implementation of any suggested recommendations.
- **Appendix.** The Appendix includes recommendations related to the Land Use and Development Code that were not necessarily wildfire-specific (e.g., improving the overall user-friendliness of the development regulations).

Summary of Recommendations

A Few Important Notes about Recommendations

The nature of land use and development codes, building codes, comprehensive plans, and hazard mitigation plans is that they cover a wide variety of topics related to the built and natural environment. Although focused directly on wildfire, the CWPP also addresses a number of topics, including forest management, firefighting response and capabilities, and funding. This can make a project focused specifically on one topic – community wildfire risk reduction – more challenging because recommendations may inadvertently be at odds with other community planning priorities. Every effort was made to reconcile differences between competing objectives or suggest ways to make language more compatible.

The idea of applying land use tools in a meaningful way to reduce wildfire risk is also a pioneering area. Limited applications, such as the adoption of WUI codes, exist, but there is no formula or one-size-fits all approach to this type of planning-based risk reduction initiative. The recommendations contained within this report have been made based on Summit County’s unique planning documents and the recognized opportunity to “go the next step” in wildfire risk reduction. These recommendations are the project team’s best advice for Summit County policymakers to reduce community wildfire risk, and are based on national best practices, research, and planning and wildfire expertise. Ultimately, however, the authority to implement any of these recommendations rests solely with Summit County’s elected officials and their planning staff.

It should also be noted that a typical process that suggests revisions to key community documents (e.g., CWPP, Comprehensive Plan, etc.) would occur with tremendous stakeholder and public input. The nature of this project was different from that process, and it is recognized that the implementation of these recommendations may require discussion prior to their acceptance or dismissal.

Finally, there are some recommendations that go slightly beyond the specific purpose of reinforcing land use planning as a mechanism to reduce community wildfire risk throughout the County. These recommendations, such as improving document user-friendliness and content organization, are intended

to further refine and improve each document, providing additional opportunities to strengthen wildfire risk reduction. These additional recommendations are included in the Appendix at the end of this report.

Recommendations at a Glance

Parts 2 and 3 each contain their own set of recommendations with respect to the planning documents and regulations reviewed. The following summary of recommendations captures the overall suggested direction for achieving increased wildfire risk reduction in Summit County:

- Summit County has an excellent set of planning documents related to wildfire risk reduction. The CWPP, updated on a regular basis, should remain as the primary “go to” source of wildfire-specific information. Specific areas within the CWPP which are suggested for improvement include:
 - Clarify key terms used throughout the CWPP (e.g., WUI, wildfire risk, and wildfire hazard) and their applicability;
 - Improve the overall organization of the CWPP to streamline content;
 - Improve the CWPP’s user-friendliness to make it generally more accessible to multiple audiences (including the public);
 - Enhance, summarize, and prioritize actions to better track progress and achievements;
 - Establish an implementation section to guide future updates; and
 - Reinforce linkages with the Multi-Hazard Mitigation Plan.
- The Summit County Countywide Comprehensive Plan, Basin Master Plans, and Subbasin plans contain many goals, policies, and potential actions that could be further tied to wildfire mitigation. Additionally, the Land Use and Development Code could be updated and expanded to address wildfire mitigation. The following general recommendations are further described in Part 3 of this report.
 - Build on current policies in the Countywide Comprehensive Plan to better address wildfire;
 - Emphasize the importance of wildfire mitigation in the Basin Master Plans and Subbasin Plans;
 - Integrate current planning policy documents into the Land Use and Development Code;
 - Improve development review procedures;
 - Enhance the TDR program;
 - Define applicability thresholds;
 - Consider updates to the landscaping regulations; and
 - Expand use-specific standards.



For Parts 2, 3, and 4, recommendations in bold with a flame bullet indicate those that we believe would have the greatest impact on reducing wildfire risk, and differentiates them from other minor recommendations or tweaks to current planning policies and regulations.

2. THE SUMMIT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN

This Part 2 focuses on opportunities to strengthen and improve Summit County's CWPP. This part begins with a background on CWPPs, and highlights recent research that can help guide communities in future CWPP development and revisions. A consolidated set of recommendations specific to the CWPP is provided that categorizes proposed revisions according to six major themes:

- Clarify Key Terms and their Applicability: WUI, Wildfire Risk, and Wildfire Hazard;
- Improve the Overall Organization of the CWPP;
- Improve the CWPP's User-Friendliness;
- Enhance, Summarize, and Prioritize Actions;
- Establish an Implementation Section; and
- Reinforce Linkages with the Multi-Hazard Mitigation Plan.

Detailed recommendations for each CWPP section and subsection are provided in Part 4. These recommendations are prepared with the intention that an improved CWPP will lead to valuable wildfire risk-reduction gains throughout the County.

Background and Context

Minimum Requirements for a CWPP

The Healthy Forest Restoration Act (HFRA), authorized by Congress in 2003, enables communities to draft and implement their own locally-based CWPPs. CWPPs are designed to be flexible in nature to incorporate unique conditions and reflect each community's values and priorities to increase planning capacity and resilience.

A CWPP is developed by a community in collaboration with emergency management, land-management agencies, and other stakeholders to help manage the local wildland fire risk. CWPPs often vary broadly in scope, scale, and detail, but at a minimum, communities are required to address the following three criteria in their CWPP, as described in the HFRA:

1. **Collaboration:** Local government officials, fire agencies, and the state forestry agency must show collaboration by working with interested parties and the applicable federal land management agency.
2. **Prioritized fuel reduction:** Communities must identify their wildland-urban interface, prioritize areas for hazardous fuel reduction, and recommend types and methods of treatment on federal and non-federal land to protect at-risk communities and infrastructure.

- 3. Treatment of structural ignitability:** Plans must also make recommendations to reduce ignitability of structures, such as homes, businesses, and other values at risk throughout the community.

The community may also choose to address other issues beyond these required criteria, including public education and outreach, economic development, and emergency management training and response.

The HFRA also requires that the applicable local government, the local fire department(s), and the state entity responsible for forest management must mutually agree to and sign off on the final contents of the CWPP. In addition, these entities are directed to consult with and involve local representatives from the USDA Forest Service, Bureau of Land Management, and other interested stakeholders during the development of the CWPP.

Benefits of Developing a CWPP

There are many benefits and reasons for communities to develop a CWPP. One of the primary drivers is that CWPPs assist communities in influencing where and how federal agencies implement fuel reduction projects on federal lands and how additional federal funds may be distributed for projects on nonfederal lands. The development of a CWPP also assists a local community in clarifying and refining its priorities for the protection of life, property, and critical infrastructure in the WUI. Other benefits of adopting a CWPP, as outlined by the State of Colorado Revised Statutes (section 30-15-401.7 (2014)) include:

- The opportunity to establish a locally appropriate definition and boundary for the wildland-urban interface area;
- The opportunity to study the effect of fire ratings and combustibility standards for building materials used in wildland-urban interface areas;
- The establishment of relations with other state and local government officials, local fire chiefs, state and national fire organizations, federal land management agencies, private homeowners, electric, gas, and water utility providers in the subject area, and community groups, thereby ensuring collaboration among these groups in initiating a planning dialogue and facilitating the implementation of priority actions across ownership boundaries;
- Specialized natural resource knowledge and technical expertise relative to the planning process, particularly in the areas of global positioning systems and mapping, vegetation management, assessment of values and risks, and funding strategies; and
- Statewide leadership in developing and maintaining a list or map of communities at risk within the state and facilitating work among federal and local partners to establish priorities for action.

By bringing together a diverse set of federal, state, and local interests to discuss their mutual concerns for public safety, community sustainability, and natural resources, the CWPP process is both community based and solution-oriented.

Research and Opportunities

Research has found that CWPPs can make significant contributions to improving a community's resilience by both reducing its wildfire risk and increasing its capacity to handle future wildfire disasters (Jakes and Sturtevant 2013). For example, a 2010 analysis of 13 communities showed CWPP processes and projects built community capacity through the development of new skills, improved relationships, expanded networks, social learning and civic norms, and the identification of additional resources. Additional studies have shown how the CWPP planning process improved relationships among firefighting agencies, clarified responsibilities and improved communication systems – contributing to fire response efficiency and effectiveness. (Jakes and Sturtevant 2013).

Recent findings by the Ecosystem Workforce Program that examined 113 CWPPs from across ten western states also show that many CWPPs do not go far enough in their scope of mitigation recommendations – often opting for the “low hanging fruit” but avoiding measures which may have more long-term effectiveness (see box inset, below). Other research findings from a 2008 CWPP Evaluation Guide suggest that many plans could do more to ensure that adequate resources are in place and actions are regularly evaluated based on changing conditions.

These recent studies are helpful in evaluating Summit County's CWPP by both reinforcing the importance of the CWPP as a key plan in addressing and reducing wildfire risk while also providing guidance on additional opportunities that ensure long-term sustainability and effectiveness.

Briefing Paper: CWPPs in the American West

In 2014, the Ecosystem Workforce Program (EWP) released a briefing paper that examined 113 CWPPs in ten western states affected by large wildfires between 2004 and 2011. The research found a wide range of plans and strategies that varied in terms of structure, content, and development. For example, plans ranged from nine to 339 pages in length, the number of stakeholders involved varied considerably, and a majority of the plans contained their own definition of the wildland-urban interface.

Many commonalities were found among the plans. Fuel reduction strategies (e.g., creation of defensible space, creation of fuel breaks, and forest stand thinning) were the most common type of strategy for pursuing risk reduction. Eighty-nine percent of the plans offered guidance on altering homeowner behavior through outreach and education to encourage voluntary actions. Most of the CWPPs also focused on professionalized fire response rather than developing homeowner or volunteer capacity.

Research findings also revealed that relatively few plans contained implementation strategies for recommended actions – less than a third identified the necessary resources, schedule or costs for implementation. Many plans also refrained from proposing more ambitious risk reduction activities, such as residential fire-resistant landscaping, homeowner certification standards for fire mitigation, or increasing local capacity of community volunteers for fire response.

The implications of EWP's research are that many CWPPs tend to focus on a relatively small range of activities (primarily centered on fuel reduction) and have not fully capitalized on the flexibility to develop unique site-specific plans. Moreover, CWPPs could give more attention to supporting homeowners and communities in building less ignitable structures. Plans have ample room to diversify and engage the community as they move through future revisions and updates.

More information on this research and other wildfire resilience projects can be found on EWP's website: <http://ewp.uoregon.edu/wfresilience>.

Summit County CWPP Recommendations

Summit County's CWPP was originally adopted in 2006 and has been updated annually since 2010. The most recent update (2014) was subject to review by the consultant team. The consultant team came up with a number of recommendations. High-level recommendations are organized as follows:

- Clarify Key Terms and their Applicability: WUI, Wildfire Risk and Wildfire Hazard;
- Improve the Overall Organization of the CWPP;
- Improve the CWPP's User-Friendliness;
- Enhance, Summarize, and Prioritize Actions;
- Establish an Implementation Section; and
- Reinforce Linkages with the Multi-Hazard Mitigation Plan.

For each of these six themes, additional narrative and examples are provided to explain the rationale for each suggested revision. Each theme subsection also contains a summary table that lists specific recommendations tied to the theme. In addition, a comprehensive list of all comments and recommendations for the CWPP and MHMP can be found in Part 4, Detailed Review of Current Plans, Policies, and Regulations.

Clarify Key Terms and Their Applicability: WUI, Wildfire Risk, and Wildfire Hazard

Clarify and Broaden How the "WUI" Applies Throughout the County

The CWPP currently defines the WUI (on page 10) with the following statements: 1) "the CWPP refers to the wildland urban interface "WUI" as the area where private lands abut federal lands" 2) "the line, area, or zone where structures and other human development meet or intermingle with undeveloped lands or vegetative fuels." The CWPP further defines the WUI area as one-half mile from improved parcels and also includes areas of special interest such as ski areas, critical watershed and the I-70 corridor where fire would adversely affect human improvement on the landscape. The WUI was drawn regardless of ownership, jurisdiction or administrative designation.

The current WUI explanation in the CWPP could mislead the reader to think that only certain geographically-defined areas within the County are at risk to wildfire. In reality, the entire County could be considered at risk during a WUI event through direct flame contact, radiant heat exposure or ember ignition. For example, properties within the urban areas are at risk of ignition by ember transport (also referred to as "spotting") from a large fire, or are at risk of ignition and fire spread via pockets or developments in the "urban area", even though they may not be in the geographically defined "WUI." Further, there is no indication in the CWPP that smaller open spaces and individual properties within the County were assessed for their risk. Therefore, structures are at risk anywhere there is wildfire prone vegetation and/or vulnerable structures; wildfire risk is not limited or bound necessarily by a geographic area.

It would be more accurate to define the WUI based on a set of conditions (e.g., topography, lot size, type and proximity of vegetation to structures, structures/vegetation capable of supporting ignition from ember transport,

etc.).The CWPP could also reinforce countywide risks by ensuring that recommended mitigation actions apply to all residents. This will encourage residents to understand their role and responsibility in mitigation. The degree of required and/or recommended mitigation could be then dictated by the actual conditions present on the site.

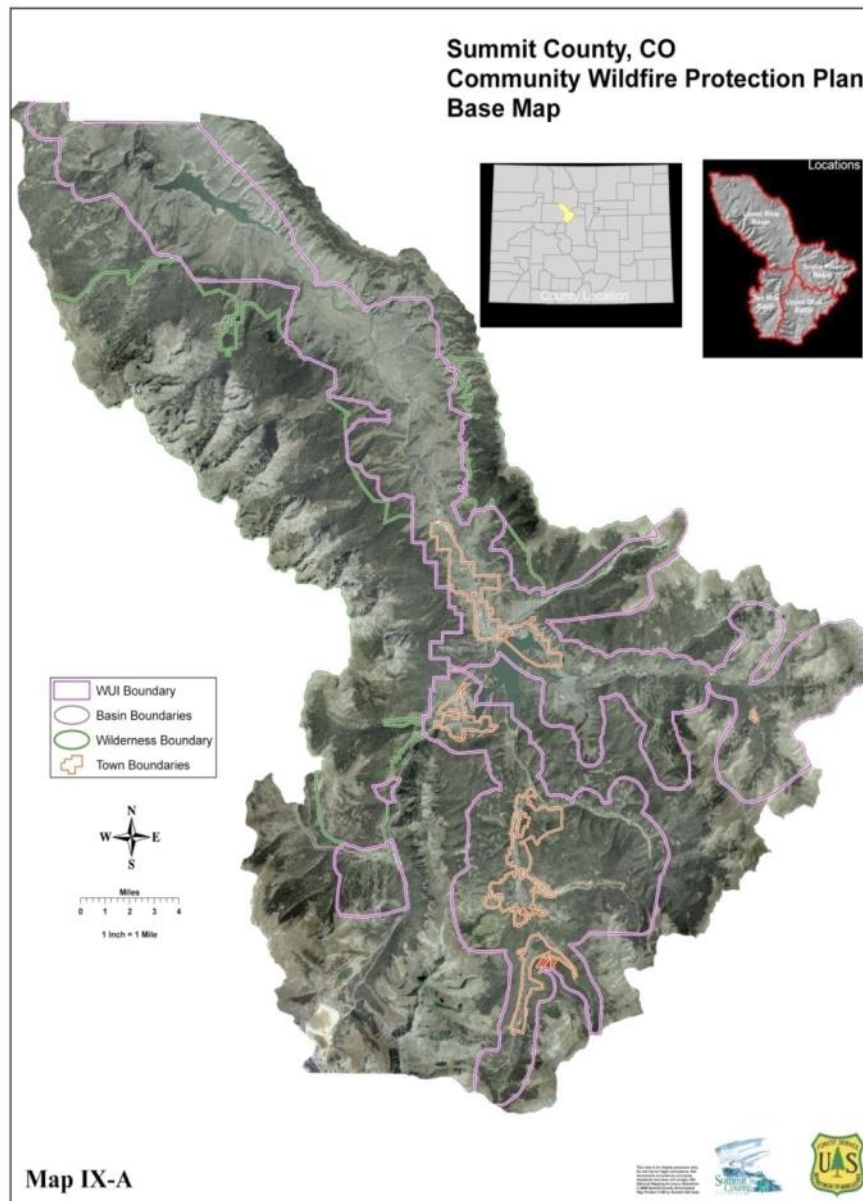


Figure 2.1: The Summit County Community Wildfire Protection Plan Base Map shows the WUI boundary as modeled by Summit County staff. Based on specific conditions, however, risk may vary greatly both within and outside of WUI boundaries.

Redefine Wildfire Risk

Risk, in the context of wildfire, can be defined as “the probability of a hazardous event (x) the negative consequences associated with the event”. Although risk is not explicitly defined in the CWPP, the maps in *Section X*.

Community Protection Assessment show five components intended to identify risk: fuel hazards, risk of wildfire occurrence, essential infrastructure at risk, community values at risk, and local preparedness and firefighting capability.

In the U.S., fire suppression resources are reported to be 98% effective in suppressing wildland fires at the initial attack stage (Tidwell, 2013) before these fires become WUI fires. For the 2% of fires that do escape initial attack, however, they can grow quickly and become devastating WUI fires where the conditions exist. These WUI fires typically overwhelm resources because of the extreme conditions under which they occur, and make any impacts on risk by suppression quickly irrelevant. For example, the exposure of multiple structures to embers and fire encroachment quickly exceeds the capacity of existing suppression resources to protect and extinguish them (Finney). It is these potential WUI fires that Summit County should address in the CWPP to accurately identify areas of the County that require the most mitigation without reliance on resources (since resources will not be capable of suppressing these fires); therefore, including firefighting capability in the assessment of community risk can mask the true level of wildfire risk to a community.

In addition, areas currently labeled “low” risk on the Community Protection Assessment may still be susceptible to ignition by ember transport (depending on their distance from “high” or “extreme” risk areas). In most WUI fires, ember transport is responsible for over 50 percent of home ignitions and can be a significant ignition source, even in some of the “low” risk areas. This is because embers can travel over one mile in distance during a wildfire event. As mentioned in the subsection above, the result of this effect means that homes far from a forest environment are still at risk to ignition due to ember transport.

As a set of recommendations to improve and clarify risk in the context of the CWPP, the terms “risk” and “hazard” should be defined to help the reader understand the difference. During future mapping updates, the local preparedness and firefighting capability component should be kept separate from the other risk maps that comprise the Community Protection Assessment. In the short term, the best solution may be to refer to the “hazard” map to define specific geographic areas requiring future mitigation. (Part 3 discusses this in more detail as it relates to the development review and approval process.) Including a discussion on ember transport in the CWPP would also improve agency and public understanding of this type of risk.

Set Target Thresholds for Fuel Hazard Reduction

The CWPP does not appear to have any language surrounding target thresholds for fuel hazard reduction (e.g., medium, low) based on the acceptable fire behavior using their model. A target threshold would provide a specific and measurable benchmark to use as an acceptable threshold for Summit County when reviewing development permit applications specific to those areas requiring any type of special assessment. As a recommendation, the CWPP should set target thresholds to ensure appropriate fuel hazard reduction is achieved within the focus areas. These target thresholds should be based on an acceptable fire behavior that local resources can handle (e.g., based on the 90th percentile of conditions, as aligned with current CWPP).

Key Terms – Recommendations:



Clarify the definition of the WUI as a set of conditions that applies countywide.

- Define wildfire hazard and wildfire risk terms in the CWPP to help the reader understand their differences.
- Keep the local preparedness and firefighting capabilities layer separate from the wildfire risk assessment to more accurately portray the County's risk to WUI fires.
- Include more information on the risk of ignition from ember transport.
- Set target thresholds for fuel hazard reduction within focus areas.

Improve the Overall Organization of the CWPP

As outlined in the Background and Context section, there are three minimum requirements that CWPPs must meet. The Summit County CWPP more than adequately meets these requirements, however it would be beneficial to the reader to clearly identify how they are addressed in Section V. "Community Wildfire Protection Plan" (suggested to be renamed "Community Wildfire Protection Plan Requirements"). This section already highlights the collaboration among many agencies, interested members of the public, and the Summit County Wildfire Council. Additional paragraphs that succinctly identify how the other two requirements are met would be helpful. For example, prioritized fuel reduction can reference the focus areas and treatment of structural ignitability can reference those sections throughout the CWPP, including appendices that address this requirement.

Section V. also states that the CWPP should be generally consistent with the national model handbook prepared by national stakeholders. There are multiple CWPP guidance documents now available and a specific reference to the handbook could be a helpful aid for the reader. (Note: it is assumed that the reference is to "Preparing a Community Wildfire Protection Plan – A Handbook for Wildland-Urban Interface Communities (March 2004)," available at: http://www.na.fs.fed.us/fire/cwpp/guidance/preparing_cwpp.pdf).

There are other opportunities throughout the CWPP to re-order, consolidate, or create new sections to improve the CWPP's overall organization. In some cases, content within the same section varies widely between providing programmatic information and more specific actions or recommendations. For example, the Section VII. *Current Community Status* begins with general information about Summit County's geographic location, demographics and the WUI. This section then discusses the need for forest management and specific forest management activities, mentions project prioritization at a high level, describes the *Ready, Set, Go!* program in detail, transitions into strategies to reduce structural ignitability through defensible space, and wraps up with public education. There are many good recommendations but too often they are buried in many of these subsections, making it difficult to determine exactly what the reader should focus on.

A revised proposed CWPP outline is provided below. Two new sections – Actions and Implementation – are discussed in further detail below. Part 4, Detailed Review of Current Plans, Policies, and Regulations, provides additional detail and rationale on these organizational changes. The table below should

be treated as merely one way to re-organize the content; a fully revised CWPP would require much more in-depth review and analysis for consideration.

Organization - Recommendations	
Existing Sections	Proposed New Outline
Executive Summary	Executive Summary (expanded)
Purpose	Overview (new section)
Goals	Purpose
CWPP	Goals (expanded)
Historical Background	CWPP Requirements (renamed from CWPP)
Current Community Status	Historical Background
Existing Fire Protection Infrastructure	Current Community Status (revised to include baseline information and Community Base Map only)
Community Base Map	Existing Fire Protection Infrastructure
Community Protection Assessment	Risk Assessment (update Community Protection Assessment maps based on risk discussion above)
Focus Areas for Reducing Wildfire Hazard	Focus Areas for Reducing Wildfire Hazard
	Implementation (new section that includes: authority, interaction with other plans, implementation entities/ stakeholders, public participation, maintenance, reporting and updates, accomplishments)
Fire Protection Strategies and Implementation	Actions (new section that includes action table with categories, prioritization, and additional explanatory information on actions)
Appendices	Appendices (as applicable)

Improve the CWPP's User-Friendliness

The CWPP is the primary go-to document for anyone interested in wildfire risk in Summit County. This is reinforced by the CWPP Section IV. *Goal 4: Improve the public's understanding of our existing community fire protection infrastructure and limitations, and Goal 5: Inform members of the public of the benefits of reducing wildfire hazard and their responsibilities to do so).*

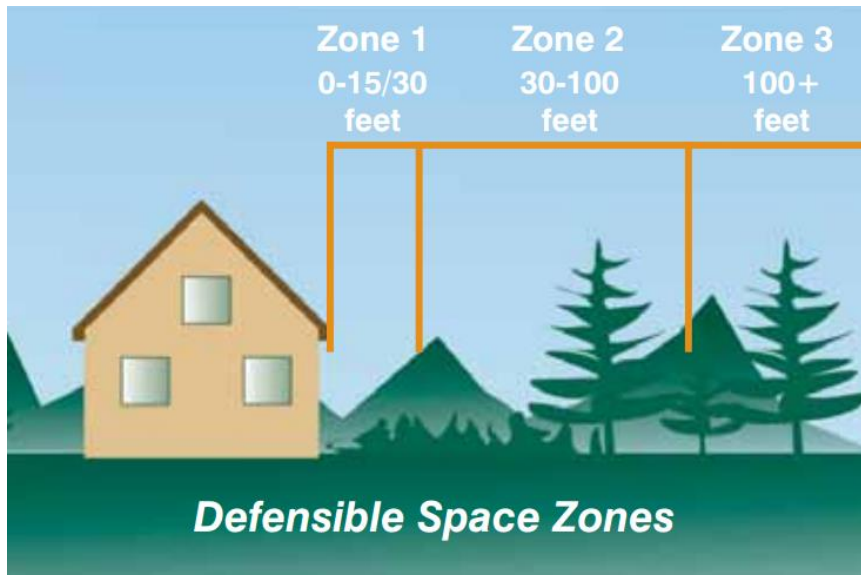


Figure 2.2: Providing illustrations in the CWPP, such as this one provided by the Colorado State Forest Service (FIRE 2012-1), can help readers quickly understand wildfire mitigation concepts.

Additionally, the CWPP plays a prominent role on Summit County's *Forest Health and Wildfire Mitigation* webpage, and is one of the main ways for the public to access in-depth information about local wildfire risk. As a result, the CWPP presents an opportunity for the public to engage more meaningfully in community wildfire risk, and understand their individual role and responsibility. It is also anticipated many local residents will access the CWPP as a resource for self-education and understanding.

The current CWPP, however, is largely written for a technical audience and is likely difficult for many residents to meaningfully read, understand and take action. If the intent is indeed to make the CWPP accessible to a public audience, there are numerous and easy improvements to incorporate. For example, defensible space is a key concept used throughout the CWPP. To better showcase this concept, a standard definition and illustrative diagrams that show the structure and defensible zones could be provided. This type of education material is widely available through public sources such as the Colorado State Forest Service, National Fire Protection Association, and the International Association of Fire Chiefs. (See Part 4, Resources, for more information.)

Usability – Recommendations:

- Include more public-friendly features to increase education and engagement opportunities. Features should include: glossary of terms, acronym list, illustrations, tables and charts.

Usability – Recommendations:

- Highlight specific examples where residents can understand their role and take personal responsibility.
- Incorporate resource links to direct readers to more information on programs, grants, funds, and financial resources.

Enhance, Summarize, and Prioritize Actions

Actions (also referred to as implementation strategies in the CWPP) are arguably one of the most important outcomes of any CWPP in terms of providing future direction to reduce wildfire risk. The following sections include our recommendations related to actions and strategies.

Create a Summary Table of Actions

The CWPP contains many actions and strategies throughout the different sections (e.g., Section XII. *Fire Protection Strategies and Implementation*) and appendices (e.g., Appendix B *Management Recommendations for Reducing Fire Hazards within Each Focus Area*), but there is no comprehensive table that summarizes all actions, strategies, or recommendations. Although these various sections provide a solid foundation and a balanced approach to addressing multiple aspects of wildfire risk, the CWPP would benefit from an expanded summary table that provides concrete action items, consistent implementation information required for each action, and the ability to prioritize and track actions over time. The action table can be organized by category (e.g., Response and Suppression, Forest Management, Public Outreach and Education, Structural Ignitability, Other Community Values at Risk, **Policy and Planning**). Specific table columns should address the following:

- 1) The action to be performed, written consistently in an “active voice;”
- 2) Location of treatment or geographic area impacted, its relationship to focus areas and/or WUI, and scale (e.g., countywide, basin-specific, neighborhood, etc.);
- 3) Lead agency and point of contact responsible for implementing each action;
- 4) Additional agencies that will play a participating/supporting role in the action’s implementation;
- 5) Timeframe required for implementation, including a target start and end date if applicable;
- 6) Funding and resource requirements for successful implementation;
- 7) Potential sources of funds and resources available for successful implementation (see Chapter 4. Resources, for more information);
- 8) Anticipated measurable outcomes (e.g., number of acres treated, number of homeowners engaged, improved access, etc.); and
- 9) Prioritization of actions based on agreed upon criteria.

This action table should be located in an easy to find, standalone section for quick reference and use, which also reinforces the elevated importance of these actions. (Note: If decision makers prefer to keep action tables separated by basin in the appendices, ensure that it is *very clearly cross-referenced* throughout the document on where to find these actions.)

Establish a New Category for Policy and Planning Actions

Consider a new category in the action table, Policy and Planning, to integrate the CWPP with land use planning activities. Actions should be coordinated by Community Development staff, and could include reviews of existing or planned policies, crosswalks with Subbasin plan revisions, and plan or code reviews for inconsistencies within the CWPP. This will give planning more prominence in the CWPP to enable future wildfire risk reduction to also include land use tools and regulations.

Prioritize Actions

Actions should also be prioritized based on agreed upon criteria. These criteria may include the degree to which risk levels will be decreased (as anticipated by the measurable outcomes), the target date for completion, availability of funds and/or resources, and fulfillment of the CWPP goals.

Actions and Strategies – Recommendations:



Create a new expanded actions section that summarizes mitigation activities and priorities across the County, basins, and neighborhoods.



Create a new category focused on policy and planning actions.

- Prioritize actions to provide clear direction for future implementation, tracking and re-evaluation.

Establish an Implementation Section

A comprehensive set of actions also requires a clear implementation strategy. Several of the CWPP goals in Section IV emphasize the importance of implementation. For example, “Goal 3, Implement, manage or fund projects identified in this plan”, and “Goal 6, Provide a meaningful structure to update plans and strategies in the future”.

Although several existing sections and subsections discuss implementation, it is not clearly defined within the CWPP, with the exception of Section XII. *Fire Protection Strategies and Implementation*. One logical step could be to create a new section dedicated to implementation, with the following subsections:

- Authority – based on existing Section II. *Authorization*.
- Interaction with other plans – new section that addresses how this plan informs and supports future land use decisions through the Countywide Comprehensive Plan, supports mitigation activities of the Summit County Multi-Hazard Mitigation Plan, and is consistent with or implemented through the Land Use and Development Code.
- Implementation entities/ stakeholders – based on existing Section V. *Community and Agency Engagement in the Development of this CWPP*.
- Public participation – new section that meets Section IV. Goal 7. Engage interested members of the public and affected governmental agencies to shape and effectively implement this plan. Section focuses on opportunities for the public to participate in the CWPP process and engage in or take responsibility for specific actions.
- Maintenance, Reporting and Updates – new section that includes information from the Executive Summary, but expands on topics of

annual reporting, action evaluation, and the plan update process (e.g., frequency of minor vs. major revisions, responsible stakeholders, etc.).

- Accomplishments – new section tracking actions that have been completed to date; includes information from Appendix A.

The SCWC already conducts updates on a regular basis (typically annually). Documenting the required maintenance of the CWPP will strengthen the process and provide an easy reference for stakeholders and readers. Frequent updates will also showcase Summit County’s wildfire mitigation accomplishments, which are impressive and deserve to be highlighted.

Implementation – Recommendations:



Create a new implementation section that draws on existing and new content. Subsections should include:

- Authority
- Interaction with Other Plans
- Implementation Entities
- Public Participation
- Maintenance, Reporting and Updates
- Accomplishments

Reinforce Linkages to the Multi-Hazard Mitigation Plan (MHMP)

The Multi-Hazard Mitigation Plan (MHMP) is intended to reduce or eliminate long-term risk to people and property from natural hazards. The original plan was adopted in 2008, with the most recent update in 2013. There are four stated goals of the 2013 update:

1. Reduce risk to people, property, and environment of Summit County from the impacts of natural hazards;
2. Protect critical facilities and infrastructure;
3. Minimize economic losses; and
4. Implement the mitigation actions identified in the plan.

The plan addresses 13 natural and man-made hazards that affect or could affect Summit County. Overall, the MHMP is well organized and is consistent with FEMA guidelines. It does not stray from typical multi-hazard plans in terms of data sources, level of detail, and general layout.

As with most multi-hazard mitigation plans, a stronger tie is needed between the risks and vulnerabilities for each hazard, and existing planning policies and regulations in place to mitigate them. Because both the MHMP and the CWPP contain information on wildfire hazard and risk, it is important to maintain consistency between these two documents over time. The MHMP wildfire section should ideally be cross-referencing and including similar information to what is in the CWPP. Whenever the CWPP is updated, an action item should be to include a crosswalk with the MHMP to update any necessary information. This can be addressed in the newly suggested “implementation” section.

MHMP Linkages – Recommendations:

- Include an action item in the proposed new implementation section that ties CWPP updates with a crosswalk to the MHMP.

3. LONG-RANGE PLANS AND LAND USE AND DEVELOPMENT CODE

This Part 3 builds on the recommendations from Part 2, and focuses on both long-range planning mechanisms and land use implementation tools. In addition to making specific recommendations for improvements to policies and regulations, we also indicate where integration of existing planning policies can be enhanced. This Part 3 is divided into two major sections:

- **Comprehensive and Master Plans;** and
- **Land Use and Development Code.**

Each major section begins with general background information before providing recommendations for updates to any policy or regulatory documents. Recommendations on the Comprehensive and Master Plans generally fall into two themes:

- Build on Current Policies in the Countywide Comprehensive Plan to Better Address Wildfire; and
- Emphasize the Importance of Wildfire Mitigation in the Basin and Subbasin Master Plans.

Recommendations related to the Land Use and Development Code fall within the following seven themes:

- Integrate Current Planning Policy Documents into Land Use and Development Code;
- Improve Development Review Procedures;
- Enhance the TDR Program;
- Define Applicability Thresholds;
- Consider Updates to the Landscaping Regulations;
- Expand Use-Specific Standards; and
- Improve the User-Friendliness of the Code (this is included in the Appendix, since it is not entirely related to wildfire mitigation).

As with the CWPP, further detailed recommendations for the long-range plans and Land Use and Development Code are provided in Part 4, Detailed Review of Current Plans, Policies, and Regulations.

Comprehensive and Master Plans

Comprehensive and Master Plans provide the foundation for making sound decisions related to land use, growth, and other primary issues facing the County such as the environment, the economy, housing, and transportation. County governments are authorized by state statutes to prepare comprehensive plans, and in some cases are required to prepare a

comprehensive plan.¹ It is widely acknowledged however that comprehensive plans in Colorado are advisory documents, not requiring mandatory compliance. In Summit County, a Countywide Comprehensive Plan serves as the umbrella document, with several basin and subbasin master plans providing localized and more specific policy guidance. Below is a flowchart from the Countywide Comprehensive Plan illustrating the overall master planning structure in Summit County.

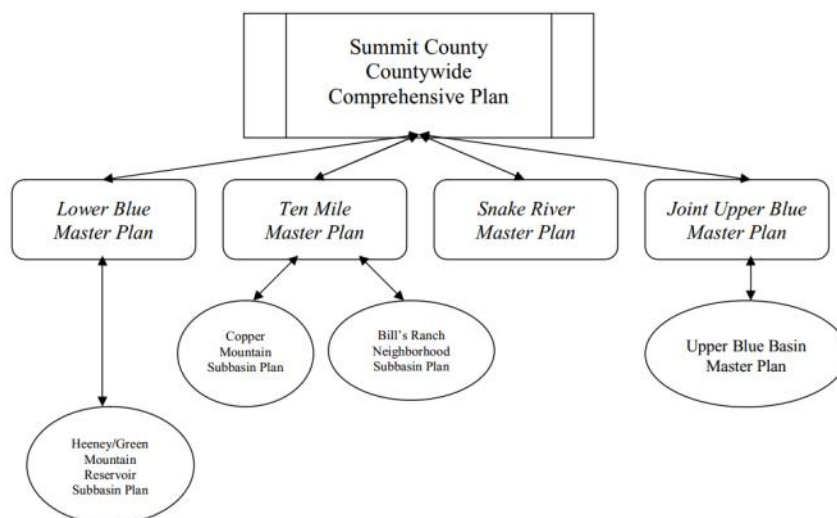


Figure 3.1: Flowchart from Countywide Comprehensive Plan

The project team conducted a detailed review and analysis of the Countywide Comprehensive Plan and each of the basin and subbasin master plans. The team was looking for ways to improve consistency among planning and implementation tools, as well as identify gaps in policy guidance related to wildfire. It is important to clarify that the Summit County Comprehensive and Master Plans reach far beyond what many comparable communities address in their plans in terms of wildfire mitigation. The recommendations in this report do not indicate major shortcomings; instead, they highlight areas where Summit County could improve on their standing as a national best practice. The following sections include the team's recommendations.

The recommendations are not always repeated, and could often be applied more broadly across planning documents (e.g., recommendations for improving the Ten Mile Master Plan could also apply to the Upper Blue Basin Master Plan). Specific detailed recommendations by chapter of the plans and regulations are provided in Part 4, Detailed Review of Current Plans, Policies, and Regulations. Further discussion on implementing the policies from the Countywide Comprehensive Plan and the basin and subbasin master plans is included later in this document, in the Land Use and Development Code subsection.

¹ Per C.R.S. §30-28-106(4), counties with 100,000 in population, or counties with 10,000 in population with ten percent or more population growth in a five-year period, are required to adopt master plans.

Build on Current Policies in the Countywide Comprehensive Plan to Better Address Wildfire

The Countywide Comprehensive Plan is organized by ten plan elements: land use; environment; transportation; housing; community and public facilities; design and visual resources; historic and cultural resources; open space; recreation and trails; and economic sustainability. Each plan element includes an introduction, followed by goals and policies, followed by sustainability measures, and ending with implementation strategies. Some of the plan elements are more intuitively linked to wildfire policy than others. For example, the land use element is clearly one area for addressing future land use decisions as they relate to wildfire. Conversely, the transportation element is less clearly linked to wildfire policy.

- The Transfer of Development Rights (TDR) program is mentioned throughout the Plan. Whenever the intent of the TDR program is summarized, it should include reference to protecting areas in medium to extreme wildfire hazard areas. These are assumed to be secondary benefits of the TDR program, but should be specifically called out as such.
- *Goal A, focus development within existing urban areas.* It should be noted in this goal that focusing new development in urban areas also reduces the amount of new development in the WUI. Although we previously define the WUI as a set of conditions, rather than a geographic area, urban areas tend to have fewer of these conditions present than other areas of the WUI at the forest interface. Whenever “focusing new development” is addressed in the Countywide Comprehensive Plan, the plan should include recommendations to avoid areas with significant wildfire hazard (e.g., areas rated as medium, high, or extreme on the CWPP hazard rating map).
- Areas where wildfire hazard is identified as medium to extreme should be identified as an environmentally sensitive area in the Environment element. In fact, a new subsection for wildfire hazard areas should be inserted between steep slopes and wildlife on page 30 of the current plan. It could alternatively be broadened to include forest management.
- In the Environment element, the plan could incorporate more background information on “good” fire vs. “bad” fire. (E.g., not all wildfire hazards have negative outcomes and sometimes intentional use of fire can help restore benefits to the environment.)
- There are currently no references to wildfire in the Open Space element. Open space, however, can pose a wildfire risk to communities if vegetation is not managed properly to reduce the wildfire hazard. Open space management should be more closely linked to wildfire/forest treatments.
- Wildfire mitigation efforts might be at odds with the Design and Visual Resources element. The County could engage with a forester and/or fire behavior analyst to obtain more technical information regarding:
 - How much of a predominant tree species can be thinned on slopes to retain screening and reduce risk of direct flame contact?

- What are the tradeoffs of placing development in open meadows vs. forested areas, and how does this potentially change wildfire mitigation practices?
- Areas rated medium to extreme wildfire hazard (per the CWPP) that overlap with lands of high visual importance should be linked to preserve certain visually-important areas while reducing development in risky areas, thus strengthening the argument for each.

Better Address Wildfire in Countywide Comp Plan – Recommendations:

- Whenever the intent of the TDR program is summarized or discussed, it should include reference to protecting areas in medium to extreme wildfire hazard areas.
- As part of any goal to focus new development in urban areas, the plan should include policies to avoid areas with medium to extreme wildfire hazard rating, per the CWPP map.



The Environment element should include medium to extreme hazard areas as environmentally sensitive areas.

- Consider inserting a new subsection for wildfire hazard areas between steep slopes and wildlife sections.
- Consider adding a discussion on “good fire” vs. “bad fire” in the plan.
- In the Open Space element, link open space management to wildfire and forest treatments.



Reconcile differences between wildfire mitigation efforts and the Design and Visual Resources element.

Emphasize the Importance of Wildfire Mitigation in the Basin and Subbasin Master Plans

Similar to the Countywide Comprehensive Plan, the basin and subbasin master plans are also organized by plan elements, including but not limited to: land use; affordable workforce housing; community character; environment; transportation; infrastructure; visual quality and view corridors; historical and cultural resources; open space; and recreation, trails, and public access. These plans are particularly important because they include future land use maps as a basis for land use decisions. The following recommendations could help improve the effectiveness of the basin and subbasin master plans as they relate to wildfire mitigation.

- The Transfer of Development Rights (TDR) program is summarized in the plans, and is promoted as a means of protecting valued resources. In each of the basin master plans, wildfire mitigation should be mentioned as one of the key components of the TDR program. The TDR program redirects development away from medium to extreme wildfire hazard areas (according to the CWPP Map X-A), ultimately exposing fewer residents to this hazard.
- In the Lower Blue Master Plan, the background information on forest health and wildfire protection on pages 23-26 is excellent information that should be incorporated into other planning documents and educational materials.

- Architectural and Environmental Design Standards (such as those included in Appendix C of the Snake River Master Plan) should be reconciled with common wildfire mitigation practices. For example, Goal C states that the visual dominance of forested areas should be retained, and the policies under that goal suggest an emphasis on the aesthetic values of blending buildings into the forest edge. This language could be construed to deemphasize the importance of defensible space provisions. Although it is noted preceding them, the illustrations in the Snake River Master Plan Appendix C should be amended to reflect general defensible space requirements.
- As with the Countywide Comprehensive Plan, areas in the Basin Master Plans noted as lands of high visual importance that overlap with hazard ratings of medium to extreme, or focus areas according to the CWPP, should be linked to preserve certain visually-important areas while reducing future development in hazardous areas, thus strengthening the argument for each.

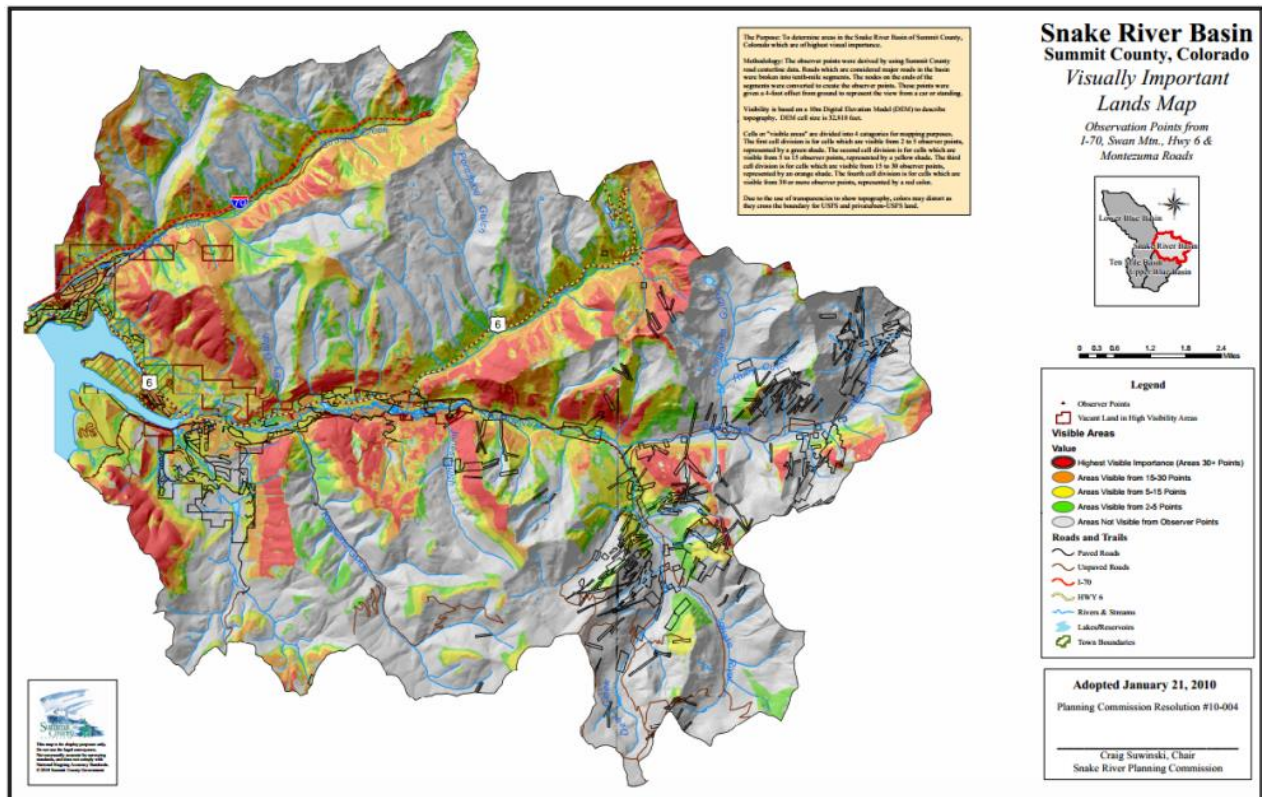


Figure 3.2: The map above shows the visually important lands in the Snake River Basin.

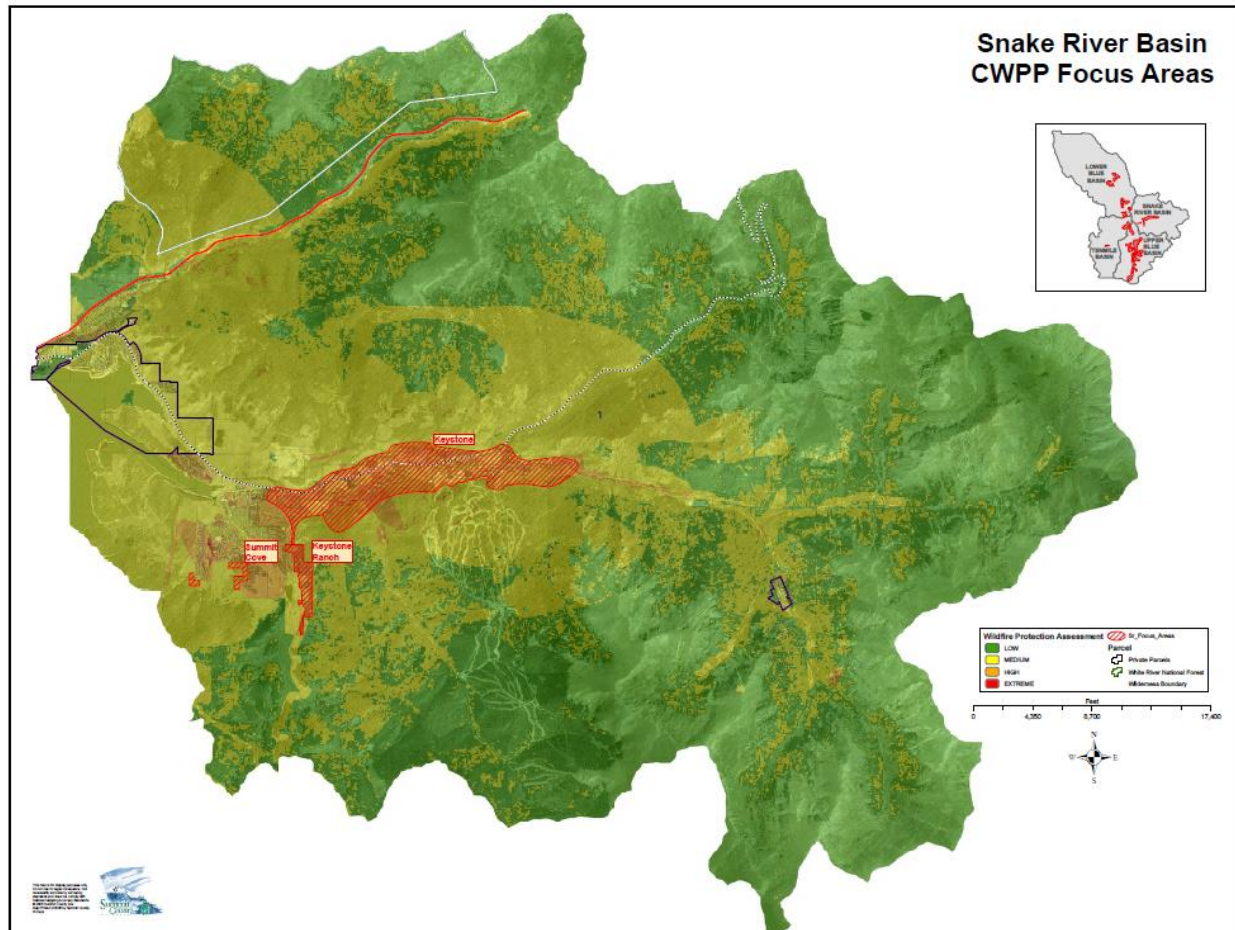



Figure 3.3: This map above illustrates the overall wildfire risk and CWPP focus areas. We recommend overlaying this map with Figure 3.2 to link visually-important lands to areas with significant wildfire hazard.

Emphasize Wildfire in Basin Master Plans – Recommendations:

- Wildfire mitigation should be included as one of the key components of the TDR program.
-  **The background information related to forest health and wildfire management (pages 23-26) could be incorporated more broadly throughout Summit County’s planning documents and educational materials.**
- Strike a balance between design standards and defensible space provisions – and revise the illustrations accordingly.

Land Use and Development Code

The Summit County Land Use and Development Code regulates existing and new development in the unincorporated lands throughout the County. Wildfire is currently addressed throughout the code, primarily through Chapter 3, Zoning Regulations and Chapter 8, Subdivision Regulations. The Summit County Land Use and Development Code already surpasses most local

government land use codes in terms of how they address wildfire hazards; however, similar to the previous section on master plans, this section includes recommendations to help Summit County improve on the existing regulations and continue to serve as a national best practice.

Integrate Current Planning Policy Documents into the Land Use and Development Code

In an ideal planning world, land development regulations would directly implement the goals, objectives, policies, strategies, and/or actions identified in the various long-range planning mechanisms. As previously mentioned, Summit County has done an excellent job addressing wildfire hazards and development through their planning documents, including the CWPP, the Local Hazard Mitigation Plan, the Countywide Comprehensive Plan, and the five basin-specific master plans. These plans, however, are sometimes inconsistent with adopted regulations.

Whenever policies are amended, or new policies are developed, it is important to consider the ability to implement those policies. For example, could a set of regulations be put in place to implement a given policy? Are there adequate administrative and technical resources in place to maintain and enforce such regulations? Sometimes after comparing land use policies to their implementation tools, planners learn either that their regulations need to be stronger or that their policies are too ambitious.

Our review of policies and regulations, and subsequent recommendations, assume that adopted County policies are intended to be implemented to the extent possible. The subsections below summarize our recommendations for integrating the policy documents into the Land Use and Development Code.

Countywide Comprehensive Plan

As mentioned previously, the Countywide Comprehensive Plan is the County's advisory planning policy document for addressing various elements of County government, such as land use, housing, transportation, the environment, and the economy. Although it is an advisory document, the Land Use and Development Code still expects most development applications to be in "general conformance" with the policies in the plan. Below are specific recommendations for further implementation of the plan's goals, policies, and actions.

Land Use

- *Goal A. Focus development within existing urban areas.* There is an inherent benefit to reducing a community's risk from wildfire when growth is directed to existing urban areas. Further application of growth management programs (such as TDRs), and enhanced criteria for development approvals, helps the County to better implement this goal. For example, for approval of conditional use permits, Section 12302.04 could be revised to include criteria that require a special assessment and/or appropriate wildfire mitigation to be completed for lands outside existing urban areas. Some level of criteria similar to that could be included for some or all of the procedures outlined in Chapter 12 if the proposal or application is outside of a designated urban area.

Cluster Housing...

Clustering housing is largely recognized as a sound land use planning implementation tool for growth management and protection of community and environmental resources. However, doing so without appropriate mitigation can increase the likelihood of home-to-home ignition (urban conflagration) and therefore increase the number of losses during an event.

- *Goal B. Future land use decisions in rural areas should be consistent and harmonious with the rural character of the land.* Policy /Action 4 encourages cluster housing in rural areas. This policy could be specifically implemented through the subdivision regulations by offering incentives for clustering in medium to extreme wildfire hazard areas as defined by the CWPP. The current Section 8421 describes the intent of the rural land use subdivision and promotes clustering to preserve certain areas in the County. Incentives for the program are mentioned conceptually; however, specific details are not provided. We recommend summarizing the incentives and offering a higher rate of incentive for properties within medium to extreme wildfire hazard areas. The incentives should be tied to areas where it is more desirable to limit growth (e.g., higher hazard areas requiring significant forest management or areas with steep slopes).
- *Goal D. Guide the appropriate development of land through the County's master plans and development regulations.* Policy/Action 3 suggests that rezonings and subdivisions should avoid certain resource areas in the County, such as agricultural land and visually-prominent landscapes. References to the CWPP hazard ratings map in the development review procedures would help the County implement this action item.

Environment

- *Goal A. Protect and preserve environmentally sensitive areas.* Policy/Action 4 encourages land use techniques such as TDRs, density bonuses, and incentives for protecting environmentally sensitive areas. As mentioned in the land use element above, incentives should be spelled out in the land use regulations and could be scalable based on the wildfire hazard rating of the area.

Community and Public Facilities

- *Goal A. Ensure infrastructure is planned, funded, and built to support new development.* Through the development review procedures, the County can require applicants to provide information ensuring that critical infrastructure properly mitigates wildfire hazard. The recent proposed staff amendments to Section 8100 go a long way in implementing this goal, and could be further enhanced. For example, the County could require additional fuel hazard treatments along roads for new developments proposed in medium to extreme wildfire hazard areas, thus making access and egress routes safer during a wildfire.

Design and Visual Resources

- *Goal B. Ensure that new development is designed in a visually sensitive manner, complementing the surrounding natural environment.* Policy/Action 4 suggests requiring preservation of significant trees while also allowing for forest management and wildfire prevention. Staff recently proposed language in the landscaping requirements (Section 3600) to emphasize the importance of wildfire mitigation and defensible space. In many instances, the retention of significant trees can be part of successful mitigation

through a site-specific assessment performed by an appropriately qualified wildfire specialist/forester.

- *Goal D. The visual dominance of forested areas should be retained.* Many of the policy/actions in this goal should be reconciled with defensible space requirements. The County will need to strike a balance between appropriate screening and reducing risk from wildfire hazards. For example, Policy/Action 4 states that in partially forested areas, buildings should be located behind the front edge of trees to maximize the visual quality of the forest. Depending on the location of the property lines and the building envelope, compliance with Zone 1 and Zone 2 defensible space requirements could be counter to this policy.

Open Space

- *Goal A. Preserve and protect the County's open space and minimize the negative impacts on open space associated with development.* Policies and actions in place to protect County open space can have secondary benefits for reducing wildfire risk to the community. Policies can ensure that vegetation management (hazardous fuel management) occurs and is maintained in all County open space. Recreational trails within County open space could also be designated by fire personnel to be used as control lines during a wildfire incident. These policies could also be supported as actions in the CWPP.

Basin Master Plans

As mentioned previously, the basin and subbasin master plans are intended to serve as the primary guidance for each basin. Although basin master plans are also advisory, the Land Use and Development Code expects most development applications to be in "general conformance" with their respective goals, policies, and actions. Below are specific recommendations for further implementation of the individual basin master plan goals, policies, and actions. Many of the basin master plans have similar goals, policies, and actions and are therefore not repeated under each individual basin master plan.

Lower Blue Master Plan

- *Goal A. Allow appropriate urban level development and coordinate with the Town of Silverthorne to ensure planned annexations and growth patterns.* The policies under this goal aim to maintain intergovernmental collaboration for future land use decisions, and prescribe desired densities and protection of important lands. The Land Use and Development Code can address these policies through the TDR program, subdivision regulations, and by referring directly to wildfire hazard areas identified in the CWPP.
- *Goal C. Future land uses should be consistent with the land use designations identified on the Lower Blue Basin Land Use Map.* Regular updates of wildfire hazard maps and coordination with future land use decisions will ensure that the desired land uses are achieved and that they avoid high wildfire hazard areas when they cannot be appropriately mitigated.
- *Forest Health, Management and Wildfire Protection (p. 23 of plan).* An entire section of the plan is dedicated to managing the forest and wildfire protection. Under Goal I, Policy Action 5.1 promotes

implementing the programs and strategies outlined in the CWPP. Most of the examples provided in the plan are outside the purview of the Land Use and Development Code; however, we recommend that forest management plans, mapping, and fuel reduction efforts be addressed at the subdivision approval stage as a minimum requirement. The current subdivision regulations state that many of those considerations “may be required.”

- *Goal K. Require that adequate public services and infrastructure precede or complement development.* During development review, applicants should be required to provide proof of adequate water storage and access/egress to address emergency services. For areas identified as medium to extreme hazard in the CWPP, more specific information could be required prior to development approvals. The proposed staff amendments to the subdivision regulations already address many of these concerns; however, they are still not mandatory requirements but rather at the discretion of the review authority.

Snake River Master Plan

In Appendix C, Architectural and Environmental Design Standards, the goals, policies, and actions should be reconciled with best practices for wildfire mitigation. For example, Goal C, Policy/Action 1 states that removal of trees on steep slopes should be discouraged. This is counter to wildfire mitigation and defensible space prescriptions. Although they are already noted with a disclaimer, the figures beginning on page vi of Appendix C could be reconciled with common wildfire mitigation practice. Many of the illustrations demonstrate non-compliance with defensible space requirements.

The larger issue here is related to the consequences of development of steep slopes. Significant trees help to stabilize the slope, and even sound forest management and wildfire mitigation practices would discourage too much tree removal on steep slopes. The County needs to weigh these factors when considering how to blend development into steep hillsides through appropriate building materials while maintaining an adequate amount of defensible space.

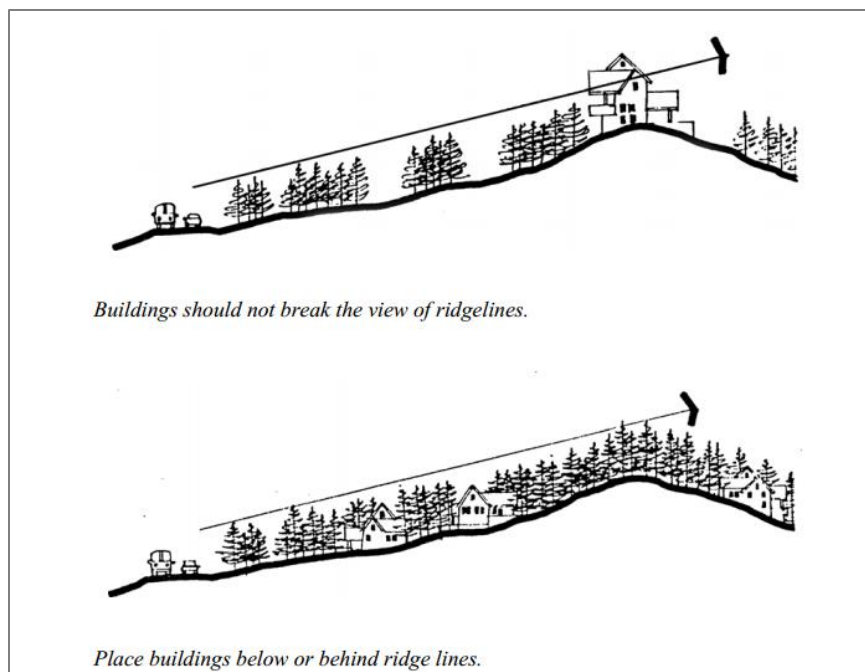


Figure 3.4: Image taken from the Snake River Master Plan, Appendix C. These images are intended to illustrate visual quality and design standards; however, they are largely in conflict with defensible space standards.

Upper Blue Master Plan

Goal D. Protect and preserve the Basin's scenic backdrops through identification, protection or mitigation, and sensitive design of development in visually important lands. Policy/Action 2 recognizes the importance of timber management prescriptions, especially aesthetic concerns in the WUI. The Land Use and Development Code could include a performance system to evaluate proposed subdivisions, developments, or redevelopments in medium to extreme hazard areas and place an emphasis on reducing risk from wildfire while respecting the visual landscape. For example, development proposals in a high hazard area must score at least 30 points, and protecting scenic vistas might be worth fewer points in those areas than in other areas in the County.

Joint Upper Blue Master Plan

An entire section on forest management begins on page 39 of the plan, and includes several policies and actions to accomplish sound forestry management and mitigating risks in the WUI. Under Goal J, the policy/actions suggest further coordination with the Summit County Wildfire Council, integration with the CWPP, and implementation of wildfire mitigation at the individual property and subdivision scale. Many of the recommendations made in other sections of this report would help to implement these policy/actions, including requiring fire-resistant landscaping and referring to hazard rating maps during development review.

Ten Mile Master Plan

Similar to the Upper Blue Master Plan, the Ten Mile Master Plan recognizes the importance of timber management and aesthetic concerns in the WUI. The Land Use and Development Code can be amended to refine the TDR program,

Focus Areas vs. Hazard Rating

The focus areas within the CWPP can be used to define priorities for wildfire mitigation treatment, but are not necessarily the most effective parameters for determining the appropriateness of development. In the absence of site-specific assessments, it is difficult to determine whether a property is truly suitable for development. A better approach might be to review development approvals against the overall hazard rating map, and apply certain criteria or requirements for different rating levels, as suggested in several of the recommendations throughout this report.

encourage clustered subdivisions, and promote defensible space. These are all important elements to implementing wildfire mitigation while protecting the basin's scenic beauty.

CWPP

One of the most direct ways to implement the goals and policies of the CWPP is to include references to the hazard rating map throughout the Land Use and Development Code. Because defining and maintaining the hazard areas in Summit County require a high level of technical expertise and analysis, it should not go to waste by a lack of integration with the development review process.

Staff has already recommended text amendments to the zoning regulations to further incorporate the CWPP focus areas in the rezoning policies and the TDR program. The subdivision regulations also include reference back to the CWPP; however, they do not specifically mention the focus areas or hazard ratings. For consistent application, our recommendations suggest that development approvals are tied to the wildfire hazard rating map in the CWPP. (See sidebar for further explanation.) Staff's recent proposed amendments are great strides forward at communicating the importance of wildfire mitigation in Summit County and directly implementing the CWPP. Additional recommendations are as follows:

- In Section 3202.05, Wildfire Hazard Areas, as part of a zoning amendment application, the County may require additional information such as submittal of a forest management plan, fuels reduction plan, defensible space plan, provisions for access, installation of fire suppression systems, inclusion in a fire protection district, and other measures deemed necessary. For areas with a medium to extreme hazard rating, consider automatically requiring some or all of those additional information elements. In doing so, the burden of wildfire mitigation review is placed directly on the applicant to show how a hazardous area could be rezoned and/or developed with minimal impacts to the community from wildfire.
- In the subdivision regulations, Section 8101.D identifies potential scenarios where fuel reduction and/or forest management plans may be required by the review authority. These plans should be required for all subdivision applications within a medium to extreme hazard area as designated in the CWPP.
- Section 8154.E.1.h proposes new language that requires compliance with Zone One defensible space prescriptions. For Zone Two, the proposed amendment includes an opening statement "to the maximum extent feasible." Consider requiring compliance with both Zone One and Zone Two for properties in a medium to extreme hazard area. If it is not feasible to accommodate Zone Two, adjacent properties could be used with approval by the review authority.
- Section 12104.03, Findings for Preliminary Zoning Amendments, could include a statement that the "proposal is consistent with the Summit County Community Wildfire Protection Plan."
- Similarly to above, Sections 12202.05 and 12203.02, Findings for Major and Minor PUD Modification Zoning Amendments, should each include consistency with the CWPP.
- Section 12200.03, PUD Designations. The list of development standards should include provision for wildfire mitigation for all PUDs

proposed in a medium, high, or extreme hazard area. Further, for required improvements (paragraph C), compliance with recommended infrastructure improvements in Appendix B of the CWPP should be required or recommended.

- Section 12400, Temporary Use Permits. A statement should be included to prevent potentially hazardous uses from occurring in medium to extreme wildfire hazard areas. For example, such language could include “Temporary use permits shall not be permitted in medium to extreme wildfire hazard areas as defined by the CWPP unless appropriate wildfire mitigation measures are taken to the satisfaction of the Planning Director.”²
- For all management strategies/projects in the three versions of Appendix “B,” those that are applicable to the Land Use and Development Code should be coordinated with future updates. Many of the recommendations are related to home construction and should be integrated with the subdivision and other development standards where possible. For example, some of the mitigation recommendations provided in Appendix B related to landscaping/fuels, preparedness/evacuation, and infrastructure, could be integrated into the subdivision regulations either as components of required application materials, or as criteria for plat approval.

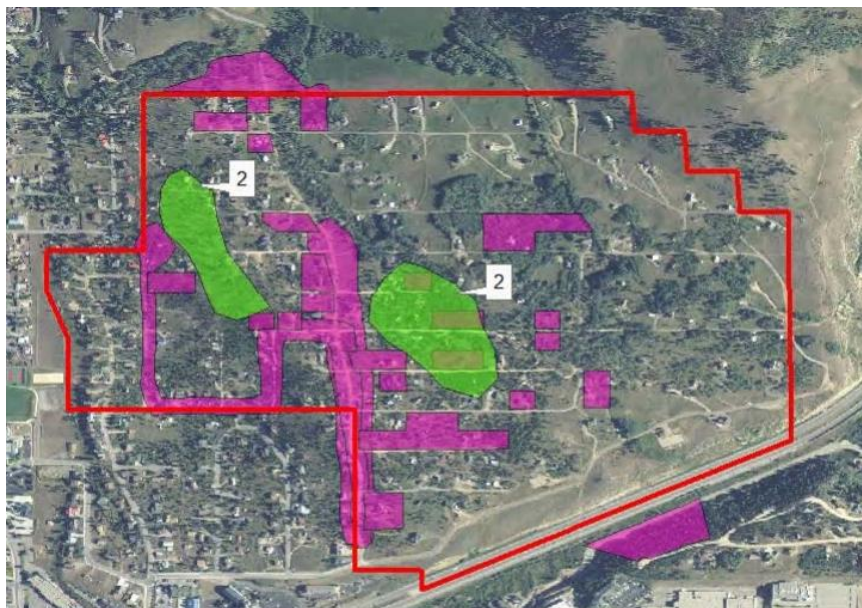


Figure 3.5: From the Ptarmigan focus area, both completed (in magenta) and recommended areas (in green) for defensible space and general thinning are shown.

Multi-Hazard Mitigation Plan

Table 4.2 in the Summit County Multi-Hazard Mitigation Plan identifies and prioritizes implementation strategies related to hazard mitigation. In that table, several actions are specifically related to wildfire mitigation. Many of the

² The definition of director includes “an authorized designee.” This is an important distinction should any of the decision-making authority for wildfire shift to a qualified wildfire specialist at some point.

actions provide guidance for projects outside the purview of the Land Use and Development Code; however, some of the actions could be directly implemented through zoning or subdivision. For example:

- *Summit County – 5. Continue to enhance mapping of hazard and vulnerability analysis for wildland-urban interface areas of Summit County.* Enhanced mapping includes high-risk areas, focus areas, and defensible space work, and those maps can be referenced in the development review process for new or existing subdivisions. Additionally, the definition of the WUI should be consistent with the CWPP and potentially redefined based on our earlier recommendations.
- *Breckenridge – 3. Promote defensible space and removal of beetle-infested trees.* Ordinances in Breckenridge require defensible space for new construction and also removal of dead and pine beetle-infested trees. Recent proposed language for the zoning and subdivision regulations include requirements to comply with defensible space standards in the County, and standards for removal of infested trees are also considered through fuel reduction and forest management plans (yet not necessarily required).

As the Multi-Hazard Mitigation Plan is updated over time, the County should identify other areas within the Land Use and Development Code where wildfire could be addressed, and include those recommendations in the MHMP implementation matrix.

Integrate Wildfire Policy in the Land Use and Development Code – Recommendations:



Revise approval criteria to require a special assessment to be conducted by a trained wildfire professional and appropriate wildfire mitigation to be completed.

- Summarize the cluster housing incentives in the Land Use and Development Code, and consider a higher rate of incentive for properties within higher wildfire hazard areas.



Reference the wildfire hazard rating maps from the CWPP throughout the review procedures in Chapter 12.



Consider requiring fuel hazard treatments along roads for new developments proposed in medium to extreme wildfire hazard areas.

- Reconcile appropriate screening for forested areas vs. reducing risk from wildfire hazards.
- Link open space policies to vegetation management (hazardous fuel management) to better support wildfire mitigation efforts.



Continue to maintain hazard rating maps and focus area maps in the CWPP to align them with appropriate land use decisions.



- Continue to work closely with the US Forest Service to manage buffers between designated wilderness areas.



Consider automatically requiring forest management plans, mapping, and fuel-reduction efforts to be addressed during subdivision approval for those in medium to extreme hazard areas, instead of “may be required.”

- Weigh the visual factors of development on steep slopes with adequate defensible space. Reconcile the design standards and

Integrate Wildfire Policy in the Land Use and Development Code – Recommendations:

- illustrations accordingly.
- Consider a performance-based system for development approvals in medium to extreme hazard areas to balance the respect for the visual landscape with wildfire mitigation.
 -  **Require additional application information such as forest management plans, fuel reduction plans, and provisions for access in medium to extreme hazard areas for zoning amendments.**
 - In the subdivision regulations, require compliance with both Zone One and Zone Two defensible space provisions for properties with a medium to extreme hazard rating.
 -  **Adjust the findings for preliminary zoning amendments (and PUDs) to include a statement such as “proposal is consistent with the Summit County CWPP.”**
 - Require temporary use permits to be reviewed for adequate wildfire mitigation measures, per the Planning Director (or designee).
 - Integrate action measures from the CWPP Appendix B into subdivision regulations and development standards where feasible.
 - Ensure consistency between the MHMP and CWPP over time. Consider redefining “WUI” in each, and using more cross-references to the CWPP in the MHMP updates.

Improve Development Review Procedures

Require Additional Information at Application Submittal

The current Land Use and Development Code suggests that the approval entity *may* require additional information for applications in higher wildfire hazard areas; however, it is not a defined requirement per se. For example, the subdivision requirements Section 8101.D state that “fuel reduction plans, forest management plans, and other measures to reduce wildfire hazard or preserve trees...may be required by the Review Authority.” These “discretionary” requirements could be made more objective by requiring them (mandatory) as the minimum for high hazard areas.

Require Site Plan Review for High Hazard Areas

Section 12602.01, summarizes the requirements for Site Plan Review. The current regulations identify scenarios where a site plan review is required. The County could add to this list “any development, redevelopment, or modification to a site or site improvements within a medium to extreme hazard area as defined by the CWPP, regardless of whether or not a building permit is required.” This provides an avenue to begin implementing wildfire mitigation measures to existing development within high hazard areas.

Require Special Assessments for Wildfire Mitigation

Depending on available resources, the County could consider requiring site-specific special assessments as part of the development application process. The assessment would be conducted by a trained wildfire specialist such as a forester or fire behavior analyst (FBAN). We recommend considering the

following minimum thresholds for when development proposals would require a special assessment:

- The property (even for Class 1 development proposals) is identified as a medium to extreme hazard rating in the CWPP;
- Wildland vegetation areas beyond 30 feet from structures are to remain after development within or surrounding proposed development areas;
- Development areas are proposed on slopes greater than 15 percent³; and
- Development areas are proposed in areas where structures will be built within less than 100 feet from high or extreme hazard areas that are not in the control of the developer.⁴

Update Findings and Conditions of Approval

Chapter 12 of the Summit County Land Use and Development Code covers the development review procedures. As mentioned previously, some of the procedures such as findings and conditions of approval could be amended to incorporate compliance with priorities of the CWPP. Additionally, the County could consider the following:






- Require compliance with NFPA 1141 Standards or the ICC WUI Code as a condition of approval for new subdivisions in medium to extreme hazard areas as defined in the CWPP.⁵
- Require presentation to the SCWC and subsequent recommendation to the approval authority for applications within medium to extreme hazard areas as defined in the CWPP.⁶
- Section 12000.13, Action on a Development Review Application. Subsection D identifies appropriate conditions of approval for all classes of development review. Wildfire mitigation could be explicitly mentioned in this list of conditions. Item 'j' of that list, related to conditional and temporary use permits, should also include wildfire mitigation.
- Section 12200.04, Development Plans for PUDs should include compliance with Zones One and Two of defensible space requirements for all properties within a medium to extreme hazard area.
- Section 121000, Location and Extent. Findings for approval and conditions of approval could include elements related to wildfire mitigation. For example, Section 121003.02.G could be inserted to state "adequate mitigation of known wildfire hazards."

³ This number is a general recommendation, but could be adjusted based on local preference.

⁵ Both are available for review free of charge. NFPA 1141 Standards at: <http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=1141>; ICC WUI Code at: <http://publicecodes.cyberregs.com/icod/iwuic/2012/>.

⁶ This is a substantial effort that may include a more formal adoption of the SCWC bylaws and adoption of a major code amendment to grant the authority of decision to the SCWC. We are noting this because our memorandum of understanding provides that no new procedures will be developed as part of this process.

Development Review Procedures – Recommendations:

- Convert discretionary application requirements for fuel reduction plans, forest management plans, etc. to “required” in areas with medium to extreme wildfire hazard.
-  **Consider adding “any development, redevelopment, or modification to a site or site improvements within a medium to extreme hazard area as defined by the CWPP, regardless of whether a building permit is required” to the scenarios where a site plan review is required.**
-  **Require special assessments by a trained wildfire specialist such as a forester or fire behavior analyst (FBAN) as part of the development application and review process. Thresholds are defined in the discussion prior to this table.**
-  **Update the findings and conditions of approval to include compliance with priorities of the CWPP. For example:**
 -  **Compliance with NFPA 1141 or ICC WUI Code;**
 -  **Presentation and review by the SCWC;**
 - List wildfire mitigation in the list of conditions for all classes of development review; and
 - Requiring compliance with Zone One and Zone Two defensible space provisions.

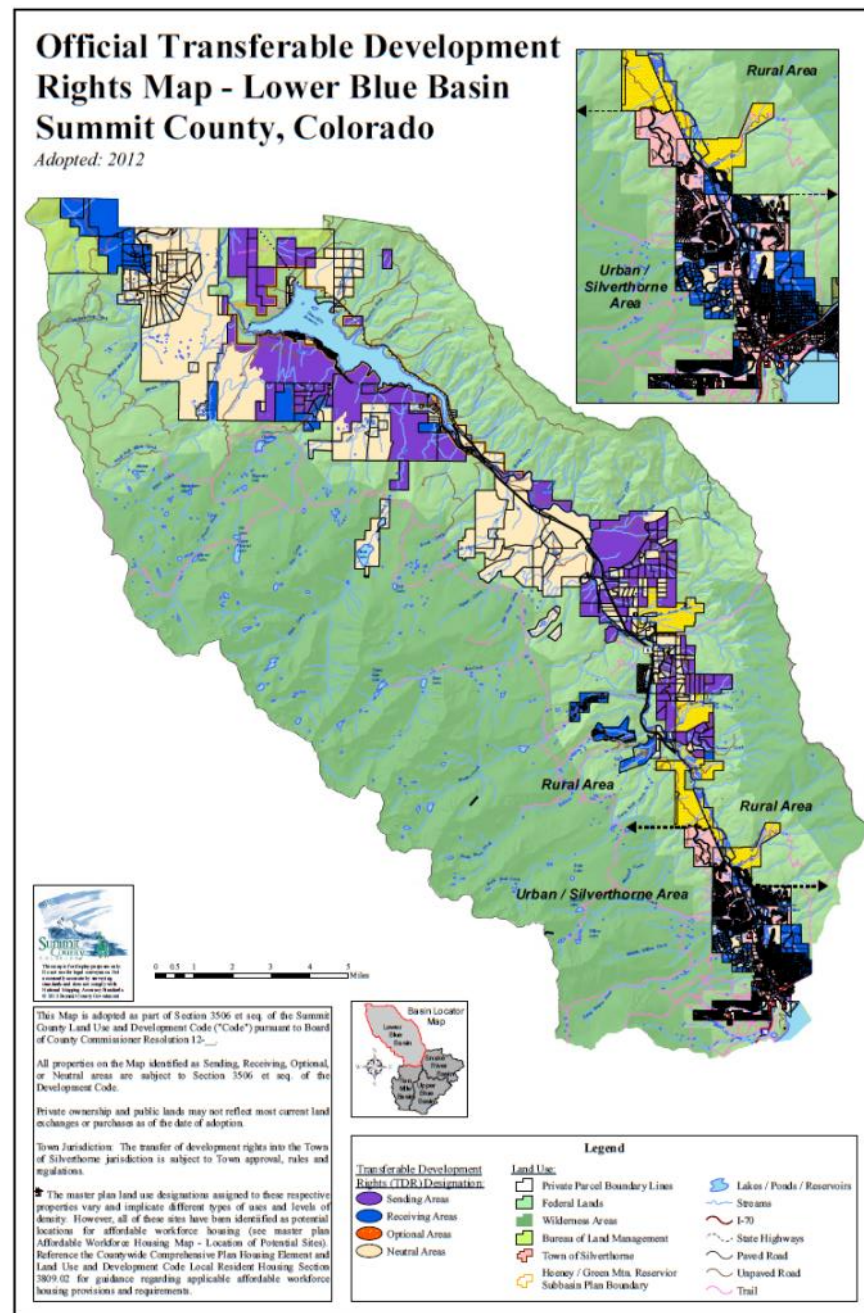
Enhance the TDR Program

We understand that the Summit County Transfer of Development Rights (TDR) program was established primarily as a growth management tool to protect valuable resources in the County. The TDR program is a robust two-tiered system. It is mandatory for rezonings and upzonings, and voluntary for other types of development projects as a means of mitigating impacts. Examples of issues that could be mitigated using the TDR program are provided in the current regulations; however, wildfire is not identified as such. Specific recommendations are provided below.

Identify Wildfire as a Major Component of the TDR Program

Protection of natural resources, scenic vistas, and backcountry areas has secondary benefits of potentially keeping areas with high or extreme wildfire hazard undeveloped – reducing the number of future residents exposed to this risk. These benefits should be explicitly called out. For example:

- Section 3506.01, Purpose and Intent, should make mention of wildfire risk reduction. Protection of visually important lands and environmentally sensitive areas should be equally important to areas with medium or extreme wildfire hazard.
- Section 3506.02.A.2.a includes several examples of issues that could be mitigated through the voluntary use of the TDR program. Wildfire risk reduction should be included in this list. Possible language could be “reducing wildfire risk to the immediate neighborhood or community.”



Integrate the CWPP Maps

A direct linkage between the CWPP and the TDR program should be provided. The CWPP is very specific as to how risk is defined and which areas throughout the County are at the greatest risk to wildfire. Identifying these areas involves highly technical analysis and coordination among multiple fire-related partnering agencies. The end result is a series of maps that define boundaries of areas where community resources should be focused to reduce potential impacts from wildfire. Specific forest management recommendations are also established within focus areas to further reduce the risk of wildfire. The County could make greater use of the CWPP maps in the decision-making process for future development.

Recent proposed amendments to the TDR program include specific language related to the focus areas. For example, Section 3506.02.C.3.b.ii.ca suggests that sending or neutral properties within a focus area shall not be eligible for a TDR map amendment to become a receiving area. This is a substantial improvement to the program because it directly limits the pattern of development in a defined area. As these proposed amendments move forward, the reference to medium/extreme hazard potential should be reconciled with moderate/severe hazard potential as proposed in the subdivision regulations.⁷

The TDR program could be further improved as follows:

- Section 3506.01, Purpose and Intent, should include implementation of the CWPP in the bulleted list. The CWPP is an excellent bridge from comprehensive planning policies to land development regulations, and this section of the zoning regulations is the perfect opportunity to make that statement.
- Section 3506.02.A.3, Exemptions, could exclude areas identified as medium to extreme wildfire hazard. As written, these exemptions may be in conflict with recently proposed language to prevent mapping receiving areas in identified focus areas. For example, is a community facility or institutional use exempt from being subject to focus areas? Perhaps the exemption clause could include a statement such as “except for areas identified as medium to extreme wildfire hazard rating as defined by the CWPP.”
 - Additionally, the language in the exemptions section could be misconstrued. It currently states that “the following types of development, TDR Banks, and Planned Unit Developments (PUDs) are exempt from the provisions of these regulations:” The language should be clarified to specify exactly which provisions certain types of development are exempt from.

TDR Program – Recommendations:



Include wildfire risk reduction in the purpose and intent and list of issues that could be mitigated by use of the program in Section 3506.01 and 3506.02.

- Reconcile terminology when referring to hazard maps (e.g., moderate/severe vs. medium/extreme).
- Clarify whether the exemptions could apply to areas within a medium to extreme hazard area.



For consistency, consider tying approval of receiving areas to hazard rating maps rather than focus areas.

Define Applicability Thresholds

Chapter 45 of the Building Code includes the provisions for Fire Hazard Mitigation for New Construction. These standards help the County to regulate future development in the WUI; however, they do not apply to existing

⁷ As previously mentioned, a better approach for development decisions might be to use the hazard rating map rather than the focus area maps, given that some focus areas may be suitable for development with even minimal fuel treatment or other mitigation.

development – one of the County’s areas where they would like to see improvement related to wildfire mitigation. We suggest the following:

- Require compliance with Chapter 45 of the Building Code when an applicant seeks a permit to expand existing development by a substantial amount. For example, if the expansion is greater than 50 percent of the current floor area, then Chapter 45 applies. This threshold could be reduced to 25 percent for medium to extreme hazard areas per the CWPP.
- As previously suggested, consider requiring special assessments by a trained wildfire expert (forester/FBAN) for new development or redevelopment of properties meeting the criteria mentioned in the *Improve Development Review Procedures* section.
- Consider relocating the defensible space requirements from Chapter 45 of the Building Code, to Section 3600 of the zoning regulations (Landscaping Requirements). Consider the inspection and enforcement authority, and that should help the County make the final determination as to where these provisions reside.
- Identify specific categories of land uses to require regular inspection (such as those with public assemblies, institutions, hospitals, educational facilities, and large retail centers) where the impacts of a wildfire hazard would have significant consequences. Once the use categories have been defined, compliance with fire mitigation standards can be adopted as use-specific standards or by separate ordinance. The City of Santa Barbara, California, has a requirement to inspect all existing major facilities, and compliance with WUI standards can be required.⁸

Applicability Thresholds – Recommendations:



Consider requiring compliance with Chapter 45 of the building code when an applicant seeks a permit to expand an existing development or use by a specified amount (e.g., 50 percent of the floor area). The percentage could be reduced for properties in a medium to extreme hazard area.



Consider relocating the defensible space requirements from the building code directly into the landscaping requirements of the Land Use and Development Code.

- Define land use categories that should require additional wildfire mitigation scrutiny, and subsequently define use-specific procedures.

Consider Updates to the Landscaping Regulations

The current Summit County landscaping regulations are considerably robust. Recent proposed amendments even go so far as to suggesting Firewise plant materials as identified by the Colorado State Forest Service.

⁸ Excerpt from the Fire Protection Research Foundation’s 2011 report titled “Addressing Community Wildfire Risk: A Review and Assessment of Regulatory and Planning Tools.” Available at: <http://www.nfpa.org/research/fire-protection-research-foundation/reports-and-proceedings/for-emergency-responders/fire-prevention-and-administration/addressing-community-wildfire-risk>.



Figure 3.6: A home hides behind the forest. (Credit: T. Wafaie)

One of the major issues we learned from staff was that the current regulations are adequate for addressing future development; however, they are falling short in addressing maintenance and mitigation for existing development. The proposed amendments provide for considerable improvements to existing development, through Section 3604, Mandatory Landscaping Design Standards. We offer the following recommendations for further consideration:

- Section 3602.A.4 requires compliance with mandatory landscaping design standards listed in Section 3604. Consider adding threshold requirements for existing single-family developments. For example, disturbance of more than 200 square feet requires compliance with 3604.
- Section 3604.C requires that all landscaping meet defensible space requirements as indicated in Chapter 45 of the Building Code. It should be further clarified that “non-compliance with the defensible space requirements will be enforced as a zoning violation.” This gives the direct authority for the County to address existing development, regardless of whether a site plan review or building permit is required.
- Section 3604.B.4.c states that planting of Firewise materials is encouraged. Consider making this a requirement for areas with a medium to extreme hazard rating per the CWPP.
- Several provisions state that the landscaping “shall meet defensible space requirements.” This is in direct conflict with development review procedures that state “to the extent possible.” It should be clarified in the development review procedures that the landscaping provisions for defensible space require mandatory compliance if that was the intent (e.g., see the proposed text in the Subdivision Regulations, Section 8154.E.h.).
- Consider a two-tiered system for defensible space requirements, where each Zone includes required modifications and recommended modifications. For example, the Town of Pinetop-Lakeside, Arizona,

adopted such a set of mandatory and recommended actions for properties. To simplify their system, most of the required modifications involve removing fuels and thinning, whereas most of the recommended modifications involve annual maintenance, irrigation, or further removal of fuels and dead materials (such as pine needle or leaf droppings).⁹

- Consider incentives such as waiving fees or reducing processing times for applicants willing to sign development agreements to maintain defensible space features over time.



Figure 3.7: A graphic of the home ignition zone (like the one above from www.firewise.org) and other defensible space graphics may help the reader's understanding of the landscaping provisions.

We also heard from staff that the minimum planting requirements and buffer/screening requirements often result in “forcing” required landscaping into small areas. This is a common problem in many communities, when developers are given density bonuses or are otherwise permitted to build larger footprints yet are held to the same parking, access, and landscaping requirements. This means that once the applicant has complied with all of the development standards, there are very few areas left to plant the required trees and shrubs.

⁹ Section 17.96.070 of the Pinetop-Lakeside Town Code, accessed from: <http://www.codepublishing.com/AZ/pinetoplakeside/>.



Figure 3.8: Required landscaping clumped near a condominium structure (Credit: T. Wafaie)

Consider the following recommendations:

- Section 3603 offers flexible landscaping design standards. Section 3603.A mentions alternative methods of compliance, where the applicant may propose an alternative design that meets or exceeds the level of design expressed in Section 3601. This procedure is not clearly defined. Consider developing a performance-based landscaping system where certain landscaping provisions must be met (such as parking islands and buffers), but that all other landscaping provisions could be met using various alternatives such as bioswales, xeriscaping, heritage or significant tree preservation, or wildfire mitigation.

Seattle, Washington uses such a system called the “Green Factor,” which requires compliance with minimum standards, but gives bonus credits for well-designed landscaping that includes various features such as green roofs, vegetated walls, trees and shrubs, use of native plants, or food gardens. With a much different climate, a performance system in Summit would have to be calibrated to allow for bonuses for wildfire mitigation, and other local considerations.¹⁰

Landscaping Regulations – Recommendations:



Consider adding threshold requirements for single-family development – e.g., disturbance of more than 200 square feet could trigger compliance with Section 3604.



Consider adding clarifying language that non-compliance with

¹⁰ Green Factor summary available at:

<http://www.seattle.gov/dpd/cityplanning/completeprojectslist/greenfactor/wh-atwhy/default.htm>.

Landscaping Regulations – Recommendations:

Chapter 45 of the building code will be enforced as a zoning violation. This will transfer the authority to community development and can apply to existing development.

- Consider requiring, rather than encouraging, planting fire-resistant landscaping such as Firewise materials per CSFS.
- Reconcile the current conflict where the landscaping standards “shall meet defensible space requirements” and the approval procedures state “to the extent possible.”
- Consider a tiered approach to defensible space requirements that identifies both required and recommended treatments for each zone.



Consider waiving fees or reducing processing times for applicants that are willing to sign development agreements to maintain defensible space features over time.



Consider a performance-based set of landscaping standards that sets forth minimum requirements (parking islands, buffers, etc.) but allows flexible alternatives for meeting other landscaping standards.

Expand Use-Specific Standards

Regulations and standards for specific land uses are provided in Section 3800 of the current zoning code. These use-specific standards range from community gardens to retail marijuana, and can incorporate standards for parking, hours of operation, or sometimes dimensional standards. The purpose of use-specific standards is to identify provisions that are applicable to a certain land use type rather than an entire district. In terms of organization, we recommend relocating the use-specific standards to Section 3400, Land Use Regulations. It is unusual to begin with land uses, then go into districts, landscaping, and parking, then back to use-specific standards. Other general comments on the structure of the code are provided in the Appendix.

Residential Outdoor Storage

Section 3815.02 includes regulations specific to the outdoor storage of materials in residential zoning districts. One of the recent proposed changes to that section incorporates provisions for the storage of firewood. Those provisions should be further tested and the language clarified. As written, “*firewood may be stored in the front yard other than in the front setback if stacked in an orderly manner.*” Additional proposed language requires stored firewood to be located a minimum of 30 feet from any habitable structure unless within a fire resistant enclosure. We recommend revising “habitable structure” to say “any structure, if ignited, that will incur a financial impact (i.e., insurance), a threat to adjacent structures, or a threat to human life.”

Based on the County’s definitions for front setback and front yard, this means that stored firewood may only be located between the front setback and a line 30 feet from the proposed structure. Has this been tested in districts where front yard storage of firewood is common? For example, the front setback in the R-3 zoning district is 25 feet. Therefore, it is assumed that in order to store firewood in the front yard in this district, the building must be setback a minimum of 55 feet from the front property line. A potential more-flexible

solution could be to allow for storage of firewood within the front setback, but never closer than 10 feet from the front property line.

Within several focus areas in the CWPP, it is recommended that woodpiles be stored even with or uphill from structures – never downhill. This could also be implemented through use-specific standards and tied to medium to extreme hazard areas per the CWPP.

Special Events

Consider adding a requirement for a fire response plan for special events in any medium to extreme hazard area. This could include provisions for emergency access, water storage, and evacuation, and should be approved by the applicable fire district. The discretion for this requirement could be at the request of the Planning Director.

Mining or Milling Operations

Add a requirement for a forest management and fuel reduction plan for all proposed mining or milling operations in a medium to extreme hazard area per the CWPP.

Health Care Facilities

Any health care facility proposed in a medium to extreme hazard area should require a conditional use permit in all applicable zoning districts. Not only are large numbers of people congregated in these facilities, but smoke and evacuation are major considerations.



Figure 3.9: St. Anthony Summit Medical Center. (Credit: T. Wafaie)

Lumber Yards

A lumber yard proposed in a medium to extreme hazard area per the CWPP should require a conditional use permit in all applicable zoning districts, and

operations should include distance requirements from forested areas. This use would be a good candidate for implementation of a fuel-free perimeter.¹¹

Community Centers

A community center proposed in a medium to extreme hazard area per the CWPP should require a conditional use permit in all applicable zoning districts. As with hospitals, large congregations of people and potentially vulnerable populations are each considerations for further scrutiny.

Auto Service Stations (with or without repair)

An auto service station proposed in a medium to extreme hazard area per the CWPP shall require a conditional use permit in all applicable zoning districts, and operations shall include distance requirements from forested areas. Potential mitigation standards might include:

- Above-ground tanks must be located at least 30 feet from structures and vegetation; and
- Fuel-free perimeter to prevent the spread of surface fire from the service station to adjacent forest vegetation.



Figure 3.10: Image from the Trepanier Fire in Peachland, B.C., 2012.
<http://cime.com/category/news-story-photo-tags/fire?page=25>. (Credit: Barb Reindl)

Propane Storage Facilities

Although not specifically listed in the land use matrix, a propane or bulk storage facility proposed in a medium to extreme hazard area per the CWPP, shall require a conditional use permit in all applicable zoning districts, and operations shall include distance requirements (e.g., 30 feet) from forested areas.

¹¹ This idea could be explored further by a trained wildfire expert.

Firewood Split/Storage Facilities

A firewood split/storage facility proposed in a medium to extreme hazard area per the CWPP, shall require a conditional use permit in all applicable zoning districts, and operations shall include distance requirements from forested areas.

Fireworks Stands

Fireworks stands (temporary or permanent) shall not be permitted in medium to extreme hazard areas per the CWPP.

Recreation Facilities

Any recreation use proposed in a medium to extreme hazard area per the CWPP shall require a conditional use permit in all applicable zoning districts.

Churches

A church proposed in a medium to extreme hazard area shall require a conditional use permit in all applicable zoning districts.

Educational Facilities (Schools)

A school proposed in a medium to extreme hazard area shall require a conditional use permit in all applicable zoning districts.

Fire, Police, and Emergency Response/Operations Facilities

Any type of emergency response/operation facilities in a medium to extreme hazard area per the CWPP should require a conditional use permit in all applicable zoning districts. If these facilities are threatened and require evacuation due to an emergency, it reduces their effectiveness to response.

Use-Specific Standards – Recommendations:

- For outdoor storage, consider revising references to “habitable structures” to say “any structure that will incur a financial impact, a threat to adjacent structures, or a threat to human life if ignited.”
- Consider a more flexible standard for firewood setback requirements. The most important wildfire factor is keeping a 30-foot distance from structures, not the distance from the parcel line.
- Add a requirement that woodpiles and propane tanks be stored even with or uphill from structures – never downhill.
- Add use-specific standards for further submittal requirements related to special events and mining or milling operations.



Add use-specific standards for requiring conditional use permit approval for the following uses in medium to extreme hazard areas:

- **Health care facilities;**
- **Lumber yards;**
- **Community centers;**
- **Auto service stations;**
- **Propane storage facilities;**
- **Firewood splitting/storage facilities;**

Use-Specific Standards – Recommendations:

- **Recreation facilities;**
- **Churches; and**
- **Educational facilities.**



Add use-specific standards to apply minimum distance requirements from forested areas for the following uses:

- Special events;
 - Lumber yards;
 - Auto service stations;
 - Propane and bulk storage facilities; and
 - Firewood splitting/storage facilities.
- Consider prohibiting fireworks stands in medium to extreme hazard areas.

4. DETAILED REVIEW OF CURRENT PLANS, POLICIES, AND REGULATIONS

This table includes specific chapter-by-chapter detailed recommendations related to the team’s review of the Summit County Plans, Policies, and Regulations. Comments in the table below vary from high-level complicated recommendations to minutiae and typos. If a comment is made in one chapter or section, it is not always repeated in every subsequent chapter or section.

Table 4.1: Detailed Review Comments on the Summit County Community Wildfire Protection Plan

Summit County Community Wildfire Protection Plan	
Section	Comments and Suggested Revisions
General	
	<ul style="list-style-type: none"> List the approval agencies that signed off on the final CWPP (or include a scanned copy of the signature page).
	<ul style="list-style-type: none"> Add a glossary of terms and list of common acronyms for easy reference. Consider further explanation of general fire information – such as fire ecology, fire behavior, types of vegetation and their vulnerability to fire, and other valuable information to ground the reader’s understanding of basic wildfire principles.
	<ul style="list-style-type: none"> Include illustrations, photos, and other graphics to supplement text. For example, explaining defensible space, or demonstrating where previous fires have occurred within Summit County.
	<ul style="list-style-type: none"> Provide hyperlinks to websites or other documents that would supplement the reader’s understanding of a particular component of the plan.
	<ul style="list-style-type: none"> Apply consistent terminology throughout the plan. For example, sometimes the plan is called the CWPP, sometimes the SCCWPP, or simply “the plan.” In the actions and policies, the Community Protection Assessment Maps are referred to several different ways, including “community risk assessment.” Consistency should also be applied to capitalization of terms, and parallel construction of paragraphs or actions/policies.
	<ul style="list-style-type: none"> Ensure maps are legible when printed in black & white. If possible, consider using different line weights and/or patterns to offer broader usability.
	<ul style="list-style-type: none"> Add new Implementation section, as noted above, to re-organize existing content and address ongoing maintenance and future updates/revisions.
	<ul style="list-style-type: none"> Add new Overview section at beginning of the document that provides an overview or introduction describing the organization of the document. This section should clearly describe the relationship between goals, objectives, strategies, policies, and actions. (For example, how are the goals listed in Section IV related to the objectives listed in XII?)
	<ul style="list-style-type: none"> Add new Actions section, as noted above, to re-organize existing content and specify all actions in one easy-to-reference table.
I - Executive Summary	
	<ul style="list-style-type: none"> Summarize the local need for and benefits of having a CWPP. (For reference, benefits can also be found under C.R.S. 30-15-401.7)
	<ul style="list-style-type: none"> Clearly highlight the changes made to this version of the CWPP compared to previous versions; address new sections and re-organization, if applicable.
	<ul style="list-style-type: none"> Move content related to updates to new section, Implementation.





Table 4.1: Detailed Review Comments on the Summit County Community Wildfire Protection Plan	
	<ul style="list-style-type: none"> Include current statewide trends related to increased structure losses, economic disruptions, changing climate and seasonal fluctuations, ecosystem and landscape scale changes. Describe how these potential impacts provide more rationale for wildfire mitigation planning.
II - Authorization	
	<ul style="list-style-type: none">  Update section to include C.R.S. 30-15-401.7 Determination of fire hazard area – community wildfire protection plans – adoption – legislative declaration – definitions.
	<ul style="list-style-type: none"> Move section to proposed new Implementation section.
III - Purpose	
	<ul style="list-style-type: none"> Revise purpose statement to the following: “The purpose of this plan is to identify areas where the hazard and potential community impact of wildfire is greatest, and to guide and coordinate community efforts to reduce the risk of wildfire through public education, reduction of hazardous fuels and reduction of structural ignitability.”
IV - Goals	
	<ul style="list-style-type: none"> Goal 1 – cross-reference “at risk” areas with the CWPP section that identifies them.
	<ul style="list-style-type: none"> Where applicable, be specific with which plans each goal is referring to, and revise any references to “this plan” to consistently say the CWPP or the SCCWPP.
	<ul style="list-style-type: none">  Add new goal: Inform and support future land use decisions.
	<ul style="list-style-type: none">  Add new goal: Integrate wildfire risk reduction and planning efforts with other County environmental and sustainability planning goals and activities.
V – Community Wildfire Protection Plan	
	<ul style="list-style-type: none"> Current section title is unclear in relationship to the entire document; revise title to “CWPP Minimum Requirements” or similar.
	<ul style="list-style-type: none"> Second paragraph focused on HFRA goals is confusing in relationship to previous Section IV Goals. Move this paragraph so that it becomes integrated with Section IV. Goals.
	<ul style="list-style-type: none"> Specify minimum CWPP requirements, as specified under the Healthy Forests Restoration Act.
	<ul style="list-style-type: none"> Include “community and agency engagement in the development of this community wildfire protection plan” subsection with new proposed section Implementation.
VI – Historical Background	
	<ul style="list-style-type: none"> Reorganize sections in chronological order; consider moving some content such as Historical Support for Wildfire Protection to an appendix and information on losses and trends to Executive Summary.
Subsection B	<ul style="list-style-type: none"> Subsection would fit better in the proposed new Overview section and cross-reference to new Implementation section.
Subsection C	<ul style="list-style-type: none"> Clarify reference to “the wildfire program” on page 8, last paragraph.
Subsection C	<ul style="list-style-type: none">  Move paragraph discussion on Multi-Hazard Mitigation Plan to a new Implementation subsection that covers integration and/or coordination with other policies and regulations.
VII – Current Community Status	
General	<ul style="list-style-type: none"> This section spans many varying subjects, some of which are informational and others are narrative arguments for specific types of mitigation activities and implementation strategies (e.g., forest management and evacuation planning). Consider keeping Current Community Status as informational only, with content that is descriptive of the current conditions (i.e., baseline information such as the community profile, WUI growth and development trends, and basic descriptions of educational programs, etc.). Move action-oriented content to a new Action Table section. Move all topics related to implementation to a new Implementation section (e.g., authority, interaction with other local plans (new), implementation entities/ stakeholders, public participation, maintenance, reporting, and updates).

Table 4.1: Detailed Review Comments on the Summit County Community Wildfire Protection Plan	
Subsection B	<ul style="list-style-type: none"> ▪ The Summit County WUI map would be more valuable placed in this WUI subsection so that the reader can quickly comprehend the WUI boundaries. Note that embers can travel over one mile and risk is not limited to only those properties defined as one-half mile from improved parcels. The current definition may be misleading to the public, as wildfire risk is very specific to the local set of conditions, even at a parcel scale.
Subsection C	<ul style="list-style-type: none"> ▪ Correct typo in the first sentence; should read “Between approximately 2002 and 2012...”
Subsection D	<ul style="list-style-type: none"> ▪ Last sentence may be confusing to readers “although they are natural, crown fires may be very destructive when occurring near homes or critical infrastructure.” Include a discussion on natural fires and why that may or may not be good for forest health.
Subsection D	<ul style="list-style-type: none"> ▪ In sentence, “Any time people place their homes in the forest, a need arises to manage the forest.” Add: “and their individual properties.”
Subsection F	<ul style="list-style-type: none"> ▪ Move this under new section Implementation.
Subsection G	<ul style="list-style-type: none"> ▪ Include graphics, data, and website hyperlinks to the International Association of Fire Chiefs’ <i>Ready, Set, Go!</i> program to aid this subsection.
Subsection G	<ul style="list-style-type: none"> ▪ Highlight or call out in a text box information that is critical to the public, such as “It has been the decision of the Office of Emergency Management not to pre-identify and establish evacuation routes for wildfire.”
Subsection G	<ul style="list-style-type: none"> ▪ Reference to diverse nature of Summit County’s residents and guests has broader implications beyond evacuation planning (although this is very important). Consider including a larger discussion in the Community Profile on these potential implications.
Subsection H	<ul style="list-style-type: none"> ▪ Add a diagram showing ember ignitions.
Subsection I	<ul style="list-style-type: none"> ▪ Include a diagram on defensible space zones with a hyperlink to the referenced publication by the Colorado State Forest Service.
Subsection I	<ul style="list-style-type: none"> 🔥 Provide brief explanation on why standards vary. Is there an opportunity to make them consistent throughout the entire County and aligned with state guidance?
Subsection J	<ul style="list-style-type: none"> ▪ Expand on the type of outreach and education efforts that have already been implemented, such as participation in the Firewise Communities/USA program. Provide hyperlinks to existing program sites within the County or beyond.
Subsection J	<ul style="list-style-type: none"> ▪ Ensure that the five programmatic target areas recognized by the Summit County Wildfire Council are aligned with action categories.
Subsection J	<ul style="list-style-type: none"> ▪ Move last paragraph fits to new proposed section Implementation.
VIII – Existing Fire Protection Infrastructure	
	<ul style="list-style-type: none"> ▪ Provide a map to show the locations of the 24/7 staffed fire stations.
	<ul style="list-style-type: none"> ▪ Explain how a fire escalates from a first alarm wildfire to a second alarm wildfire.
	<ul style="list-style-type: none"> ▪ Note why response times can vary and the importance of why properties should be prepared to withstand wildfire on their own in the event that resources are overwhelmed.
	<ul style="list-style-type: none"> ▪ Provide a table with the current available apparatus. Consider adding descriptions of the different engine types.
IX – Community Base Map	
	<ul style="list-style-type: none"> ▪ Move Community Base Map to same location within CWPP as the narrative description of the WUI.
	<ul style="list-style-type: none"> ▪ Ensure reader understands full scope of wildfire risk, regardless of their location on the WUI map.
	<ul style="list-style-type: none"> ▪ Define wildfire risk in the CWPP; update maps to exclude firefighting capabilities.
	<ul style="list-style-type: none"> ▪ Create a new “spotting distance/ ember transport” map.
	<ul style="list-style-type: none"> ▪ Note the date of the current map provided and specify frequency of updates.
	<ul style="list-style-type: none"> 🔥 Consider adding an additional map that includes land use, as indicated in master plans.
	<ul style="list-style-type: none"> 🔥 Consider adding an additional map showing significant winter and summer routes, as indicated in master plans.




Table 4.1: Detailed Review Comments on the Summit County Community Wildfire Protection Plan	
	 Show municipalities on all maps.
	<ul style="list-style-type: none"> ▪ Use consistent capitalization of “County.”
X – Community Protection Assessment	
	<ul style="list-style-type: none"> ▪ The current numbering/labeling system is confusing; for example map X-B applies to sub-model 5A, map X-C applies to sub-model 5B, and so forth. Is there an easier way to label these maps?
	<ul style="list-style-type: none"> ▪ It is difficult to determine if any essential infrastructure at risk modeled in 5c is at high or extreme risk; it would be helpful to note in the narrative if there really is no essential infrastructure at risk or whether the level of detail available through the map does not enable the viewer to see this.
D. Sub-model 5D – community values at risk.	 The subdivision hazard rating should be directly linked to the subdivision regulations (Section 8101.D). Clarify that this rating is determined by the Colorado State Forest Service, not by the County. In the subdivision regulations, Section 8428.04 lists the submittal requirements. Item B.6 is stated as “vegetation and wildfire hazard as provided by the CSFS.” This language should be consistently applied throughout the code as well as the CWPP.
XI – Focus Areas for Reducing Wildfire Hazards	
	<ul style="list-style-type: none"> ▪ Create a threshold target for hazardous fuel reduction so that specific goals can be achieved over time.
	<ul style="list-style-type: none"> ▪ Indicate how often focus areas are adjusted, and whether they have been adjusted since their initial adoption. If adjustments do occur, highlight these changes in the new proposed section Implementation.
	<ul style="list-style-type: none"> ▪ Where applicable, tie focus areas to new proposed section Actions. For example, it would be helpful to show if any mitigation activities designated to occur in a focus area are noted in the Actions table. This will make future tracking easier.
	<ul style="list-style-type: none"> ▪ Number each focus area on the map so they can be further refined and referenced.
XII – Fire Protection Strategies and Implementation	
General	<ul style="list-style-type: none"> ▪ See proposed structure to integrate the content of this section with two new sections: 1) Implementation 2) Actions. In general, reframe these actions and policies to be consistent with the proposed categories and columns (see “Actions” sections above).
Subsection A.	<ul style="list-style-type: none"> ▪ The reference to Section VI. Historical Background does not appear to be linked to this objective; change cross-reference to Section IX. Community Base Map (or appropriate section, as revised in final update).
Subsection B.	 The Summit County Wildfire Council should also review the community values in the Community Protection Assessment Maps against the master plans and any other new planning policies adopted within the County. This level of responsibility may be better suited to note in the new proposed section Implementation, subsection Implementation Entities. This ensures any changes in County policies are also reflected during an update to the CWPP.
Subsection C.	<ul style="list-style-type: none"> ▪ Check and revise reference to Chapter VIII. (There are no chapters, and section VIII is related to available infrastructure and apparatus.) The completed hazard reduction efforts should ideally be noted in a new section Implementation, subsection Accomplishments.
Subsection D.	<ul style="list-style-type: none"> ▪ Indicate who is responsible for creating new prescriptions (e.g., Summit County staff, Colorado State Forest Service, etc.).
Subsection E.	<ul style="list-style-type: none"> ▪ Move the discussion on funding to new proposed section Implementation; actions can be rewritten and included in new proposed section Actions.
Appendix “A”	
	<ul style="list-style-type: none"> ▪ Move this content into a new proposed subsection “Accomplishments” under Implementation. Include more information in the CWPP on how mitigation treatments

Table 4.1: Detailed Review Comments on the Summit County Community Wildfire Protection Plan


	successfully conducted in focus areas may have an impact on the focus area, how this is tracked, and updated in the future. For example, explain to the reader if completion of acres treated leads to a change in the designation of future focus areas based on risk reduction.
Appendix “B”	
	<ul style="list-style-type: none"> Move management recommendations to the proposed new Actions section in the main body of the CWPP.
	<p> For all management strategies/projects (currently listed in the three individual Basin Appendices “B”), those that are applicable to the Land Use & Development Code should be coordinated with future updates. For example, many of the recommendations are related to home construction and should be integrated with the subdivision and other development standards where possible.</p>

Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations



Name of Document	Comments and Suggested Revisions
Countywide Comprehensive Plan	
The Plan Elements	<ul style="list-style-type: none"> P. vi – Include avoidance of wildfire hazard areas in the bulleted list of key policies/actions. P. vii – Include avoidance of wildfire hazard areas in the bulleted list within the environment element.
Land Use Element	<ul style="list-style-type: none"> P.11 – In the background and existing conditions report – be consistent with use of comma in a series. P. 12 – In the bulleted list within the land use authority section – include wildfire hazard areas as one of the potential scenarios where maximum densities may not be achieved. P. 13 – In the TDR summary – include protection of medium to extreme wildfire hazard areas as one of the intents of the program. P. 17 – Include medium to extreme wildfire hazard areas in the bulleted list in policy/action 1.1.3. P. 18 – Policy/action 8 – modify the sentence to include “...outdoor environment, while managed appropriately to reduce wildfire threat to adjacent values at risk.” P. 19 – Policy/action 4 – include the wildland urban interface in the parenthetical examples. P. 20 – Policy/action 3 – add “areas rated as medium to extreme wildfire hazard in the CWPP.” P. 20 – Policy/action 3.1 – at the end of that sentence, add “including protection of focus areas as identified in the CWPP.”
Environment Element	<p> p. 30 – Insert a paragraph or two on the importance of wildfire protection. A good location might be between the steep slopes and the wildlife paragraphs.</p> <p> P. 34 – In the Environmentally Sensitive Areas section, more could be included related to wildfire hazard reduction. For example, acknowledgement of “good” and “bad” fire in the environment, more connections to the CWPP and designated fuel/forest treatment areas, linkage between rated wildfire areas and environmentally sensitive areas and whether development should be discouraged for multiple reasons (e.g., preservation of endangered habitat/species within areas that are rated high or extreme wildfire hazard.</p> <ul style="list-style-type: none"> P. 34 – Further clarify the differences between the incentives mentioned in



Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations	
Name of Document	Comments and Suggested Revisions
	policy/actions 4 and 5.
Design and Visual Resources Element	<p> Typical wildfire mitigation efforts (defensible space, fuel treatments, wide access road, fuel breaks) might be at odds with this plan element. Effectively screening/hiding structures behind trees put them in closer proximity to fuels that can ignite them. What are the tradeoffs of placing development in open meadows vs. forested areas, and how does this potentially change wildfire mitigation efforts? This should be covered in the CWPP and then linked to this plan.</p> <ul style="list-style-type: none"> ▪ P. 101, Policy/action 4 – Add “as defined in the CWPP.” to the end of the sentence. <p> P. 101, Policy/action 12, Goal C policy/action 1.1, and Goal D, policy/action 1 – These policies are in conflict with d-space prescriptions.</p>
Open Space Element	<ul style="list-style-type: none"> ▪ There is no mention of wildfire in the open space element. Open space is often a “trouble” spot for WUI communities addressing their wildfire risk – particularly those open spaces that are used more actively for recreation. This is because the potential for human ignitions are generally higher. Open spaces in close proximity to neighborhoods can also pose a threat because of the increased risk of structural ignition from embers, approaching flames, and radiant heat sources. Open space should be closely tied to wildland fuels maintenance, and should be addressed in this element. ▪ P. 114, Goal A – Add another policy/action to coordinate open space management with wildfire treatment areas and forest management (and refer to the CWPP). ▪ P. 114, Policy/action 3 – another reason that open spaces can make for good community buffers is to slow or stop the spread of wildfire between the forests and development (fuel breaks). ▪ P. 114 – Insert a new acquisition policy/action for open spaces to consider areas with high/extreme fuel hazards and risk of wildfire occurrence as one of the factors in the decision-making process for land acquisition. These areas would be more appropriate as open space than as future development.
Lower Blue Master Plan	
Environment	<ul style="list-style-type: none"> ▪ The discussion beginning on p. 23 on forest health, management, and wildfire protection would serve as excellent wildfire background information for the reader.
Snake River Master Plan	
Vision Statement	<ul style="list-style-type: none"> ▪ P. 10 – Consider including “safe community” or something related to protection from wildfire hazards in the vision statement bulleted list.
Appendix C	<ul style="list-style-type: none"> ▪ Several of the illustrations represent non-compliance with defensible space prescriptions. The drawings should be amended to demonstrate compliance with both architectural design standards and defensible space prescriptions.
Upper Blue Master Plan	
Design and Visual Resources Element	<ul style="list-style-type: none"> ▪ P. 27 – Although there is mention of the CWPP here; there is not mention of wildfire or the WUI in implementation strategies. Include a policy to support the CWPP and wildfire mitigation activities in focus areas and in medium to extreme hazard areas within the Upper Blue Basin in the master plan and Appendix A.
LAND USE AND DEVELOPMENT CODE	
2200 Contents of Master Plans	<ul style="list-style-type: none"> ▪ 2201.01– Include a bullet for consideration of local wildfire hazard and community risks, especially those called out in the CWPP.
3200 Rezoning Policies	<ul style="list-style-type: none"> ▪ 3201.01 – Purpose and intent modified by staff through recent proposed updates. ▪ 3202.01 – Insert wildfire policy as one of the examples of number 5).


Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations

Name of Document	Comments and Suggested Revisions
	<ul style="list-style-type: none"> ▪ 3202.01 – Replace the word comport. That is not commonly used in the plans or code. Consider “consistent with” or similar. 🔥 3202.05, Wildfire Hazard Areas – recently modified by staff. Use the word “shall” instead of “will.” In 3202.05.A, it states that a Fuels Reduction Plan “may” be prepared....and that a Defensible Space Plan “may” be prepared... Make these a requirement by using “shall.” ▪ 3202.05.A – If an applicant is required to submit both a FRP and a DSP, consider clarifying the language to allow for a consolidated set of information so that it is clear that the applicant will not have to submit two separate sets of the same information if the same is required for both a FRP and a DSP. ▪ 3202.05.A.b – States “....if the inventory is deemed appropriate by the CSFS.” Clarify how the application will be reviewed by the CSFS. Consider revising the provision to allow for the Summit County Mitigation Specialist to review in addition to, or in place of, the CSFS. ▪ 3202.05.A.c – Reword this sentence to “the subdivision’s connectivity to internal and external roads, and the location of subdivision-wide shaded fuel breaks or fire breaks.” ▪ 3202.05.A.d – Remove the word “the” and the plural “s” in Service(s). ▪ 3202.05.A.e – Include the word “and” after the semicolon. ▪ 3202.05.B – Use consistent terminology when referring to a zoning amendment or a rezoning. ▪ 3202.05.D – We understand the County already require a will-serve letter from a fire district for properties outside the three districts. Consider including a clarifying statement requiring an affirmation or will-serve letter provided by the district. ▪ 3202.05.F – We understand that SIAs are required under subdivision and site plan review, and typically includes guarantees for implementation of D-space, fuels reduction, and forest management requirements. It might also be worth stating in the rezoning provisions that financial guarantees will be required during site plan review. ▪ 3202.05.A.a through f. – This list should be made consistent with proposed subdivision regulations in 8101.D.
3500 Basic Development Regulations and Standards	<ul style="list-style-type: none"> ▪ 3504.02.A – Beginning with “It is a requirement of this code that a developer...”, start a new heading for submittal requirements. This is no longer part of the intent statement. ▪ 3504.02.B – Replace the word “indicia.” ▪ 3504.02.B – This paragraph states that “the final decision as to whether or not a proposed development project is major shall be made by the BOCC during a work session.” Clarify that only the appeal decision shall be made by the BOCC in a work session, not the Director’s determination. ▪ 3504.02.B.2 – Provide an example of urbanizing impacts upon surrounding properties (e.g., noise, light, traffic, etc.) ▪ 3504.02.C – Throughout the code, use consistent references to decision makers. For example, is it Planning Department, or the Director? We recommend using Director, and then in the definitions continue using “or designee.” ▪ 3504.03.C.2 – Provision for emergency access. Following “20 or more acres in size,” insert “unless identified as a medium to extreme hazard rating in the County’s CWPP.” ▪ 3504.04.A.1 and 2 – Too much overlap of text in these two provisions. State it once for the preliminary review, then add only additional specifics that would apply to final review. ▪ 3504.04.B and C – Remove the word “so.” 🔥 3505.01.B – Following the sentence “It is the County’s intent in providing for PUD Zoning Districts to allow such flexibility in building and site design standards” add

Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations

Name of Document	Comments and Suggested Revisions
	<p>“where an overall benefit to the County is achieved.” PUDs should not generally be granted unless there is some benefit to the jurisdiction for doing so.</p> <ul style="list-style-type: none"> ▪ 3505.02, Density – Include the tables from figure 3-5 directly in this section. ▪ 3505.02, Density – In the opening statement, it says that “such density limits do not set an absolute level of density that will be permitted for any particular property or development proposal.” Although the text implies that the densities are “theoretical,” it should be clarified that those maximums could not be exceeded unless there are specific provisions for bonuses. ▪ 3505.05.A.2 – Provide a cross-reference to the building material and color design standard that applies to sf homes (3505.05.D) to make this easier to find for the reader. ▪ 3505.13, Setbacks – These are entirely out of place here. Move them back to other dimensional standards with height and density. ▪ 3505.14, Site Area – Same as above. These are out of place. ▪ 3505.15, Site Coverage – Same as above. ▪ 3505.17, Walls and Fences. 3505.17.C.1 – The use of natural materials should not be required when properties are included in a defensible space plan, which may prescribe more flexible alternatives. ▪ 3506.02, TDR regulations. 3506.02A.2.a – Include an item for mitigating wildfire risk to the immediate neighborhood or community. ▪ 3506.02.A.3, Exemptions – “...are exempt from the provisions of these regulations:” Clarify that the prohibitions against changing a property’s TDR designation when rated medium to extreme should apply to all zone districts, including PUDs. It is currently difficult to discern how far down the page the exemptions apply to. Consider also adding language to the end of the sentence that says “except for areas identified as a medium to extreme hazard rating per the CWPP.” ▪ 3506.02.B.5 – At the end of the neutral areas paragraph, include subdivision in the parenthetical reference. ▪ 3506.02.C.3.b.ii.ca – Wildfire hazard potential is referred to as medium to extreme. This should be reconciled with other references to moderate to severe hazards in the proposed subdivision regulation amendments. 🔥 3506.02.D – Consider a higher value for development rights in the WUI high or extreme hazard rating areas. For example, perhaps 2.5 development rights per 20 acres. ▪ 3506.02.E.2, Additional Floor Area – The last sentence states that in no event shall additional floor area or fractions of development rights purchased allow for the actual number of dwelling units or density permitted per zoning to be exceeded. Clarify that once development rights have been transferred into a property through a rezoning, unused square footage that is not constructed may not be sold or transferred to another property, but is available on the project site for future use. ▪
3600 Landscaping Requirements	<ul style="list-style-type: none"> ▪ <i>See previous discussion in this report.</i> ▪ 3603.C.5 – The proposed text states that “...fire mitigation measures are implemented on site in a timely manner.” This type of subjectivity can be difficult on decision makers and applicants. Clarify that fire mitigation requirements need to be implemented prior to issuance of a certificate of occupancy ▪ 3604.C, Defensible Space Requirements – Subsection 1.i should say “10 feet of the <u>habitable</u> structure.” Subsection ii. Should include the word “space” after defensible. Subsection iii should include the word “habitable” before structure. 🔥 3604.C – A general statement should be included that says “non-compliance will be

Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations	
Name of Document	Comments and Suggested Revisions
	<p>enforced as a zoning violation.”</p> <ul style="list-style-type: none"> 3604.C – Include a diagram illustrating the defensible space zones.
3800 Regulations and Standards for Specific Land Uses	<ul style="list-style-type: none"> <i>See previous discussion in this report.</i>
Figures for Development Constraints, Land Uses, and Dimensional Standards	<ul style="list-style-type: none"> Insert this information directly into text. Right now, it requires a lot of flipping back and forth.
8100 Subdivision Requirements	<ul style="list-style-type: none"> 8101.D – Make sure this list is consistent with proposed rezoning procedure amendments. Mention CWPP hazard rating maps for consistency with TDR regulations. 8151.02 – Include high-risk wildfire areas in this paragraph. 8154.A.4 –Summit County will require showing building envelopes on plats. That information should be included here to make the procedures more predictable for applicants. 8154.E.1.a – Insert “or wildfire” in between “geotechnical” and “hazards.” 8154.E.1.b – What is an OWTS? Spell out Onsite Wastewater Treatment Systems unless the acronym is defined nearby (within a couple pages). 8154.E.1.c – Amend the last sentence to say “The review authority may <u>adjust the separation requirement</u> require additional separation between the disturbance envelope and building envelope....” This offers greater flexibility in both directions. 8154.E.1.h – Consider amending the paragraph as follows: <p>The Review Authority shall require that all proposed lots <u>shall</u> be large enough to accommodate the fire mitigation prescriptions for Zone One as set forth in the Building Code entirely within each lot. In no case shall proposed lots be approved that would require Zone One defensible space prescriptions be implemented on any adjacent lot. To the maximum extent feasible, the Review Authority shall require that all proposed lots <u>shall</u> be large enough to accommodate the fire mitigation prescriptions for Zone Two as set forth in the Building Code on each lot. If it is not feasible to design a proposed lot capable of accommodating all Zone Two fire mitigation prescriptions within its boundaries, then the Review Authority shall require easements <u>shall be required</u> on adjacent proposed lots to ensure the ability to accommodate all Zone Two defensible space prescriptions. Under no circumstances shall a proposed subdivision require encroachment of Zone Two defensible space prescriptions on any property adjacent to the parent property being subdivided.</p> 8155, Establishment of Design Criteria – The opening sentence refers to single-family and duplex residential zoning districts. Clarify in the text that this would apply to all zoning districts where single-family or duplexes are permitted.
8400 Subdivision Exemptions	<ul style="list-style-type: none"> 8420, Rural Land Use Subdivisions – Mention wildfire hazards in the purpose and intent statement and in the list of land use goals (currently A through I). 8428.05 – The site visit requires “...a quorum of members of the Planning Commission.” Reminder that these site visits are quasi-judicial by nature, and would likely require public notice when a quorum (or 3 members) is present according to Colorado Open Meetings law.
8700 Plat Standards	<ul style="list-style-type: none"> 8701.Y – Remove “whichever is less” from the end of the sentence. That is not a factor for whether or not the BFE is required.

Table 4.2: Detailed Review of Current Summit County Plans, Policies, and Regulations	
Name of Document	Comments and Suggested Revisions
9000 Sign Regulations	<ul style="list-style-type: none"> ▪ Add a requirement for addressing/residential identification signage to be maintained at all times, in clear view from the ROW, and constructed with non-flammable materials.
12400 Temporary Use Permits	<ul style="list-style-type: none"> ▪ 12401 – Add a “G” to this list to include “Temporary Use Permits are not permitted in areas rated as high or extreme wildfire hazard unless appropriate mitigation measures are taken as approved by the Director.”
12600 Site Plan Review	 12602.01.A – Add provision for any development or modification in an area of high wildfire hazard, regardless of whether a building permit is required.
BUILDING CODE	
Chapter 45 Fire Hazard Mitigation Requirement for New Construction	<ul style="list-style-type: none"> ▪ See previous discussion in this report. ▪ Consider relocating this information directly into the Land Use and Development Code. ▪ 4501.1 Purpose – States “...within the Wildland Urban Interface.” 4501.2, however, states that “all new construction...” Clarify that Chapter 45 applies to all new construction countywide, regardless of the WUI boundary. ▪ 4502, Defensible Space definition, D.3 and D.4 – What is “well spaced?” Should be better defined to encourage compliance. Consider including a provision for individual high value tree retention in Zone 1 requiring a special assessment by a wildfire specialist. ▪ 4502, Defensible Space definition, D.8 – Replace “may be maintained” with “shall be maintained.” ▪ 4502, Defensible Space definition, D.9 – Remove “with County approval.” ▪ 4502, Defensible Space definition, E.6 and E.7 – Is this “well-spaced?” Diagrams for these spacing requirements would be helpful.

5. RESOURCES AND REFERENCES

Wildfire Mitigation Resources for Community Planning

Disaster Mitigation and Recovery Program Resources and Grant Information

- American Planning Association
<https://www.planning.org/research/postdisaster/programs.htm>
- Colorado State Forest Service
<http://csfs.colostate.edu/funding-assistance/>
- Colorado Division of Homeland Security and Emergency Management
<http://www.dhsem.state.co.us/emergency-management/mitigation-recovery/mitigation>
- Federal Emergency Management Agency
<http://www.fema.gov/plan-prepare-mitigate>

National WUI Programs for Homeowners

- Firewise Communities Program (National Fire Protection Association)
www.firewise.org
- Ready Set Go! (International Association of Fire Chiefs)
www.wildlandfirersg.org

Community Wildfire Protection Plan Guidance

- Best Management Practices for Creating a Community Wildfire Protection Plan:
http://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs89.pdf
- Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities:
<http://www.cafiresafecouncil.org/wp-content/uploads/2011/07/CWPP-Preparing-a-CWPP.pdf>
- Engaging Socially Vulnerable Populations in Community Wildfire Protection Plans:
http://www.forestguild.org/publications/research/2008/socially_vulnerable_pop_in_CWPP.pdf
- Community Wildfire Protection Plan Evaluation Guide (August 2008): Prepared by Resource Innovations, Institute for a Sustainable Environment, University of Oregon http://csfs.colostate.edu/pdfs/eval_9-8-08_web.pdf
- Measuring Community Capacity for Protection from Wildfire:
http://www.forestguild.org/publications/research/2007/community_capacity_wildfire.pdf

References

1. Austin/Travis County Community Wildfire Protection Plan: Accessed February 2015:
<https://www.austintexas.gov/wildfireprotectionplan>.
2. Colorado Revised Statutes, §30-28-106(4). Comprehensive Plan Authority and Requirements. Accessed January 2015: <http://www.lexisnexis.com/hottopics/michie/>
3. Calkin, D. E.; Cohen, J.D.; Finney, M.A.; Thompson, M.P. 2014. **How Risk Management Can Prevent Future Wildfire Disasters in the Wildland-Urban Interface**. PNAS. 111 (2): 746-751.

4. Duerksen, Chris; Elliott, D.; Anthony, P. 2011. **Addressing Community Wildfire Risk: A review and Assessment of Regulatory and Planning Tools.** Fire Protection Research Foundation. Accessed October 2014: <http://www.nfpa.org/~media/Files/Research/Research%20Foundation/rfwiregulatoryassessment.pdf>
5. Ecosystem Workforce Program. 2014. **Community Wildfire Protection Plans in the American West – Briefing Paper.** Number 59 Summer 2014. Accessed January 2015: <http://ewp.uoregon.edu/wfresilience>
6. Finney, M.A.; Cohen, J.D. 2003. **Expectation and Evaluation of Fuel Management Objectives.** USDA Forest Service Proceedings RMRS-P-29.
7. Headwaters Economics. 2014. **Reducing Wildfire Risks to Communities.** Accessed February 2015: <http://headwaterseconomics.org/wildfire/reducing-wildfire-risk>.
8. Jakes, P.; Sturtevant, V. 2013. **Trial by fire: Community Wildfire Protection Plans Put to the Test.** International Journal of Wildland Fire. 22:1134-1143
9. Johnston, Kelly. Phone interviews and written review comments related to draft recommendations. January through March 2015.
10. National Association of State Foresters [NASF]. 2013. **NASF FY2013 Communities at Risk Report.** Accessed February 2015: <http://www.stateforesters.org/sites/default/files/publication-documents/NASF%20FY2013%20Communities%20at%20Risk%20Report%20%281%29.pdf>
11. National Fire Protection Association [NFPA]. 2009. **Safer From the Start – A Guide to Firewise-Friendly Developments.** FWC-001-09-BK. Quincy, MA. 44 p.
12. National Interagency Fire Center [NIFC]. 2014. **Wildland Fire Fatalities by Year.** Accessed February 2015: http://www.nifc.gov/safety/safety_documents/Fatalities-by-Year.pdf
13. Pinetop-Lakeside, Town of. Provisions from the Pinetop-Lakeside Town Code, Section 17.96.070. Accessed February 2015: <http://codepublishing.com/AZ/pinetoplakeside/>.
14. Schwab, James C.; Meck, S. 2005. **Planning for Wildfires.** American Planning Association PAS Report No. 529/530. Chicago, IL.
15. Seattle, City of. 2015. Information on the **Green Factor.** Accessed January 2015: <http://www.seattle.gov/dpd/cityplanning/completeprojectslist/greenfactor/whatwhy/default.htm>
16. Stein, S.M.; Menakis, J.; Carr, M.A.; Comas, S.J.; Stewart, S.I.; Cleveland, H.; Bramwell, I.; Radeloff, V.C. 2013. **Wildfire, Wildlands, and People: Understanding and Preparing for Wildfire in the Wildland-Urban Interface – A Forests on the Edge Report.** Gen. Tech. Rep. RMRS-GTR-299. Fort Collins, CO. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 36 p.
17. Summit, County of. Long-range planning documents, Land Use and Development Code, and building code requirements. Accessed June 2014 through February 2015: <http://www.co.summit.co.us/index.aspx?nid=106>
18. Tidwell, T. 2013. **Wildland Fire Management Statement Before the Committee on Energy and Natural Resources (U.S. Senate).** USDA Forest Service. Accessed March 2015: http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=e59df65c-09c6-4ffd-9a83-f61f2822a075
19. Western Forestry Leadership Coalition. 2010. **The True Cost of Wildfire in the Western U.S.** 18 p.

APPENDIX

Additional Suggestions for Improvements

Improve the User-Friendliness of the Land Use and Development Code

Hierarchy of Standards

The code could be substantially improved by using a better-defined hierarchy. The standards within the code are often verbose, and one paragraph might include several unique standards. For example, Section 3504.02.A addresses the purpose and intent of major development projects. The latter half of that paragraph starts to identify specific submittal requirements. That paragraph should be divided into at least two paragraphs with separate headings – one for the purpose and intent and another for submittal requirements. Further, the requirements should be organized in a numbered list to make compliance (and review for compliance) easier. The current numbering system is cumbersome, and extremely difficult to navigate using a printed version or online.

Organization and Layout

The current Summit County development regulations do not always follow a logical structure or sequence. Reorganizing development regulations can often make a substantial difference in the overall readability of development regulations. This is particularly true for print versions, where cross-referencing material means flipping back and forth through the document. (Online codes today have increasingly become more user-friendly by providing automated links to applicable cross-references.)

The general rule of thumb in organizing development regulations is to group similar materials, both to minimize repetition and to reduce the need to flip between multiple sections to find related provisions. For example, all dimensional standards should be grouped together. In Section 3500, setbacks are conceptually covered in subsection 3505.13, yet the specific requirements are at the end of the chapter in Figure 3-6. This type of organization requires the reader to constantly flip back and forth between code sections. Similarly, all definitions should be in one article to prevent inconsistency as updates are adopted over time. For example, there are currently some definitions located in the use-specific standards and sign regulations, in addition to Chapter 15, Definitions.

Include More Visual Aids in the Code

Photographs, tables, flowcharts, illustrations, and other graphics are helpful in conveying information concisely. The County's current development regulations make limited use of such tools. We recommend expanding the use of visual aids to help explain how the code works – for example, by clearly showing how dimensional standards are measured and how development standards (parking, landscaping, building design, etc.) are applied. This will be particularly important if new or updated design standards are considered. The current code includes several tables; however they are usually found at the end of each chapter rather than directly integrated with relevant provisions. The use of these and other types of graphics should be expanded and integrated into the code. Examples of other graphics are shown below.



Related to wildfire specifically, additional graphics that could be integrated into the code include defensible space diagrams and the different types of wildfires (e.g., crown, surface, and ground).

Another good example is Section 12003.B. The lengthy paragraph could be significantly reduced. It essentially states that the Planning Department has the discretion for requiring more or less information for an application submittal under certain circumstances. The requirements for a dispute of application requirements should be included in a list format to clearly illustrate that procedure.

We also recommend including several new definitions in Chapter 15, Definitions, for the following terms related to wildfire:

- Defensible space (and definitions for each Zone)
- Home Ignition Zone (HIZ)
- Community Wildfire Protection Plan (CWPP)
- Multi-Hazard Mitigation Plan (MHMP)
- Summit County mitigation specialist
- Wildfire hazard rating
- Focus area

Other opportunities for language clarification and consistent use of terminology are located throughout the code, but were not highlighted as part of this project.