Cash Canyon/Stinking Springs Community Wildfire Protection Plan

2015

ACKNOWLEDGEMENTS

Many people in the community have contributed both time and effort in the preparation of this plan. Contributions include defining the community, landowner surveys, database design and preparation, mapping, writing, editing, and review. This plan was written and compiled by FireWise Neighborhood Ambassador, Julia Garratt, and Montezuma County Coordinator, Rebecca Samulski. Additional contributions were made by BLM wildland fire experts including Brad Pietruszka, Chris Barth, Craig Goodell, Scott McDermid, and Todd Gardner, Colorado State Forest Service District Forester, Kent Grant, and Neighborhood Ambassadors, Catherine Kraus and Everett Whitehead. Mapping services were provided by Montezuma County GIS Coordinator, Doug Roth. Community participation in defining the community, data collection, photographs, and priority setting included Ann and Doug McNeal, Bill Proud and Gayle Prior, David Sanford, Janet Wood, John Lovegrove and Leslie Cox, Joseph Samulski, Robert Jensen, Robert Maez, Ross Watkins, Sue Whitehead, Teri Capozzola, William Hendrickson, and more. Myron Baker, owner of K&N Fuels Management, also supported this CWPP with his continued guidance and dedicated work on projects identified herein.

Cover page photo credits are listed from the top: Lightning strike on Mesa Verde, Joseph Samulski. Fire season get-together 2014, Catherine Kraus. Power Line Fuel Break looking north, Rebecca Samulski.

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Cash Canyon/Stinking Springs Community Wildfire Protection Plan

The Durango District of the Colorado State Forest Service has reviewed this Community Wildfire Protection Plan, approves of its content, and certifies that it meets or exceeds Colorado State Forest Service Community Wildfire Protection Plan standards.

D. Kent Grant, District Forester — *Date* 7/17/2015

We, the undersigned, have read and reviewed this Community Wildfire Protection Plan and approve of its contents including the community assessment, strategic recommendations, proposed treatment projects, and associated implementation and action plans.

Cortez Fire Protection District

Jeff Vandevoorde, Chief — *Date* 7-23-15

Dolores Fire Protection District

Mike Zion, Chief — *Date* 7-27-15

Mancos Fire Protection District

Tony Aspromonte, Chief — *Date* 7-27-15

Montezuma County Emergency Management

Paul Hollar, Emergency Manager — *Date* 7-23-15

Bureau of Land Management, Southwest Region

Chris Barth, Fire Mitigation Specialist — *Date* 7/28/2015

FireWise of Southwest Colorado

Rebecca Samulski, Montezuma, County Coordinator — *Date* 7-27-15

PURPOSE

To formalize the community's responsibility towards wildfire prevention and preparedness, a team was formed to develop and execute a Community Wildfire Protection Plan (CWPP). The purpose is to mitigate the risks posed by wildfire in this community before any significant impact from a wildfire event occurs.

Without question, the risk from wildfire is substantial for human life and property. In addition, the community represents "significant" wildlife habitat providing breeding, foraging, and migratory areas for species that are considered rare, threatened, or of special concern (*Garratt Conservation Easement Baseline Report*). It contains several businesses that represent people's sole livelihoods and there are two major power transmission lines transecting the community.

Cultural and historical resources are dense in all of Montezuma County. Transecting the community is a portion of the Old Spanish Trail, the historic trail that delivered mail to Mancos, Dolores, and beyond to the mining communities of Rico and Ophir before the railroad was completed in 1891. Additionally, there are several of the original homesteads and the schoolhouse of the historic community of East Lakeview.

A trend toward warmer, drier conditions resulting in extended and intensified fire seasons is recognized as probable. This danger requires that property owners have a planned and purposeful approach to forest health and wildfire preparedness.

THE COMMUNITY

LOCATION

The Cash Canyon/Stinking Springs (CC/SS) Community encompasses a geographic and demographic region of Montezuma County rarely containing organized subdivisions. Although the community does contain one ditch association, one partial ditch association, and one road owner's association, there are no functioning homeowner's associations or other formal entities that legally bind the community. Sitting on finger mesas dissected by canyons in mature piñon/juniper (P/J) woodlands, the obvious wildfire vulnerability has led to the formation of this de facto landowner's association centered upon wildfire awareness, education, and preparedness.

This sizable community of 3,204.1 acres is located in the center of a triangle bounded by US Highway 160 on the south, Highway 145 on the west, and Highway 184 on the east. This places it within the overlapping response zones of three Fire Protection Districts including Cortez, Dolores, and Mancos. Specifically, the community boundaries are:

- County Road 31 on the west
- County Roads L and M on the south
- County Road 33 on the east
- County Road P on the north

- And all properties accessed from County Road 32.1

This community lies primarily within the Cash Canyon East polygon defined in the supplement to the Montezuma County CWPP. Figure 1 shows these boundaries, which distinguishes fields and meadows from wooded areas. The densest vegetation occurs primarily in drainages and canyons.

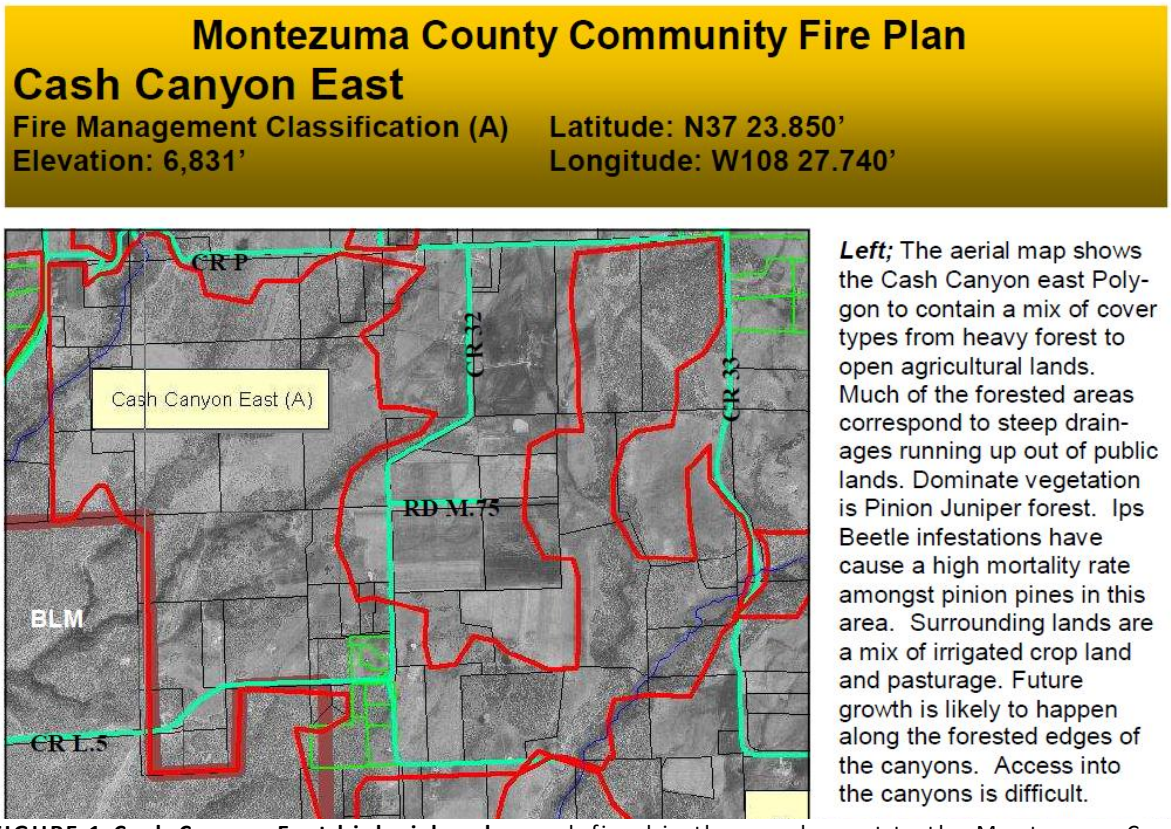


FIGURE 1-Cash Canyon East high risk polygon defined in the supplement to the Montezuma County Wildfire Protection Plan

Within the CC/SS Community there are two power transmission lines running in parallel easements roughly south to north in the western third of the area. Western Area Power Administration (WAPA) transmits 230kV on lines built on a steel structure within a 125' easement. Tri-State Generation and Transmission Cooperative (Tri-State) transmits 115kV on a wooden structure within a 100' easement. Numerous above-ground distribution lines from the local cooperative, Empire Electric Association, also exist throughout the community. Another utility easement containing multiple natural gas pipelines intersects the northeast corner of the community. Mid-America Pipeline owns this infrastructure.

Immediately southwest of the community is a parcel of land managed by the Bureau of Land Management (BLM) Tres Rios Field Office. Parcels of BLM and Colorado State Land Board-managed lands south of the community have been developed as the nationally renowned, "Phil's World" mountain biking area. Plans to extend the mountain biking trails into the BLM parcel adjacent to this community are underway. There are three State Wildlife Areas (SWAs) within the Wildland-Urban Interface (WUI) surrounding this community (defined on pages 14 and 15). These include Totten Reservoir to the southwest and Puett and Summit Reservoirs to the northeast. There is also one conservation easement that is managed for wildlife within the community boundary.

TOPOGRAPHY AND VEGETATION

The CC/SS Community is located in an area of mesas and canyons in the Colorado Plateau physiographic province. Being on the western flanks of the La Plata Mountains and within their orographic effect reduces the aridity here compared with lands to the south and west. This results in dense shrub and woodlands. Two canyons and their associated tributaries cut through the community from the northeast to the southwest. Cash Canyon and its tributaries run through on the west side and Stinking Springs Canyon and a tributary run more gently down the eastern flank (Figure 2).

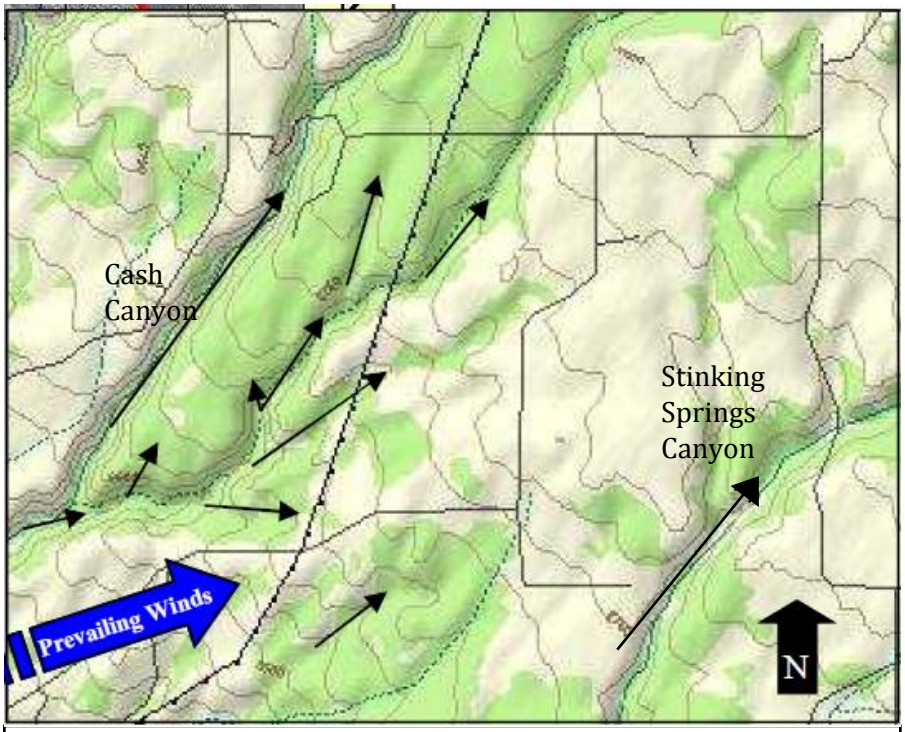


FIGURE 2 – Direction of fire spread depicted in the Montezuma CWPP supplement based on topography and prevailing winds.

Once covered completely by ancient P/J woodland, approximately 40% of the land is now represented by pasture, meadow, and bare soil or rock. About a third of this open land is under irrigation for approximately two months from mid-May through mid-July. The remainder of the area is densely forested in the canyons, on canyon rims, and in drainages and swales. More moderate forest also exists on mesa tops where the land was never cleared for farming. Ground fuels are sparse beneath the P/J woodland on the south-facing finger mesas. Some areas of prehistorically and historically farmed fields have reverted to sagebrush.

The entire plateau, including canyons and mesas, generally slopes to the southwest with most drainages trending in the same general direction. The surface structure of the mesas consists of smaller drainages, ridges, and hills that create localized topography usually less than 100 feet in elevation. The canyon walls represent the greatest relief, with the deepest point being around 300 feet in lower Cash Canyon. The lowest point is at the south end at 6500' in the bottom of Stinking Springs Canyon with the highest point being on a knoll at 7100' in the northeast corner. From low point to high point, the elevation gain is 600 feet in a distance of approximately 4 miles in a south-to-north direction. The width of the community in an east/west direction is around 2.5 miles. Slope ranges from near vertical to flat, although truly flat ground is rare.

Community-level fire mitigation is concentrated on the major drainages that contain dense riparian vegetation on their floors with equally dense sagebrush and P/J on the slopes. In the canyons there is dense Gambel oak, mountain mahogany, serviceberry, chokecherry, cliff Fendler bush, and sumac with piñon pines, Rocky Mountain juniper and a handful of ponderosa pine on the slopes of Cash Canyon.

Away from the drainages, the vegetation becomes less dense. The understory in the uplands includes native and non-native grass and brush with weeds and wild species of flowers, sedges, and forbs.

FIRE BEHAVIOR AND HISTORY

Natural ignitions, accidental human ignitions and fire use by humans are all common in this neighborhood. The area receives an abundance of lightning strikes, often with little or no precipitation. Firefighters and community members often extinguish single tree fires annually during July and August. In 2005, a wildfire along the north rim of Stinking Springs Canyon, accidentally started by a resident, burned 119 acres. The fire was one of the first in Montezuma County that closed roads and forced overnight evacuations.

Slurry bomber used in suppression efforts on the Cash Canyon Fire north of Stinking Springs in 2005. Photo courtesy of Robert Jensen.

Wildfires caused by humans in this ecosystem are usually most destructive from May through the onset of the monsoon rains which usually arrive by late July. The last few years have demonstrated that wildfires can occur in the community any time of the year when fuel and weather conditions align with an ignition source. In October 2012, the Roatcap Fire started by careless fire use, got out of control and burned over 400 acres two canyons to the west of the community. It forced the evacuation of around 30 homes that were directly threatened. The topography and fuel conditions are nearly identical in the CC/SS Community. That fire illustrates the likelihood of rapidly spreading, relatively small fires that threaten homes. In January 2014, a fire was started by a minor just outside the northwestern edge of the community within the WUI. It was able to burn 2 acres in grass and brush including several juniper trees. These November and January fires demonstrate the potential for wildfires to spread from grasslands into the P/J woodland at any time of year.

Fire behavior in P/J woodlands usually results in either a single-tree fire or a running crown fire where the trees are fairly continuous. Ground fires are rare in P/J as these trees are not adapted to withstand frequent fires with lower limbs often at or near ground level. The low-hanging branches and hairy bark of Utah junipers can easily ignite from flame or ember impingement. Pre-settlement P/J woodland existed as a mosaic of forest and meadow areas from older burns. Fire suppression has led to continuously occurring fuels with the contemporary mosaic incorporating roads and historically chained agricultural fields. The *Ips* beetle die off in 2003 has added an element of dead and down wood with over 90% mortality in mature piñon pine trees throughout the forested areas.

DEMOGRAPHICS

PEOPLE

The community consists of 3,204.1 acres of private land with 142 residents, representing a population density of about 1 person for every 22 acres. This includes many working class families and couples that travel out of the community for work as well as agricultural and other business owners whose property

within the community supports their livelihood. A representative sample of the lifestyles and economic profiles living in Montezuma County are represented here.

There are 10 known rental units. Four (4) disabled residents live in the WUI that may require assistance in the event of an emergency evacuation. Thirty-six (36) of the parcels are vacant land. Of the 74 properties with one or more home on them, 6 are currently vacant. Four of the residences are summer homes, and one couple resides here only September through April. Several of the vacant properties and unoccupied homes are for sale. Some of the properties have been in the same family for generations and this trend is expected to continue (Table 1).

TABLE 1 - People, Homes, and Property at Risk (2014)	
Population	
Population	142
Population Density	1 person/22 acres
Disabled Persons and Young Children	4
Total Number of Elderly	22
Total Number of Children	15
Homes and Land	
Properties with 1+ Homes	74 (1923.9 acres)
Occupied Properties, 12 Months	63
Rental Units	10
Trailer Homes	2
Seasonally Occupied Properties	4
Unoccupied Properties (with homes)	6
Vacant Properties	36 (1280.2 acres)
Infrastructure	
Power Transmission Lines	2
Natural Gas Pipelines	1
Businesses	
Organic Farms	1
Farm/Pottery Studio and Gallery	1
Hay Farms	3
Horse Training Farm/Facilities	2
Dog Agility Training Facility	1
Excavation/Construction Businesses	1
Irrigation Associations	2
Irrigated Properties	22
Conservation Easements	1
Cultural Resources	
Archeological Sites	1/10 Acres
Historic Sites	7-10
Wildlife	
Recently Endangered Species	1
Rare and Declining Species	2
Year Round Habitat Large Species	5
Game Species	5

LIVESTOCK AND PETS

Also considered residents of the community, many domesticated animals are distributed throughout the area. The people who live here deem it unacceptable to lose pets and livestock.

A major contributor to subsistence is the dependence upon livestock and other farm animals for food and income. Losing them in a wildfire represents loss of both sustenance and property. Typical animal residents include horses, donkeys, cattle, sheep, goats, chickens, ducks, geese, turkeys, quail, honeybees and the occasional pig.

Hens at Seven Meadows Farm. Photo courtesy of Rusty and Laurie Hall

Former residents of the CC/SS Community. Photo courtesy of Sue Whitehead

WILDLIFE

The wildlife that occupies and migrates through the community is highly valued by most residents. Therefore, consideration for the wildlife and relatively natural habitat are important elements of this community's wildfire preparedness efforts. To protect the forests and canyons in addition to the many homes present, the Mitigation Team will encourage treatment beyond Zone 1 and Zone 2 defensible space utilizing "forest health best practices" that will enrich ecosystem health. The following wildlife discussion is based on the *Garratt Conservation Easement Baseline Report*.

There are two herds of American elk that use the area as winter range for up to three months. Numerous mule deer are present in winter and some remain on a year-round basis representing one of the healthiest herds in Colorado. Black bear use the area in their year-round range, especially in the fall. There is a successful mountain lion den in a fork of Cash Canyon and several flocks of Merriam's wild turkeys occupy the canyons and uplands.

A herd of elk grazing on the Garratt Conservation Easement. Photo courtesy of Julia Garratt.

Many raptor species nest here including the bald eagle, golden eagle, red-tailed hawk, American kestrel, and great-horned owl. Other raptor species utilizing the area are the rare ferruginous hawk, osprey, peregrine falcon, northern harrier, prairie falcon, and flammulated owl.

The area is important habitat for neotropical migratory songbirds whose habitat and numbers are declining in their former ranges. The community regularly attracts three species of hummingbirds from mid-April through mid-September with a fourth appearing in 2013 and 2014. All of the more common bird species find plentiful habitat as well.

Small species and rodents are too numerous to mention them all. Terrestrial wildlife includes: coyote, bobcat, fox, badger, stripped and western spotted skunk, ringtail cat, raccoon, jack rabbit, cottontail rabbit, porcupine, woodrat, pocket gopher, mice, voles, and shrews. Gunnison's prairie dog colonies provide a critical food resource for resident predator species and raptors as well as sport for many farmers and ranchers. Without them, the richness of the local habitat and opportunities for wildlife watching would be diminished.

Reptile species are represented by garter snake, bull snake, striped whipsnake, smooth green snake, sagebrush lizard, plateau lizard, striped whiptail, and short-horned lizard. Amphibians include the rare northern leopard frog, tiger salamander, and other frog species.

CORE PLANNING GROUP AND CWPP TEAM

FORMATION OF THE TEAM

The CC/SS Community first came together in June 2011 to discuss the shared risk for wildfire. The Montezuma County Coordinator for FireWise of Southwest Colorado and the first FireWise Neighborhood Ambassador organized the get-together. One neighbor, who had previously expressed interest in preparedness for wildfire, decided to become a Neighborhood Ambassador after attending the initial meeting of 19 people.

A second meeting held among a handful of homeowners led to applying for funding to treat areas along the canyon rims. This BLM funding was awarded to FireWise of Southwest Colorado on behalf of the community. The two ambassadors planned a third neighborhood meeting to prioritize the proposed treatment areas for using the grant money.

This meeting brought interest from a different set of 10 community members, most of which were not at earlier meetings. One of the new attendees became the third person to express an interest in the development of a CWPP. This included participating in prioritizing the proposed mitigation actions and guiding wildfire preparedness efforts. She became the third ambassador in January of 2012.

This core group of four individuals, with the participation of additional community members at a fourth get-together, initiated the process of creating a survey that would inform the CWPP process. From this meeting, the complete CWPP Team was formed. It contains eight members including the County Coordinator and three Neighborhood Ambassadors.

WORKING GROUPS

The CWPP Team includes a Mitigation Team as well as those responsible for the community database, the CWPP, and emergency planning. The entire group participates in community outreach and education on an ongoing basis.

The Mitigation Team has four members focused solely on mitigation. Mitigation will be an ongoing effort in perpetuity given the huge acreage that has to be managed and the number of fuel breaks recommended in this plan. In addition to community-level fuel breaks, this group is designed to assist homeowners with mitigation efforts whenever requested.

After compiling the suggestions from team and community members during each of the meetings held over a two-year period, the team completed drafts of a mitigation plan and map in 2013 and presented them to the Montezuma County Fire Chiefs at their March meeting. The draft plan was presented at a CWPP Team meeting in the spring of 2013 and approved by the team including the Mitigation Map (Appendix B).

Another team is working on emergency planning and evacuation. Evacuation planning will consider the scattered nature of homes, the needs of disabled residents and the presence of children, gates, fencing, livestock, and pets. This group will focus on relevant community information that will be provided to emergency responders as well as developing better communications that will include buddy systems for

communicating within the community. There is a consensus that allowing any resident to become stranded or to lose everything due to of a lack of communication is unacceptable.

An additional team is dedicated to maintaining the CWPP and community database in perpetuity. This group will complete data entry and maintain updates in the database regarding people, creatures, special needs, the home ignition zone, and equipment available for mitigation work and emergency evacuation. Information is obtained through the community survey including its distribution to new residents.

The ongoing education efforts are focused on improving household-level preparedness by raising the awareness of hazards, reducing the number of human ignitions that have the potential to get out of control, and sharing information about resources that can support the related efforts of residents. The safety of emergency responders is of primary importance and relies upon the preparedness of individual properties and households.

Based upon the recommendation from the first community meeting, an ambassador built a bulletin board in a highly visible location in May of 2012. Here, ambassadors post wildfire information and educational materials and residents are encouraged to share community notices.

Community Message Board. Photo courtesy of Rebecca Samulski

COMMUNITY SURVEYS AND DATABASE

The collection of information and the creation of a database with comprehensive property information constituted the bulk of the work that transpired through the winter of 2012/2013. It was determined that a property owner survey would be the most efficient way to gather all of the information necessary for the creation of a wildfire protection plan. This survey was designed by the core group and presented to the community at a meeting in December 2012.

The surveys were mailed to every landowner in December 2012 and a database was created to contain the survey information at that time. The response from property owners to the survey was about 25%. For the most part, the responders had participated in at least one of the community outreach gatherings. Over the next few months, the remaining 75% of the surveys were filled out by the CWPP Team members via interviews and inspections with the greatest possible accuracy. The surveys were completed by the spring of 2013. To respect privacy, the database shall remain in the hands of the ambassadors as proprietary information used only in mapping, education, and mitigation efforts.

This also provided a baseline for evaluating defensible space and built environment conditions for each property.

This information serves as the basis for the development of an evacuation plan and most importantly, a telephone tree for resident notifications in the case of an emergency. All residents have been

encouraged to sign up for the county's emergency text and e-mail notifications at www.nixle.com. No county-wide reverse-911 system exists at this time.

Once the survey data was collected, it was necessary to verify the accuracy of that data due to the differences in the way the surveys were filled out. This was accomplished through systematic ground verification. Access to homes was defined as "safe," "conditional," or "hazardous" and mapped accordingly. To maintain the integrity of the data contained in the surveys, corrections were made to the database after the ground verification process. Ground verification resulted in the following information:

- Condition and distance to homes for each property access including any risk to emergency responders.
- Location of the building zone and the presence or lack of defensible space including fire hazards (propane tanks, trash or junk, and other known hazards).
- Location of vacant land, rental properties, and property for sale where new residents are likely.
- Addresses of disabled persons requiring assistance in an evacuation.
- Location of fire hydrants, ponds, and other water resources.
- Identification of the need for mitigation along county roads and private accesses.

Once this process was completed, the map for emergency access and response was drafted. It was presented to the Montezuma County Fire Chiefs at a meeting in February 2014. Additional information from the surveys was used to compile community demographics and the recommendations of this plan.

The Emergency Response Map (Appendix A) codes each property according to its individual situation. As stated above, access is coded as safe, conditional, or hazardous. Driveway lengths are included on the map to give responders an idea of the distance to structures. Defensible space and fuels around structures were also considered in defining the safety of each access. The locations of known disabled community members are additionally noted on the map so that assistance can be rendered to these individuals during an emergency.

This map will be distributed to emergency responders when the CWPP is approved and whenever it is updated. A copy will also be contained in a tube located on the Community Bulletin Board with the appropriate signage so that it can be accessed by responders on location. The CWPP Team is responsible for maintaining the currency of this map.

FIRE MITIGATION EFFORTS

The chief objective for fuels reduction is in the P/J woodlands, focused on breaking up the continuity of fuels by removing unhealthy trees, deadfall, and much of the understory. The intent is to reduce the spread and intensity of natural and human-caused wildfires.

Many homeowners have made an effort to create defensible space by removing dead piñon trees from around their homes. Some have also thinned out

2013 shaded fuel break on rim of Cash Canyon. Photo courtesy of Rebecca Samulski

junipers. Still, many homes have nearly continuous trees all the way to the edges of their homes on one or more sides. Limbing has also been a common practice although this has not been the main focus on most properties. Where limbing has been done, there is a notable improvement in sight distance, making the forest easier to navigate on foot. During the growing season many owners keep weeds and grass mowed, but the grass and weeds around other homes and along driveways is often left untouched.

Looking north at power-line fuel break prior to work by SW Conservation Corps on East branch of Cash Canyon and K&M Fuel Management on land between easements. Photo courtesy of Rebecca Samulski

A coordinated effort to enhance fuel breaks along the canyon rims and roadways has been accomplished through a $35,000 grant from BLM Community Assistance funds awarded to FireWise of Southwest Colorado. These funds were designated for landscape-scale projects aimed at keeping fires in the canyons away from homes as well as reinforcing existing fuel breaks created by manmade features including power transmission line easements and roads.

County Road 32.1 also represents a hazardous dead end access for a few residents as well as emergency responders. FireWise Neighborhood Ambassadors contacted property owners within the subdivision to educate them regarding the dangers presented by this single access. There were mixed levels of interest from enthusiasm to 2 households that were opposed to creating a coordinated fuel break. As a result, projects in this subdivision will be concentrated on a section of canyon rim on the main branch of Cash Canyon tying into the Road P fuel break in the canyon bottom. This will provide some protection to the residents along Road 32.1 by retarding a fire from spreading north of Road P through Cash Canyon.

Another high priority area recently treated with the grant funds includes uplands and canyon rims on both sides of the East Fork of Cash Canyon, a very heavily fueled area in direct alignment with the prevailing southwesterly winds. These treatment areas will directly protect 6 homes; numerous secondary structures; and a market farm with on-site owner and employee housing, greenhouses, and livestock.

Aerial view of fuel reduction on East Cash Canyon. Photo courtesy of Rebecca Samulski

A contractor was hired to brush hog the upland areas of each project where the slopes are minimal. Due to other varying conditions, the contractor also did a significant amount of handwork throughout the upland areas removing ladder fuels, burning slash, and lop-and-scattering for erosion control in the drainages. The steep terrain of the

remaining priority areas will require hand thinning. The Southwest Conservation Corps completed two weeks of hand clearing on the Road P fuel break in the spring of 2014 and an additional week was spent by another crew during the fall of 2014. This fuel break was completed during the winter of 2014/2015 tying into the fuel break along the east rim of Cash Canyon.

In the summer of 2013, Neighborhood Ambassadors met with maintenance staff for Tri-State and a Field Maintenance Manager for WAPA regarding the Power Line Fuel Break. As a result, mitigation began along the power lines in February of 2014. A contractor hired by WAPA began brush hogging their 125' easement as part of a coordinated effort to enhance the fuel break made during construction of the transmission lines. Once WAPA mitigation was completed, Tri-State utilized the same contractor to complete a 100' fuel break on their easement in July of 2014 that included work through the East Fork of Cash Canyon. Additional widening of the fuel break through the canyon to approximately 175', conducted by the Southwest Conservation Corps, was completed in November of 2014. The 50' swath of land between the two easements was completed by a contractor during the winter of 2014/2015 to Zone 2 standards. This joint project resulted in a 275' wide fuel break running north/south along the entire power transmission corridor, completing the highest priority fuel break. Regular maintenance of the Power Line Fuel Break will remain a joint effort.

There are additional peninsulas of mitigated land, managed by the BLM, immediately south and west of the CC/SS Community. The upland areas of these BLM parcels were treated with a hydro-axe between 2001 and 2004. However, the canyons were not treated and are still densely vegetated.

As further funds become available, proposals for continuing mitigation will be submitted by the Mitigation Team. If further funds are awarded, fuel breaks along roads will take priority as will thinning by brush hog along high risk canyon rims and uplands where structures are under immediate threat.

ACCOMPLISHMENTS

The following table shows the major milestones that have taken place since the community engaged with FireWise of Southwest Colorado and started community wildfire preparedness efforts.

TABLE 2 – Milestones	
First two FireWise Neighborhood Ambassadors sign up	2011
Third FireWise Neighborhood Ambassador joined	January 2012
Community boundary defined	March 2012
Community bulletin board erected	May 2012
Property owner survey distributed to community	December 2012
CWPP Team formed	December 2012
Database design completed	January 2013
Mitigation map completed	March 2013
Property owner surveys completed	May 2013
Property owner data entered in database	May 2013
Property survey ground verification completed	August 2013
Property access and hazards map completed	September 2013
Formal mitigation projects began	October 2013
Property access, fuels and defensible space data entry completed	January 2014

TABLE 2 – Milestones (Continued)	
Emergency Response Map presented to the Fire Chiefs	February 2014
Power Line Fuel Break completed beneath WAPA line	February 2014
Southwest Conservation Corps Hitch on Road P fuel break began	May 2014
Dept. Natural Resources Grant Award to complete power-line fuel break	May 2014
Draft Mitigation and Emergency Response maps digitized	June 2014
Power Line Fuel Break completed beneath Tri-State line	July 2014
Contract to complete power line and Road P fuel breaks awarded	December 2014
CWPP final draft completed	March 2015

CASH CANYON/ STINKING SPRINGS WILDLAND-URBAN INTERMIX

In order to define where the community boundaries would be, topography and access via county roads were the principal determinants. Additionally, the basis for this decision took into account the recommendations from Montezuma County's CWPP and the distribution of Neighborhood Ambassadors. After a year of community interaction, the boundary was defined and the community had a perimeter.

The Community generally encompasses properties which share the geographic features of Cash and Stinking Springs Canyons, their tributaries, and the upland areas between them. With the community boundary in place and input from the CSFS District Forester and the West Zone Fire Management Officer, agreement was reached on a WUI boundary. The WUI stretches from the intermixed rural homesteads and publicly owned lands along Highway 160 on the south to Highway 184 on the north. Starting at Highway 160, the western boundary follows County Road 29 (Totten Lake Road) north to County Road M turning east onto Road M which becomes County Road 31, then east on County Road R turning north on County Road 32 to Highway 184. The northern boundary follows Highway 184 east to County Road 35.6, south on 35.6 to County Road N jogging west to the next parcel boundary on Road N, then south following two parcel boundaries encompassing the headwaters of McElmo Creek before tying into the corner of County Road M at County Road 34 and finally, south on County Road 34 to Highway 160 which forms the southern boundary of the WUI.

Due to the fact that the prevailing wind direction is out of the southwest aligning with canyon orientation, the CC/SS WUI boundary encompasses more of the area to the southwest and northeast including a reservoir and the headwaters of McElmo Creek, which could be impacted by a fire jumping County Road 33 through Stinking Springs Canyon. The WUI boundary is contiguous with the WUI boundary defined in the Cedar Mesa Ranches CWPP. In addition, the WUI includes two other communities that are actively engaged in wildfire mitigation efforts; Kernan Creek Ranch and Rogue Ranch. Immediately adjacent to the WUI across Highway 184 to the northeast, the self-defined Pine Ridge/Wapiti Rim Community is also actively engaged in wildfire preparedness efforts.

The CC/SS Community recognizes that WUI definition is crucial for getting mitigation work on public lands completed. As mentioned above, large portions of BLM land directly adjacent to this community were already treated from 2001 through 2004. However, many native grasses have filled in and intrusion by slow-growth shrub communities is increasing. Some future canyon treatment projects are suggested for federal lands in this plan, although scattered homes here have as great a risk from the intermixed forest on the private land as from the adjacent public land. For this reason, the greatest threat is considered to be a wildland-urban intermix problem.

WUI MAP

The CC/SS Community is centrally located in Montezuma County between Cortez, Mancos, and Dolores. The identified WUI extends from southwest of the community to northeast of the community, bounded by roads which serve as potential fuel breaks (Figure 3).

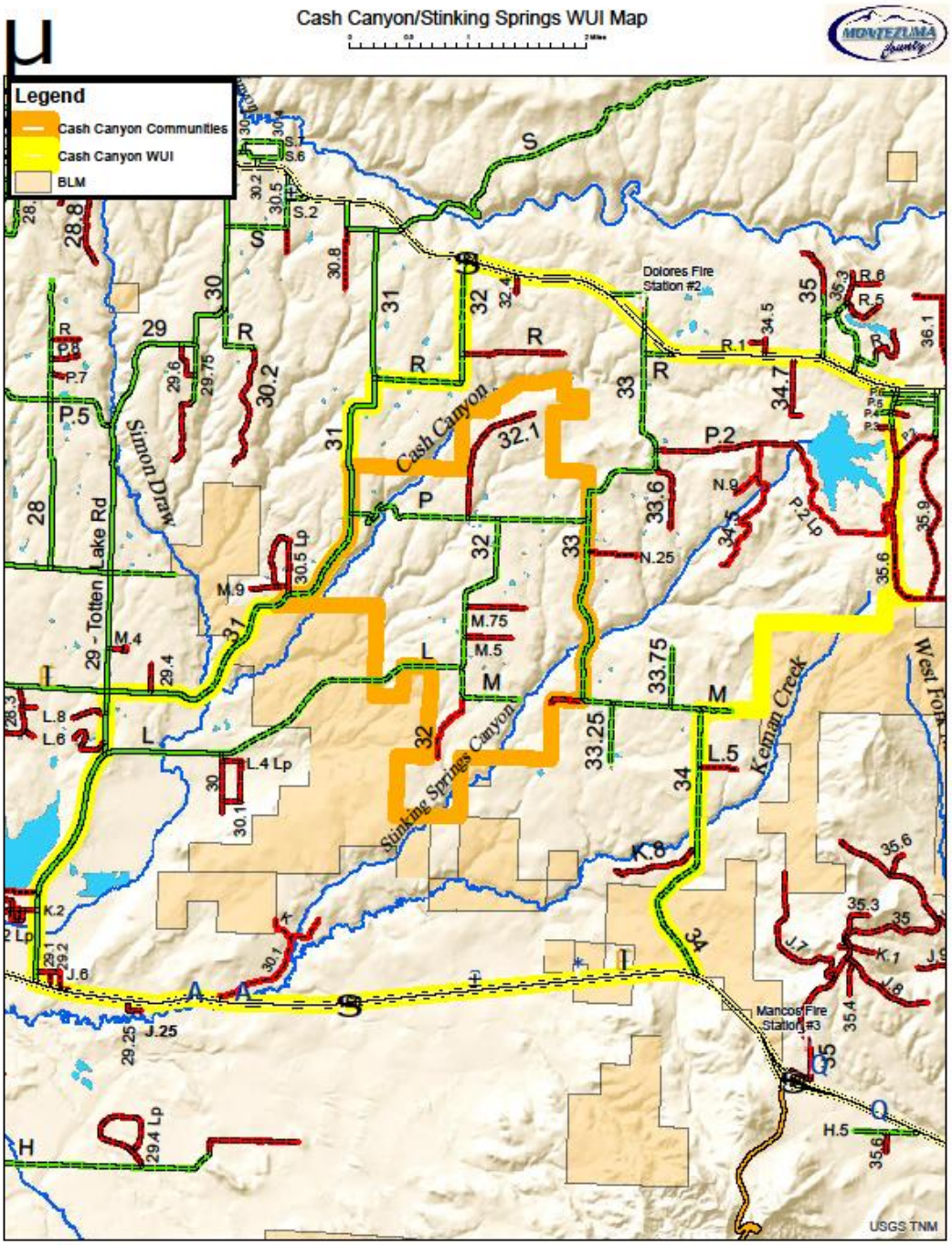


FIGURE 3 - Cash Canyon/ Stinking Springs Community and WUI Boundaries Map

FIRE PROTECTION RESOURCES

JURISDICTIONS

The CC/SS Community includes properties within three Fire Protection Districts as depicted in Appendix A, with the majority of the parcels being served by the Cortez Fire Protection District. Some properties on the east side are within the boundaries of the Mancos Fire Protection District and several northeastern, far western, and properties accessed by Road 32.1 are located within the Dolores Fire Protection District. These districts operate under mutual aid agreements and the CC/SS Community is within the response zone of all three districts.

Typically, the first jurisdiction arriving on scene takes command of a fire on private lands. All three jurisdictions use the National Incident Management System, an easily scalable command system for managing any emergency regardless of the cause, size, location, or complexity.

FIRE PROTECTION DISTRICT CAPABILITIES

Fires or smoke reports from residents who live in the Mancos or Dolores fire districts are likely to be routed to those districts which represent all volunteer departments. The time it takes for volunteers to report to a fire station and mobilize to a call increases the response time from these districts. Cortez Fire Protection District has six firefighters on duty around the clock at Fire Station 1, reducing their response time and increasing the likelihood that they will be first on the scene.

All three departments are well equipped with at least one brush truck, bulldozers, ATVs, and foam retardant equipment with cooperative agreements for access to other wildland fire suppression resources. Fire district personnel have been primarily trained for structure fires and medical emergencies. Over the last several years, local districts have made significant progress towards training local personnel to National Wildfire Coordinating Group Standards. However, there has been limited training by these fire districts specific to a WUI fire response.

Mesa Verde National Park staffs a fire lookout tower during the summer months which can spot and accurately locate fire starts. The view from this lookout tower for the CC/SS WUI is optimal. However, when there is heavy smoke settled in the area from any local or regional fire source, the reduced visibility limits fire-spotting capabilities.

FEDERAL WILDLAND FIREFIGHTING RESOURCES

In addition to the three fire districts, BLM-managed lands south and west of the community provide the potential for the BLM to assist with wildfire management within the WUI. Although there is some annual fluctuation in resources available from federal agencies, resources are on hand to manage, monitor, or suppress wildfire starts within their boundaries. If local resources are not sufficient to manage wildfire starts, additional resources may be requested through the Durango Interagency Dispatch Center. During the fire season, “severity resources” are often available to supplement locally-stationed resources.

STATE OF COLORADO FIREFIGHTING RESOURCES

The Colorado Division of Fire Prevention and Control (DFPC) employs a Regional Fire Management Officer based in Bayfield. The State of Colorado may assist the county and assume management of a fire that exceeds the owning jurisdiction's capability to control. The state also supports local fire protection efforts through various programs including the Volunteer Fire Assistance (VFA) grant, the Federal Excess Property Program (FEPP), and the Wildfire Emergency Response Fund (WERF).

The state also oversees many aerial firefighting resources. In December of 2014, the DFPC began operating 2 multi-mission PC -12 aircraft which are designed for wildfire detection and intelligence. They are state resources with a priority of helping fire managers in Colorado to detect fires and provide real-time intelligence about the fires they are managing. Additional details on air support resources follow.

DISPATCH

Initial calls for local fire districts are routed through the Cortez Dispatch Center which operates full time. When 911 calls exceed the capacity of Cortez Dispatch, emergency calls automatically roll over to the Durango Interagency Dispatch Center. Any calls pertaining to public lands are funneled through the Durango Interagency Dispatch Center located at the San Juan Public Lands Office, a sub-geographical coordination center that has direct links to the Rocky Mountain Geographic Coordination Center in Denver and the National Interagency Coordination Center in Boise, Idaho. This full time centralized dispatch capability in Durango ensures that fire response is quick and effective. The United States Forest Service (USFS), BLM, Bureau of Indian Affairs (BIA), and National Park Service (NPS) each contribute staff and resources to operate the Durango facility. Any air resource requests go through this dispatch center, which has an excellent history for communications and the coordination of regional fires.

AIR SUPPORT

An air tanker base is located at the Durango-La Plata County Airport that generally has at least one tanker stationed there during fire season. Single engine air tankers are available but may be temporarily out of the region supporting suppression in other areas. Larger air tankers are national resources, only located at the Durango-La Plata base only when local conditions are at their most severe. There is another single engine air tanker base at the Cortez Airport with a tanker available when local conditions are extreme or severe. When present, the Cortez resource does significantly reduce the turnaround time for multiple tanker drops in the CC/SS Community when aerial resources are utilized.

Two helitack bases are located regionally. The NPS maintains the Mesa Verde Helitack Base located at Fort Lewis south of Hesperus and the BIA has a Helitack Base on the Ute Mountain Reservation in Towaoc. Type II and Type III helicopters are stationed at these bases during the summer and may be deployed to provide initial attack bucket drops for CC/SS fire starts. During monsoon season, aerial reconnaissance flights are conducted once or twice daily for locating fire starts.

The DFPC also operates two PC-12 multi-mission aircraft to improve state detection and intelligence on wildland fires.

WATER RESOURCES

HYDRANTS AND TENDERS

The CC/SS Community is served by Montezuma Water Company which provides the domestic water system. These pipelines are not considered suitable for providing adequate flow for fire suppression even though there are nine bright red fire hydrants located within the community. These function primarily as water line flush outlets. Table 3 indicates fire hydrant locations and flow rates. In the past, there have been instances in other parts of the county where water lines have collapsed when fire flow has been drafted from them. In other cases, drafting has caused serious interruptions to the downstream water supply. Drafting can potentially create backflow contamination in the entire water system posing a health threat for hundreds or thousands of residents. To avoid these potential problems, the local Fire Protection Districts typically use water tenders for structure protection and initial attack situations. It should be noted that domestic water was quickly depleted during the Cash Canyon Fire when residents turned on sprinklers and hoses.

TABLE 3 - Fire Hydrant locations		Flow Rate
Roads 31 and 30.5	South side of intersection	58.5 gpm
Roads 31 and P	NE corner of intersection	148.5 gpm
Roads 32.1 and P	SW side of intersection	63 gpm
Road 32.1, 1.5 miles north of P	West side of road	unavailable
Roads 32 and P	SW corner of intersection	148.5 gpm
Road P	.4 miles east of Road 32 intersection	112.5 gpm
Roads P and 33	NE corner of intersection	524 gpm
Roads 33 and M (east side)	NW corner of intersection	144 gpm
Road M (west side) at Stinking Springs Canyon	North side of road at dead end	25 gpm

WATER RESOURCES WITHIN THE COMMUNITY

Two state reservoirs are within the WUI including Totten and Puett Reservoirs. Summit Reservoir is just beyond the WUI boundary to the east. In addition, the Camp Ditch holding pond at the northeastern corner of the community and Grimes Reservoir at the end of Road 32.1 are potentially available when filled. There are many irrigation ponds that are usually full during the height of fire season if irrigation water is present. Access to Grimes Reservoir on the ground may be cut off during a wildfire due to the presence of dense fuels along Road 32.1. Mitigation along the road and around the dam may make ground access to this resource more viable for fire suppression in the future. Ponds are shown in Appendix A and all other resources potentially available outlined in Tables 4, 5, and 6.

In order to manage these complex water resources, the community will designate one or more water resources liaisons. When possible, they will respond to the incident command post to share knowledge of the local water resources. In addition, they will ensure that available reimbursement is distributed to those whose water has been used during a fire response.

SURFACE WATER AVAILABILITY

Table 4 shows locations and volumes for the largest surface water resources that are considered to be the most reliable. Latitude/longitude figures represent the center point in the water body. Maximum capacities are listed. It should be noted that in 2014, available resources were just above half of their capacity.

TABLE 4 - Reliable Surface Water

Source	Address/Access	Ownership	Maximum Capacity acre feet or gpm	Available months	Latitude N Longitude W
Totten Reservoir	Road 29	Dolores Water Conservancy District	2990 acre feet	12	37° 21.869' 108° 31.887'
Summit Reservoir	Highway 184	Summit Irrigation	4284 acre feet	12	37° 24.986' 108° 23.013'
Puett Reservoir	Road 33	Summit Irrigation	2285 acre feet	12	37° 25.015' 108° 24.362'
Grimes Reservoir (North)	14445 Road 32.1	Donna Alsdurf c/o Mark and Sunny Williams at 31799 Road P	Non-decreed	12	37° 25.526' 108° 26.992'
Camp Ditch Holding Pond	32767 Road P	Camp Ditch Pipeline Association	< 5 acre feet	12	37° 24.854' 108° 26.995'
Camp Ditch at Road 33 Available for Pumper only	Road 33	Camp Ditch Pipeline Association	1640 gpm	May - July	37° 25.118' 108° 26.115'

IRRIGATION WATER

Within the Camp Ditch system, those with irrigation water typically fill their ponds at the beginning of irrigation season around mid-May. Evaporation starts reducing the available water in ponds once irrigation water is turned off usually in early to mid-July. Peak availability from ponds, side rolls, and sprinklers coincides with the pre-monsoon fire season from mid-May through mid-July. Most ponds retain some water all year due to a fall pond run in early to mid-October, which typically lasts three days when water is also available in the ditch. Historically, Summit Irrigation water has been available from mid-May through mid-August with an average of about 90 days. However, local drought conditions have shortened the length of the irrigation season and in one case (2002), no water was available. Average flow per share in the Summit Irrigation system is 1/12 cubic feet per second or 37.3 gallons per minute (gpm). The total capacity for the Camp Ditch system is 44 shares distributed to 21 owners.

The Withers pipeline feeds the northwest corner of the community with the capacity of 60 shares. Only two properties using this pipeline are within the community boundaries. The property at 31699 Road P has a private irrigation system overseen by the State Division of Water Resources from Grimes Reservoir at the end of Road 32.1 that is designed to hold 75 acre feet. Water available from this resource is unreliable. This makes a total of 24 property owners with access to irrigation water.

The following tables indicate the availability of irrigation water during the May through August time frame. Table 5 lists the most reliable sources from ponds. Table 6 lists water available in irrigation pipelines. Irrigated fields normally have side rolls running and with wet fields and a fire will have more difficulty spreading within them. It may be possible to draw water from irrigation systems for use in fire suppression. There is one known cistern that may contain a residual amount of water at the intersection of County Roads 32 and P.

With an exception in the far northwest corner, all irrigation water is delivered via the Camp Ditch. While the ditch is running, water is available for pumping into tankers. Otherwise, irrigation water available in pipelines is located at individual intake valves and from sprinklers and side rolls. Ponds are filled either deliberately by the owner or by default from irrigation system overflow affecting all branches of Cash Canyon and the West Fork of Stinking Springs Canyon. All private ponds are less than 3 acre feet and will provide only minimal, albeit expedient water for fire suppression. The ponds listed in Table 5 are those that have been filled in recent years.

TABLE 5 - Irrigation Pond Surface Water (direct or indirect delivery)		
Address	Number of Shares	Pond Location
13500 Road 31	1	37° 24.473' N 108° 28.815' W
13990 Road 31	4.5	37° 24.661' N 108° 28.653' W
12200 Road 32	1	37° 23.388' N 108° 27.414' W
12603 Road 32	2	37° 23.722' N 108° 27.975' W
12633 Road 32	1	37° 23.798' N 108° 28.141' W
13221 Road 32	4	37° 24.276' N 108° 27.555' W
32112 Road M.5	1	37° 23.467' N 108° 27.710' W
32229 Road P, South	1.5	37° 24.508' N 108° 27.739' W
32229 Road P, North	1.5	37° 24.652' N 108° 27.614' W
TBD Road P	Runoff	37° 24.666' N 108° 26.995' W

During most of the irrigation season, a minimum of approximately 30 gpm and a maximum of 50 gpm will be available for each share of irrigation water. An average of 37.3 gpm can be used to calculate the water available from individual systems. Note that these figures represent the capacity not the actual shares running in the ditch for any given year. Locations for intake valves in Table 6 are approximate and stated in latitude and longitude by address.

TABLE 6 - Irrigation Pipeline Intake Locations			
Address	Number of Shares	Location of Intake	Delivery System
13500 Road 31	1 Withers Pipeline	37° 24.482' N 108° 28.808' W	Sprinklers
13990 Road 31	4.5 Withers Pipeline	37° 24.822' N 108° 28.723' W	Side roll
12200 Road 32	1	37° 23.435' N 108° 27.544' W	Sprinklers
12235 Road 32	1	37° 23.447' N 108° 27.795' W	Sprinklers
12341 Road 32	.5	37° 32.558' N 108° 27.795' W	Sprinklers
12600 Road 32	4	37° 23.907' N 108° 27.577' W	Side roll Stand pipes
12603 Road 32	2	37° 23.775' N 108° 27.800' W	Side roll
12633 Road 32	1	37° 23.775' N 108° 27.800' W	Sprinklers
12840 Road 32	2	37° 23.954' N 108° 27 544' W	Side roll
12930 Road 32	1.5	37° 24.039' N 108° 27.356' W	Not in use
13136 Road 32	5.5	37° 24.455' N 108° 27.290' W	Side roll
13221 Road 32	4	37° 24.297' N 108° 27.511' W	Side roll
13480 Road 32	.5	37° 24.464' N 108° 27.485' W	Pond only
31799 Road P (intake accessed from 32.1)	75 acre feet	37° 41.405' N 108° 46.294' W	Dam and ditch
32114 Road M	3	37° 23.159' N 108° 27.611' W	Sprinklers
32323 Road M	1	37 23.356' N 108 27.566' W	Sprinklers
32471 Road M	1	37° 23.500' N 108° 27.216' W	Sprinklers
32112 Road M.5	1	37° 23.611' N 108° 27.625' W	Sprinklers
32392 Road M.5	5	37° 23.608' N 108° 27.452' W	Side rolls
32280 Road M.75	1.5	37° 23.954' N 108° 27 535' W	Sprinklers
32288 Road M.75	1	37° 23.907' N 108° 27.565' W	Sprinklers
32122 Road P	1	37° 24.490' N 108° 27.647' W	Sprinklers
32229 Road P	1.5	37° 24.490' N 108° 27.647' W	Sprinklers

FIRE PROTECTION POLICIES AND PROGRAMS

AUTHORITY

The CC/SS CWPP has been developed under the authority of the Healthy Forests Restoration Act of 2003 (HFRA) passed by the United States Congress in November and signed into law by the President in December. This legislation established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation directs the Departments of Interior and Agriculture to address local community priorities in fuel reduction treatments on both federal and non-federal land.

HFRA emphasizes the need for federal agencies to collaborate with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by communities themselves through the development of a CWPP. Priority locations include the WUI, municipal watersheds, areas impacted by wind driven embers, insect or disease epidemics, and critical wildlife habitat that would be negatively impacted by a catastrophic wildfire. In compliance with HFRA, a CWPP requires agreement among local government agencies, fire departments, and the state agency responsible for forest management - in Colorado, the CSFS. The CWPP must also be developed in consultation with interested parties and the applicable federal agency managing the public lands surrounding at-risk communities.

CWPPs are authorized and defined in Title 1 of HFRA which places renewed emphasis on wildfire protection planning by providing benefits for communities with a CWPP in place. Critical among these benefits is establishing a definition and boundary for the WUI and defining fuels treatment priorities. Federal agencies are currently directed to spend some portion of their fuel hazard reduction dollars on defined WUI projects for communities.

As defined in HFRA, the CWPP process brings together local interests to discuss mutual concerns for public safety, community sustainability, and natural resources. According to Colorado Senate Bill 09-001 and HFRA, there are minimum requirements that must be met for a CWPP's approval (CSFS-2009, *CWPP Minimum Standards).* The process involved in plan development offers a positive, solution-oriented environment in which to address challenges including local firefighting resources, the need for defensible space around homes, fuels reduction within the community, and where and how to prioritize mitigation efforts. This CWPP tiers to both county and regional land management plans as well as the Montezuma County Wildfire Protection Plan and provides strategic and tactical direction specific to wildfire protection and mitigation within the community and WUI. A CWPP also empowers communities to work toward the three goals of the National Cohesive Wildland Fire Strategy: restore and maintain resilient landscapes; create fire adapted communities; and have safe and effective wildfire response. By outlining the community values and steps that the community and responders can take to improve wildfire readiness and response, a landscape may become more resilient to wildfires.

MONTEZUMA COUNTY WILDFIRE PROTECTION PLAN AND COUNTY POLICIES

Montezuma County's Wildfire Protection Plan was adopted in 2006 and updated in 2012. The CC/SS CWPP is consistent with the goals and strategies described within the county's CWPP and provides further strategic and tactical direction specific to wildfire protection and mitigation efforts for this community.

Existing county policies associated with the county plan directly impacting CC/SS residents include subdivision regulations and proposed changes to prescribed burn regulations. Montezuma County requires that a new development must submit a fire mitigation plan and complete the recommended actions of the plan prior to final plat approval. With many large undeveloped properties in CC/SS, residents of any new developments within the community will benefit from the county's requirements. A county ordinance currently requires that dispatch receives a notification for open burning with the goal of promoting wise fire use. Many CC/SS residents regularly conduct outdoor burns and most residents use good judgment regarding their open burn choices.

FIREWISE OF SOUTHWEST COLORADO

FireWise supports the volunteer Neighborhood Ambassador Program which educates and supports local residents in high risk communities. The CC/SS Community currently has three Neighborhood Ambassadors who spearhead wildfire preparedness education, planning, and mitigation efforts. The Montezuma County Coordinator is a property owner within the community and participates directly in outreach efforts and preparedness activities.

FireWise offers many educational resources and partners closely with the CSFS to disseminate material on "forestry best management practices" and has supported the development of this plan. FireWise has been instrumental in obtaining grants for fuels reductions work within the CC/SS Community as well as hosting workshops for the community including coordinated site visits by the CSFS District Forester and BLM Fire Mitigation Specialists. They have given input to the development of this CWPP including exploring and reviewing options for mitigation projects.

The County Coordinator also made the initial outreach efforts to Tri-State and WAPA in conjunction with the Mitigation Team and pursued the completion of the Power Line Fuel Break. FireWise intends to provide the Neighborhood Ambassadors and their working teams with ongoing support in the effort to implement this plan and become a more fire adapted community.

ENVIRONMENT

CLIMATE AND TOPOGRAPHY

The CC/SS Community lies within the high-elevation semi-arid climatic zone with average annual precipitation of approximately 15 inches. Aspect, landform, slope, and elevation allow for a fairly significant change in snowpack, wind, and influences from winter storms between the southern regions of the community at lower, southwesterly-sloping elevations and the mid- and upper-level ridges and knolls above 6800 feet.

Annual mean temperature continues to increase in a linear fashion over time. Drought cycles occur in patterns that do not lend themselves easily to prediction. In general, two weather patterns influence moisture in a given year, El Niño and La Niña.

La Niña patterns tend to bring minimal moisture to the area while an El Niño pattern provides the most moisture. The recent La Niña period from 2008 to 2012, resulted in a snowpack in the mid and upper regions of the community that remained on the ground from two to four months. In 2007/2008, snow was on the ground for nearly 5 months in parts of the CC/SS Community but there was minimal monsoonal moisture during the late summer months of 2008. The ENSO neutral pattern (Figure 4) in 2013 and 2014 resulted in dryer than average years in Montezuma County, a condition that has occurred historically more often than not in southwestern Colorado. The persistent below-average precipitation and above-average temperatures are impacting forest health including very low live fuel moisture recoveries and a visible increase in tree mortality, most notably in Utah junipers. Since the die off in 2003, piñons occur primarily as saplings with a few mature trees remaining in major drainages.

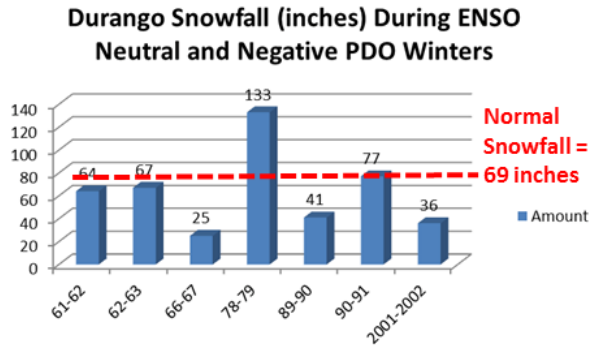


Figure 4 – Snowfall during ENSO neutral and negative years. USFS presentation on "Southwest Colorado Fire Season 2012", courtesy of Scott McDermid.

Dryer conditions generally mean more dry lightning strikes at the beginning of monsoon season and additional time for fires to smolder and ignite between storms. Table 7 indicates climatic averages tabulated from the most recent data available.

TABLE 7 - Climate and Topography	
Climate	High-elevation semi-arid
Elevation	6500 – 7100 feet above sea level
Landform(s)	Plateau (mesas, canyons, gentle ridges, valleys)
Aspect	Southwest
Slope	Flat (0%) – vertical (100%)
Average slope	2.4 % (600' elevation increase in 4.6 miles n/s)
Average annual precipitation	15 inches
Average annual minimum temperature	32 degrees Fahrenheit
Average annual maximum temperature	62 degrees Fahrenheit
Average winter snowfall	47 inches
Average depth of snowpack	4 inches
Duration of snowpack	2 - 4 months
Local orographic effect	La Plata Mountains
Drainage wind pattern	Easterly from La Plata Mountains
Prevailing wind pattern	Southwesterly
Winter storm pattern	Northwesterly
Windiest month	April
Vegetation	P/J woodlands, meadows and shrublands
Significant drainages	2 - Cash Canyon, Stinking Springs Canyon
Number of significant tributaries	3 (2/Cash, 1/Stinking Springs)

VEGETATION

OPEN AREAS: IRRIGATED, DRYLAND, AND ABANDONED FIELDS

Dryland farming has been successful in the CC/SS Community due to the clay content of the local soils on the uplands, holding moisture at shallow depths for long periods of time. There are multiple soil units within the community comprised of sandy and clay-loam complexes in uplands and Mancos Shale at lower elevations. Localized areas of land cleared for farming occur on the mesa and ridge tops, many of which were chained in the early 1900s and historic juniper posts still line the fields and properties as fencing.

Agriculture has been practiced in CC/SS for at least 1,200 years. Prehistoric and historic farming, localized drought, and erosion caused by overgrazing have steadily dropped the water table resulting in some dense areas of brush. Healthier areas of open, historic farmland - irrigated since the late 1970's, only represent about 12% of the 3200 acres. About twice as much open land consists of dryland and riparian meadows, sandstone outcroppings (Dakota and Burro Canyon Formations), bare soil (Mancos Shale,) and disturbed ground with weeds.

The livelihood of some residents depends upon large pastures and fields growing primarily hay and alfalfa. Many more residents maintain vegetable gardens and there are a few small orchards. One organic farm has greenhouses, an orchard, and large market garden vegetable plots.

The irrigated farm fields have reduced the continuity of fuels in much of the upland areas. Fields that are farmed for hay are regularly cut so grass fires in them are not as likely. Near homes, many residents

keep their yard and orchard areas mowed or grazed during the growing season. As a result, these open areas can slow the spread of a wildfire and serve as potential safe zones.

Some residents have chosen to convert their previously farmed land into native open meadows and shrub lands. These include properties with irrigation that use the water for wetlands, ponds, lawns, and gardens. Upland meadows consist of native and non-native drought-tolerant grasses and native wildflowers.

There are nearly as many abandoned, dry fields as there are irrigated, agricultural or reclaimed fields. By the end of May, the abandoned fields are typically thick with dry grasses and weeds including thistle, mustard, knapweed, bindweed, knotweed, pigweed, and cheat grass. Community fuel reduction areas minimally address these abandoned fields through mowing or chemical weed treatments. Reclamation of the abandoned fields will require a significant, ongoing investment by the property owners. Most of these fields are near county roads where the fuel loads are likely to respond to fire suppression actions such as soaking, dozing, or slurry drops. However, the fire risk posed by these fields will not be ignored as fire can spread very quickly through these fine, dry fuels.

RIPARIAN MEADOW

Canyons and tributary drainages are rich in riparian species and provide both forage and travel corridors for big game species of wildlife. Rushes, grasses, thistles, alkali muhly, bulrush, cattail and other riparian species typify the riparian meadows. Many stock ponds have been created in swales and drainages and once abandoned, have reverted to cattail stands. Cash Canyon has a permanent stream with a low flow most of the year and a higher flow during runoff and irrigation seasons. Tributaries are perennial and there are intermittent springs throughout these drainages due to layers of sandstone and impermeable shale bedrock. Aside from invasive grasses and weeds, larger invasive Russian olive, tamarisk, and Chinese elm occur occasionally. There are several stands of cottonwoods and many other isolated or sparse trees, although the trees in the riparian meadows are dying out. Fremont and narrow-leaf cottonwoods occur in drainages and on irrigated uplands especially around ponds. Most have been planted historically with some planted more recently.

SHRUBLANDS

There are two types of shrublands, one in drainages and the other on ridges and mesas. Upper shrublands are three to six feet in height at the canopy and consist largely of big sagebrush and rabbitbrush with some three-leaf sumac, four-wing saltbush, scrub oak, and cliff Fendler bush. The historic extent of these shrublands is uncertain, but it is believed that they are more extensive now than prior to European settlement.

Invasive species of ladder fuels do occur in the drainages as do native species. Bulrush and cattails, with taller canopies of sagebrush, rabbitbrush, willow, and salt cedar occupy flat drainage bottoms along with stands of Gambel oak that are up to 60 feet in stature. Drainages and talus slopes in canyons also contain dense stands of scrub oak. Fire suppression has contributed to the expansive stands of dense vegetation in the entire area. The complex of shrubs, especially on northern aspects of canyon slopes, makes for the highest potential fire intensity and spread in this environment. Due to the combustible nature of canyon shrubs, mitigation efforts will concentrate on canyon rims to keep fires from spreading

to the mesa tops where homes are concentrated. Strategically placed, cross-canyon fuel breaks have also been given a high priority given their potential to limit a fire run in a canyon.

PIÑON/JUNIPER WOODLAND

Few mature piñon pines now reside in P/J woodlands due to the *Ips* beetle epidemic in 2002/2003 when up to 95% of this species was lost. A few large trees that survived persist in wetter areas and saplings are beginning to return throughout the wooded areas. Long-lived Utah and Rocky Mountain junipers complete the woodland with Utah juniper predominating in the uplands and Rocky Mountain juniper in the canyons and their tributaries. Drier upland woodlands are being replaced by shrublands where the water table has dropped. Canyon slopes with a northern aspect have dense Gambel oak and other native underbrush. Ponderosa pines and cottonwoods are scattered in the canyon bottoms in the upper reaches of the drainages.

P/J woodlands with piñon skeletons and a sapling in the foreground. Photo courtesy of Tom Getts

South-facing canyon slopes and wooded uplands have a more open canopy with an understory of sparse grasses, forbs, and other ladder fuels. The continuity of upland forest fuels has been heavily impacted by the piñon die-off. In most areas where dead trees have not been removed by landowners, skeletons litter the landscape and contribute to the density of ladder fuels between junipers. Sapling regeneration is most vibrant in the shade of remaining trees, also causing a ladder effect. On shadier aspects, upland woodlands typically have an understory of big sagebrush, black sagebrush, rabbitbrush, Utah serviceberry, snowberry, cliff Fendler bush, scrub oak, three-leaf sumac, dwarf rabbitbrush, and broom snakeweed. Grasses and forbs that are prevalent in meadows also occur.

LAND USE AND DISTRIBUTION

P/J woodlands, shrublands, meadows, bare soil or bedrock, and disturbed areas with buildings and yards make up the principal types of land distribution within the community. Of the 3,204 acres, 56% constitutes P/J woodland, 40% is open country, and the other 4% contains buildings and the disturbed areas around them.

Estimated percentages illustrating the types of land utilization and distribution appear in Table 8 as a percentage of total acreage. Since there is overlap among categories, these percentages do not equate to 100%. Appendix E also demonstrates the variety of vegetation and cover types. Roads and ponds are included within these categories and are not accounted for separately.

TABLE 8 - Land Use Distribution	
Canyon/Valley	13%
Cash Canyon	3%
East Fork Cash Canyon	2.7%
East, East Fork Cash Canyon	1%
Stinking Springs Canyon	4%
West Fork Stinking Springs Canyon	2.5%
Grazing	7%
Restored for wildlife	4%
Power line and Gas pipeline easements	4%
P/J Woodlands	56%
Shrublands, meadows, bare soil, bedrock	28%
Irrigated fields	12%
Building areas and yards	4%

Canyons and major drainages make up a little more than 13% of the total acreage. Rarely used by landowners, these constitute the main wildlife corridors where large game species travel as residents and during migrations. Wildlife use the uplands for grazing and foraging and for crossing between corridors.

Of the 40% of open country, only 12% is actually irrigated and used for farming, grazing, or both. Four percent has been restored as wildlife habitat where fields had previously been. The easements for the power transmission lines and gas pipelines also represent unutilized surface area, representing about 4% of the community.

Combining farmed and irrigated land along with buildings, corrals, farmyards, and yards, only 16% of the land is regularly maintained by residents. The remaining 84% remains as relatively natural habitat.

WILDFIRE RISK ASSESSMENT

As wildfires become larger and more frequent across the nation, there is heightened concern for the impact on people. In a dispersed community where an abundance of plant and animal species thrive, the natural environment represents a significant value at risk in the CC/SS Community. There is also increased fire threat from historic and ongoing fire suppression that has allowed fuels to build over time creating a matchstick effect in an area with significant dead fall, low live fuel moistures that have existed for over a decade, and increased human activity with the accompanying undesirable ignitions.

In addition to homes and lives, there are critical wildlife habitats, migration corridors, watersheds, prehistoric and historic cultural sites, utilities infrastructure, and county roads that could be devastated by wildfires (Table 1). Wildfire risk varies depending upon the time of year and irrigated agricultural operations. Fire behavior depends upon the available fuels, topography, and weather. The height of fire season in southwest Colorado occurs from May through July coinciding with a time when 12% of the community is irrigated. However, as recent fires have shown, wildfires can occur at any time of year.

FIRE MODELING

Fire models for a red flag day indicate that a fire starting anywhere south or west of the community has the potential to spread throughout the area in a matter of hours according to the Southwest District BLM Fire Management Specialist. Figure 5 illustrates this behavior.

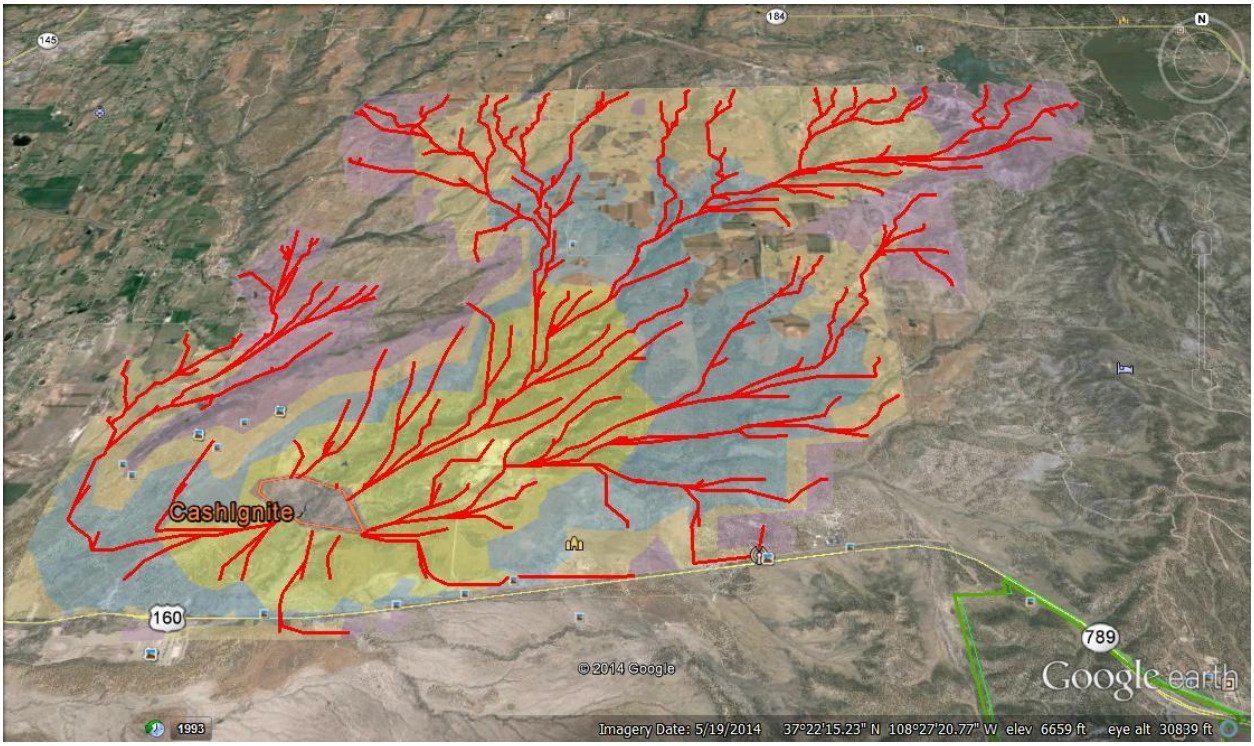


FIGURE 5 - This fuel modeling shows how an ignition near road 30.1 and Highway 160 could spread over 5 hours on a red flag day. The red lines mark the major paths of the fire.

In this growth model, agricultural areas are considered to be unburnable. The areas that are irrigated will resist ignition, but any cured fields at the time of a fire will burn quickly. Also depicted as areas

where fire wouldn't spread are two areas where the BLM has completed fuel treatments within the P/J woodland. Mitigation was limited to the mesa tops while the modeling included the entire areas as treated, meaning that canyons and drainages could still carry a wildfire (Appendix B). The model does not include fuel reduction done on private lands, the Power Line Fuel Break, or other individual and community fuel reduction projects.

IGNITION SOURCES

On private lands in Montezuma County, about half of the wildfires are caused by humans with the other half resulting from dry lightning strikes. On public lands, there are about four times as many lightning strike ignitions as human ignitions. On both public and private land, the human- caused fires tend to be larger than fires started by lightning.

While there have been several large fires in Mesa Verde National Park and the Ute Mountain Reservation that were started by lightning, no large fires have developed on private land. Quick reporting and resident suppression has kept lightning strike fires from spreading since the Cash Canyon Fire in 2005. Fire scars within the community do indicate where lightning-caused fires have spread historically. And every year, several single-tree fires are extinguished by residents and fire departments.

Lightning strikes near the transmission lines. Photo courtesy of Joseph Samulski

Typical causes for human ignitions include welding sparks, juvenile experimentation with fire, tossed cigarette butts, open burning to dispose of slash or trash, agricultural ditch or field burning, damaged power line and vehicle exhaust sparking, and vehicles dragging chains. The CC/SS Community is most concerned with human-caused fires, which often start when the burning index is at its highest. Given the wide variety of land use, there are some areas that are more likely to be points of human ignition than others, especially along the roads and near homes.

The county now requires residents to call dispatch before starting open burns and most seem to be following the ordinance. Additional outreach has led to a de facto neighborhood watch. Residents conducting controlled burns or operating heavy equipment have received calls from dispatch and been checked on directly by neighbors. Since the 2012 Roatcap Fire, started by an open burn, damaged nearly 400 acres that were visible from the community during the event, residents are now more determined to keep their neighborhood from being next. There is a proposal to expand recreational mountain bike trails on BLM lands that intersect the community, which may increase the potential for human ignition sources.

Residents burning slash in the Cash Canyon Road P fuel break in December 2015. Photo courtesy of Stormy Fuller

WUI INTERFACE

In the P/J woodland/urban intermix, the primary concern is for wind-driven fires. As mentioned, the BLM has completed mitigation on a large portion of the land in a critical area of widespread P/J, greatly reducing the continuity of fuels to the southwest. However, since BLM land within Cash Canyon was not mitigated due to difficult access including some of the finger mesas and tributary drainages, high fire danger still exists. The upland treatments have already proven their worth and provided a model for effective treatment methods used in this forest environment.

Cash Canyon fuels treatment units slowed the spread of the Cash Canyon Fire in 2005, reducing severe fire behavior and spot fire starts to private land contiguous with the treatment area. Photo courtesy of Tres Rios Field Office, BLM

Trash and treasures in the neighborhood add significantly to the fuel load and ignition potential for some homes within the CC/SS Community. This photo shows a canyon dumping site just off County Road P. Photo courtesy of Stormy Fuller

HOMEOWNER RESPONSIBILITIES

Many landowners have completed exemplary thinning for forest health and defensible space around homes, but many parts of the CC/SS Community still exhibit extensive risk to accesses and structures. Community fuel breaks on private and public lands are not considered to be a substitute for management within the home ignition zone. Relevant to this CWPP, studies have shown that most homes burn down from embers igniting receptive fuels on or near structures during a wildfire.

It is highly recommended that all homes have a defensible space where trees and brush have been thinned to reduce fire intensity near the home, but the creation of defensible space will not be enough to keep homes in the community from burning during a wildfire. Outreach will focus on homeowner attention to all fuels in and around the home, not just native vegetation. Potential

Highly combustible juniper shrubs are adjacent to combustible elements of this CC/SS home. Photo courtesy of Rebecca Samulski

ignitable fuels around homes include: outdoor furniture, leaves and pine needles in gutters, stacks of firewood, wood chip and bark mulch, rugs and carpet, project lumber, tires, wood fences connected to structures, straw, wooden decks and porches, fire prone foundation plantings, wooden steps, weeds, cardboard boxes, and trash of all kinds.

In addition to fuels in the home ignition zone, there may be opportunities for embers to enter the home and find receptive fuels inside through open windows and unscreened vents (attic, crawl space, range, and dryer) that should be screened with 1/8" metal. Most windows have vinyl screens that are also ignitable so windows left open during warmer months are recommended to have non-combustible screening. Exposed wooden eaves are common and the importance of keeping combustibles away from these will be stressed. Fire-resistant enclosures or screens are suggested for crawl spaces, wooden decks, and steps to prevent fire from getting underneath the house.

An open crawl space with straw and firewood poses ember ignition hazards at this CC/SS home. Photo courtesy of Rebecca Samulski

Community education and outreach to homeowners and renters may reduce the amount of combustible items within the home ignition zone. This will remain a focus for ambassadors.

ACCESS

County and private roads constitute viable candidates for being used as fire lines during an event as well as points that fire lines can be anchored to. However, many sections of the roads within the CC/SS Community are bordered by dense vegetation. The map in Appendix A indicates roads that have dangerous or conditional access. The map in Appendix B indicates the areas where fuel treatments are desirable on both private and County Roads to decrease fire intensity. This will allow residents to evacuate safely, emergency responders to utilize the access, and enhance a road's utility as a fire break.

Dense stands of sagebrush have grown into the older fences along roadways. Vegetation along canyon crossings may make them impassable during a wildfire. Some roadside mowing is done by the county, but only along the very edge of the road surface. In order for more roads to become viable fuel breaks, fuels along roads will have to be reduced with fine fuels and brush re-growth maintained on a regular basis.

APPROACH TO FUELS REDUCTION

The CWPP Team is committed to encouraging fuels reduction on private land and coordinating landscape-scale fuel treatments. There are six primary targets for risk reduction efforts:

- Creating defensible space around homes, reducing fuels along driveways, and removing fuel hazards in the building/farmyard zone.
- Enhancing county roads as fuel breaks by reducing fuels within and adjacent to road easements in partnership with Montezuma County.
- Maintaining the Power Line Fuel Break along the entire length of the transmission line easement in partnership with both power companies and landowners.
- Creating permanent canyon fuel breaks in strategic locations.
- Thinning along canyon rims and reducing fuel continuity in all wooded areas.
- Reducing structural ignitability for existing homes and educating new landowners about building fire-resistant structures.

Projects are prioritized based upon risk but project completion may vary depending on a landowner's willingness to participate. Joint projects must be coordinated with partners and within their budgets as well.

Projects are structured as community-level (landscape) or property-specific and many will require ongoing maintenance to ensure that the community remains adapted to wildfires for many generations to come. Property owners where community fuel breaks are recommended are encouraged to maintain Zone 2 standards during their mitigation efforts as outlined in CSFS publication, *Fuel Break Guidelines for Forested Subdivisions and Communities* (Appendix E). Specific guidance will also be provided by Neighborhood Ambassadors, FireWise, and CSFS. The Mitigation Team will continue to pursue grants and other opportunities to complete landscape-scale projects.

Figure 6 illustrates the planned and recently treated community-level fuel breaks and thinned areas. Details regarding mitigation projects are contained in the map appearing in Appendix B and the tables appearing in Appendix C. The County Roads and Power Line Fuel Break constitute the primary fuel breaks providing the community with the greatest level of protection on the east and west boundaries. The creation of two east/west fuel breaks along County Roads M and P improve access safety and emergency routes for residents and responders in the south and north thirds of the community. The Power Line Fuel Break and County Road 32 provide good north/south fuel breaks in the western quarter and eastern third respectively.

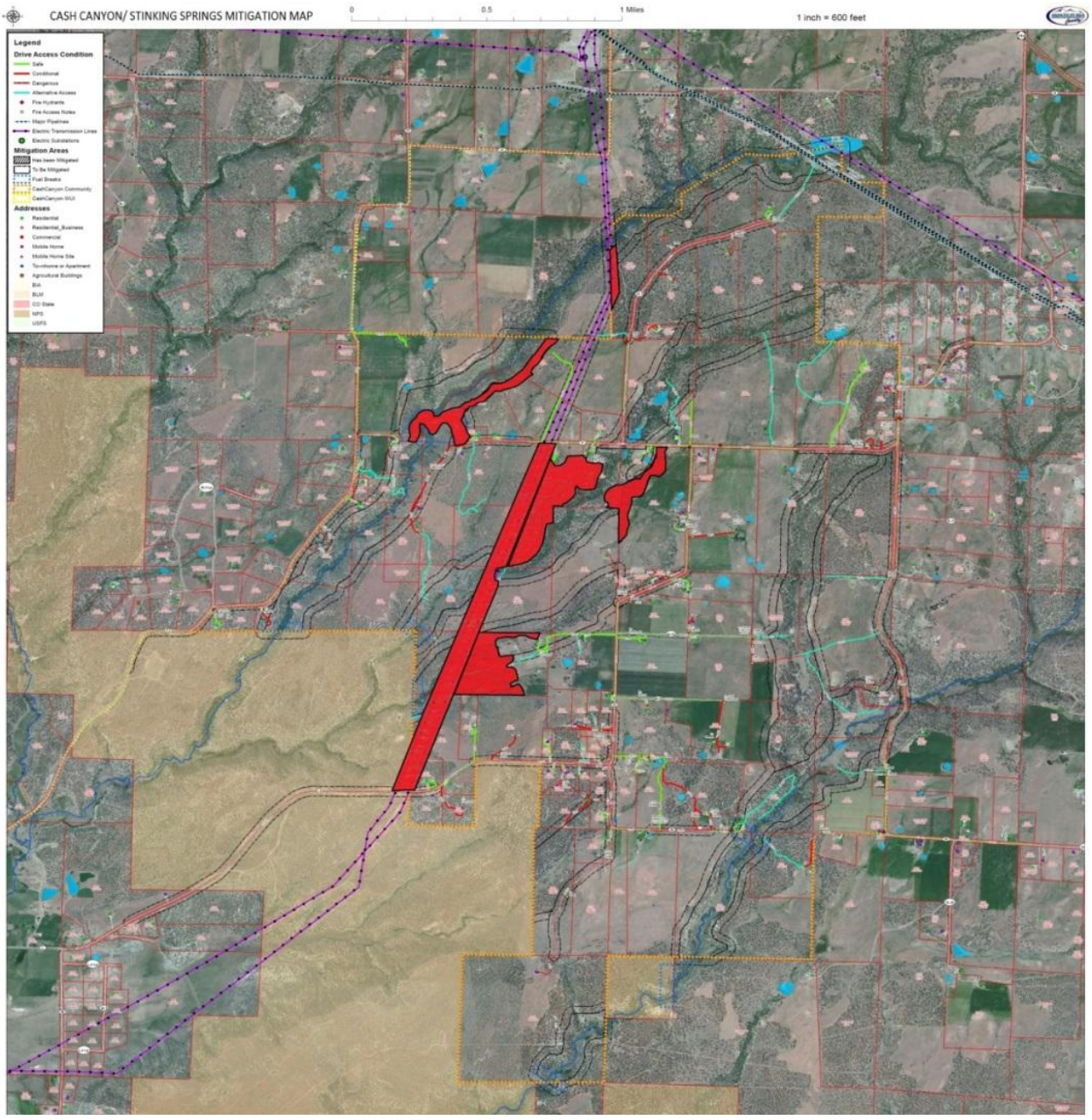


FIGURE 6 – Completed Mitigation This map is an early version of the CC/SS mitigation map. Completed landscape fuel breaks are shaded in RED. This map also indicates access hazards, driveways, and water resources. Treatment on BLM land or private mitigation efforts in defensible space and forest thinning are not depicted. More details are available in Appendix B.

JOINT PROJECTS, FUEL BREAKS

Several of the proposed landscape fuel breaks require cooperation with the BLM, Montezuma County, WAPA, and Tri-State. Projects on BLM land will concentrate on maintaining treated areas and creating fuel breaks across canyons. Projects requiring the county's involvement include fuels reduction along road easements. An extensive fuel reduction project was completed in 2015 creating the Power Line

Fuel Break along both WAPA and Tri-State easements and in between easements from Road L to Road P including the south rim of Cash Canyon. Ongoing cooperation will be required to maintain this critical fuel break.

The fuel break along Road 32.1 is also considered as a joint project with that informal subdivision requiring cooperation with residents there. Table 9 lists joint projects, by address for all partners. With the exception of roads, projects are listed by address from south to north.

TABLE 9 - Joint Projects						
BLM		COUNTY		POWER COMPANIES		ROAD 32.1
Cash Canyon/12880 Road 31		Road L easement		31277 Road L (completed in 2014)		150' shaded fuel break along canyon rims
E F Cash/31442 Road P		Road M easement		31348 Road L (completed in 2014)		Canyon fuel break at Grimes Dam
E F Cash/31440 Road P		Road P easement		12633 Road 32 (completed in 2014)		Canyon fuel break, E F Cash at 32011Road P
E F Cash/12633 Road 32		Road 31 easement		31440 Road P (complete 2014)		
E E F Cash/31348 Road L		Road 33 easement		31731 Road L (completed in 2014)		
E E F Cash/12633 Road 32		Road P/Cash Canyon (completed in 2015)		TBD Road P (completed in 2014)		
Stinking Springs/11251 Road 32				31616 Road P (completed in 2014)		
Stinking Springs/S of 32114 M				31639 Road P (completed in 2014)		
Power line S of Road L				14185 Road 32.1 (completed in 2014)		
				31277 Road L (completed in 2014)		

PROJECTS WITH THE BLM

The creation of canyon-based fuel breaks situated at the BLM/private land interface in conjunction with fuels reduction along canyons, has the greatest potential to slow the spread of wildfires that start to the southwest of the community on public land. In addition, the southern extension of the Power Line Fuel Break on BLM land has the potential to slow a fire moving in an easterly direction.

PROJECTS WITH MONTEZUMA COUNTY

County roads provide an excellent fuel break potential as long as the easements are kept clear of combustible vegetation and debris. The arrangement with the county for mowing and brush/tree removal is a long-term consideration and will be planned and executed on a case-by-case basis as county resources are made available. The permanent fuel breaks along roads represent a long-term effort that will start with creating a fuel break in Cash Canyon (Road P), from rim to rim, as the highest priority. Roads are listed in Table 9 and heavily vegetated areas recommended for treatment beyond the county road right-of-ways are shown on the map in Appendix B.

PROJECTS WITH TRI-STATE AND WAPA

These transmission lines run approximately parallel to the prevailing slope and drainage system and represent a significant opportunity for controlling a wildfire that starts to the west or southwest. This fuel break also has the potential to break a fire coming from the east being driven by downslope winds off of the La Plata Mountains. It is in the best interest of the community, Tri-State, WAPA, and electric grid users across the western third of the United States to protect these lines from being damaged or even shut down during a wildfire event. Continued maintenance of this fuel break and the enhancement of the fuel breaks across the three forks of Cash Canyon will require ongoing cooperation among all involved parties.

PROJECTS WITH SUBDIVISION, ROAD 32.1

The properties accessed via Road 32.1 represent a unique problem for the community, containing sections of Cash Canyon, the East Fork of Cash Canyon, and a single access point for 11 properties from County Road P. In addition, the Grimes Reservoir dam in Cash Canyon provides a barrier that will create a rim-to-rim fuel break with the potential of stopping a fire from running up the canyon.

The entire Road 32.1 subdivision is covered in mature P/J with an abundant understory and a complex structure of dead piñons in areas that have not yet had mitigation following the *Ips* beetle die-off. It is estimated that over 200 acres of this subdivision represent extreme risk. Thinning of the entire area would be ideal, but primary efforts will concentrate on the drainages and along Road 32.1. Fuel breaks in this subdivision are shown in Table 9 above and depicted on the map in Appendix B.

PROPERTY BY PROPERTY FUELS REDUCTION

Fuels reduction is critical in and along canyons as they represent the primary avenue for fire travelling from southwest to northeast. Thinning projects will be conducted property by property along the five major drainages beginning with canyon rims. Property owners will be encouraged to work these areas on their own with support from the Mitigation Team through the coordination of work parties and the procurement of grants.

Table 10 lists the properties with canyon interfaces within the five major drainages. Thinning in and along these will slow the speed of a wildfire from any direction. These projects will be conducted on a case-by-case basis, pursued by property owners and the Mitigation Team.

TABLE 10 - Fuels Reduction by Property

CASH CANYON	EF CASH CANYON	EE FORK CASH CANYON	STINKING SPRINGS	WF STINKING SPRINGS
12880 Road 31	14390 Road 32.1	12633 Road 32	12305 Road 33	13739 Road 33
13050 Road 31	14420 Road 32.1	12805 Road 32	12445 Road 33	13761 Road 33
13000 Road 31	14460 Road 32.1	12895 Road 32	12719 Road 33	13773 Road 33
13500 Road 31	*12805 Road 32 (2014)*	31348 Road L	TBD Road 33	32471 Road M
13990 Road 31	*31440 Road P (2014)*	31731 Road L	32471 Road M	TBD Road M.5 S
14185 Road 32.1	*31850 Road P (2014)*		32502 Road M	TBD Road M.5 N
14375 Road 32.1	*31900 Road P (2014)*		32750 Road M	32505 Road M.75
14405 Road 32.1	32122 Road P			32842 W Road P
14445 Road 32.1	32229 Road P			32842 E Road P

31104 Road P	32261 Road P			32767 Road P
31578 Road P	TBD Road P *(2014)*			32905 Road P
31621 Road P (2014)				
31557 Road P (2014)				
31639 Road P (2014)				

Fuels reduction will be an ongoing activity and managed under the CWPP for maintenance once initially completed. Resident's initial efforts should focus on defensible space and priority areas identified on their property. Treatment of noxious weeds, specifically Russian knapweed and cheat grass, are highly encouraged. Mitigation Team efforts will focus on thinning cross-canyon and canyon rim fuel breaks. Thinning projects are organized in order of priority although the sequence will ultimately depend upon landowner permission:

- Cash Canyon
- East Fork of Cash Canyon
- East, East Fork of Cash Canyon
- Stinking Springs Canyon
- West Fork of Stinking Springs Canyon

MITIGATION PROJECT MANAGEMENT

Mitigation projects are conducted in conjunction with the property owner and the partner agency as applicable, with support from the Mitigation Team. In addition to projects completed by landowners, community projects will be coordinated by the team which is responsible for:

- Coordinating work with the BLM, Montezuma County, WAPA, and Tri-State.
- Obtaining permission from land owners and ensuring that all requirements are met.
- Writing proposals for available funds and obtaining contractor bids.
- Arranging payment for contractors.
- Tracking in-kind contributions and submitting hours to FireWise.
- Scheduling mitigation work.
- Reporting project progress and completion to the CWPP Team.

Mitigation projects are tracked via the set of project tables depicted in Appendix C and will be updated by the CWPP Team on an ongoing basis.

APPROACH TO PROJECT FUNDING

Property owners and residents are highly encouraged to pursue fuels reduction and to prioritize fuels treatment beyond their defensible space and access in areas of their property identified on the map in Appendix B. Available grant funding for community-level fuel breaks will be pursued for projects that have landowner permission. Without any common homeowners association, the primary means for matching grant funds will be through in-kind volunteer labor, equipment donations, and financial contributions by individual property owners for work done on their land. There are no formal mechanisms for collecting community funds to achieve landscape projects. Ongoing mitigation by property owners is occurring on many occupied parcels and this is expected to expand as community

involvement increases. Homeowners have additionally invested in decreasing structural ignitibility since the outreach and education process began in 2011.

ACTION PLAN

In an effort to mitigate the risks posed by wildfire before any significant impact from a wildfire event occurs, the following strategies for adapting the community for wildfires have been defined by the CWPP Team. Action plans are categorized as follows:

- Access safety along roads and driveways (Table 11)
- Defensible space, Zones 1 and 2, and the built environment (Table 12)
- Community-level fuel breaks and safe areas (Table 13)
- FireWise education and community involvement (Table 14)
- Evacuation planning and emergency response (Table 15)

These subjects have been discussed in detail throughout this plan and reflect the long-term goals for creating a fire adapted community in a fire adapted landscape. Action items are listed in each table in the order of their priority. Individual priorities for action items are categorized as ongoing, high, medium, and low. An action that receives an ongoing rating is always assumed to be a high priority.

TABLE 11 - ACCESS: Enhance county and private roads for safe access and create improved fuel breaks		
Objectives: • *Residents take greater responsibility for adequate access* • *Addresses are corrected and marked* • *Shaded fuel breaks are created in areas of heavy fuel along roads, including private Road 32.1*		
Action	**Partners**	**Priority**
Thin remaining clusters of thick fuels within and adjacent to County Road rights of way - 150' from road edge. (Appendix B and Appendix C).	Montezuma County Road Department, Property Owners	High
Clearly mark all residential driveways and road junctions with uniform, all-condition address signage.	Montezuma County Addressing Department	High
Enhance fuel break on County Road P through Cash Canyon.	Montezuma County, Property Owners	High
Continue dialogue with Road 32.1 residents to pursue opportunities for a shaded fuel break along Road 32.1.	Road 32.1 Road Association and Property Owners	Medium
Encourage residents to follow CSFS guidelines for Zone 2 defensible space along driveways (Appendix E), and pursue proper aprons, clearance, and turnaround space for fire engines.	CSFS, Property Owners	Medium
Improve upon current standards of County Road easement mowing.	Montezuma County, Property Owners	Medium

TABLE 12 - DEFENSIBLE SPACE and THE BUILT ENVIRONMENT: Make all homes more fire-resistant with defensible space (Zones 1 and 2) and fully accessible driveways

Objectives:

- *All homes and driveways have appropriate, well-maintained defensible space*
- *New homes are of fire-resistant construction and existing homes have appropriate modification to strengthen fire resistance*
- *All driveways are accessible to emergency response vehicles, clear of fuels, have adequate turn-around space, and prominent all-condition address signage*
- *All property owners complete some fuel treatment on their properties, whether there are structures or not*

Action	Partners	Priority
Encourage residents to follow CSFS defensible space guidelines and focus on ember ignition hazards (Appendix E).	All residents	High
Conduct semi-annual slash burning days with Mitigation Team support.	Mitigation Team, Property Owners	High
Make detailed home wildfire risk assessments available to all homeowners and residents available upon request.	Residents, Montezuma County FireWise Coordinator	Ongoing
Invite undeveloped property owners to participate in mitigation opportunities.	Neighborhood Ambassadors, Property Owners	Ongoing
Notify residents of available financial incentives for fuel reduction.	Neighborhood Ambassadors, Fuel Break Property Owners	Ongoing
Provide CSFS publication "*FireWise Construction: Site Design & Building Materials"* to homeowners when new construction or remodeling occurs (Appendix E).	Neighborhood Ambassadors, Property Owners	Ongoing
Encourage residents to manage hazardous noxious weeds on their properties.	Montezuma County Weed Program, Neighborhood Ambassadors, Property Owners	Ongoing
Conduct fuel reduction demonstration (possibly 13000 Road 31)	Mitigation Team	Moderate
Identify specific recipients for firewood and consider selling wood cordwood to raise money for other neighborhood projects.	Mitigation Team	Moderate
Plan a community chipping day.	Mitigation Team, Property Owners	Low

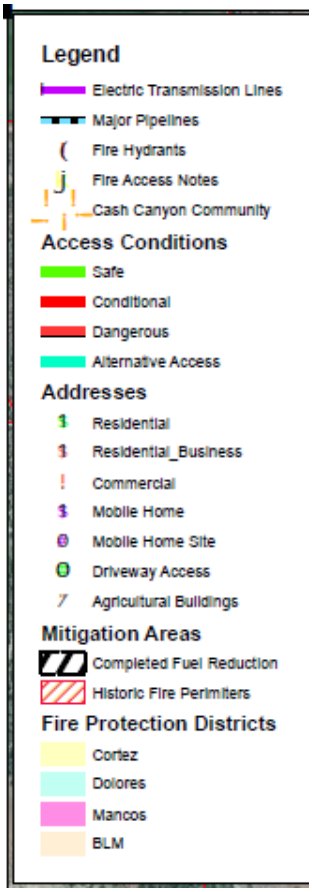
TABLE 13 - COMMUNITY FUEL BREAKS and SAFE AREAS: Limit the size and intensity of wildfires within the community and reduce the potential for fires to run in Cash and Stinking Springs Canyons		
Objectives: • *Limit the size and intensity of future wildfires within the community* • *Create safe zones*		
Action	**Partners**	**Priority**
Maintain Power Line Fuel Break and complete cross-canyon fuel breaks in Cash Canyon and its tributaries.	WAPA, Tri-State, Property owners	High
Complete shaded fuel breaks along canyon rims to discourage fires from spreading out of the canyons to residential uplands (Appendix B).	Property Owners	High
Thin remaining clusters of thick fuels within and adjacent to County Road rights of way 150' from road edge (Appendix B and Appendix C).	Montezuma County Road Department, Property Owners	High
Enhance Fuel break on County Road P through Cash Canyon.	Montezuma County Road Department, Property Owners	High
Pursue a shaded fuel break along Road 32.1.	Road 32.1 Road Association, Property Owners	Medium
Complete 300' shaded fuel breaks to Zone 2 or better standards through canyons where BLM land meets private lands (Appendix B and Appendix C).	BLM, Property Owners	Medium

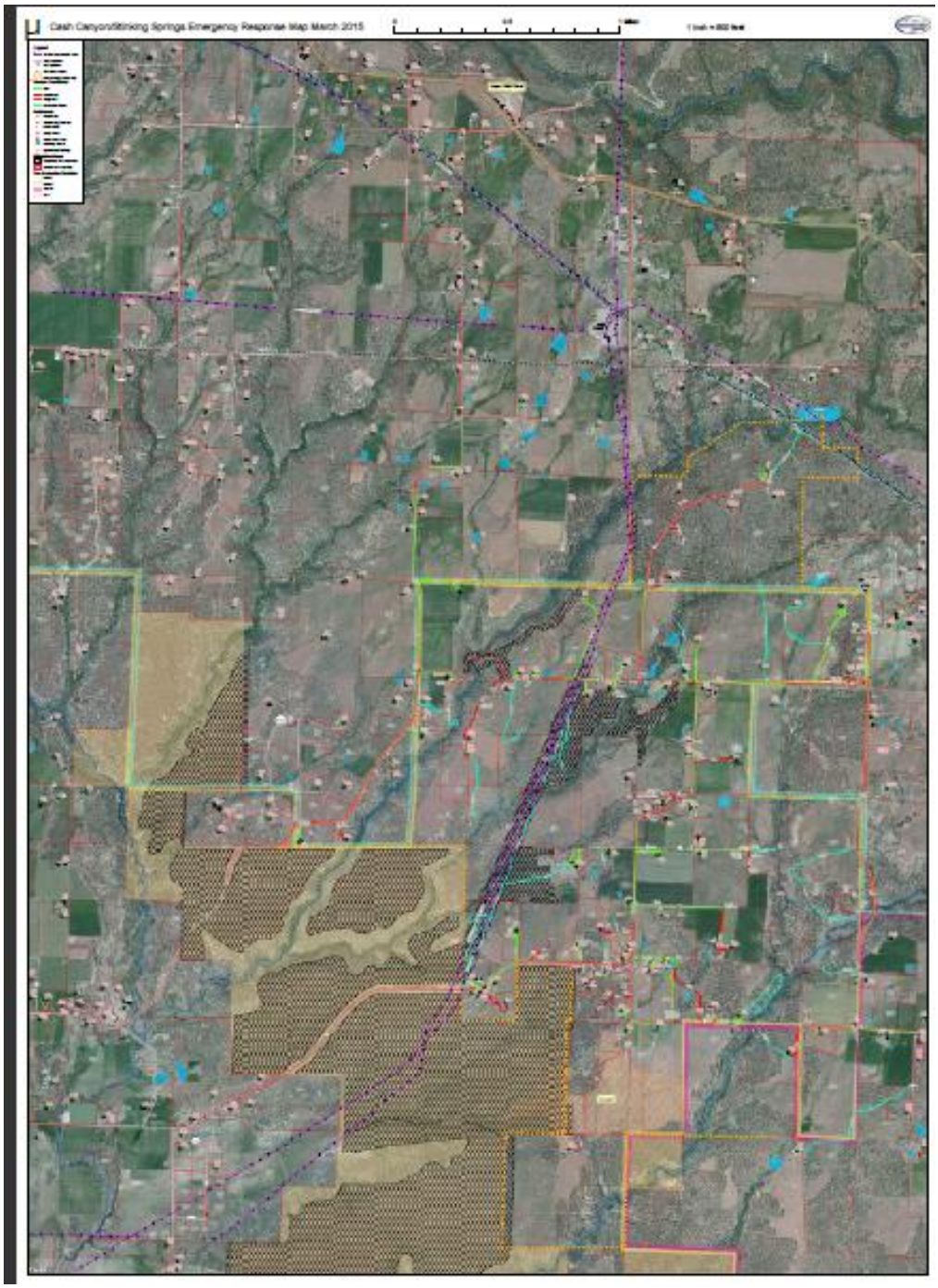
TABLE 14 - FIREWISE EDUCATION and COMMUNITY INVOLVEMENT: Encourage all property owners to be engaged in securing the safety of the community from wildfire		
Objectives: • *All property owners have FireWise awareness* • *All property owners become engaged in some level of fuels mitigation whether there are structures or not*		
Action	**Partners**	**Priority**
Distribute the CWPP throughout the community both electronically and printed (upon request).	Neighborhood Ambassadors	High
Apply for National FireWise Communities status.	Neighborhood Ambassadors	High
Create welcome packets for new residents including evacuation procedures, telephone tree, education materials, and add them to the phone tree, email list and offer site assessments.	Neighborhood Ambassadors	High
Maintain active participation in FireWise of Southwest Colorado Neighborhood Ambassador Program and recruit new ambassadors.	Neighborhood Ambassadors	High
CWPP team meeting each spring	CWPP Team	Ongoing
Maintain annual or semi-annual fire season get-togethers with hand delivered invitations accompanied by outreach materials.	Neighborhood Ambassadors	Ongoing
Provide detailed home wildfire risk assessments when requested by homeowners and residents.	Residents, Montezuma County FireWise Coordinator	Ongoing
Share e-newsletter monthly during fire season or as needed	Neighborhood Ambassadors	Ongoing
Promote findings that forest thinning improves forest health as well as property value and marketability.	Neighborhood Ambassadors	Ongoing
Promote joint fire science survey response.	Neighborhood Ambassadors, FireWise	Ongoing
Regularly post prevention messages at community bulletin	Neighborhood Ambassadors	Ongoing
Share FireWise rack cards	Neighborhood Ambassadors	Ongoing
Create and maintain a fire danger sign w/ red flags.	Neighborhood Ambassadors	Moderate
Provide tours of treated areas within the community and on neighboring BLM lands.	Neighborhood Ambassadors, Montezuma County FireWise Coordinator, BLM, CSFS, Mitigation Contractors	Low

TABLE 15 - EVACUATION PLANNING and EMERGENCY RESPONSE: Establish evacuation and emergency communication plans and ensure that emergency response information is easily accessible to all responders		
Objectives: • *Residents are prepared for emergency evacuations including buddy systems for disabled residents, pets, and livestock* • *Emergency response information and maps are made readily available to incident command* • *Make water resource availability and locations available to responders and the community* • *Enable responders to more easily find homes, hazards, and firefighting resources within the community*		
Action	**Partners**	**Priority**
Develop a community phone tree.	Residents	High
Provide copies of community data and Emergency Response Map to: • Montezuma County Sheriff • Emergency Managers • FireWise of Southwest Colorado • Cortez, Mancos, and, Dolores Fire Protection Districts • Neighborhood Ambassadors	Neighborhood Ambassadors, FireWise, Montezuma County, Emergency Managers, Fire Protection Districts	High
Clearly mark all residential driveways and road junctions with reflective, all-condition address markers.	Montezuma County Addressing, Property Owners	High
Promote registration for Montezuma County Nixle text message and e-mail alerts.	Neighborhood Ambassadors, Residents	High
Ensure fire dept. access through all locked gates.	Neighborhood Ambassadors, Residents	High
Report to fire incident command locations as soon as possible during fire events to assist emergency responders.	Neighborhood Ambassadors	High
Register for lightning tracking and investigate high-risk strikes.	Neighborhood Ambassadors	Ongoing
Encourage the buddy system for residents who may need help and with neighbors to address pet and livestock evacuation.		Ongoing
Designate a community water resources liaison.	Neighborhood Ambassadors, Summit Irrigation, Camp Ditch Association	Medium
Secure emergency water use agreements with property owners.	Water Resources Liaison, CWPP Team	Medium
Review feasibility of restoring Grimes Reservoir as an emergency water resource and reducing the associated fuels in Cash Canyon.	Water Right Owners, Property Owners, Montezuma Water Company, Habitat Partnership Program, Colorado Division of Water Resources	Medium
Conduct a community evacuation drill: Phone tree, nixle registration, Evacuation checklist, engine ride to assess conditional access driveways.	Emergency Manager, Sheriff, Fire Departments, Neighborhood Ambassadors, FireWise	Low

APPENDIX A – EMERGENCY RESPONSE AND ACCESS MAP

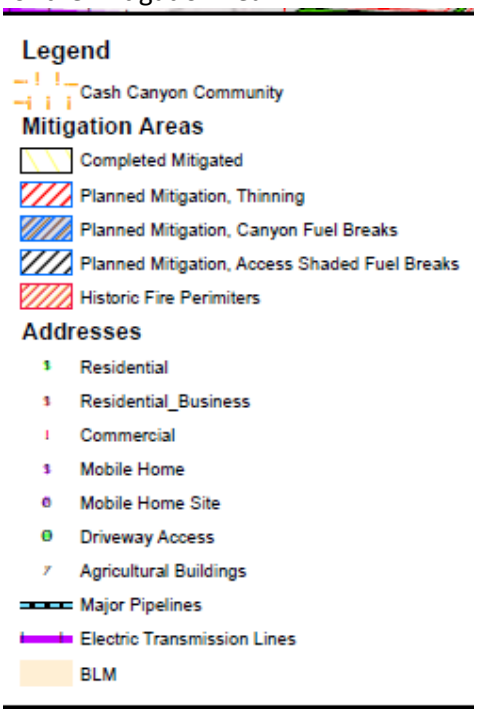
This map is designed for use during an actual wildfire event and is updated on an annual basis. Each Neighborhood Ambassador has a current copy of the map and is expected to be present at incident command posts when possible. The map is also distributed to each Fire Protection District and Emergency Managers. An additional copy of this map resides in a tube at the Community Message Board located on County Road P where it enters Cash Canyon on the east rim at the school bus turnaround.

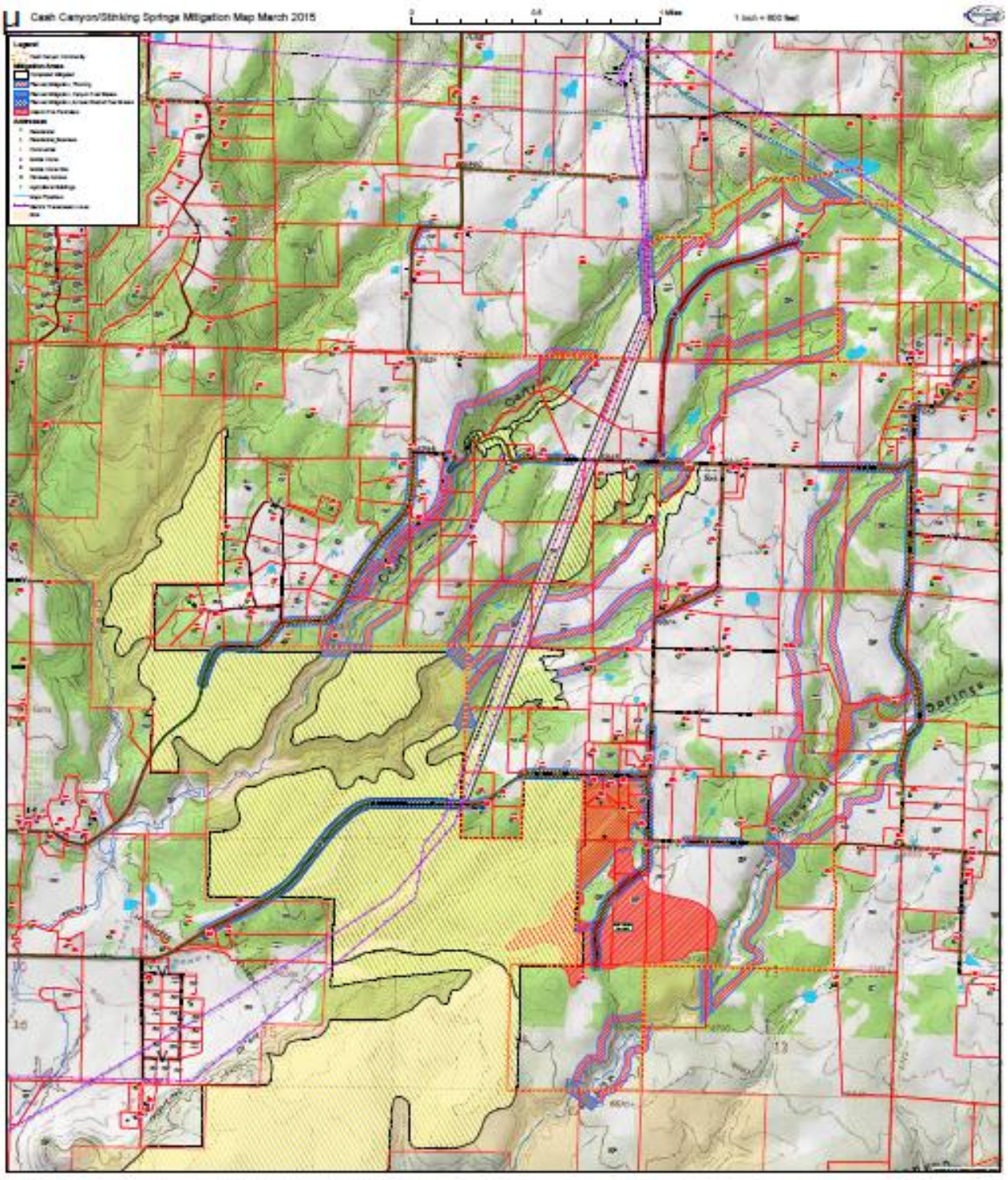



Dash Canyon/Blinking Springs Emergency Response Map March 2015

APPENDIX B – MITIGATION MAP

This map is updated annually and depicts existing areas of the WUI and CC/SS Community that have received mitigation. In addition, proposed projects are indicated. It serves as the primary planning tool for the Mitigation Team.




Cash Canyon/Stinking Springs Mitigation Map March 2015

APPENDIX C - MITIGATION PLAN TABLES

Community fuel beaks will be planned and tracked using the following set of tables. These will be updated in the plan on an ongoing basis. Written agreement shall be obtained from each property owner prior to performing any work on private property. Regrowth in the P/J woodlands is expected to be fairly slow and have a lower priority, with landowner permission required for any work conducted by the Mitigation Team. Higher priority cross-canyon fuel breaks have a higher ratio of brush and may require more frequent maintenance. High priority access fuel breaks will also require regular maintenance to keep fine fuels and weeds abated. Mitigation projects are conducted in the order of their priority and where landowner permission has been received, not necessarily in their optimum sequence.

TABLE 16 - CANYON FUEL BREAKS		
PROJECT	TREATMENTS	YEAR TREATED
Cash Canyon South Cash Canyon/12880 Road 31	Brush/tree removal for 200'+' rim to rim Slash disposal/treatment	
E Fork Cash Canyon/ 31442 & 31440 Road P, 12633 Road 32	Brush/tree removal for 150' rim to rim Slash disposal/treatment	
Stinking Springs Canyon/ 11251 Road 32	Brush/tree removal for 150' rim to rim Slash disposal/treatment	
Stinking Springs Canyon S of 32114 Road M	Brush/tree removal for 150' rim to rim Slash disposal/treatment	
Tri-State Transmission Line S of Road L , BLM	Brush/tree removal beneath and between lines to same as north of Road L standards Slash disposal/treatment	
Cash Canyon at Grimes Dam/ 14445 Road 32.1 and 32760 Road R	Brush/tree removal 150' width Slash disposal/treatment	

TABLE 17 - ACCESS FUEL BREAKS		
PROJECT	TREATMENTS	YEAR TREATED
Cash Canyon at road P rim to rim	Brush/ Tree removal to 150' either side of road surface Regular willow re-treatment or shading out	2014 – 2015
Road 32.1 Right-of-way	Brush/ Tree removal to 150' either side of road surface Chemical treatment of Russian Knapweed	
Road 31 Right-of-way	Mowing w/in ROW Brush/ Tree removal to 150' either side of road surface	
Road 33 Right-of-way	Mowing w/in ROW Brush/ Tree removal to 150' either side of road surface	
Road L Right-of-way	Mowing w/in ROW Brush/ Tree removal to 150' either side of road surface	
Road M Right-of-way	Mowing w/in ROW Brush/ Tree removal to 150' either side of road surface	
Road P Right-of-way	Mowing w/in ROW Brush/ Tree removal to 150' either side of road surface	

TABLE 18 - POWER LINE FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
31277 Road L	Brush/tree removal Slash treatment	2014
31348 Road L	Brush/tree removal Slash treatment	2014
12633 Road 32	Brush/tree removal Slash treatment	2014
31440 Road P	Brush/tree removal Slash treatment	2014
31731 Road L	Brush/tree removal Slash treatment	2014
TBD Road P(between 31731 Road L and 31616 Road P)	Brush/tree removal Slash treatment	2014
31616 Road P	Brush/tree removal Slash treatment	2014
31799 Road P grass and weeds only	Mowing and weed treatment	
31500 Road R	Mowing and weed treatment Brush mowing	
14185 Road 32.1 east side only	Brush/tree removal Slash treatment	2014

TABLE 19 - CASH CANYON NORTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
Cash Canyon/12880 Road 31	CSFS Zone 2, 150’ from rim	
Cash Canyon/13050 Road 31	CSFS Zone 2, 150’ from rim	
Cash Canyon/13000 Road 31	CSFS Zone 2, 150’ from rim	
Cash Canyon/13500 Road 31	CSFS Zone 2, 150’ from rim	
Cash Canyon/31104 Road P	CSFS Zone 2, 150’ from rim	
13990 Road 31 (north spur)	CSFS Zone 2, 150’ from rim	

TABLE 20 - CASH CANYON SOUTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
12880 Road 31	CSFS Zone 2, 150’ from rim	
13050 Road 31	CSFS Zone 2, 150’ from rim	
13000 Road 31	CSFS Zone 2, 150’ from rim	
31536 Road P	CSFS Zone 2, 150’ from rim	
13500 Road 31	CSFS Zone 2, 150’ from rim	
31104 Road P	CSFS Zone 2, 150’ from rim	
31578 Road P	CSFS Zone 2, 150’ from rim	
31557 Road P	CSFS Zone 2, 150’ from rim	2014
31621 Road P	CSFS Zone 2, 150’ from rim	2014
31799 Road P	CSFS Zone 2, 150’ from rim	2014
14185 Road 32.1 Guess	CSFS Zone 2, 150’ from rim	
14375 Road 32.1	CSFS Zone 2, 150’ from rim	
14405 Road 32.1 Guess	CSFS Zone 2, 150’ from rim	
14445 Road 32.1	CSFS Zone 2, 150’ from rim	

TABLE 21 - EAST FORK CASH CANYON NORTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
31440 Road P	CSFS Zone 2, 150’ from rim	
TBD Road P	CSFS Zone 2, 150’ from rim	2014 landscape
31850 Road P	CSFS Zone 2, 150’ from rim	2014 landscape
31900 Road P	CSFS Zone 2, 150’ from rim	2014 landscape
32229 Road P	CSFS Zone 2, 150’ from rim	
13390 Road 32.1	CSFS Zone 2, 150’ from rim	
14390 Road 32.1	CSFS Zone 2, 150’ from rim	
14420 Road 32.1 Guess	CSFS Zone 2, 150’ from rim	
14460 Road 32.1	CSFS Zone 2, 150’ from rim	

TABLE 22 - EAST FORK CASH CANYON SOUTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
12805 Road 32	CSFS Zone 2, 150’ from rim	
31900 Road P	CSFS Zone 2, 150’ from rim	2014 landscape
13221 Road 32	CSFS Zone 2, 150’ from rim	2014 landscape
32261 Road P	CSFS Zone 2, 150’ from rim	
32261 Road P	CSFS Zone 2, 150’ from rim	
14420 Road 32.1 Guess	CSFS Zone 2, 150’ from rim	
14460 Road 32.1	CSFS Zone 2, 150’ from rim	

TABLE 23 – EAST, EAST FORK CASH CANYON RIM TO RIM THINNING		
PROPERTIES	TREATMENTS	YEAR TREATED
31348 Road L	CSFS Zone 2, 150’ from rim	2014 Power Line
12633 Road 32	CSFS Zone 2, 150’ from rim	2014 landscape
31731 Road L Guess	CSFS Zone 2, 150’ from rim	
12805 Road 32	CSFS Zone 2, 150’ from rim	

TABLE 24 - STINKING SPRINGS CANYON NORTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
32471 Road M	CSFS Zone 2, 150’ from rim	
TBD Road M.5 South	CSFS Zone 2, 150’ from rim	
12305 Road 33	CSFS Zone 2, 150’ from rim	
12445 Road 33	CSFS Zone 2, 150’ from rim	
12719 Road 33	CSFS Zone 2, 150’ from rim	Well maintained by homeowner

TABLE 25 - STINKING SPRINGS CANYON SOUTH RIM FUEL BREAK		
PROPERTIES	TREATMENTS	YEAR TREATED
32502 Road M	CSFS Zone 2, 150’ from rim	
32750 Road M	CSFS Zone 2, 150’ from rim	
32471 Road M	CSFS Zone 2, 150’ from rim	
TBD Road 33 (large tract on west)	CSFS Zone 2, 150’ from rim	
12305 Road 33	CSFS Zone 2, 150’ from rim	
12445 Road 33	CSFS Zone 2, 150’ from rim	

TABLE 26 - WEST FORK STINKING SPRINGS CANYON NORTH AND SOUTH RIM FUEL BREAKS		
PROPERTIES	TREATMENTS	YEAR TREATED
32471 Road M	CSFS Zone 2 and Zone 3, Landscape thinning through canyon where feasible to 150' from rim	
TBD Road M.5 South	CSFS Zone 2 and Zone 3, Landscape thinning through canyon where feasible to 150' from rim	
TBD Road M.5 North	CSFS Zone 2 and Zone 3, Landscape thinning through canyon where feasible to 150' from rim	
32505 Road M.75 Guess	CSFS Zone 2 and Zone 3, 150' West rim	
12601 Road 33 Guess	CSFS Zone 2 and Zone 3, 150' East rim	
32842 Road P Guess West	CSFS Zone 2 and Zone 3, Landscape thinning through canyon where feasible to 150' from rim	
32842 Road P Guess East	CSFS Zone 2 and Zone 3, Landscape thinning through canyon where feasible to 150' from rim	
32767 Road P	CSFS Zone 2 and 3, Landscape thinning 150' West rim and through canyon where feasible	
32905 Road P	CSFS Zone 2 and Zone 3, landscape	
13739 Road 33	CSFS Zone 2 and Zone 3, landscape	
13761 Road 33	CSFS Zone 2 and Zone 3, landscape	
13773 Road 33	CSFS Zone 2 and Zone 3, landscape	

APPENDIX D – IMPORTANT COMMUNITY CONTACTS

The following information is distributed to community members and updated as required.

Emergency……Always call…….911

Montezuma County Dispatch **(call before you burn)**……..970-564-5441
FireWise of Southwest Colorado (Rebecca Samulski)…….970-564-7860
Evacuation Hotlines (activated during a disaster)……970-564-4999
Cortez Fire Protection District (Chief, Jeff Vandevoorde)……970-565-3157
Dolores Fire Protection District (Chief, Mike Zion)……970-882-4096
Mancos Fire and Rescue (Chief, Tony Aspromonte)……970-533-7922
Montezuma County Sheriff (Steve Nowlin)……970-565-8452
Montezuma County Emergency Manager (Paul Hollar)……970-759-1734
Durango District of Colorado State Forest Service (Kent Grant)……970-247-5250

Neighborhood Ambassadors

Catherine Kraus……..970-739-9854
Everett Whitehead……970-882-2155
Julia Garratt……970-882-7564

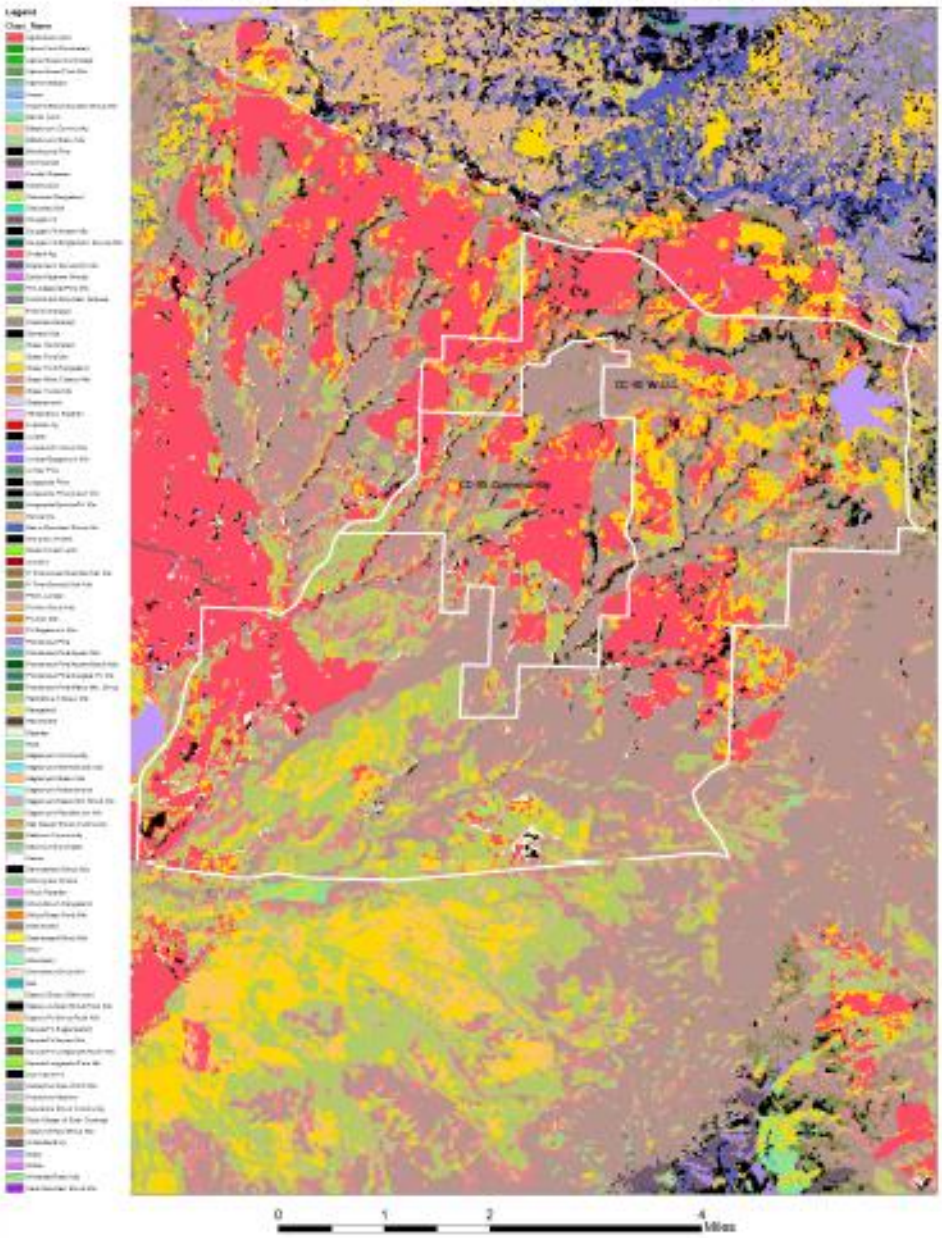
Register for emergency text and e-mail notifications for Montezuma County at www.nixle.com!

APPENDIX E – VEGETATION MAP

This map depicting detailed vegetation type in the WUI and CC/SS Community was provided by the Colorado State Forest Service, and is more accurate than vegetation layers available in the Colorado Wildfire Risk Assessment Portal. It serves as an additional planning tool for the Mitigation Team.

Appendix E—VEGETATION MAP

Cash Canyon/Stinking Springs Vegetation



APPENDIX F – ADDITIONAL REFERENCE MATERIALS

The following reference materials are available at the Colorado State Forest Service (CSFS) web site at: www.colostate.edu. In the menu, select "Resources for Homeowners." Additional resources are available from the University of Nevada Cooperative Extension Office at: http://www.livingwithfire.info/, including the "Be Ember Aware" brochure referred to below.

CSFS 2012-1 – *Protecting Your Home From Wildfire: Creating Wildfire-Defensible Zones*

CSFS #6.303 – *Fire-Resistant Landscaping*

CSFS #6.304 – *Forest Home Fire Safety*

CSFS #6.305 – *Fire Wise Plant Materials*

CSFS #6.306 – *Grass Seed Mixes to Reduce Wildfire Hazard*

CSFS #6.310 – *Cheatgrass and Wildfire*

CSFS #6.311 – *Gambel Oak Management*

CSFS – *Mastication Operational Guidelines*

CSFS – *FireWise Construction: Site Design and Building Materials*

CSFS – *Fuelbreak Guidelines for Forested Subdivisions and Communities*

CSFS - *Community Wildfire Protection Plans: Guidelines for Implementation*

University of Nevada Cooperative Extension – *Be Ember Aware!*