Blue Mesa Subdivision's
Community Wildfire Protection Plan

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I. Definition of Blue Mesa Subdivision's Wildland Urban Interface

Wildland Urban Interface is an area where structures are built in close proximity of naturally flammable vegetation. Blue Mesa subdivision is a classic representation of that specific situation. Blue Mesa is located in the central Rocky Mountains. The forest within and outside of the subdivision are dense and over crowed. This creates the situation where if a wildfire emergency was to occur, the likelihood of potential loss of property and life are high. A collaborative effort of forest management and organization between subdivision residents and adjoining neighbors is the only solution.

Blue Mesa subdivision covers 2,087 acres at an average altitude of 8,000feet. 626 lots are located within the subdivision, with lot sizes ranging from 2–25 acres. Scattered throughout the subdivision are large acreage common ground tracts of various sizes. These tracts are owned and managed by the HOA for use by residents for recreational purposes. The average slope of the subdivision is 15%, with a range from 5-40%. North is the predominate aspect of the subdivision.

The ecosystem surrounding Blue Mesa subdivision is very diverse, with high country desert like ecosystems and dense conifer forests. The subdivision sits on top of a mesa above the Lake Fork Branch of the Gunnison River.

The west half of the subdivision has the Douglas fir/sage component. Sage is the dominate cover type. The Douglas fir is found in low lying draws. It also has large tracts of dense Spruce fir type forests towards the southern half.

The eastern half of the subdivision faces the river. The slope up from the river is steep in most areas and extreme (+30%) in others. The forest type along the river bottom is Ponderosa Pine/ Blue Spruce. Vegetative types transition to a mix of Douglas fir and sage as elevation increases up slope. The Douglas fir becomes denser at higher elevations and the sage component becomes less. The dense fuels continue up the slope and onto the plateau. Due to the continuous dense fuels, extreme slope, and close proximity to structures, this area has a higher destructive wildfire potential than the west side of the subdivision. Initial efforts should be focused on this area since it has the most potential for life and property loss.

The Wildland Urban Interface map (pg 5) illustrates the boundaries of the interface. The WUI is represented by a yellow line and covers an area of 5,401 acres. The WUI boundaries are based upon wildfire potential. The boundary encompasses the area that has the highest potential to spread a wildfire onto Blue Mesa property. The subdivision boundary is represented by a blue line. The public land within the WUI boundary is represented by a purple stripe. All public land within the WUI is managed by the Bureau of Land Management. The total acreage managed by the BLM is 3000 acres. Cross boundary efforts are essential for wildfire prevention. Fire is capricious and will always find your defense's weakest link. Fire does not respect property boundaries but rather mitigated fuels and natural barriers(less flammable fuel type, rock outcrop etc.).

A. Location:

1. County: Gunnison, Colorado

2. Geographic Area: 24 miles SW of Gunnison (direct line), 45 miles driving

3. Legal Description: R. 4W, T. 47N, Sections 7 & 8 also 17, 18, 19, 20, 29 & 30, New Mexico Prime Meridian.

4. USGS Map Quadrangles: Gateview & Poison Draw.

5. VOR: Blue Mesa RAD: 229.9 Distance: 15.15 mile

6. Longitude: 107 degrees, 15 minutes, 15 seconds, West.
Latitude: 38 degrees, 18 minutes, 36 seconds, North.

B. Ingress/Egress

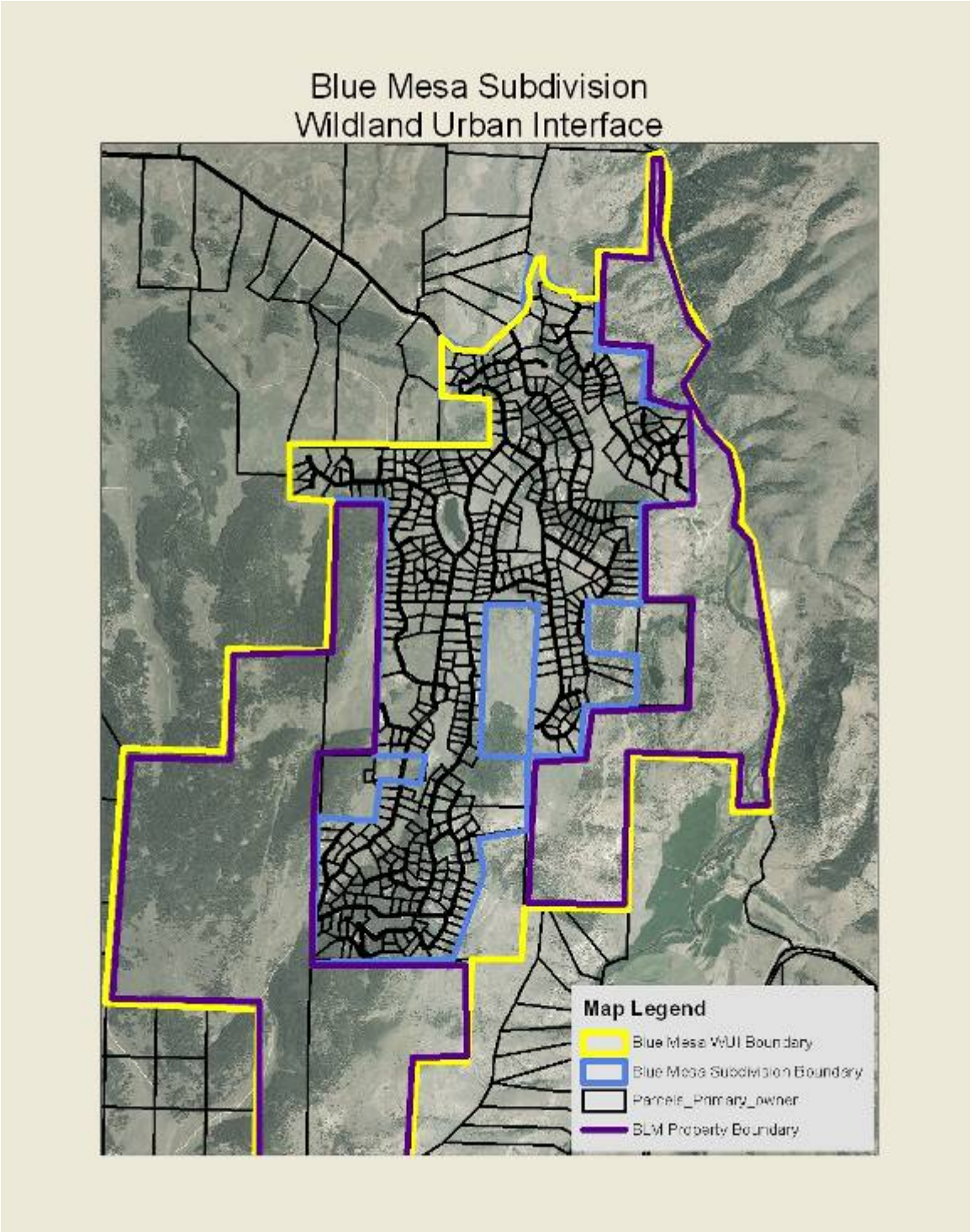
1. Routes: Hwy 50 to County Rd 25. North entry eleven miles, Hwy 149 to County. Rd 25 South entry five miles to subdivision.

   a. All weather access - Highway 50 and Colorado Highway 149

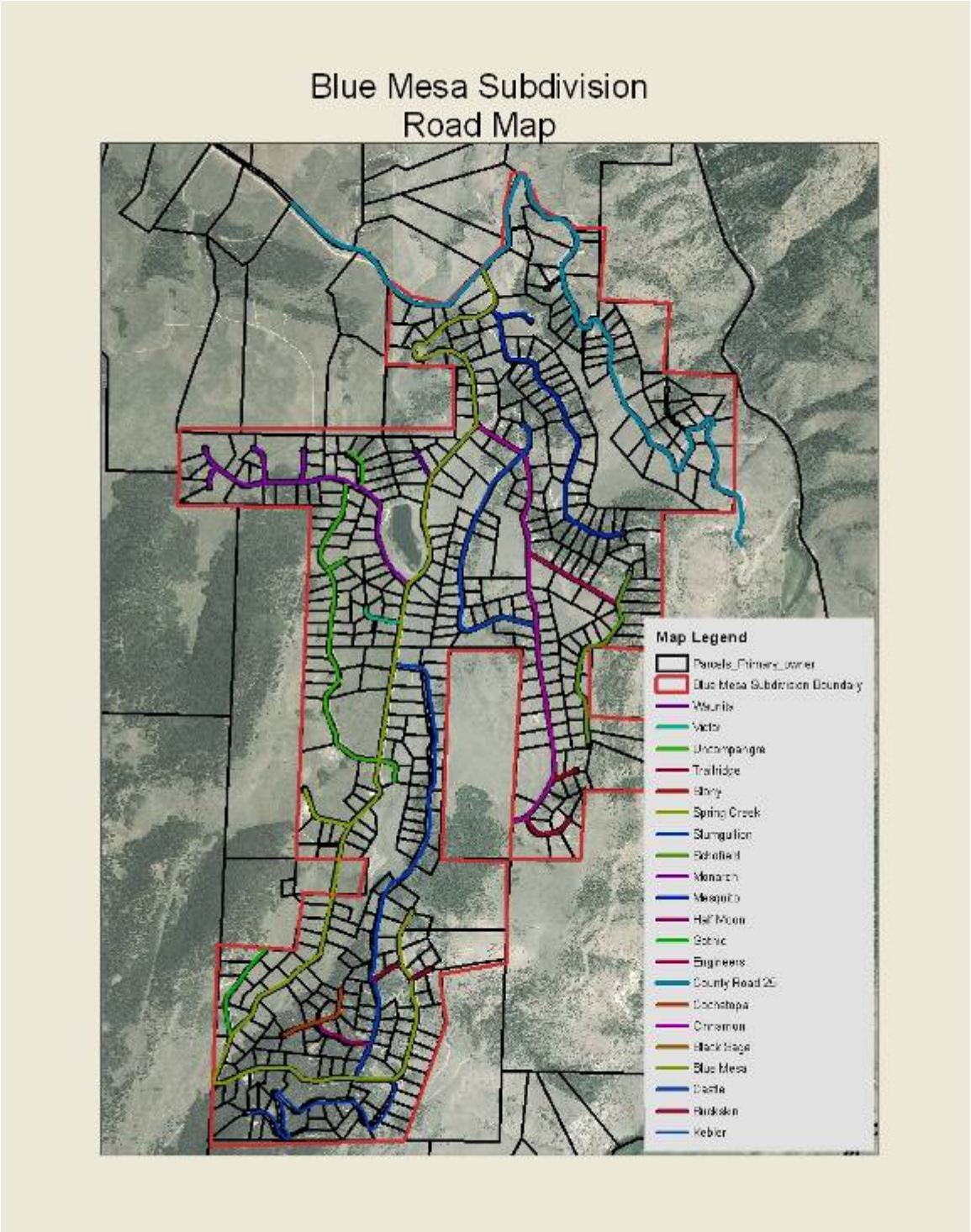
   b. Seasonal access
   County Road 25
   Blue Mesa Drive

2. Directions: From Gunnison, go West on U.S. Highway 50 approximately 26 miles. Turn left on County Road 25 for 11 miles. Or, go West on Highway 50 for approximately nine miles, turn South on Colo 149 for approximately 19 miles then West on County Rd 25 for 5 miles to subdivision.

C. Blue Mesa Subdivision Wildland Urban Interface



D. Blue Mesa Subdivision Road Map



II. Structure/Lot Wildfire Hazard Evaluation/Fire Behavior

A. Structure/Lot Wildfire Hazard Evaluation

1. Subdivision - The subdivision has been rated utilizing the CSFS "Wildfire Hazard Rating Form".

The results are:

Points 67

Description High *(Moderate, High, Extreme)*

2. Individual Lots - All lots have been rated based upon vegetation/slope utilizing the CSFS "Wildfire Hazard Matrix". A description is found in Appendix 4.

Results are:

Number of Lots

Low	Moderate	High	Extreme
0	260	282	84

3. Structures - All structures have been rated utilizing the CSFS "Wildland Home Fire Risk Evaluation System". A description is found in Appendix 5.

Results are:

Number of Structures

Extreme	High	Moderate	Low
15	40	11	0

B. Expected Fire Behavior (head fire only):

Aspen Stands

Fires are low to moderate in intensity except when they consume pockets of dry grass, sage -brush or conifer. Typically fires are of short duration. Rate of spread is moderate to high but fairly easy to stop.

Conifer Stands

Crowning out, spotting, and torching of individual trees are more frequent in this fuel situation, leading to potential fire control difficulties. Fire is of high intensity and can be of short or long duration, Rate of Spread is moderate to fast.

Sage and Grass

These fuels respond quickly to changes in weather. They will dry or absorb moisture rapidly. Increases in wind speed or slope will cause fire to increase in flame height and intensity. Fire behavior can range from low when burning conditions are marginal to extreme during hot, dry weather.

1. Specific - Determined utilizing BEHAVE (The Fire Behavior Prediction System) and NFFL fuel models.

   a. Input data. 30 percent slope was used to show the fire behavior that could be expected on the more steep slopes in the Subdivision. The Extreme rated lots at the south end of the subdivision (see Appendix 6) are located on steep slopes of 20 percent. Extreme rated lots on the East side of the subdivision are located above slopes exceeding 50 percent.

	Average Day	Red Flag Day
Date	7-31	7-31
Time (hrs)	1500	1500
Temperature (F)	65	75
Min. Relative Humidity (%)	18	10
Average Wind Speed (MPH)	6	15
Live Fuel Moisture (%)	150	100
1 Hr. Fuel Moisture (%)	5	2
10 Hr. Fuel Moisture (%)	8	5
100 Hr. Fuel Moisture (%)	14	10
Average slope (%)	30	30
Fuel Model	9	9

   b. Outputs

      1) Average Day

	AVERAGE DAY
Rate of spread (chains/hr)	14
Fireline intensity (Btu/ft/s)	100
Average flame length (ft)	3.8

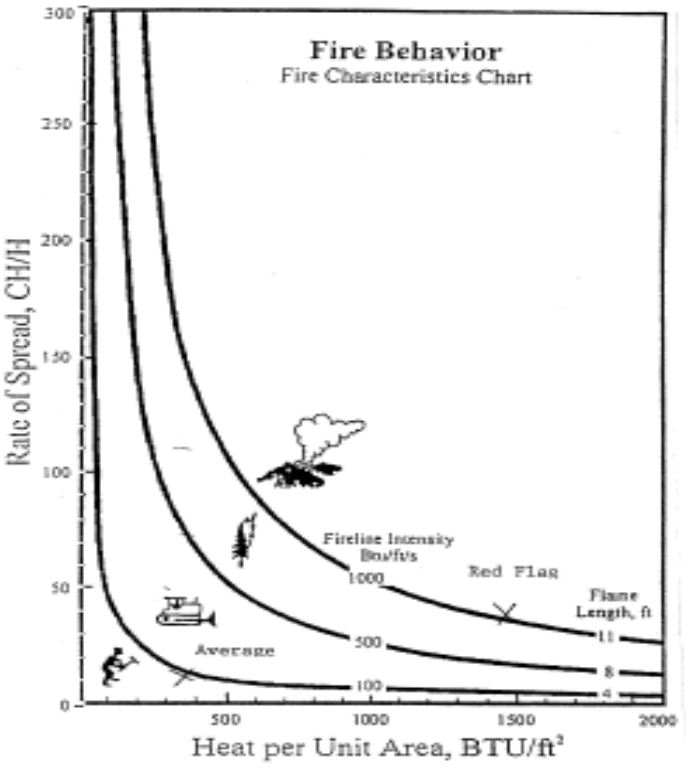
	Response Time	
	.3 HOUR	1 HOUR
Area (acres)	.6	6.5
Perimeter (ft)	660	2310
Estimated spotting distance (mi)	.2	

2) Red Flag Day

	RED FLAG DAY	
Rate of spread (chains/hr)	84	
Fireline intensity (Btu/ft/s)	746	
Average flame length (ft)	9.4	
	Response Time	
	.3 HOUR	1 HOUR
Area (acres)	10	117
Perimeter (ft)	3498	11748
Estimated spotting distance (mi)	.4	

2. Fire Characteristics Chart (Projected)

This chart shows the BTU per square foot at increasing rates of spread. Rates of spread are graphed in chains per hour. One chain equals 66 feet. The Average Day and Red Flag Day Fire Behavior are plotted on the chart.



III. Community Values to be Protected (Map - appendix 5, pg 49)

This section addresses the essential community values that can be destroyed due to a wildfire. The highest priority for protection is human life. The community preparedness section (CPS) on pg 15 has a wealth of information to help residents become safer both before and during a wildfire emergency. Part 2 of the CPS on pg 16 has a response plan. The response plan, under section E on pg 28, designates locations of command post, staging areas, safety zones and helispots. These locations are also mapped on the logistics map in appendix 4 on pg 48. Under section 6 a. of the CPS response plan on pg 20 is the evacuation procedure. Section 6 b. on pg 20 has the specific evacuation travel routes. Please refer to the road map on pg 6.

The second highest value is the residential structures. The first step in protecting structures is to refer to the Defensible Space section of the CWPP on pg 12. This topic is further illustrated in appendix 2 on pgs 45-46. Subtitle a. of section A of part 1 under the CPS (pg 15) covers actions homeowners should take prior to a wildfire emergency. These steps will help ensure the protection of their structures.

The third highest value is the clubhouse /fire shed. They are located in moderate wildfire danger area. The vegetation in the area is sage with a grass under story. These structures are indicated on the values map by a purple dot. These structures can be protected with a defensible space. Please refer to the defensible space section on pg 12 and appendix 2 on pgs 45-46.
Defensible Space Prescription---Clubhouse/Fireshed
Zone 1: 15 feet measured out from the eaves should be void of any flammable vegetation
Zone 2: Keep vegetation mowed to 6 inches or less 70 feet out from structure

The final area of concern is the phone and electrical sources. These sources are both located in high to extreme wildfire areas. They are indicated on the values map by teal and green dots. These areas can be protected with a defensible space. Please refer to the defensible space section on pg 12 and appendix 2 on pgs 45-46.
Defensible Space Prescription
Zone 1: Remove all flammable vegetation from the first 15 feet out from structure
Zone 2: Thin trees to a spacing of 12 feet between crowns; prune up all residual trees 10 feet from ground level; 100 feet out from structure

IV. Reducing Structural Ignitability

A wildfire is capricious and will always find the weakest link in your defense. The goal of this section is to help residents make decisions in building materials and home maintenance, making their structures more fire resistant.

A. House Site Location

The first step in structure protection, for someone building a new home, is choosing a building site. When determining where a structure will be built, the developer and owner should consider how the native vegetation and topography variations affect wildfire behavior.

B. Roof

The second building standard that should be considered is the roofing material. One of a structures most vulnerable area is the roof, which is due to the amount of surface area. The roof can be continually inundated with flying firebrands.

C. Siding/Walls

The third consideration to look at while building or remodeling is the siding and walls. Use construction materials that are fire resistant or non-combustible whenever possible. Use a minimum of a class 3 flame spreading siding material. The best materials are brick or stucco type products. The walls should be constructed of fire resistive materials from the ground to the roof overhang.

D. Foundation

The fourth consideration is the foundation. The area is often the first area to come in contact with a spreading wildfire. Construct a closed foundation with concrete block, cement wall, or use other fire resistive materials.

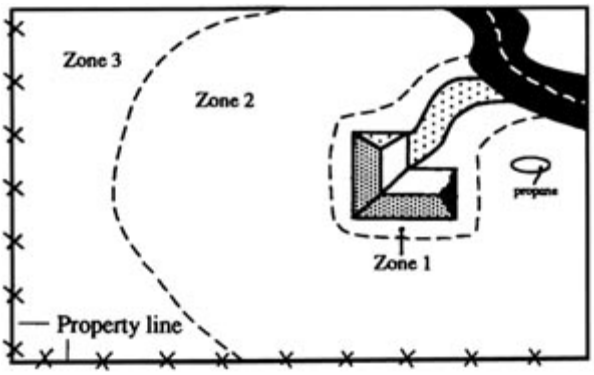
E. Windows

The fifth consideration is the window area and is often overlooked as a hazard. Radiant heat can pass through them and set fire to curtains or furniture. Minimize the size and number of windows on the side of the house that is likely to be exposed to wildfire. Consider size and materials for windows, choose double pane glass for reducing the amount of radiant heat; plastic skylights can melt rapidly.

V. Defensible Space

Two factors have emerged as the primary determinates of a structure's ability to survive wildfire. These are the structure's roofing material and the quality of the defensible space surrounding it. Defensible space is an area around a structure where fuels have been mitigated to slow the spread of a wildfire. It also reduces the chances of a structure fire becoming a wildfire. Creating a defensible space involves developing a series of management zones in which different treatment methods are used depending upon the fuel type present. An example is found in the diagram below.

A. Defensible Space Zones



Zone 1: This area receives the most modification and treatment. It consists of an area 15 feet around structure in which flammable vegetation is removed. These 15 feet are measured from the outside edge of the home's eaves.

Zone 2: This area receives a fuel reduction treatment. The size of the area is determined by the average slope of the property. Within this zone continuity and arrangement of vegetation is modified. Remove stressed, diseased, dead or dying trees and shrubs. In the event of a crown fire reaching this zone, fuel will be broken up in such a way that the fire returns to the ground.

Zone 3: This area receives a traditional forest management treatment. The area starts from the end of zone 2 and ends at the landowner's property boundary. Landowners should contact the Colorado State Forest Service (970-641-6852) for assistance in managing this zone.

B. Steps to Determine Recommended Size of Defensible Space

The size of your defensible space is determined by the average slope of your property. A proper defensible space size can be determined using the three step process below.

1. 3 steps

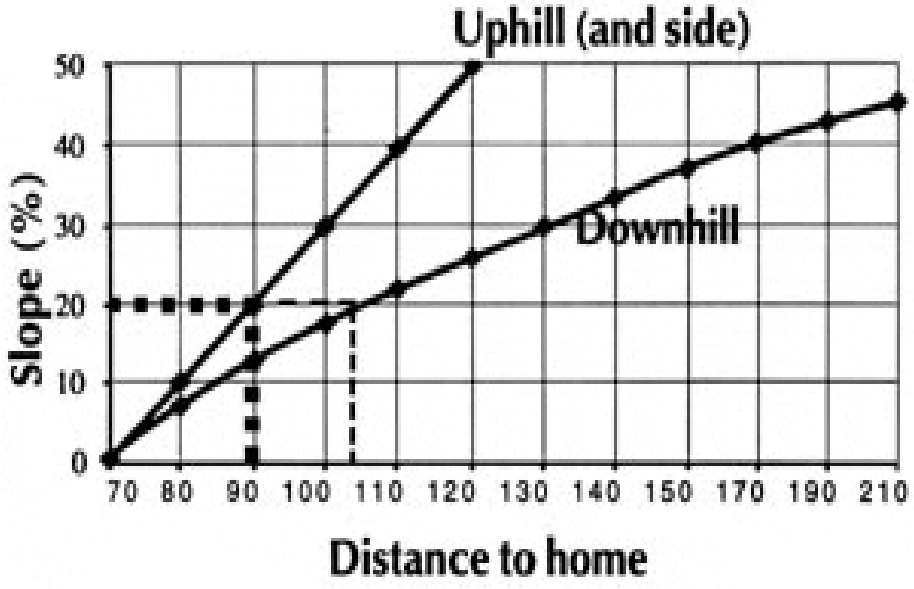
Step 1. Determine average % slope of property (appendix 2, pg 46)
Step 2. Determine size of zone 2 using provided graph in sec. 2, pg 13
Step 3. Determine fuel type and appropriate mitigation recommendation in sec. 3, pg 13

Remember: Zone 1 is always 15 feet wide measured from the outside eaves and zone 3 extends from the end of zone 2 to the property boundary.

2. Zone 2 graph

This graph illustrates the recommended size of zone 2.

Directions: Find the property's average slope on left side of graph. Then follow that line over until it intersects with either the uphill or downhill line. Follow the point of intersection down to the bottom series of numbers. This number is the measurement from the eaves of the structure to the far edge of zone 2.



3. Fuel Types and Mitigation Recommendations for Defensible Space

Note: The subdivision has made a stump dump available to its residents. The dump is open to all material removed during fuels mitigation projects. It is located next to the clubhouse on Blue Mesa Dr..(BM logistics map appendix # 4 pg 48)

a. Aspen with Vegetative Understory
   1) Zone 1: Remove all **flammable** vegetation 15 feet out from the eaves.
   2) Zone 2: The vegetation in the understory should be mowed to a minimum height of 4 inches. This should be maintained throughout the year with periodic mowing.
   3) Zone 3: Monitor for insect and disease. Refer to appendix #8 for information regarding common Aspen disease problems.

b. Mixed Conifer (fir, spruce)
   1) Zone 1: Remove all **flammable** vegetation 15 feet out from the eaves.
   2) Zone 2: The mixed conifer fuel type has a higher wildfire danger than Aspen due to its volatile needles. It requires significant fuel modification in order to reduce the wildfire danger. The idea for

this fuel type in this zone is to break up the continuity, thus reducing the chances of a crown fire. Trees should be thinned to 10-12 foot spacing between stems. All residual trees should be pruned up 10 feet from ground level. Remove or evenly distribute all slash.

3) Zone 3: This is an area of traditional forest management. The same prescription as zone 2 can be followed. With less attention paid to detail. Slash can be lopped and scattered up to a depth of 12 inches. Trees do not have to be limbed up. This area should be monitored for insect and disease problems. Refer to appendix 8 pg 52 for information on prominent conifer insects in the Blue Mesa area.

Precaution: If your trees or home site are susceptible to wind throw and the trees have never been thinned, reduce the amount of trees removed in the first year. Engelmann spruce and Sub-alpine fir are especially prone to wind throw. Some good indicators of wind sensitive areas: 1) blown down trees 2) large root ball holes 3) ridge tops. If you have a wind sensitive area gradually remove the trees over a 6 year period. Remove more trees every 3 years until you have reached the recommended spacing. Only remove 1/3 of the large trees from a wind sensitive stand per entry.

c. Sage

1) Zone 1: Remove all **flammable** vegetation 15 feet out from the eaves.
2) Zone 2: This fuel is considered "flashy" due to its rapid response to changes in weather. It dries and absorbs moisture swiftly. The sage in zone 2 should be mowed to a height of 6-8 inches. Follow d-space size guidelines for conifer type fuels.
3) Zone 3: Break up the continuity of the fuel by creating large islands of sage with treated vegetation strips in between

These are just general guidelines. Landowners are encouraged to contact their local Colorado State Forest Service office (970)641-6852 for guidance with a handout called "Creating Wildfire Defensible Zones" (603.2) The Colorado State Forest Service can also assist landowners in finding a contractor that does fuels mitigation work.

C. Other Areas of Consideration

1. To prevent sparks from entering your home through vents; cover attics, soffit and floor vents with wire mesh no larger than 1/8 of an inch.

2. Prevent combustible materials and debris from accumulating beneath patio deck or elevated porches: screen under or box in areas below ground level.

3. Landscape with fire resistive plants

4. Incorporate walkways and retaining walls as man made fuel breaks

5. Clean gutters, eaves and roofs regularly.

6. Stack firewood and place propane tank at least 30 feet from structure and on uphill side on the contour of the structure.

VI. Community Preparedness

This section of the CWPP addresses what the subdivision residents and emergency response crews can do before and during a wildfire emergency situation. It will be broken up into two sections, **before** and **during**. The "**before"** section will explain what residents, HOA, local fire and sheriffs departments can do to lessen the danger of a wildfire emergency. The "**during"** section addresses what these same people can do in the event of a wildfire emergency. A response plan is found in this section that lays out the predetermined logistical planning.

A. Before a Wildfire Emergency

Wildfire awareness has been increasing over the years in Blue Mesa subdivision. The subdivision added a Smokey Bear wildfire awareness sign at the entrance, to indicate to residents and visitors the current fire danger. Blue Mesa has also added a small fire truck and a dry hydrant to the Subdivision Lake. The hydrant allows fire fighters to easily draft out of the lake. The HOA has hosted several fire wise meetings in clubhouse. It also facilitates the distribution of fire wise pamphlets in the subdivision club house. The HOA has also designated a lot for a stump dump which is located next to the club house. Residents can drop off slash from mitigation projects. These types of collaborative efforts and the ones listed below are essential to a wildfire safe community.

The items below are things individual landowners, the entire HOA, the volunteer fire department, and the sheriff's office can do to help prevent and prepare for wildfire situations. People involved should use this section as a check off list for their own residences and agencies.

1. Individual Homeowner Actions

   a. **Create** a defensible space around your home and other outbuildings. Dimensions vary depending upon the degree of slope of your property. Defensible space means providing room for firefighters to protect a building (See defensible space sec. pg 12.)

   b. **Remove** trash and other combustible material (ie. hay, lawn furniture, etc,) from the defensible space.

c. **Mow** grass and weeds to less than 4 inches in height within 10 feet of structures, propane tanks, and utility service boxes.

d. **Stack** firewood a minimum of 30 feet uphill from structure or on an even contour with structure.

e. **Remove** trees growing through roof or porch.

f. **Use** non-combustible roofing material.

g. **Clean** roof and rain gutters of all debris.

h. **Remove** any branches within 15 feet of the chimney.

i. **Utilize** a spark arrester on the chimney.

j. **Place** screens on foundation and vent eaves.

k. **Post** name/address signs which are clearly visible from the road.

l. **Widen** driveway and provide a turn-around space for emergency vehicles.

m. **Develop** outdoor water supply.

n. **Practice** a family fire drill and evacuation plan.

o. **Make** a list of items to take should evacuation be required.

2. Subdivision/Homeowner Actions

a. In conjunction with the Gunnison Basin Wildfire Council, **place** and maintain Fire Danger Sign(s) at all Subdivision entrances.

b. **Develop** and maintain Defensible Space around the following:
   1) All community-held facilities
   2) Propane and gasoline tanks
   3) Electrical Transformer boxes
   4) Telephone Service boxes
   5) All utility poles

c. **Encourage** homeowners to develop Defensible Space around individual homes.

d. **Maintain** a well thinned forest on all Open Space lands.

e. **Sign** all roads. (Letters should be reflective and a minimum of four inches high.)

f. **Encourage** homeowners to sign their driveway with their name/address.

g. **Widen** roads and improve height clearance to facilitate easy access of emergency vehicles.

h. **Maintain** dry-hydrant in main lake.

i. **Notify** all new residents of wildfire hazard and supply each with appropriate hazard mitigation material available through the Gunnison Basin Wildfire Council.

3. Fire Department Actions

a. **Obtain** enough copies of the Wildfire Hazard Evaluation Map to place one in each piece of equipment and in each station.

b. **Conduct** "familiarization" drills within the subdivision once per year.

c. **Ensure** that wildland fire tools are maintained on each piece of equipment.

d. **Develop** and maintain a 10-person wildland fire cache, in addition to the tools on each piece of equipment.

e. **Formalize** agreements for water use with the appropriate owner.

f. **Ensure** on a regular basis that each firefighter has wildland Personal Protective Equipment and has received proper and appropriate training.

g. **Familiarize** yourself with the County Wildfire Annual Operating Plan.

h. **Host** periodic "Wildfire Awareness/Hazard Mitigation" meetings within the subdivision.

i. **Encourage** development of alternative water sources and Defensible Space.

4. Sheriff's Department Actions

a. **Obtain** enough copies of the Wildfire Hazard Evaluation Map to place one in each vehicle and in each station.

b. **Conduct** "familiarization" drills within the subdivision once per year.

c. **Formalize** agreements for water use from the appropriate owner.

d. **Facilitate** acceptance/use of the County Wildfire Annual Operating Plan.

e. With CSFS, **host** periodic "Wildfire Awareness/Hazard Mitigation" meetings within the subdivision in cooperation with the local Fire Department.

f. **Develop/practice** evacuation techniques.

B. During a Wildfire Emergency

This section addresses what residents and emergency response crews should do in the event of a wildfire emergency. The intent is to make an emergency situation operate efficiently and with minimal surprises. By having specific areas and responsibilities delegated an offensive plan can be put into action rapidly. A response plan has been developed to facilitate this rapid and efficient response.

RESPONSE PLAN

1. Fire Protection Responsibility

   a. Agency
      1) Structural: Gunnison Fire Protection District
      2) Wildland
         a) Private land: Gunnison County.
            By and through the County Sheriff.
         b) Federal land: Bureau of Land Management.

   b. Command - The first initial attack Incident Commander (IC) on the scene shall serve as IC until properly relieved.

2. Alarm Response: These are equipment that are likely to respond. Actual response will depend on nature of situation and current commitments.

Response Agency	Station	Description Of Equipment	Response Time
GCFPD	Gunnison	2000 Gal. Tanker	45 minutes
GCFPD	Gunnison	Class one pumper	45 minutes
GCFPD	Gunnison	Brush fire unit	45 minutes
GCFPD	Gunnison	Brush fire unit	45 minutes
BLM	Montrose	Type 5 or 6 Engine	60 minutes
USFS	Gunnison	Type 6 Engine	45 minutes
USFS	Gunnison	Type 6 Engine	45 minutes
Blue Mesa VFD	Blue Mesa	Brush Truck	15 minutes

3. Access

a. Road System - Of the approximately 16 miles of roads within the subdivision:
   1) Most are constructed of gravel.
   2) Most will support two lanes of traffic.
   3) Some are loop roads.
   4) Some are dead-end roads. Of these, most have adequate turn-around space available at the end of the road.
   5) Road signs are present.

b. Driveways:
   1) Individual home driveway width and height clearance is inadequate for emergency equipment.
   2) Some individual homeowners have posted their name and address.

4. Water Supply (Water supply map appendix # 6 pg 50)

a. Ponds/Creeks/Lakes/Rivers

Type P/C	#/Name	Status P/I	Helicopter Accessible Y/N	Pump Required Y/N	Water Capacity When Full (1,000 GALS.)
P	Subdivision Lake BMesaDr/ Monarch	P	Y	Y	6,000
C	Lake Fork of the Gunnison	P	Y	Y	Continual flow

Key: Type: P = Pond, C = Creek
Status: P = Permanent, I = Intermittent
Helicopter/Pump: Y = Yes, N = No
(Ponds) = measure in 1000's of gal.

LAKE FORK OF THE GUNNISON IS WITHIN ONE MILE BY HELICOPTER, TWO MILES BY ROAD.

5. Locations: (logistics map appendix # 4 pg 48)

a. Command Post - The following location(s) are recommended Incident Command Post (ICP) location(s):
   1) Blue Mesa Clubhouse

2) Structures not in fire path

b. Staging Area(s) - The recommended staging area for operations within the subdivision is/are designated as:
   1) Location - Blue Mesa Clubhouse
   2) Designation - Blue Mesa Staging
   3) Ownership - Blue Mesa Homeowners

c. Safety Zone(s) - The recommended safety zone(s) for operations within the subdivision is/are designated as:
   1) Intersection of County Rd 25 and Blue Mesa Drive
   2) Gravel Pit north of Clubhouse

d. Helispot(s) - The recommended helispot(s) for operations within the subdivision is/are designated as:
   1) Meadow at Intersection of Cnty Rd 25 and Blue Mesa Drive
   2) Closed Runway at 107 deg 16.21 W 38deg 21.04 N Altitude 8800' ASL
   3) Blue Mesa Clubhouse

6. Evacuation (Blue Mesa road Map pg 6)

a. Procedure
   1) The Incident Commander or Incident Command Team in coordination with local authorities is responsible for initiating evacuation planning.
   2) Local government is responsible for assisting in the dissemination of information to local residents.
   3) All public information including that given door to door will be approved by the Incident Commander.
   4) Reoccupation of homes will occur only after the Incident Commander determines it to be reasonable
   5) The decision to initiate actual evacuation will come at the order of the Incident Commander in coordination with the appropriate jurisdiction/authority required by law to participate/order the evacuation process.

b. Escape Route during Emergency
   Evacuations will use County Road 25(refer to Blue Mesa Road Map on Pg 6)

7. Radio Frequencies

a. Tactical Frequency - Each agency's normal operational frequency. It shall be used for communications on scene within the response agency.

b. Operational Frequency - 154.280 (FERN); to be used in passing tactical orders from the Operations Chief or Incident Commander. A second channel may be operated on 154.145 (GCFPD).

c. Command Frequency - 155.475 (NLEC); to be used to coordinate activities; pass data to ICP, as a back-up for the operational frequency, and for entry communications between ICP and responding agencies.

d. Interagency radio cache may be requested through the local Interagency Dispatch Center.

8. Utilities

a. Telephone service is below ground. There are approximately 12 service boxes present.
Provided by Qwest
Telephone # 1-877-348-9007

b. Electrical service is below ground. There are approximately 47 transformers, 12 primary junction boxes, three secondary, and 55 utility pedestals present.
Provided by Gunnison County Electric Association.
Telephone # 970-641-3520.

c. Approximately 9 homes utilize propane while 0 homes utilize central natural gas.
Propane provided by: National propane (970) 249-4785,
AmeriGas 1-800-570-2241

d. Individual homes utilize wells.
Provided by Individual Homeowners.
President of the HOA Telephone # 970-641-1211

9. Adjacent Property:

Ownership	Phone
BLM	(970) 641-0471
USFS	(970) 641-0471
Big Willow Creek Ranch	(970) 641-5863

10. General Goals/Objectives:

a. Strategic
1) Ensure the safety of all firefighters, residents and bystanders.
2) Conservation of property by minimizing damage and protecting all structures and improvements within the fire perimeter.
3) Stabilize incident and contain fire to specific geographic areas.
4) Protect exposures threatened by the fire but outside current fire perimeter.

5) Extinguish fire.
6) Perform necessary rehabilitation work.

b. Tactical
1) Evacuation or in-place shelter of residents.
2) Establish traffic control within affected area.
3) Briefing of personnel on safety and hazards.

4) Determine Operational Mode --
a) Offensive Mode
b) Defensive Mode
c) Combination
5) Determine resource needs and assignments
a) Type and #
(1) Aircraft
(a) Rotor wing
(b) Fixed wing
(2) Mechanized
(a) Dozer
(b) Road Grader
(c) Other
(3) Hand Crews
(4) Water/Chemical Delivery Systems
(a) Engines
(b) Tenders
(c) Portable pumps
(d) Other
b) Assignment
(1) Reconnaissance
(2) Medical
(3) Suppression
(a) Line construction
(b) Prepare structures (See Section H)
(c) Burn out
(d) Other
(4) Rehabilitation
6) Manage utilities
a) Water Supplies
b) Electrical
c) Natural Gas & Propane
d) Telephone

11. Anticipated Problems:

a Firefighter Safety -
1) Inexperience of crews with Extreme wildfire behavior.
2) Narrow roads and private drives.

3) Confusion and panic associated with evacuation.
4) Limited availability of personnel and resources.
5) Overhead power lines and utility service boxes.
6) Septic systems.
7) Frightened and confused pets.
8) Hazardous materials, including propane and gasoline tanks.

b. Wildland Fire WATCH OUT Situations

1) Failure to adequately scout and size up fire.
2) Personnel are not familiar enough with terrain to work after dark.
3) Safety zones and escape routes not identified.
4) Individuals are unfamiliar with weather and local factors that affect fire behavior.
5) Personnel are uninformed on strategy, tactics, and hazards of the fire.
6) Personnel are unclear on instructions or assignments.
7) Personnel are out of communication with crew members or supervisor.
8) Line construction is occurring without a safe anchor point.
9) Line construction is occurring downhill towards the fire.
10) Resources are attempting a frontal assault on the fire.
11) There is unburned fuel between firefighters and the fire.
12) Personnel cannot see the main fire and are not in contact with someone who can.
13) Personnel are on a hillside where rolling material can ignite fuel below.
14) The weather is getting hotter and drier.
15) The wind is increasing and/or changing direction.
16) Personnel are reporting frequent spot fires across line.
17) Terrain and fuels make escape to safety zones difficult.
18) Personnel feel like taking naps near the fire-line.

c. Structural Fire WATCH OUT situations

1) Poor access to the fire.
2) Inadequate bridge load limits.
3) Garages with closed, locked doors.
4) Inadequate water supply.
5) Windows are black or smoked over.
6) There are septic tanks and leech lines present.
7) Structure is burning with puffing rather than steady smoke.
8) Construction is wood with shake shingle roof.
9) Natural fuels within 30 feet of the structure.
10) Known or suspected panicked residents or visitors are in the vicinity.
11) Windows are bulging and the roof hasn't been vented.
12) Additional fuels can be found in open crawl spaces beneath the structure.
13) Structure is in or near a chimney or canyon.

14) Elevated fuel or propane tanks are present.

d. LCES
   1) Place lookouts around the fire area to observe fire behavior and warn resources of potential hazards.
   2) Make sure suppression resources have adequate communication.
   3) Identify escape routes and assure all resources can identify these routes at all times.
   4) Identify safety zones and assure resources know where they are located.

VII. Vegetation Management

The forests in Blue Mesa subdivision are in declining health. This is due to lack of fire and management, which has created overstocking, over mature timber and insect and disease susceptible stands.

In pre-settlement times, low intensity ground fires would periodically burn through the area, thinning the forest by scorching and killing seedlings and saplings. These forests had significantly lower stocking than the current forests, which are better able to defend themselves from wildfire and insect and disease. When too many trees compete for the same limited amount of nutrients and sunlight, an unnatural weak forest grows. Overstocked weak forests are also highly susceptible to crown fires, due to the ladder fuel effect, which is created when large amounts of trees are allowed to grow in the understory of a forest. The understory trees allow a ground fire to climb up low lying branches and into the crowns of big trees. Forest management is the solution to better forest health and reduced fuels.

Age is a second factor in the declining health of Blue Mesa's forest . Each specific species of tree has a biological maturity that plays a major role in a forest's health. Once trees meet their biological age of maturity they begin to decline. Over mature trees are more susceptible to insects and diseases due to their low vigor. Therefore removing these trees, a younger and more vigorous stand of trees can replace them.

Balsam bark beetle has been attacking the over mature Sub-alpine fir and the Douglas fir of Blue Mesa are beginning to be attacked by the Douglas fir bark beetle. One of the reasons that these attacks are occurring is due to the low vigor of the over mature trees. Many species of trees use sap as one of their main defense mechanisms against beetles. Once a beetle begins to bore into a healthy tree a flush of sap flows to that area and entraps the beetle. The sap then flows out of the tree with the beetle entombed. When a tree begins to die back, it produces less sap. By allowing older trees to become infested, it gives the beetles a chance to build up large populations. Once the large populations have infested and killed the weak and over mature trees, they can begin to attack the younger trees. By managing the forest and removing over mature trees, large populations of beetles have a lower chance of becoming established and completing life cycles.

Most of the high to extreme wildfire risk areas in the subdivision can be described as dense conifer stands (Douglas fir or Spruce) with young conifers growing in the shade of mature

trees. These conditions are due to the succession of forests in the Rocky Mountains. Succession is a term used to describe how an ecosystem is forever changing. The ecosystem in Blue Mesa has relied upon fire to implement change. Since the settlement of the area, regular fires have been excluded and this has caused a stagnation of the ecosystem. A forest ecosystem like the one in Blue Mesa is continually changing. The change is not sudden but spread out over decades and perhaps centuries. The change involves stand composition, structure and biomass. There are two types of main forest cover types in Blue Mesa, Conifer and Aspen.

The Aspen in Blue Mesa are present because there was a disturbance in the forest, probably wildfire. Aspen require abundant sunlight and regenerate in the openings created by disturbance (fire, harvest, and avalanche), allowing them to dominate disturbed sites and grow in pure over-story mono-cultures. This species has safety advantages over conifers in WUI area, as the wildfire risk in this cover type is moderate due to the low occurrence of crown fires and absence of volatile chemicals in leaves like conifers.

Aspen should be promoted in WUI areas due to its low wildfire risk, however promoting and preserving aspen stands requires management. Many of the aspen stands in Blue Mesa subdivision have reached or surpassed their biological maturity. Aspen live 80-100 years and then the stand begins to show signs of decay (fungus, low crown ratios). Aspen stands exist through a network of stems connected by an extensive root system. Once aspen stands reach their biological maturity and are not regenerated through disturbance, the central root system begins to die and the potential to loose the species from the site increases. Conifer begins to invade the understory of the maturing aspen and eventually the aspen is shaded out or dies from old age and the conifer takes over the site. This significantly increases the wildfire potential of a once moderate risk.

The remaining vegetative cover is grass and sage brush, which has a moderate to high wildfire risk. It is referred to as a “flashy fuel” and can combust rapidly. Grass and sage respond drastically to fluctuations in humidity, making their fuel moisture dangerously sporadic. These cover types can be managed as safe, healthy, and attractive landscapes but if not managed, they become dense and fire receptive. This is what is happening at Blue Mesa. Like the forest cover type, the sage/grass cover type is also fire dependent. Without regular fire in the ecosystem to thin the sage, grass cannot compete with sage and is shaded out. The sage dominance is also perpetuated by the current drought trend in the Blue Mesa area, as sage has a tap root and can better adapt to a drier and hotter environment. Natural fires especially in range land tend to burn in a mosaic pattern. Some areas were burned more often than others. The use of machinery to mow the sage can mimic this pattern. The recommendation is to mow 80% of the sage in a given area and leave islands of untreated to cover the remaining balance. This type of treatment leaves a more natural and aesthetically pleasing look while still covering multiple objectives. The fuel continuity is broken up and the wildfire risk is reduced. The mowed areas will produce more grass to benefit the wildlife. The grass provides a needed source of food for wildlife (deer, elk, rodents, ect.). These types of treatments need to be repeated every 15-20 years, depending upon the productivity of the land.

The best long term protection to the threats of insects, disease, and wildfire is for Blue Mesa to manage their forests. Homeowners should begin management by thinning trees

around their homes, which will provide “Defensible Space” for fire fighters to protect homes. It will also increase the health of the forest on individual properties. Defensible space guidelines can be found on pg 12.

A. Mitigation Treatment Priority

1. Risk Analysis

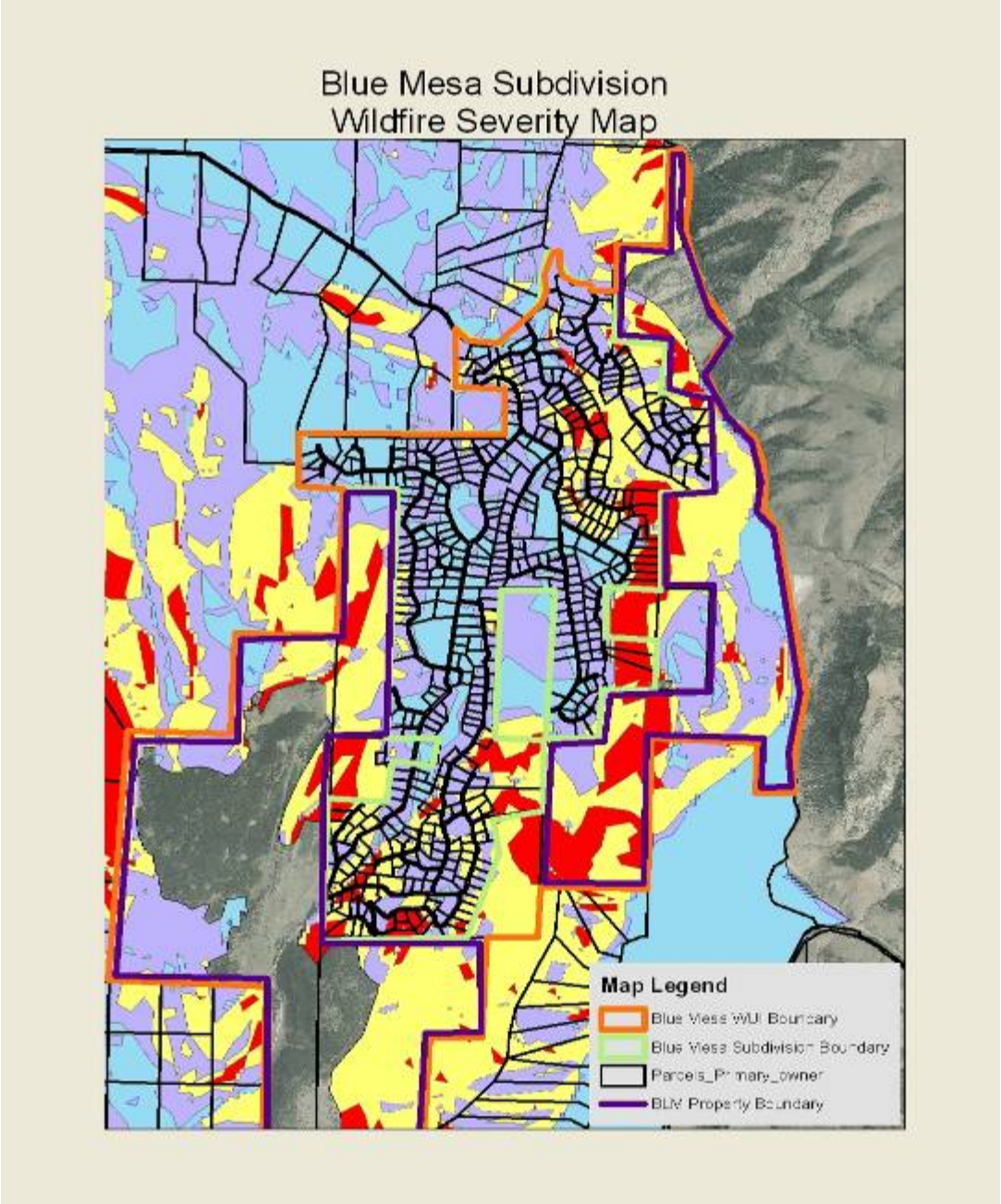
All of the private land in the Gunnison Basin has been mapped for wildfire hazard risk. The mapping was done with Arc-view GIS program. A total risk analysis formula was developed to determine a site’s risk level and contained the following components which had a specific weight for the final evaluation. The components are: fuel hazard (based on USGS fuel cover types), slope hazard, aspect, ladder fuels, forest density, insect and disease. The total hazard equation is as follows: (fuel hazard*slope) + aspect hazard+ladder fuel+density+insect and disease=total hazard. The result is a range of wildfire hazard from 0-20, minimum to maximum. The final GIS process evaluates the total hazard and categorizes their values as follows:

Refer To Wildfire Severity Rating Map on the Next Page

Total Hazard Rating	Wildfire Hazard Severity	Color Code/Treatment Priority
0	None	Tan
1-4	Low	Blue = 4
5-8	Moderate	Purple = 3
9-12	High	Yellow =2
13+	Extreme	Red = 1

The Gunnison County Wildfire Hazard Severity Map is a comprehensive wildfire mapping for the Gunnison basin and is used to determine were the highest priority for fuels mitigation is needed. The data from the wildfire hazard survey has been color coded. The highest wildfire severity areas are colored in red, the second highest are in yellow and the lowest in purple and blue. The two highest levels of wildfire severity (yellow/red) have been used in determining the highest treatment priority and current fuels mitigation projects. Areas that have high to extreme hazard rating and significant amounts of structures will be addressed first.

B. Wildfire Severity Map



Total Hazard Rating	Wildfire Hazard Severity	Color Code/Treatment Priority
0	None	Tan
1-4	Low	Blue = 4
5-8	Moderate	Purple = 3
9-12	High	Yellow = 2
13+	Extreme	Red = 1

C. Fuels Mitigation Action Plan

The idea of this section is to address and focus on areas with the most potential for both life and property destruction. The destructive potential and treatment priority was determined by the Gunnison Wildfire Severity Hazard map (pg 29), local prevailing winds, and proximity to structures. Areas that pose the greatest wildfire threat or have the potential to provide wildfire protection have been identified in this section. These areas have been recommended for fuels mitigation or a fuel break.

Blue Mesa subdivision has a diverse selection of species and topography within its boundary. Species are generally not found in pure stands. Portions of the forest in Blue Mesa can be labeled mixed conifer, which means that multiple species of conifer can be found in these stands. A general prescription is developed in the beginning. Accommodations are made in the field by the forester to compensate for diverse species traits.

Below is a general overview of the majority species found in Blue Mesa subdivision. All of the stands in the fuel break projects are overstocked. The objective is to reduce fuel and prevent crown fires. Thinning will be from below with an average spacing of 10-12 feet between stems. Variability is based upon species traits and slope position. Selection criterion for removal is listed in descending order: dead, diseased, and poor form. All residual trees are to be pruned up ten feet from ground level to prevent ladder fuel issues.

D. Tree Species Overview

Douglas fir is a prevalent species in Blue Mesa subdivision. This species has an elevation range of 6,000-9,000 feet. Douglas fir is a wind-firm species due to its deep root system. This species has a high wildlife food value. Small animals rely upon this species nut crop for food. Deer have been known to browse this species in harsh times.

Many of the Douglas fir stands in Blue Mesa are over mature. Over mature trees are highly susceptible to Douglas fir bark beetles due to their low vigor. Bark beetles can build up population in weaker trees and then move onto healthier ones. Many of these stands and others are overstocked as well and contain an abundance of ladder fuels. This makes these particular stands susceptible to crown fires. In both cases, proper management is the solution. Dead, dying, diseased and over mature trees should be removed in order to promote a vigorous stand. In the case of an overstocked forest a thinning from below of the smaller trees is warranted. This will allow the residual stand of trees to be vigorous through increased sunlight, nutrients, and water.

Spruce, both Engelmann and Blue are found in Blue Mesa subdivision. Both are considered to have a high wildlife food value for rodent like animals. Small animal rely upon this species nut crop for food. Deer and elk have been known to browse this species in harsh times. Generally Engelmann is found higher up on a slope and Blue tends to be found in lower elevation draws and riparian areas. Both species have similar growth characteristics. Spruce prefers wetter areas than Douglas fir and north

facing slopes. Its elevation range is 8,000 to 11,000. This species is generally not wind firm and is subject to blow over if thinned too heavily. Close attention to thinning prescriptions should be paid while thinning on ridge tops.
The Spruce in Blue Mesa are in overall good health. However the threat of Spruce Beetle is increasing every year. A spruce beetle infestation of a 13 acre area is occurring 15 miles up river from the subdivision. The beetle is attracted to weak trees, especially blow down events. It can also be attracted to over stocked dense forests like ones in Blue Mesa. Consistent monitoring and management is the best way to keep a Spruce forest healthy.

Sub-alpine fir has similar growth characteristics as spruce. Generally, these species are found growing together. Sub-alpine fir has a fair wildlife value. Its elevation range is 8,000 to 11,000 feet and prefers north facing slopes. This species is not considered wind-firm, and the same precautions used for spruce are applied to this species.

Many stands of this species in Blue Mesa are over mature and in decline. The Blasam Bark beetle has moved into these stands and has begun to kill large amounts of this species. Although this beetle does not attack other species of trees the dead trees pose a serious wildfire threat. This species often crowds out maturing Spruce making it difficult for the spruce a longer lived species to develop properly.

Aspen is the final majority tree species found in the Blue Mesa subdivision.
The leaves of aspen do not contain the volatile chemicals found in conifers. The lack of volatile chemicals makes them less likely to form crown fires. This makes aspen a very desirable species in a WUI setting. Wildfire mitigation in this species requires mowing the vegetation in the understory to a height of 6-8 inches near homes. However if conifer have begun to heavily invade the stand, thinning of the understory trees might be necessary. In order to protect the integrity of the moderate wildfire risk trait of the species.

In a WUI setting, aspen becomes a valuable part of a communities overall wildfire defensiveness. This is due to its moderate wildfire risk rating. Aspen forests, like the rest of the Blue Mesa ecosystems are constantly changing. As aspen matures it requires change or disturbance in order to survive. Many of the aspen stands in Blue Mesa are in a stage of over maturity and decline. The best way to ensure the survival and long term health aspen in Blue Mesa is through management. A mosaic across the landscape which incorporates regenerating patch cuts.

Sage with a grass component is the final vegetative cover found in Blue Mesa.
This vegetative type is found on sunny, semi-dry and desert like areas. It grows in dense groups. Both sage and grass respond rapidly to changes in relative humidity. Sage leaves contain volatile chemicals. Which combust very easily and increase its wildfire danger. The continuity of this fuel should be broken up. The goal is to create islands of fuel with breaks of treated fuel in between.

The Blue Mesa area has been in a drought pattern for several years. This lack of moisture has allowed the sage to dominate many sites and shade out native grasses.

Wildlife depends on these grasses in order to survive. In the past wildfires would thin out the sage in mosaic patterns of burned and unburned areas. This same pattern can be mimicked with the use of machinery and achieve the same goals.

E. Fuel Breaks (Fuel Break Map PG 37)

A fuel break is a strip of land in which the fuels have been modified in order to slow the spread of a wildfire. They are most effective when anchored to a natural or artificial fire barrier. Examples of natural wildfire barriers are rivers, creeks, rock outcrops or less flammable vegetation. It is of varying widths based upon fuel and % slope. Several factors determine the need for a subdivision to install fuel breaks. They are high/extreme wildfire hazard areas, steep slopes, crowning potential, heavy continuous fuels and ignition sources. Blue Mesa subdivision has all of the above factors throughout most of the subdivision.

Fuel breaks that are installed in Blue Mesa subdivision will cover private lots, common ground and public lands. A collaborative effort is needed in order to have a fuel break that a wildfire will respect. Blue Mesa subdivision is approximately an hour away from any emergency crew response. In the event of a wildfire threatening the subdivision, a fuel break can reduce the spread of the fire by returning a crown fire to the ground. This essentially can turn an uncontrollable crown fire into a controllable ground fire.

The stand is thinned and remaining trees are pruned to remove ladder fuels. Brush, heavy ground fuels, snags, and dead trees are disposed of and an open park like appearance is established. The idea is to separate the crowns in order to stop a crown fire. The ground fuels and ladder fuels are mitigated to keep the fire on the ground and prevent it from returning to the crowns. Crown fires consume fuels rapidly and pose the greatest threat of life and property loss.

1. Fuel Break Project Descriptions

This section will give a description of each fuel break project illustrated on the Fuel Break map. The projects are listed according to their implementation priority. Each project will be unique and require specific onsite prescription adjustments in order to achieve the objective. The approximate size of the fuel break is based on an average timber fuel break. The average is 300 feet wide. Note: refer to the following: CSFS Handout *Fuel Break Guidelines for Forested Subdivisions and Communities*; the fuel break map on page # 37; Fuel break prescription according to vegetative type Pg 38

a. FB # 1
Approximate size: 35 ac
Average % slope: 21-30+%
Vegetative cover types: Timber 90% (Engelmann, Douglas/Sub fir, Sage 10%
Width: 320

Description: This fuel break's proposed location is in the south end of the subdivision. This break is important for several reasons. The timber and sage in this area is very dense. The timber has a high crowning potential due to the presence of ladder fuels. The areas prevailing winds are from the South West which makes this specific area more prone to landscape scale wildfire. A landscape scale fires defy the control of local authorities and tend to climb several ridges before topography, fuel or weather changes put it out. They tend to follow prevailing wind patterns of specific areas. In the event of this type of fire FB # 1 will be an intricate part of the subdivision's wildfire defense. This area is also the location of the subdivision's utility sub-stations. These sub-station structures have been identified in the values at risk section (Pg 42) There are also a significant amount of residence structures north of the proposed fuel break.

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2) Spruce: thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage mowing (3.5ac) = $700 /
Timber Thinning (31.5ac) = $56,700 Total cost: 57,400

b. FB # 2
Approximate size: 86 ac
Average % Slope: extreme 30+%
Vegetative cover types: Timber 55% (Douglas fir, Ponderosa Pine), Sage 45%
Width: 320

Description: This fuel break is located on the west side of the subdivision in the middle region. This fuel break is important for several reasons: fuel is dense, steep topography, location to structures, and ignition sources. Dense pockets of Douglas fir are found in the gully areas. During a wildfire gully areas create a chimney effect. As the fire burns up the chimney, fuel uphill is preheated and ignites rapidly. Dense clumps of timber with a mixture of both Ponderosa pine and Douglas fir are found on the face of the hill. Areas not covered in timber have a mixture of dense sage with a grass understory. These fuels are considered flashy because of their rapid response to changes in weather. They ignite rapidly and are consumed fast.

Several ignition sources exist in this area. Below the subdivision are several undeveloped lots where people have permanent camp sites established. Along the river are several BLM developed campsites. The potential for an unattended camp fire becoming a wildfire is high.

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2) Spruce: thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage mowing (39ac) = $7,740
Timber Thinning (47ac) = $84,600 Total project cost 92,340

c. FB # 3
Approximate size: 50ac
Average % slope: extreme 30+%
Vegetative cover types: Timber 40% (Douglas fir, Ponderosa Pine), Sage 60%
Width: 320

Description: This fuel break is located in the Northeast corner of the subdivision. This fuel break is important for several reasons: fuel is dense, steep topography, location to structures and ignition sources. Dense pockets of Douglas fir are found in the gully areas. During a wildfire gully areas create a chimney effect. As the fire burns up the chimney, fuel uphill is preheated and ignites rapidly. Dense clumps of timber with a mixture of both Ponderosa pine and Douglas fir are found on the face of the hill. Areas not covered in timber have a mixture of dense sage with a grass understory. These fuels are considered flashy because of their rapid response to changes in weather. They ignite rapidly and are consumed fast.

Two potential ignition sources are found in this area. Below the subdivision are several undeveloped where that people have permanent camp sites established. The potential of an unattended campfire becoming a wildfire is high. Also county road 25 goes through the subdivision at this point. The potential for a roadside fire becoming a wildfire is high.

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12

inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.

2) Spruce thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing (30 ac) = $6,000
Timber Thinning (20ac) = $36,000 Total project cost: $ 42,000

d. FB # 4
Approximate size: 50ac
Average % slope: extreme 30+%
Vegetative cover types: Timber 45% (Douglas fir, Ponderosa pine), Sage 55%
Width: 320

Description: This fuel break is located in the Northeast corner of the subdivision. This fuel break is important for several reasons: fuel is dense, steep topography, location to structures, and ignition sources. Dense pockets of Douglas fir are found in the gully areas. During a wildfire gully areas create a chimney effect. As the fire burns up the chimney, fuel uphill is preheated and ignites rapidly. Dense clumps of timber with a mixture of both Ponderosa pine and Douglas fir are found on the face of the hill. Areas not covered in timber have a mixture of dense sage with a grass understory. These fuels are considered flashy because of their rapid response to changes in weather. They ignite rapidly and are consumed fast.

Two potential ignition sources are found in this area. Below the subdivision are several undeveloped lots where that people have permanent camp sites established. The potential of an unattended campfire becoming a wildfire is high. Also county road 25 goes through the subdivision at this point. The potential for a roadside fire becoming a wildfire are high.

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2) Spruce: thin trees to spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.

3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing (28ac) = $5,500
Timber Thinning (22ac) = $39,600 Total project cost = $ 45,100

e. FB # 5
Approximate size: 21 ac
Average % slope: 21-30 % slope
Vegetative cover types: Timber 35% (Douglas fir, Ponderosa pine), Sage 65%
Width: 315

Description: this fuel break is located in the southeast corner of the subdivision. This fuel break is important for several reasons: fuel is dense, steep topography, location to structures, and ignition sources. Dense pockets of Douglas fir are found in the gully areas. During a wildfire gully areas create a chimney effect. As the fire burns up the chimney, fuel uphill is preheated and ignites rapidly. Dense clumps of timber with a mixture of both Ponderosa pine and Douglas fir, are found on the face of the hill. Areas not covered in timber have a mixture of dense sage with a grass understory. These fuels are considered flashy because of their rapid response to changes in weather. They ignite rapidly and are consumed fast.

Several ignition sources exist in this area. Below the subdivision are several undeveloped lots where people have permanent camp sites established. Along the river are several BLM developed campsites. The potential for an unattended camp fire becoming a wildfire is high.

Prescription according to fuel type
1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2) Spruce: thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing(14ac) = $ 2,730
Timber Thinning (7ac) = $12,600 Total project cost = 15,330

f. FB # 6
Approximate size: 43 ac
Average % slope: 20-25%
Vegetative cover types: Timber 35% (Douglas/Sub-alpine fir, Engelmann spruce) Sage 65%
Width: 315

Description: This fuel break is located in the south west corner of the subdivision. This fuel break is important for several reasons: fuel is dense, steep topography, and location to structures. In the event of a landscape scale wildfire this area will be an intricate part of the subdivision's wildfire defense. There is also a significant amount of structures uphill and northeast of the proposed fuel break.

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2) Spruce: thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing (28ac) = $ 5,590
Timber Thinning(15ac) = $27,000 Total project cost = 32,590

g. FB # 7
Approximate size: 71 acres
Average % slope: 20-25 %
Vegetative cover types: Timber 30 % (Aspen, Douglas/Sub-alpine fir, Engelmann spruce), Sage 70%
Location: west side of subdivision
Width: 315

Description: This fuel break is important for several reasons: fuel is dense, steep topography, and location to structures. The areas prevailing winds are from the south west. In the event of a landscape scale wildfire this area will be an intricate part of the subdivision's wildfire defense. There is also a significant amount of structures east of the proposed fuel break. The subdivision club and fire houses are located just east of the fuel break. These structure have been identified in the values at risk section.(pg??)

Prescription according to fuel type

1) Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12

inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.

2) Spruce: thin trees to a spacing between crowns of diameter plus five, prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3) Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing(50ac) = $10,000
Timber Thinning(21ac) = $37,800 Total Project Cost = $47,800

h. FB # 8
Approximate size: 14 ac
Average % slope: extreme 30+%
Vegetative cover types: Timber 75%(Aspen, Douglas fir, Engelmann spruce.), Sage 75%
Location: Internal southeast side along Cochetopa Rd, base of Round Mountain
Width: 320

Description: This fuel break is important because of the dense fuels and their crowning potential. A high amount of ladder fuels are present. In the event that a wildfire made a run up the eastern side of the subdivision this would be a valuable defense area.

Prescription according to fuel type

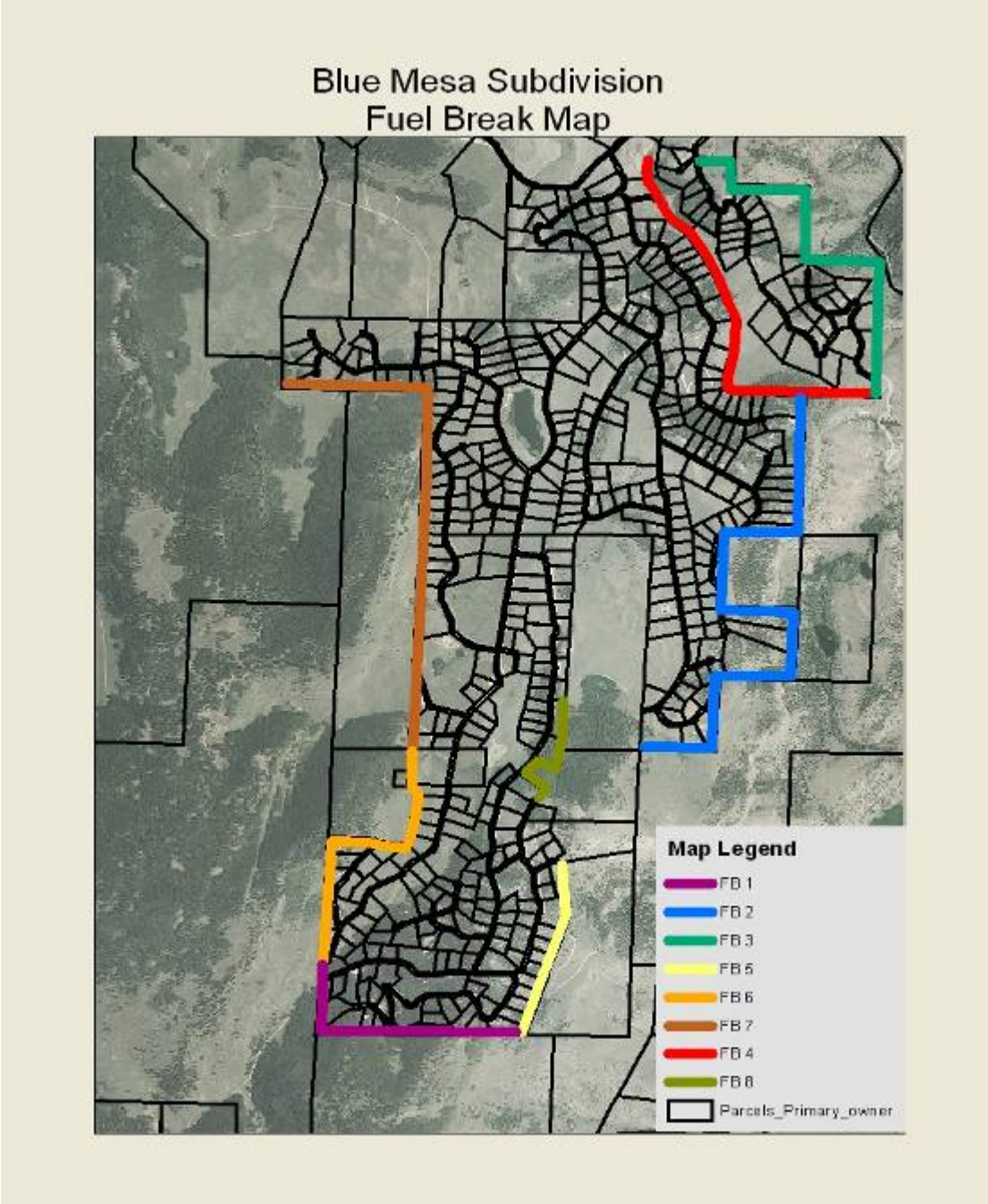
1 Douglas fir and Ponderosa Pine: Minimum crown spacing of 12 feet, Reduce stocking to 80 BAF/ac, Target is understory stock >12 inches however larger trees may be taken in order to achieve desired basil area, Prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuels.
2 Spruce: thin trees to a spacing between crowns of diameter plus five prune residual stand up 10 feet, Remove/chip/pile burn all slash and heavy downed fuel.
3 Sage and Grass: Mow all vegetation to a maximum height of 6 inches

Estimated Cost of Project: Sage Mowing (11ac) = $2,200
Timber Thinning (3ac) = $5,400 Total Project Cost = $7,600

Note: The cost estimations were based upon similar projects performed by contractors in the area. These projects were all less than 10 acres. The size of the project weighs heavily on the final cost. The more acres involved in a project generally equates to a better price. The average cost of a contracted timber thinning in the area is $1,800. Sage mowing in the area is generally $200 per acre.

F. Fuel Break Map

The Fuel Break map shows where fuels treatment is needed due to extreme wildfire danger. The breaks are all color coded and in order of priority. The map illustrates approximate locations of fuel breaks. Actual on the ground treatments will be similar but not as uniform. Treatment might not be possible in all areas designated on the map due to the extreme topography.



G. General Fuel Break Prescription according to vegetative type

The table below shows the recommended size of a mixed conifer fuel break according to % slope. The section also gives specific prescriptions according to vegetative type.

1. Fuel Break Size for Mixed Conifer Fuel Break

% slope	Uphill distance	Downhill distance	Total width
10	140	165	303
30	120	195	315
60	100	240	340

a. Prescriptions

Note: CSFS has a list of contractors available for projects. Subdivisions are encouraged to work with CSFS in designing projects and obtain a copy of the CSFS handout Fuel Break Guidelines for Forested Subdivisions and Communities.

Crown separation is the key factor in a successful fuel break. A minimum of 10 feet between the edges of tree crowns is recommended. As slope increases crown spacing should also increase. All residual trees should be pruned up 10 feet from ground level. Slash should be removed or lopped and scattered evenly throughout the area.

Precaution: If your trees are susceptible to wind throw and the trees have never been thinned, reduce the amount of trees removed in the first year. Start with a spacing of diameter plus five between stems. Some good indicators of wind sensitive areas: 1) blown down trees 2) large root ball holes 3) ridge tops. If you have a wind sensitive area gradually remove the trees over a 6 year period. Remove more trees every 3 years until you have reached the recommended spacing. Follow the diameter plus five spacing recommendation each year for wind sensitive areas.

2. Fuel Break for Sage

a. Prescription

Mow vegetation to a maximum height of 8 inches. This type of vegetation is best mitigated with a Fecon, Bull hog or similar brush mower. Follow size recommendations for timber fuel type.

H. Cost/Grants

Vegetation management is a costly procedure in the Blue Mesa subdivision area. The average cost of small acreage timber fuels mitigation in the Blue Mesa subdivision has been $1800/acre. There are cost saving using a mechanized equipment verses a hand crew. However, steep slopes (40+% slope) can limit the use

of heavy machinery. Most material removed from fuels mitigation projects is less than marketable, due to the small diameter of the wood removed. Generally during a fuels mitigation project the larger trees are not taken. The smaller diameter and suppressed understory trees are removed. Industries are not in place to utilize small diameter material. Most material is masticated on site or piled and burned.

Due to the high cost associated with fuels mitigation, funding for Blue Mesa's large acreage mitigation projects needs to come from multiple sources. The first two sources are from within the subdivision, homeowner dues and volunteer hours. The third source of funding is grants. The main program that Blue Mesa should try to take advantage of is the Western States Wildland Urban Interface Competitive grant (WSWUICG). The WSWUICG is a 50/50 type grant that comes from federal appropriations and is distributed through the state and private forestry branch of the USFS. These programs can be applied for through the local Colorado State Forest Service office. Competition is high and funds are not guaranteed for every applicant.

H. Bureau of Land Management Land Prioritized Fuel Treatments (BLM PFT Map Pg 42)

The Bureau of Land Management (BLM), Gunnison Field Office, has identified the Blue Mesa Subdivision as a high priority for fuels reduction and forest restoration projects. Under the National Fire Plan, the BLM has developed a long term plan to treat hazardous fuels and restore the health of aspen and conifer stands near the Blue Mesa Subdivision. A prioritized fuels treatment map has also been developed in order to illustrate were work is needed most. Although no specific projects have been laid out or identified, an Environmental Assessment (#CO-160-2007-009EA) has been written for the Blue Mesa CWPP area. The assessment has treatments or prescriptions written according to vegetative types.

The Blue Mesa Fuels Reduction and Timber Stand Improvement Project attempts to address fire hazard and forest stand conditions on 2,658 acres of BLM lands that are directly adjacent to the Blue Mesa subdivision. Vegetation types within BLM lands proposed for treatment include 1,247 acres of sagebrush/shrub, 457 acres of mixed aspen and conifer, 389 acres of Douglas fir, 301 acres of mixed conifer, and 264 acres of pure aspen. Treatments considered in this plan include brush removal, prescribed fire understory thinning of conifer stands and aspen regeneration cuts. Treatments will be implemented annually and will be dependent upon annual funding levels.

The prescription for sagebrush areas is a combination of mowing and prescribed fire. These brush treatments have a goal of creating patchy fuel breaks or a mosaic landscape. This type of treatment addresses both aesthetics concerns and safety, giving the appearance of an untreated area, while still breaking up the continuity of the fuels. In the event of a wildfire, the treated areas will slow the spread of fire by reducing the fuel.

The aspen prescription has been broken up into two parts (aspen /aspen conifer mix). Aspen are a very desirable species in a WUI setting. They have a moderate wildfire hazard when compared to conifer. Conifer needles contain volatile chemicals in its

needles that ignite easily, which allows conifer trees to readily burn and spread rapidly. Because of their low tendency to burn, aspen are often used as anchor points for fuel breaks. Both prescriptions were designed to promote the longevity, health and low wildfire risk of the Aspen in the Blue Mesa.

Aspen stands are a network of stems interconnected by a common root system. Generally they have a biological maturity age of 80-100 years. Once this age is reached, the stand begins to show signs of decay (fungus, loss of crown density) and begins to decline. Once the stand is in a state of decline the central root system also begins to die. If the central root system dies, the stand is lost and will never grow back. Because of the central root system, aspen can be rapidly regenerated. Patch cuts will enable the root system to quickly re-sprout and regenerate the stand. This is the treatment that the BLM has prescribed for many of the Blue Mesa WUI pure aspen stands that are in decline.

Over maturing stands of aspen are often susceptible to conifer invasion. This is when shade tolerant conifers grow in the understory of aspen. This vegetative mix is referred to as an aspen conifer mix. This mix can give a false sense of safety. As the conifer grows in the understory it makes dense and continuous fuels. Although the stand appears to be a moderate wildfire risk it is in fact a high to extreme risk. This is due to the crowning potential of conifer. The trees in the undertsory will carry fire which could spread to a more dangerous and receptive fuel. The BLM prescription for this fuel type will break up the continuity of the conifer component. It also addresses the general regeneration needs of the stand. That was referred to in the previous paragraph.

Douglas fir stands would be thinned from below, removing many of the small diameter trees (ladder fuels). This particular type of fuel predisposes the stand to crown fires. The small trees can allow a controllable ground fire to climb up into the crowns of trees. This reduces the containability of the fire, by use of conventional fire fighting methods. The residual stand will be thinned in order to break up the continuity of the fuels. The stand will be reduced to a stocking, not to exceed 80 square feet per acre. Crown fire potential reduction is the objective of this prescription.

The final vegetative type in the BLM project area is mixed conifer stands. These are stands that are composed of Subalpine fir, Engelmann spruce and Douglas-fir. Stands with this vegetative type next to aspen stands would be targeted for treatment. The objective would be to promote aspen expansion, due to its low wildfire danger. The mixed conifer stands would be heavily thinned to a residual basil area not to exceed 40 square feet per acre. The adjacent aspen stand would also be cut according to the above pure aspen prescription. This type of cut will encourage sprouting both in the aspen and mixed conifer stands.

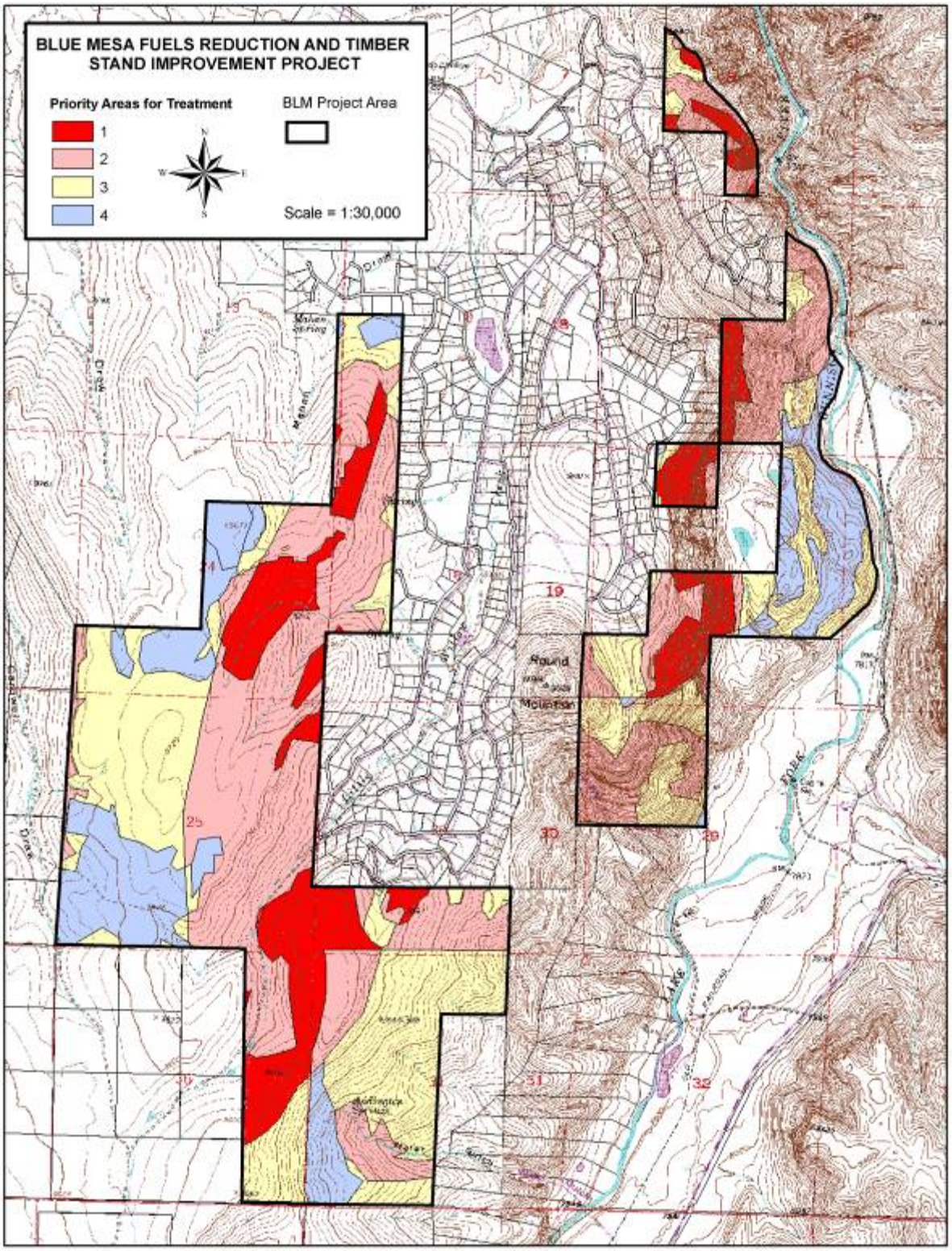
Overall, by the end of this project about 50 percent of the landscape will be treated in a patchy distribution across the landscape. Priority areas for treatment were developed by buffering ¼ mile from private parcels and other values at risk. The resulting buffer was overlaid with a fire hazard rating map that takes into account

vegetation types and topography. Priorities were ranked 1-4, with 1 representing the highest priority. The resulting prioritized map provides focus for where treatments will be most critical and effective.

Fire is capricious and will always find the weakest link in your and the subdivisions' defenses. One of the ways that these breaches in wildfire defense can be avoided is through cross boundary treatments. This is where treatments are extended beyond the federal land boundaries and onto private ground. Mitigation treatments are most effective when anchored into less flammable areas (natural fire barriers, less flammable vegetation or roads). Many times these are not always found on public property and the fuel breaks never achieve their full potential. It is then the duty of the adjacent landowner to step up and take an active roll in the safety of both themselves and the subdivision. Wildfire safety has to be a collaborative effort in order to have an end product that a fire will respect. The effort must be equally both on the public and private side. Refer to the fuel break map on page ?? if your property is located with in one of the recommended fuel break areas then you are encouraged to contact the Colorado State Forest Service or your HOA in order to see how you can improve the safety of your subdivision.

Landowners are encouraged to contact both the Colorado State Forest Service (970-641-6852) and BLM(970-641-0471) for prospective projects and start dates in the Blue Mesa WUI area. Since the BLM deals with large acreages when it is performing fuels reduction projects, they generally receive a lower price per acre than the average small acreage project. Many contractors will not mind adding on extra private acres at that same rate. This gives the private landowner the opportunity to treat their acreage for a fraction of what it would cost normally.

I. Bureau of Land Management Prioritized Fuels Treatment Map



APPENDIX 1

DEFINITIONS

Basil Area Factor (BAF) is a method used to take a sampling of the volume in a given area. A prism is used that bends the light displacing portions of the tree bole. Each specific prism has a factor amount (10, 20, 40 etc.) which limits the amount of light bent. By looking at trees in a given area the prism show which trees to tally for a given sampling rate.

CRITICAL FIRE WEATHER is a set of weather conditions (usually a combination of low relative humidity and wind) whose effects on fire behavior make control difficult and threaten fire fighter safety.

DEFENSIBLE SPACE is an area either natural or human-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

FIRE CHIEF is the chief officer or the chief officer=s authorized representative of the fire department serving the jurisdiction.

FIRE HAZARD is a fuel complex defined by kind, arrangement, volume, condition and location that determines the degree of both ease and suppression difficulty.

FIRE RESISTIVE CONSTRUCTION is construction to resist the spread of fire. For descriptions , see the Building Code.

FIRE WEATHER is weather conditions favorable to the ignition and rapid spread of fire. In wildfires, this generally includes high temperatures combined with strong winds and low humidity. See ACritical fire weather.@

FUEL BREAK is an area, strategically located for fighting anticipated fires, where the native vegetation has been permanently modified or replaced so that fires burning into it can be more easily controlled. Fuel beaks divide fire-prone areas into smaller areas for easier fire control and to provide access for fire fighting.

FUEL, HEAVY, is fuel consisting of round wood 3-to 8 inches (76 to 203mm) in diameter.

FUEL, LIGHT, is fuel consisting of herbaceous plants and round wood less than 1/4 inch (6.4mm) in diameter.

FUEL-LOADING is the oven dry weight of fuels in a given area, usually expressed in tons per acre (T/A) (tons/ha) or in pounds per acre (lb/a) (kg/ha). Fuel loading may be referenced to fuel size or timelag categories, and may include surface fuels or total fuels.

FUEL, MEDIUM is fuel consisting of round wood 1/4 to 3 inches(6.4 to 76mm) in diameter.

FUEL MODIFICATION is a method of modifying fuel load by reducing the amount of nonfire-resistive vegetation or altering the type of vegetation to reduce the fuel load.

FUEL MOSAIC is a fuel modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of fuel modification.

GREENBELT is a fuel break designated for use other than fire protection.

SLOPE is the variation of terrain from the horizontal; the number of feet (meters) rise or fall per 100 feet (30 480 mm) measured horizontally, expressed as a percentage.

URBAN-WILDLAND INTERFACE AREA is that geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

WILDFIRE is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

WILDLAND is an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities.

APPENDIX 2

DEFENSIBLE SPACE GUIDELINES

Definition : An area either natural or human-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

Goal : To provide an area from which fire suppression personnel can effectively operate during a wildfire.

Action :

a. Thin conifer trees so there is a minimum distance of 10 feet between tree foliage.

b. Separate brush clumps from each other by a minimum of 10 feet.

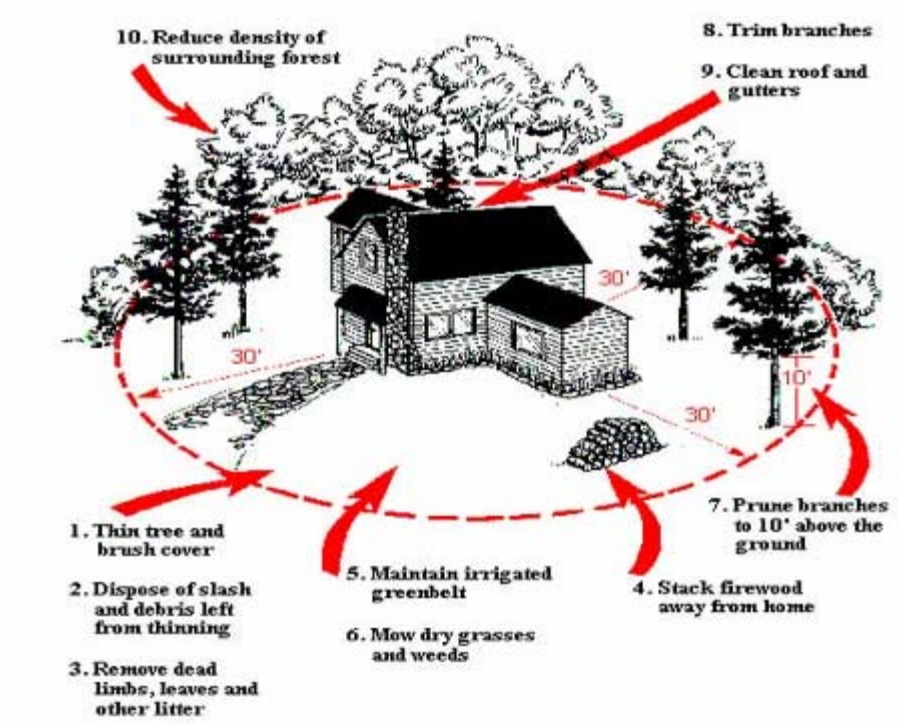
c. Prune all tree limbs to a minimum height of 10 feet (pine, fir, spruce) or 4 feet (pinon, juniper), and remove all ground fuel below them.

d. Remove dead/downed wood and mow grass/weeds to a height of less than 4 inches.

e. Incorporate entire property, subdivision, and adjacent ownerships.

Additional Defensible Space Information

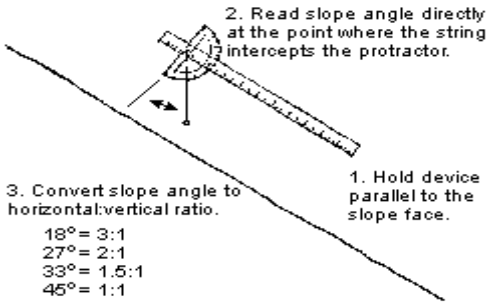
2A



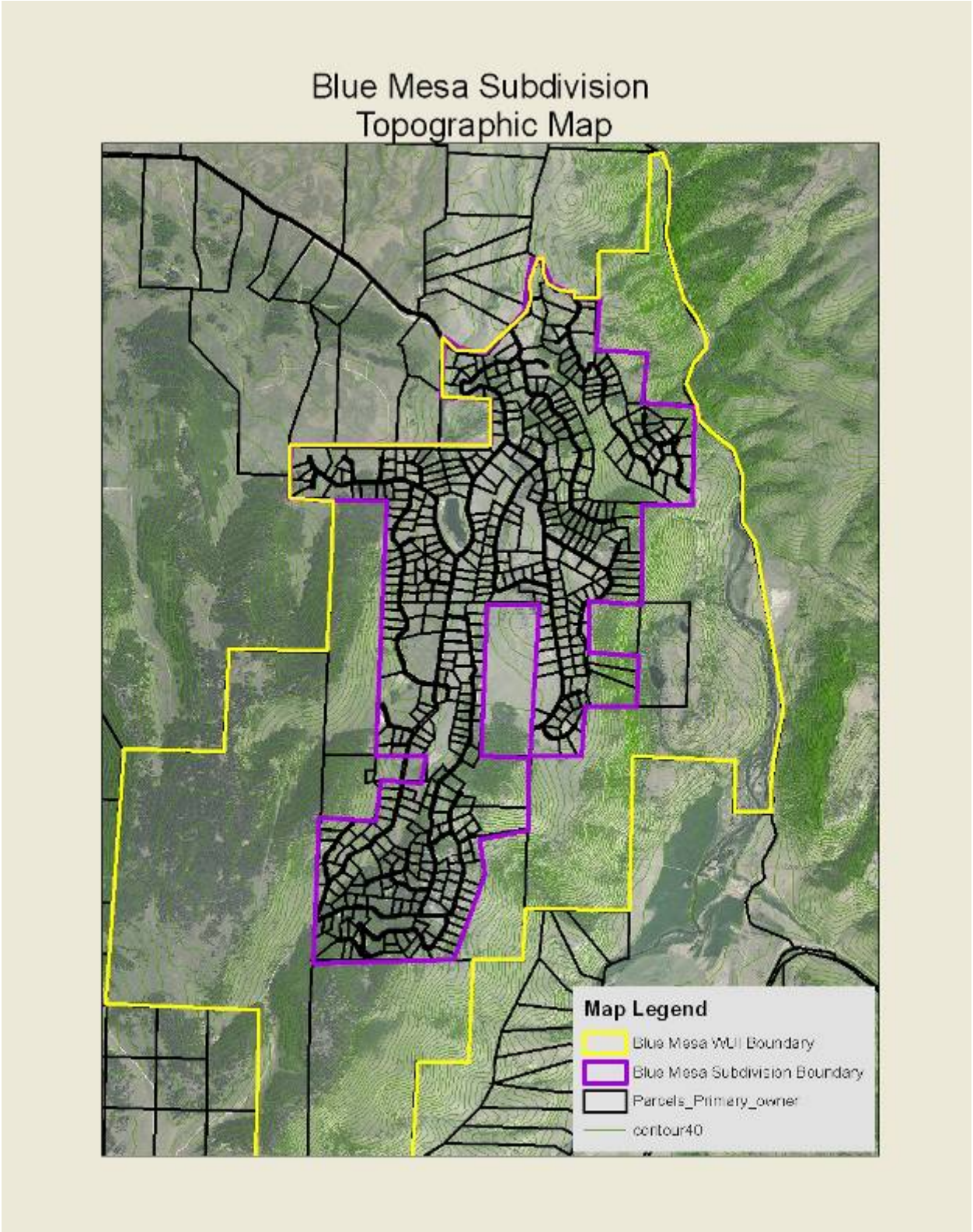
2B You can create a simple tool out of household materials to help you determine your slope.
Materials:

- Protractor
- String
- Weight (heavy washer or something similar)
- Yard or meter stick
- Scientific calculator

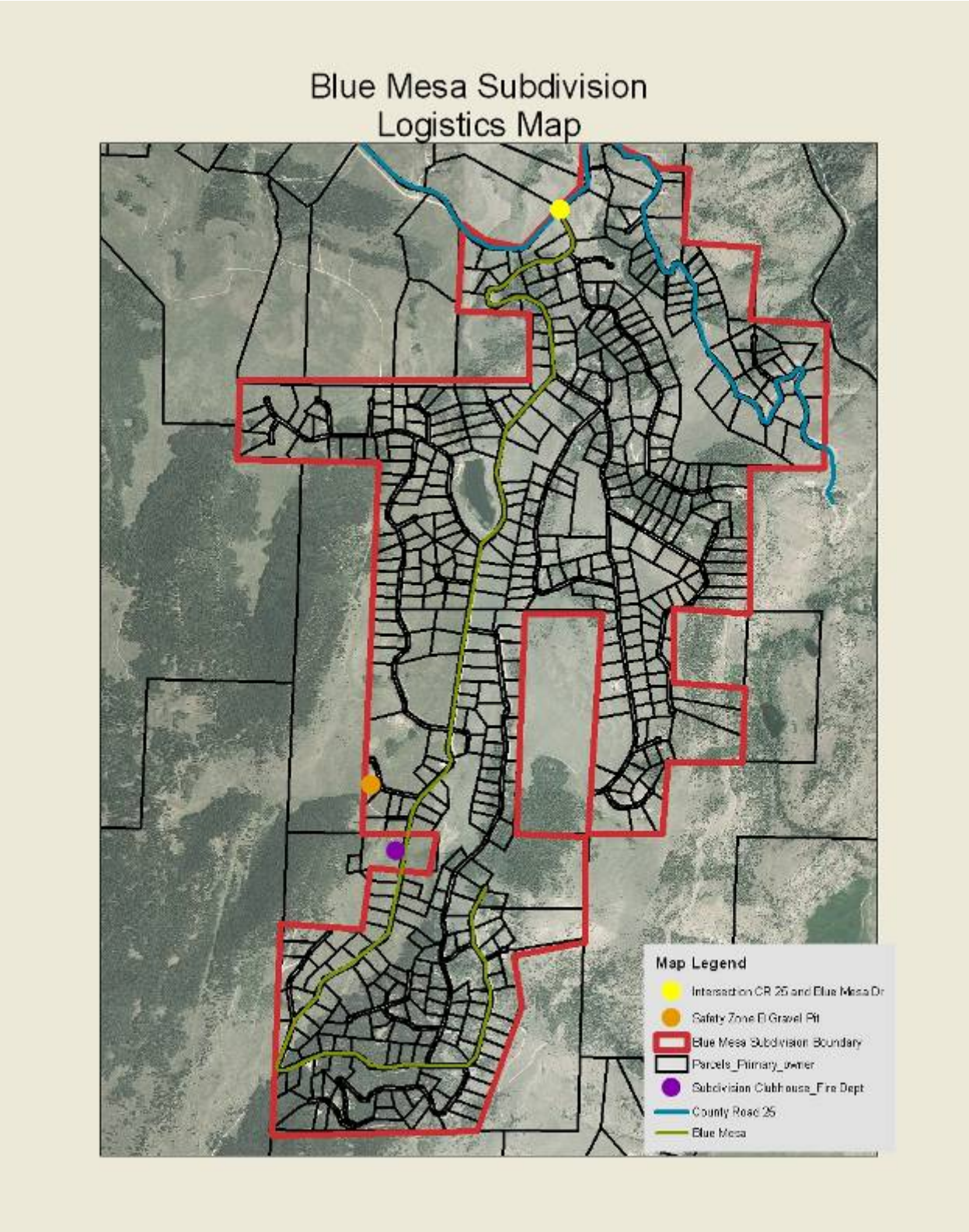
Tie the weight to one end of the string. Use the other end of the string to secure the protractor to the yardstick as the diagram indicates. Disregard step 3, instead take the slope angle in degrees and multiply it by tangent (using a scientific calculator), then multiply that number by 100 to get % slope.



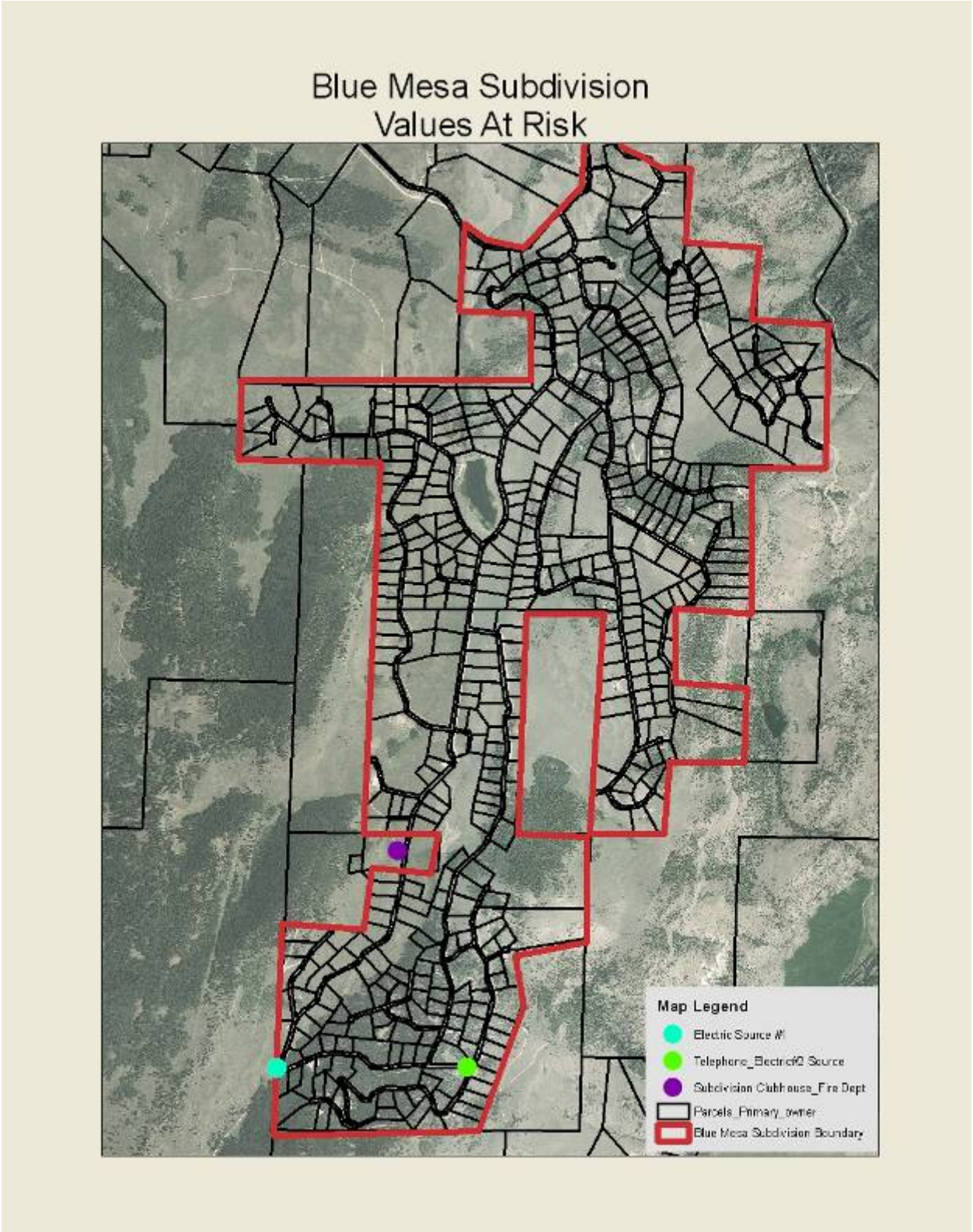
APPENDIX 3


Blue Mesa Subdivision
Topographic Map
Map Legend
Blue Mesa WUI Boundary
Blue Mesa Subdivision Boundary
Parcels_Primary_owner
contour40

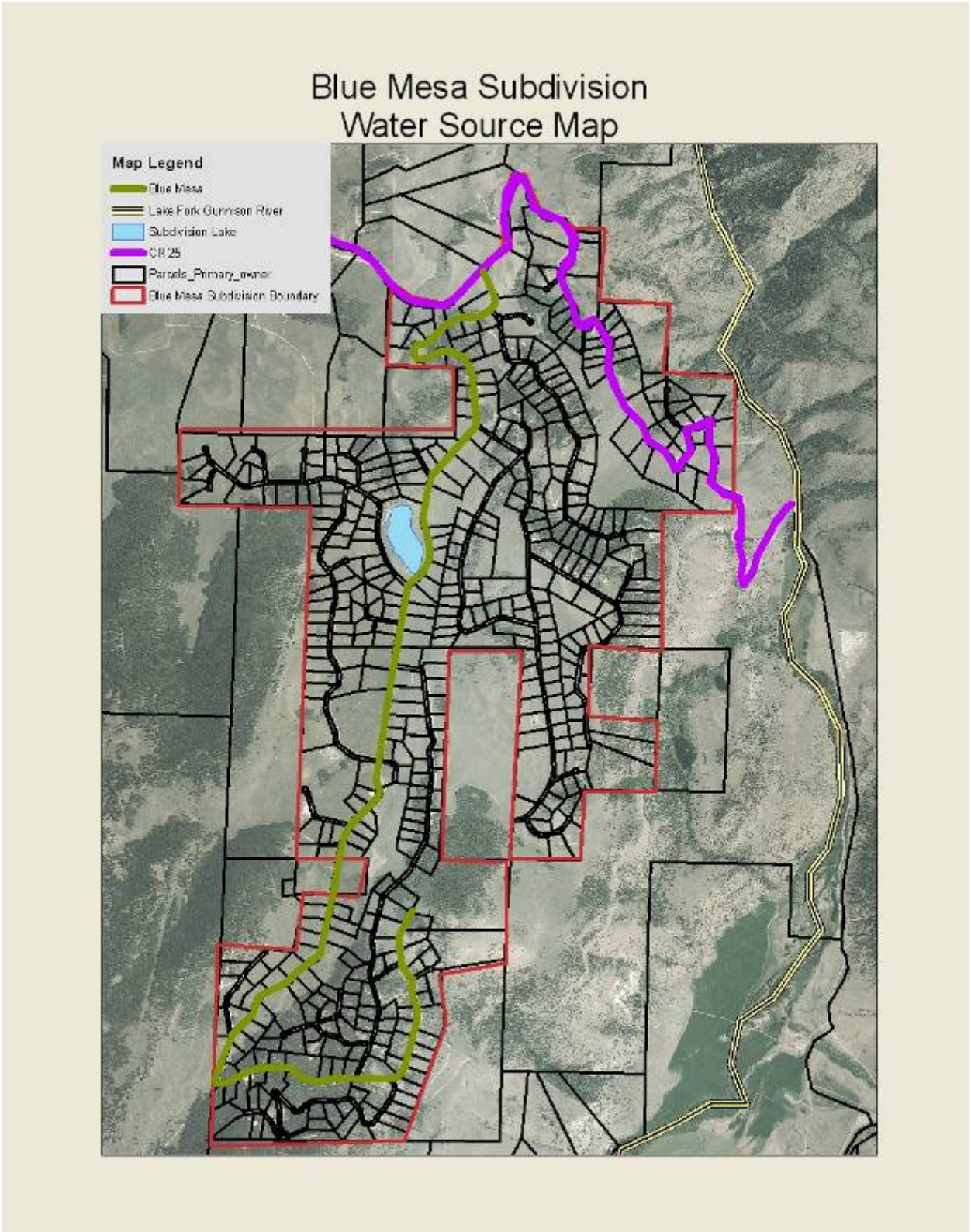
APPENDIX 4


Blue Mesa Subdivision
Logistics Map
Map Legend
Intersection CR 25 and Blue Mesa Dr
Safety Zone B Gravel Pit
Blue Mesa Subdivision Boundary
Parcels_Primary_owner
Subdivision Clubhouse_Fire Dept
County Road 25
Blue Mesa

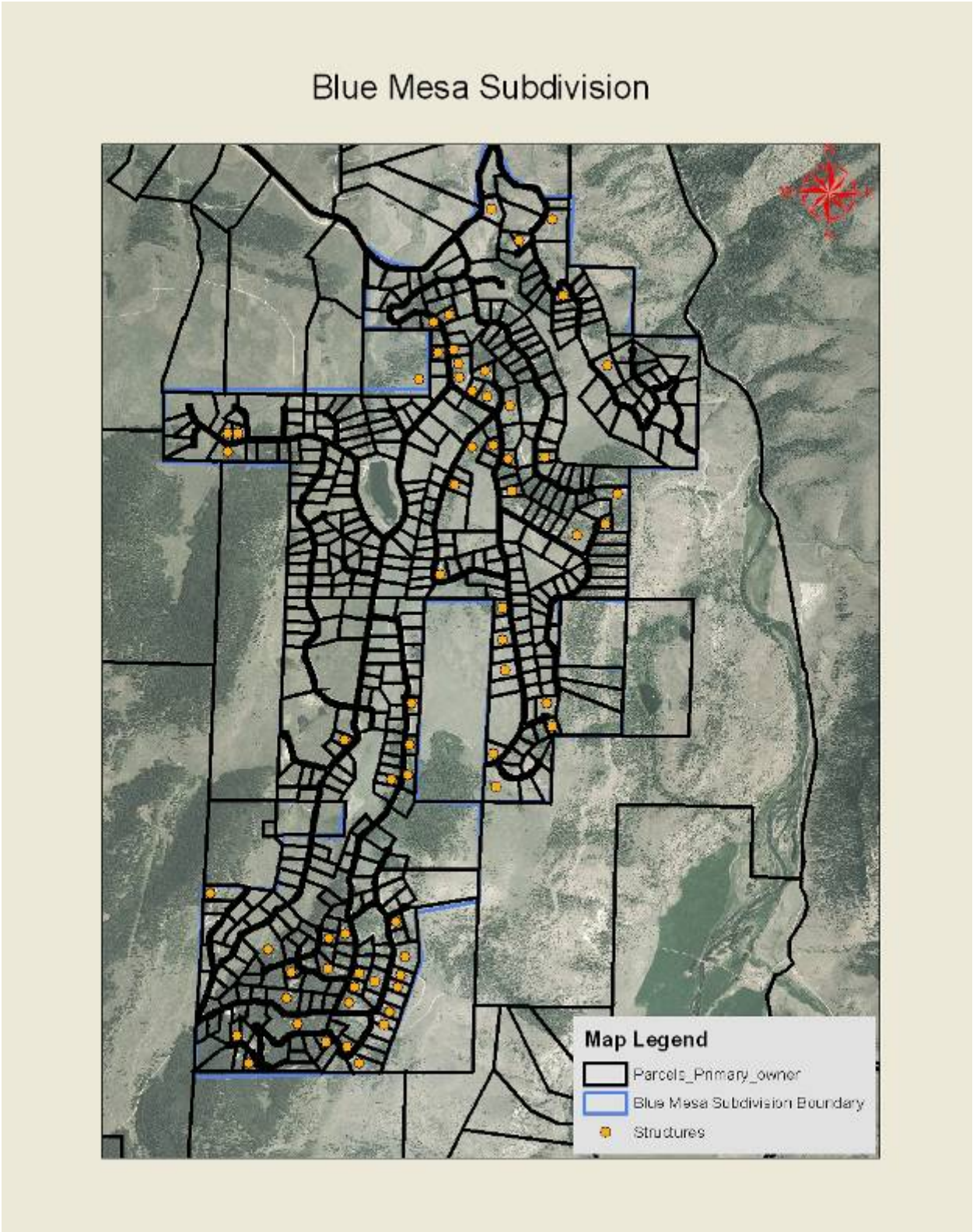
APPENDIX 5


Blue Mesa Subdivision
Values At Risk
Map Legend
Electric Source #1
Telephone_Electric#2 Source
Subdivision Clubhouse_Fire Dept
Parcels_Primary_owner
Blue Mesa Subdivision Boundary

APPENDIX 6


Blue Mesa Subdivision
Water Source Map
Map Legend
Blue Mesa
Lake Fork Gunnison River
Subdivision Lake
CR 25
Parcels_Primary_owner
Blue Mesa Subdivision Boundary

APPENDIX 7


Blue Mesa Subdivision
Map Legend
Parcels_Primary_owner
Blue Mesa Subdivision Boundary
Structures

APPENDIX **8**
Common Aspen Disease found in the Blue Mesa Subdivision area

Cankers

Canker diseases are among the primary agents in Aspen mortality. The canker is a symptom of fungus. Generally it is an area of dark black discoloration with irregular folds of growth or areas of orange ooze. The fungus enters the tree through a wound and invades the inner bark and cambium. This is very important to remember when working around Aspen trees.

1. Sooty-bark canker:
Description: Considered the most serious, for it tends to occur on larger trees (100+ yrs) and kills with in 3-10 years. Young cankers first appear on the bark as sunken oval areas. The bark killed each year by the fungus is readily apparent and begins to slough after 2-3 years. The dead inner bark crumbles to soot like residue. The outer bark sloughs faster in the central portion giving the tree a barber pole appearance.

2. Cryptosphaeria canker :
Description: This fungus causes branch, sprout, and sapling mortality; trunk cankers; and discoloration. The cankers are long and narrow, spiraling around the tree like a snake, hence the common name “snake canker. Small trees may be killed within a year after infection. Large trees may have cankers that girdle branches and enlarge onto trunk. Bark near edges usually becomes discolored light brown to orange. The dead, black, stringy, soot like bark adheres tightly to the sapwood and contains scattered lens shaped, light colored areas.

3. Cytospora canker: Description: This fungus is weakly parasitic and normally attacks stressed trees. This canker is the most common one found. It is generally found with other more aggressive fungus. Small branches and twigs can be killed with out the formation of a distinct canker. Trunk cankers usually have an irregular outline, with sunken, orange discolored areas with orange ooze. The first indication of infection is the orange discoloration of the bark caused by wounds. After infection the inner bark turns dark brown and the sapwood underneath light brown. The dead bark falls off of the tree in large pieces after 2-3 years.

Aspen Heart Rot

This fungus produces a fruiting body called conks at branch stubs or wounds on the bole of the tree. Sprorulation begins in late winter or early spring and can continue throughout the summer and fall when moist weather prevails. Airborne spores typically infect dead branch stubs and fresh wounds. This is again important to remember when working around aspen especially in damp weather. Fungal growth results in a yellow-white rot with brown or black zone lines traversing decayed wood. The fruiting body or conks are hoofed shaped with gray, or brown upper surface and tan to white lower pore. The presence of conks is indicative of significant stem decay.
1. *Phellinus tremulae*:
Description: Produces perennial fruiting bodies or conk. The conk is a hooved shaped fungus with orange and black coloration. The presence of the conk is indicative of significant stem decay. Trees with fruiting bodies should be monitored closely especially around structures, due to there unsoundness.

APPENDIX 9
Common conifer insects found in Blue Mesa Subdivision area

Bark Beetles

Bark beetles are the most destructive insects in the western coniferous forest. Adult bark beetles bore through the outer bark to the inner cambial layer, where they channel out galleries in which to lay eggs. Larvae hatch in these galleries and may excavate additional channels as they feed. As bark beetles carve out galleries they introduce blue-stain fungi. This fungus grows in the wood interfering with the tree's water transport system. Tree deterioration and eventual mortality result from two factors. 1) tree girdling caused by gallery excavation 2) spread of blue stain fungi. Infested trees can be recognized at a distance by fading foliage high in the tree, initially a light green, changing to a light straw color in a few weeks, and eventually to a yellowish brown. Close inspection may show a fine red-brown dust in the bark crevices and at the base of the tree trunk. Cream to dark red pitch tubes, resin mixed with boring dust, ¼-1/2 inches in diameter, are an indication of a successful bark beetle attack. In some cases where the number of attacking beetles is low, the tree may have sufficient resin available to eject the attacking beetle by extruding resin at the attack site (pitching out). Pitch tubes of whitish resin ¾'' long.
The "pitching out tube" is void of boring dust, because the beetle was unsuccessful. Bark beetles are a natural part of the ecosystem. In Blue Mesa subdivision the beetles are found in endemic levels. The beetles attack weak and suppressed trees. The best preventative approach is a proactive one. This involves managing the forest through thinning. Thinning improves the vigor of the residual stand. Vigorous trees have a better chance of not attracting beetles and also defending themselves during attacks.

Common Bark Beetles found in the Blue Mesa Subdivision Area
1. Douglas fir bark beetle (*Dendroctonus pseudotsugae*)
Description: Adult beetles are ¼ inch long. Some individuals are all black; others have black head and thorax with reddish brown wing covers. The beetle prefers two situations: large diameter over mature trees and stressed suppressed trees. Douglas fir bark beetles prefer trees >8 inches diameter. The beetles spend winter as either large larvae or adults under the bark. Adults typically begin emerging in late April and May but over 75% of the population emerges the last three weeks of June.
Management: On a small scale (5-10 trees) preventative spraying can be effective. The spray should be applied in late April in order to accommodate for any early developers. On a large scale the best approach is a proactive one. This involves managing the forest for a vigorous stand. Thinning the forest to the correct stocking will increase the chances of not attracting the beetle (low stressed/suppressed tree amounts). It will also increase the chances of your forest defending itself against an attack.

2. Spruce beetle (*Dendroctonus rufipennis*)
Description: Adult beetles are 1/6 -1/4 inches long, dark brown to black with reddish wing covers. This beetle prefers the same forest conditions as the Douglas fir beetle. Completion of a life cycle takes at least two years and possible three at higher elevations. Adults spend the winter around the base of the trunk, in small chambers cut into the bark in late summer. They emerge shortly after the snow melt and are most active in June and July. This is when most egg laying is performed. Pupation occurs in small chambers cut just below the bark. Adults emerge in summer and move to the lower trunk to form the protective over-winter chamber.
Management: Follow instructions for Douglas fir beetle. (spraying should be done in May)

Signature Page

Blue Mesa Subdivision — Date: 10/09/07

Blue Mesa Sub. Volunteer Fire Department — Date: 10-09-2007

Gunnison County OEM — Date: 11/19/07

USDI BLM — Date: 12/5/07

CSFS District Forester — Date: 12-13-07

Community Wildfire Protection Plan Database Tracking Sheet

Minimum Standards

Participants:
_x__ Local Government
__x_ Local Fire Authority
__x_ CSFS
__x_ Federal Land Management Agencies
__x_ Community/stakeholders (non-government)

Components:
_x__ WUI definition
_x__ Preparedness to respond to wildfire
__x_ Risk analysis
__x_ Fuels treatment priorities & methods
__x_ Structural ignitability
__x_ Implementation plan

Tracking Items

Name of Community	Blue Mesa
Size of Community (acres and/or # homes)	2087 acres 66 homes
CSFS District	Gunnison
County	Gunnison
Planning Status (completed, revised, in progress)	Complete
Implementation Status	Idle
Land ownerships covered by plan	Private, BLM
Key CWPP Contact	David Casey Forester CSFS
Contractor/consultants used	NA

Printed Name: David Casey

Signature: David J Casey

Date Completed: 12-13-07