Grant County

WILDLAND URBAN INTERFACE FIRE MITIGATION PLAN

Sponsored by:

The Grant County Local Emergency Planning Committee

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I. INTRODUCTION

This document---hereafter known as "The Plan," is intended to summarize plans and activities targeted at reducing the risk of a catastrophic Wildland Urban Interface (WUI) fire event in Grant County, and provide coordination and guidance to first responders and their respective jurisdictions in the event of wildfire. The successful usage of this planning document will ensure that the health, safety and welfare of our citizens remains secure from the threat of wildfire in the urban interface. The Plan will improve planning tools for city and county alike, which will result in better building and development codes, as they relate to the urban interface growth. The Plan will also aid economic development of forest products by ensuring a sustainable forest by-product from fuels reduction efforts.

The goals of The Plan are to:

- Prevent loss of life and health
- Prevent destruction of property
- Preserve and restore natural and beneficial function of our forests and watersheds
- Control future increases in fire damage
- Educate citizens and local businesses on the Plan's content
- Ensure the Plan and its goals are consistent with all stakeholders plans and expectations

Objectives to be accomplished by The Plan include:

- Identify, inventory and prioritize the risks associated with a WUI wildfire event
- Implement projects and programs intended to reduce the above risks
- Exercise (testing) and utilize the Plan with all local jurisdictions and first responder agencies

Planning priorities of The Plan in order of importance are:

- Protect human life and health
- Protect critical community infrastructure
- Protect private property
- Protect natural resources

The Grant County Local Emergency Planning Committee, the Gila National Forest, the Bureau of Land Management and the New Mexico State Forestry have been working together for over three years in an effort to better prepare for and respond to catastrophic wildfire in Grant County. The information contained in this planning document reflects these organizations' focus and dedication to five strategies of the National Fire Plan: 1)Community Fire Planning, 2)Wildland Urban Interface Fuel Treatment, 3)Economic Development, 4)Forest Restoration 5) Community Education and Outreach.

II. THE PROBLEMS

Community Description

"Good grass, soil, and water were the natural resources that first drew the attention of Spaniards to La Cienega De San Vicente in the late 18th century. Copper ore induced them to briefly settle nearby, and they cautiously grazed livestock at the marsh for awhile. Years later, long after the American conquest of the Southwest, discovery of a silver bonanza finally transformed the remote marsh into a community 'that

looked like a New England town picked up bodily and set down here between the hills to serve as a model for the rest of the 'great growing country…'"[1]

La Cienega De San Vicente, now known as the Town of Silver City lies at the base of the Pinos Altos Mountains, just east of the Continental Divide. The Town has approximately 10,500 residents while total county population exceeds 31,000 people. Grant County's climate boasts four mild, very enjoyable seasons. These mild seasons and the Gila National Forest are responsible for a large growth in subdivisions and suburban development. There has been a major effort to develop the area as a retirement community. In the past ten years there has been a twenty two percent growth within Grant County, most of it occurring in its "three mile extra territorial jurisdiction." With increased residential growth in or near the forest boundary (Wildland Urban Interface), risk from catastrophic wildfire has increased dramatically. Private in-holdings are being developed with multiple structures and limited access. This growth has also increased the traffic on our roadways, resulting in safety concerns for both emergency response and urban interface fire evacuations.

The area receives an abnormally high number of lightning storms and ground strikes, due mainly to the topographical change from desert to rolling mountains; and receives only 12 inches of rainfall, annually. The vegetation surrounding the Town and the vast 4000 square miles making up Grant County consist of transitions from desert grasslands in the south, to oak/pinon-juniper savannah, to ponderosa pine stringers intermixed with pinon/juniper woodlands, to pure ponderosa pine stands in the north. This ponderosa pine ecosystem is a part of the largest continuous area of ponderosa pine in the world, and is referred to as a short- interval, fire-adopted ecosystem. The frequent fires that helped sustain this ecosystem were low intensity, benign surface fires which kept stands open and park-like. However, with our nation's intensive fire suppression efforts these past hundred years, these ponderosa, pinon/juniper ecosystems have grown into overly dense stands that have produced many unhealthy characteristics including:

- Accumulation of fuels with subsequent increases in fire severity and size
- Decreases in soil moisture and nutrient availability
- Decreases in growth and diversity of both herbaceous and woody plants
- Decreases in spring and stream flow

Grant County's natural resources have played a significant role in the make up of its communities' cultures and the development of mining and ranching that have sustained it's local economy. However, Phelps Dodge has been steadily curtailing its copper production. Since 1998 the Company has laid off nearly 1,000 mine employees, and it recently shut down its Santa Rita mining operation and smelter operation. Another 650 jobs were lost. Twice the Town of Silver City was forced to make 10% across the board cuts in all departments in anticipation of declining tax revenues. The County was recently forced to lay off 35 employees. Those employees still on the payroll took a 20% cut in pay. "The economic and environmental issues facing Grant County go beyond current concerns with county budget shortfalls and the details of mine close-out plans. They point to the need for a new commitment to planning on the part of local governments. How to deepen the process of economic diversification in the area…"[2]

One of the purposes of this Wildland Urban Interface Fire Mitigation Plan is to ensure the above economic conditions and issues are addressed. Part One of The Plan describe *prevention measures* and recommends strategies and projects that will reduce the risk of uncontrollable wildfire; restore our watershed functions and conditions; and improve "socioeconomic" well being by supporting local

[1] Town of Silver City, November 1996, "comprehensive Plan," Section 6 Natural Resources and Environment
[2] Kourous, George. 2001. *Copper, Phelps Dodge and the Future of Grant County's Mining District.* Interhemispheric Resource Center of Silver City.

economic development that utilizes the by-products of fuels treatments and watershed restoration. Part Two addresses the *coordination of resources in response* to a catastrophic wildfire within Grant County.

Fire History in the Gila National Forest

The historical role of fire, including fire frequencies, within our ponderosa pine forest is well documented and emphasize that fire has maintained an open, parklike forest structure.... Heavy livestock grazing during the late 1800's, followed by aggressive fire suppression and accelerated logging, altered our forest from open parks consisting of single-storied stands with a continuous bunchgrass understory cover to multistoried stands with dense, downed woody material and sparse live ground cover.

Prior to the late 1800's, frequent low-intensity surface fires helped to maintain this ponderosa pine and Gambel oak forest. Early records from the 1800's describe this forest as more open, with little downed woody material. Ground cover was a continuous grass savanna, with the grasses becoming dormant during the dry periods of May and June. The accumulated leaf biomass of several fire-free years provided fine fuels to carry low-intensity ground fires with little damage to the parent plant. These grasses recovered quickly with the arrival of moisture from the tropics during the summer monsoon period.

Tree ring analysis of burn scars has been used to estimate fire frequencies within the stands of ponderosa pine in the Southwest. It is generally accepted that fire occurred at 2 to 12 year intervals. Stand-replacement crown fires were considered rare and were typically confined to small thickets when they occurred. Because of these frequent fire events, it is believed that the species of plants an animals within this vegetation type have evolved with fire.[3]

The Gila National Forest is comprised of 3.3 million acres, including 880,000 acres of wilderness. The Gila Wilderness has been managed as such since 1924 and is considered the first wilderness area in the National Forest System. The Gila Wilderness was set aside 40 years prior to the passage of the Wilderness Act of 1964. the Gila National Forest developed one of the original prescribed natural fire plans within the National Forest system. The plan was implemented in 1975, but was very cautious in its strategies. Returning fire to the forest under this early plan resulted in very few acres being burned. Since 1975, the forest average was 1117 acres while the average for the last 10 years has been 681 acres. It is calculated that the forest would have to burn approximately 100,000 acres each year to maintain a 10-year cycle in the ponderosa pine forest. [4]

Current Fire Hazards

The United States Forest Service and the New Mexico State Forestry Division have designated the Grant County area as one of New Mexico's *top Twenty Communities* most threatened by catastrophic wildfire. A recent hazard assessment sponsored by the Joint Fire Sciences Program and the USFS Pacific Northwest Research Station, has provided our community a solid baseline upon which to craft its fire mitigation planning. Titled "A Strategic Assessment of Fire Hazard in New Mexico,"[5] the Analysis

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[3] Boucher, P.F., W.M. Block, G.V. Benavidez, and L.E. Wiebe. 2000. *Implementing the expanded prescribed fire program on the Gila National Forest, New Mexico: Implications for snag management.* Page 104-105

[4] Boucher, Paul F., and Ronald D. Moody. 1998. *The Historical Role of Fire and Ecosystem Management of Fires: Gila National Forest, New Mexico.* Page 374

[5] "A Strategic Assessment of Fire Hazard in New Mexico," Joint Fire Sciences Program, in Cooperation with the USFS Pacific Northwest Research Station. February 1, 2002.

profiles forest conditions in the state, assesses fire hazard, evaluates effectiveness of hazard reduction treatments and estimates fuel reduction costs. Fire hazard was evaluated for nine major forest types but

focused on short-interval, fire-adapted ecosystems, the same ecosystems comprising the Gila National Forest. Although the Analysis does not provide information specific to the Gila, the following highlights do address the Forest's major forest and woodland types: New Mexico has 16.5 million acres of woodlands (pinon/juniper)/forest lands (ponderosa pine, dry mixed conifer); 84 percent of which rate high/moderate for crown fire hazard, nearly 4million acres are classified as short-interval, fire-adopted ecosystems. About 3.7 million acres (or 92%) of these are in high/moderate fire hazard condition.

The Grant County Rural Fire Chiefs Association has compiled information on rural communities located within the Wildland Urban Interface, gathering data on vegetation fuels, terrain, slope, aspect, number of lots, estimated human density, total acres, construction materials, roads, bridges, driveways, roads, turnarounds, water availability, and closest fire department. The data was analyzed and an Average Hazard Rating determined for each community. The table below identifies the number of communities in each hazard rating, with acreage.

Table 1. Count of WUI Communities and Average Hazard Rating

NUMBER OF WUI AREAS	AVERAGE HAZARD	ACREAGE
16	Moderate	7,755
10	High	2,928
8	Very High	3,796
	Extreme	
TOTAL ACRES		14,479

NOTE: A complete compilation of WUI Community Descriptions provided by the Fire Districts in Grant County is found in Appendix 1.

In addition, though they were not assessed as WUI Communities, the County's watersheds should be considered critical Interface areas, with a hazard rating of Extreme. A more detailed look at the watersheds can be found in Appendix 4.

Current Fire Protection Measures

In 1998 the County's *Local Emergency Planning Committee* (LEPC) was established, and Town and County emergency management efforts were focused on multi- agency coordination and cooperation in their response to all emergency events. The LEPC has over thirty member organizations and agencies that are committed to mitigating the wildfire hazard that confronts its communities, citizens and the natural resources that sustain us all.

In 1999 in response to the extreme wildfire hazard, the LEPC established *Unified Fire Command Protocols*. Agency representatives from the USFS, BLM, State Forestry, City and County Fire Departments, and the Office of Emergency Management met regularly to develop these procedural protocols including evacuation plans. Exercises were designed and conducted to test the protocols. In the spring of 2002 the Unified Fire Command Protocols were formally adopted by these agencies, who recommend incorporation by reference in the County's "All Hazards Emergency Operations Plan." A copy of the Protocols can be found in Appendix 3

In the spring of 2000 the *County Office of Emergency Management* crafted and implemented an extensive revision to the County's *"All Hazards Emergency Operations Plan."* The EOP describes how Grant County will handle emergency situations and disasters within its jurisdiction. The plan assigns responsibilities for emergency planning and preparedness and for coordinating emergency response activities and resources before, during and after any type of emergency or disaster. The Town of Silver City currently oversees the Office of Emergency Management also known as the *OEM.*

In the fall of 2000, in an attempt to better secure and utilize congressional funding resulting from the Los Alamos fire, the *Grant County National Fire Plan Implementation Team* was founded. It is a multi-agency, community driven effort, focused on developing strategies and projects that address: fire planning, forest restoration, fuels reduction, public outreach and economic development. This group has prioritized fuel treatment projects, begun prescriptions in our most vulnerable WUI communities, assisted in the development of two businesses that will utilize the by-products of fuel treatments, and assisted in the procurement of a 1,400 acre demonstration forest restoration project.

Currently there are three community programs in place, to help mitigate fire risk. Two of these programs: Defensible Space Workshops and FIREWISE Communities Workshops- focus on citizen education. The Gila National Forest has been conducting the Defensible Space workshops, for various community organizations and groups for over five years. In 2001 the Gila National Forest and the Grant County LEPC co-sponsored and conducted the community's first FIREWISE Communities Workshop aimed at heightening citizen awareness of fire risk, fire use and other tools to be used to mitigate the risk. In the spring of 2002 an abridged FIREWISE "forum" was developed and presented to the public. These half day forums are expected to be an annual event.

The third community program, the "Grant County WUI Landowner Assistance Program," is designed to offer County residents of the Wildland Urban Interface a cost sharing program that would result in fuels treatments crafted by local fire professionals, and performed by the landowner or professional treatment crews. These programs are discussed in more detail in Section III Prevention Planning.

In addition to the above described *All Hazards Emergency Operations Plan*, The County of Grant developed and implemented a number of regulations and related documents concerning first response and emergency resource coordination. They include:

- Creation of a County Rural Fire Departments Association (Resolution 91-06-20)
- Grant County Rural Fire Department By-Laws (01-04-26A)
- County Fire Code ordinance (93-09-02A)
- Grant County Multi-Agency Response Plan (96-10-24E)
- Grant County Fire and Emergency Services JPA (12/11/97

NOTE: The above documents and the other comprehensive planning documents governing Town and County building and development codes must be reviewed and revised to reflect specific wildfire prevention and response needs, concepts and strategies.

III. PREVENTION PLANNING

Strategies

The National Fire Plan's *key point components* focus on building community capacity to develop and implement citizen driven solutions in wildfire prevention planning. These solutions, in the form of prevention strategies are listed below:

- Hazardous Fuels Reduction in the Wildland Urban Interface (WUI): this strategy will reduce the impacts of wildland fires on communities, natural resources, and cultural resources. Past disruptions of natural fire cycles, and use of certain management practices, have resulted in wildfires of increasing intensity and severity. Treatment of hazardous fuels will help reduce the impacts of wildfires on communities and restore health to fire-adapted ecosystems.
- Economic Development: This strategy involves identifying, developing and expanding economic opportunities related to traditionally underutilized wood products and to expand the utilization of biomass removed through hazardous fuel reduction treatments.
- Community Fire Planning: A strategy that develops prevention based capacity and organizational infrastructure, identifies and inventories hazards, and establishes treatment plans; while it also develops response based capacity and organizational infrastructure, and crafts response plans and exercise programs
- Community Education and Outreach: A strategy that develops and disseminates information to help wildland urban interface dwellers and the general citizenry make sensible choices about living in and around such environs. The FIREWISE programs and Defensible Space Workshops are aimed at informing the community spectrum of: homeowners, firefighters and builders to landscapers, insurance agents and public officials about the concept of FIREWISE living.
- Fire Fighting: Strategy includes building and maintaining a cost effective level of preparedness, and the continued research and development of initial attack and suppression allocation modeling, risk assessment processes for fire management, remote sensing monitoring of fire behavior and smoke dispersion, meteorological prediction systems, fire severity forecasting and smoke and fire behavior modeling.
- Forest rehabilitation and restoration: A strategy whose work is broadly defined, and the efforts intended for lands that are unlikely to recover naturally from fire damage. The work is often implemented over the course of several years.

Current Activities and Programs:

Six programs addressing Grant County's fire prevention efforts are already in place, and their mention below is meant to emphasize their importance to the Plan's success. Five additional projects are recommended and will be discussed further on in this section.

1. Hazard Reduction Programs-*National Fire Plan Implementation Team*

There is little doubt that any hazard reduction programs, especially in construction of fuel breaks, will include mechanized treatment. "Fire Use" prescriptions are also an integral strategy of the Plan's, but discussion of this highly complex treatment is left to the federal and state land use agency partners to address in their own policies and procedures. The discussion that follows utilizes a National Fire Plan Study as a "base line" and makes recommendations describing both the hazard reduction and economic effectiveness of various mechanical prescriptions in the Wildland Urban Interface. Forest Restoration

treatment prescriptions vary enough to warrant a separate discussion in Section 3 **Forest Restoration-** *the Mill Site Project*, beginning on page 10.

The "Strategic Assessment of Fire Hazard In New Mexico" referenced above stated that its overall goals were to profile forest conditions and fire hazard and evaluate the potential effectiveness and costs of hazard reduction treatments. Specific objectives were to:

a. Describe and quantify forest conditions and rate these conditions for fire hazard
b. Develop alternative treatment prescriptions and evaluate their effectiveness in reducing hazard, both now and 30 years in the future
c. Determine harvest and slash reduction costs associated with treatments
d. Determine the potential revenue from timber products generated by the hazard reduction treatments

The Analysis identified three basic mechanical treatment prescriptions for reducing fire hazard in the WUI, which are described below:

a. Thin-from-below: an approach of low thinning to a given diameter limit, a treatment that has been widely recommended. The Analysis used a diameter limit of 9 inches.
b. Diameter-Limit: Retains all trees larger than 16 inches. However, if reserve basal area is less than 50 ft/ac, reserve additional trees less than 16" until basal area is equal to 50 ft/ac.This prescription is influenced by concerns that there may be a deficit of trees in the Southwest greater than 16" compared to historic levels, and that cutting trees larger than 16" is economically rather than ecologically motivated.
c. Comprehensive: ecologically-based; reserves a target basal area of 40-50 ft/ac, primarily comprised of larger trees. This approach aims at initiating restoration of sustainable structure and composition (and longer term, ecological function), and therefore focuses on the trees to leave in terms of a target density, diameter distribution, and species composition.

Aside from 92% of the short-interval, fire-adapted ecosystems being in high/moderate fire hazard condition, the assessment also determined the following:

- Mechanical hazard reduction treatments differ substantially in their potential to reduce crown fire hazard. The Thin-from-Below treatment decreases crowning index from 21 to 43 mph, but moves only 29 % of treated acres into the low hazard category. The Comprehensive treatment, in contrast, increases crowning index to 61 mph and moves 69% of treated acres into a low hazard condition.
- Woodland species contribute substantially to fire hazard; removing these species from the ponderosa pine and dry mixed conifer stands improves average crowning index 15-24 mph.
- The value of timber produced as by-product of implementing the Comprehensive mechanical prescription would on average pay for all treatment and haul costs, ie breaking even, while both the "Thinning from-Below" and "Diameter-Limit" prescriptions resulted in negative costs(-$368 and -$439 respectively).
- Results of this study show that the fire hazard problem in New Mexico is best addressed by management approaches that recognize the broader ecological context within which it occurs.
- Whether the problem is viewed from the standpoint of hazard reduction, ecological condition, or treatment cost, a "comprehensive" prescription evaluated in this Analysis achieves greater hazard reduction, improves ecological condition, and is less expensive to employ than alternative treatments.

Currently, the Grant County National Fire Protection Implementation Team(NFPIT) is coordinating all WUI hazardous fuel mechanical treatments, and assisting in the development and coordination of a large forest rehabilitation/restoration project (discussed below). The NFPIT team prioritizes treatment areas and projects, and assists in the planning and coordination of these fuel breaks, and treatment prescriptions.

2. Economic Development Utilizing Harvested Fuels-*Gila WoodNet & Alternative Forestry*

Local land use agencies guiding The Plan's development all saw the need, early on, to begin attracting entrepreneurs to develop products utilizing the wood "bio mass" of the hazardous fuels reduction efforts, and forest restoration projects. Fortunately, at about the same time, Gordon West, was relocating to Southwest New Mexico. He had been involved in small scale logging and saw milling in Idaho since 1977, having owned and operated a sawmill in conjunction with his construction and woodworking business. Mr West has established two organizations here in southwest New Mexico. The first is a wholesale-retail woodworking business called *Santa Clara Wood Works*, which utilizes locally harvested small diameter timber, considered by-products of forest restoration efforts. The second is *Gila WoodNet*, a nonprofit research and development corporation dedicated to development of new logging and processing equipment and to the creation of value-added wood products derived from small diameter logs obtained from forest restoration. The specific purposes for which Gila WoodNet was organized are precisely aligned with the Collaborative Forest Restoration Program , and include:

- Conducting research and development activities dedicated to the development of appropriate new logging and processing equipment specifically designed for efforts relating to forest ecosystem restoration
- Performing restoration logging projects
- Creating and managing a log sorting yard for material obtained form forest restoration projects
- Conducting research and development activities dedicated to the creation of value-added wood products derived from small diameter logs obtained as a by-products from forest restoration projects
- Creating and expanding market activities relating to those products
- Educating and assisting the general public in the use of those techniques, equipment, and products in development of viable small businesses that will benefit local economies and provide jobs
- Supplying local wood products businesses with a supply of raw material.

In July of 2002 Mick Duebel, owner of Alternative Forestry in Silver City, was awarded $360,000 for mechanical treatments of fuels around our communications sites on PA Mountain-mostly BLM land. The funding was provided by the Community Forest Restoration Project, and will be focused on cutting, removing the fuels, and development of markets for the material, mostly mountain mahogany.

3. Forest Restoration- *The Center for Biological Diversity's "Mill Site Project"*

Restoration projects are extremely complex, requiring extensive planning, consultation, design, and sometimes- contracting, and may take several years to fully implement. Monitoring and evaluating effectiveness of treatments may occur following control of a fire. Activities may include: reforestation, watershed restoration, road and trail rehabilitation, fence replacement, fish an wildlife habitat restoration, invasive-plant treatments, and replanting and reseeding.

Current problems with forest ecosystems, including large increases in forest density and fuel loading, have led to an increase in fire severity and size, and mortality in old growth trees and decreases in

resiliency to natural disturbances, soil moisture and nutrient availability, and growth and diversity of both herbaceous and woody plants. There are various models of restoration advocated to deal with some of these problems. The collaborators in the Mill Site Project have adopted a model called the "Natural Processes Restoration" model, which they believe is most likely to produce optimum forest conditions in the Gila National Forest.

The primary objective of this model is to restore natural processes into forest ecosystems. Ecological goals rather than an economic imperative guide this approach, addressing many of the concerns of the conservation community. This is accomplished by working with positive aspects of existing forest structures to move toward natural structure and function using the largest trees to create groups that will develop move quickly toward old growth condition. This model uses an integrated approach including grazing deferrals, road closures, native plant seeding and erosion control to address forest problems. It establishes appropriate diameter caps to prevent abuse of restoration principles. No tree over 16 inches will be cut with the recognition that most of the trees that need to be thinned are smaller than 12 inches. The project also involves an intensive-monitoring program. The Natural Processes Restoration model helps assure conservationist support, and on a prudent scale it also address the needs of rural communities. With its partners, the Center For Biological Diversity is developing creative new approaches for the economic utilization of small diameter timber by-products of restoration efforts.

In the summer of 2000, a collaborative forest restoration project was jointly established in the Gila National Forest by the Center for Biological Diversity, Gila WoodNet and Gila National Forest staff. The Mill Site Project is designed to allow Forest Service personnel and the environmental community an opportunity to experiment with restoration prescriptions to find the best approaches to bring the forest back to good health. Restoration activities at the Mill Site Project provide a setting for testing experimental low impact, high efficiency small logging equipment and provide a source of materials for local wood products industries.

The Mill Site Project also addresses all of the purposes and objectives of the Collaborative Forest Restoration Program, and its intent is to facilitate development of management prescriptions that will allow the USFS to achieve its goal of restoring forest health without pressure from commercial interests. Gila WoodNet's role is to take the by-products of restoration activities and find commercial uses for that material. These prescriptions are designed to promote healthy watersheds and forests and to reduce the potential for unnatural wildfires.

4. Landowner Assistance Program-*State Forestry & Grant Soil and Water Conservation District*

New Mexico State Forestry has developed and implemented a Landowner Assistance Program that involves cost sharing between the State (70%) and the Landowner (30%) for fuel treatments that reduce the fire hazard on state and private lands in the WUI. The goals of the program are to 1) assist private landowners in developing defensible space around their homes 2) construct fuelbreaks and 3) thin adjoining stands on private lands where the federal agencies have either constructed or will construct fuelbreaks. These actions will ensure private lands are better protected from fires originating on federal lands and ensure federal lands will be better protected from fires originating on private lands.

The landowner begins the process by requesting a fire hazard assessment be conducted on his/her land. A qualified fire professional from one of the local fire departments or State Forestry will visit the property and assess it using the NFPA 299 Assessment form. The findings are reviewed with the property owner and actions recommended to protect structures, improvements and the property itself from wildland fire.

If minimal work is needed to mitigate the threat, the landowner will be encouraged to complete it himself, without considering financial assistance.

If the assessment recommends major actions, the landowner can apply for cost-share assistance from the Grant Soil and Water Conservation District who manages the program for the New Mexico State Forestry Division. Assistance is given in the form of 70% reimbursement and 30% landowner responsibility. The landowner must prepare a "Wildfire Mitigation Cost-Share Assistance Application." The completed application and the initial assessment are then used by the fire professional to prepare a "Treatment Plan" identifying activities that need to take place to mitigate hazards to the structure(s).

Approved activities consist of:

- Structure Protection/Survivable Space/Zone
- Thinning
- Fuel Break Development

Upon preparation of the Treatment Plan and approval signatures obtained from the Landowner, the GSWCD representative and the State District Forester, the landowner will receive a "Notice to Proceed." The landowner either completes the work or hires a contractor to do it. (cost share rates are calculated in the "Treatment Plan"). In-kind costs that can be calculated in to the 30% Landowner match include: hours worked, chainsaw time, transportation time moving the cut fuels to a disposal site, purchase and installation of spark arresters on chimney, and road rehabilitation/erosion control.

Once all work identified on the Treatment Plan has been completed, the landowner requests an inspection of the property and the work performed. Once approval on the work is obtained, the landowner submits the documented costs (contractor or self) associated with the project on an itemized expense schedule.

An audit of the submitted expenses will be accomplished, and the Grant Soil Water Conservation District will then request appropriate reimbursement from the State, which in turn will be given the landowner. The timeframe between landowner submittal of receipts and landowner reimbursement should be no longer than 30 days.

5. Defensible Space Workshops: *The Gila National Forest*

There is increasing recognition that our ability to live more safely in our wildland urban interface fire prone environment depends on "pre-fire activities." Pre-fire activities are actions taken before wildfire occurs which improve the survivability of people and homes; by providing for proper vegetation management around the home, (known as defensible space), use of fire resistant building materials, and appropriate subdivision design. Untreated shake and shingle roofs, narrow roads, limited access, lack of fire-wise landscaping, and inadequate water supplies are some of the issues that need to be addressed.

Prevention specialists with the Gila National Forest have developed and implemented a comprehensive community assistance program to help landowners in our wildland urban interface prepare for wildfire. The program focuses on creating an effective "defensible space" and guides the participants through a ten step effort including:

Step One:	Defining the defensible space, a buffer zone, a minimum of 30 foot non-combustible area around the home;
Step Two:	Reducing flammable vegetation, trees and brush around the home, choosing plants with loose branching, non-resinous woody material, and high moisture content;
Step Three:	Removing or pruning trees, thinning overcrowded or weakened trees, pruning low hanging branches, and limbing up "ladder fuels;"
Step Four:	Cutting grass and weeds regularly, keeping vegetation well watered;
Step Five:	Relocating wood piles and leftover building materials; stacking all wood, building debris and other burnable materials at least 30 feet away from the home, and clearing flammable vegetation within ten feet of wood/debris piles;
Step Six:	Keeping both roof and yard clean; especially the roof, clearing pine needles, leaves and debris from roof, gutters and yard to eliminate ignition sources;
Step Seven:	Signs, addresses, and access: easy-to-read road signs and address numbers that are visible from the road allow fire fighters to find homes quickly. Safe and easy access include two-way roads that can accommodate emergency vehicles and give them space to turn around;
Step Eight:	Rating roofs: The roof is the most vulnerable part of the house in a wildfire. If not already fire resistant, roofs should be replaced with approved fire resistant materials;
Step Nine:	Recycling yard debris and branches; check into alternative disposal methods like composting, recycling, or selling the material to small wood/bio mass businesses;
Step Ten:	What to do when fire strikes; monitor your local radio and television stations for fire reports and evacuation procedures and centers. Keep an emergency checklist handy. Proper actions also include closing all windows and doors, arranging garden hoses so they can reach any area of the house, and packing the car for quick departure.

To schedule a workshop or to obtain more defensible space information contact the Gila National Forest, the BLM-Las Cruces, State Forestry or your local fire department.

6. FIREWISE Communities Workshops: *Local Emergency Planning Committee*

The Grant County LEPC and NFPIT co-sponsored a FIREWISE Communities workshop in 2000. They met with resounding success and this intensive, hands on, full day workshop was abridged into a half day forum which is now an annual spring event, in Southwest New Mexico. But the whole FIREWISE program is more than just workshops. It is actually a suite of complementary programs aimed at informing the community about the concept of FIREWISE living. Program components include the following:

- FIREWISE Website (www.firewise.org): Representing a successful partnership of private and government agencies, this site averages 50,000 hits a month.
- Communication tools such as publications and videos: Firewise concepts on landscaping, building, firefighter safety and other topics are available online as well as through other outlets. The latest project is a television documentary called "Keepers of the Flame," which puts America's fire history and interface fire problem in context.

- Workshops, Training Sessions and Demonstration Events: These activities are focused on reducing fire risk to property and lives through better community design and retrofit and preparedness planning.
- Technical Assistance to Communities: As FIREWISE spreads across the country, more communities are looking to program organizers for help. This component includes ArcView mapping technology.
- FIREWISE Communities USA Recognition Program: Communities can earn national status for their work to improve planning for and mitigation of fire hazards. Currently, there are eleven geographically diverse pilot communities in the recognition program, which will be officially unveiled in later 2003. Nationwide, there are thousands of communities with wildland/urban interface areas.

Recommended Projects and Programs

1. Alert/Warning System: *Office of Emergency Management*

Development of a community alert/warning system is critical to continued health, safety and welfare of our citizens. Currently there is no warning system in place to alert our citizens of impending danger from wildfire. There are three systems available that would dramatically improve warning. They include Weather Radio System, a Radio/TV Emergency Alert System and automated dial up telephone alert system. A project is needed to get all these systems developed and implemented.

2. Community Outreach Program-*National Fire Plan Implementation Team*

Residents of our area want to live in a natural setting with native vegetation and are reluctant to modify their surroundings to reduce fire hazard. At the same time most of our community is unaware of the beneficial uses of fire. Currently there is no comprehensive community outreach program in place.

The National Fire Plan Implementation Team is seeking funding that would allow comprehensive mitigation of both these citizen misconceptions. The proposal would provide area residents, homeowners, business owners and other opinion-makers with information, education and training on *why* fuel treatments are necessary and *what* constitutes proper fuel treatment and *how* these treatments can be accomplished. The Proposal focuses on hiring a professional-qualified public relations contractor to develop and implement a public information and education plan that includes goals, objectives ,background, key messages/talking points, communication strategy, tactics, action plan and evaluation criteria.

Activities would include development of education modules for homeowners, rural volunteer fire departments, elected officials, students in grades K-12, homebuilders, insurance companies, developers, and planners; public service announcements, brochures, showcase demonstration projects, website development and continued firewise and defensible space workshops. Contractual services and administration of the Outreach Program is estimated to cost $165,000.

3. Development of a 20 year fuels reduction strategy-*The Gila National Forest-NFPIT*

One major problem that continues to hamper economic development of the utilization of forest by-products is any guarantee of a steady supply of material. To date there is no formal long range strategy

by either the USFS or the BLM, nor any guarantees that they will continue with their current level of interest, commitment and funding assistance with regards to their fuels reduction and forest restoration strategies.

4. Building and Development Codes Revisions: *Grant County and Town of Silver City*

Both the Town of Silver City and Grant County have building codes and development ordinances that have no provisional guidelines to mitigate fire hazard and response.

Revision of Town and County ordinances, codes, and other regulatory processes is critical to ensuring that development in the Wildland Urban Interface adheres to proven building materials, landscaping, roads, water and other critical influences.

5. Annual Emergency Operations Plan Review and Revision: Local Emergency Planning Committee

Our Local Emergency Planning Committee was instrumental in the drafting and implementation of the Grant County All Hazards Emergency Operations Plan. It is a matter of life and death that the Plan be reviewed, revised and tested annually to ensure that all components are accurate in content, current with regards to responsibilities, techniques, agency policy and proven workable through an exercise program.

The current Plan, adopted in May of 2000, has not been reviewed and revised to incorporate the concepts and strategies involving the Unified Fire Command Protocols and Evacuation Plans. The responsibility for ensuring the Plan is up to date with regards to content and workability rests with the Office of Emergency Management.

6. Incorporation of the Grant County Local Emergency Planning Committee: LEPC

Incorporating the LEPC as a "non-profit" will allow more autonomy and potential funding from both government agencies and private foundations. This funding could be used to purchase and install all the components of an early warning/alert system described above.

IV. RESPONSE PLANNING

Preface

In 2000, the County adopted and implemented the comprehensive *"Grant County All Hazards Emergency Operations Plan"* (EOP). The document was written by the Grant County Local Emergency Planning Committee (LEPC), and endorsed by every first response agency/organization, in every jurisdiction in Grant County. The EOP is the starting point for all other emergency plans in Grant county. It provides broad guidelines for emergency management, thus enabling the individual agencies to write detailed operational plans of their own. What follows is abridged version of the EOP, that describes the mission, goals, situation and assumptions, concept of operations, organization and assignment of responsibilities.

In 1999 the LEPC established a Unified Fire Command and Protocols to assist the EOC in major fire events. In 2000 an Evacuation Plan was prepared by the Office of Emergency Management. Both were formally adopted in 2002. The EOP should be revised to endorse and incorporate these Protocols and Evacuation Plans. The Evacuation Plan and the Protocols are presented in Appendix 2 and 3 respectively.

Purpose

The purpose of the EOP is to describe how Grant County will handle emergency situations and disasters within its jurisdiction. The Plan assigns responsibilities for emergency preparedness and planning and for coordinating emergency response activities and resources before, during and after any type of emergency or disaster.

The overall emergency management goal is to coordinate emergency response efforts to save lives, reduce injuries, and preserve property. Since the Plan is essentially a contingency plan, its primary goal is to assemble, mobilize and coordinate a team of responders and coordinators that can deal with any emergency.

The EOP response strategies include:

- Utilizing a graduated response which is in proportion to the scope and severity of an emergency or disaster;
- Utilizing Four Emergency Action Levels that describe the extent of response. Each Emergency Action Level is a shorthand guide for describing the scope and severity of an emergency and for activating resources to respond to the emergency.

Situation and Assumptions

Situation: The County's two biggest hazards are wildfire and severe weather. In fact, severe weather plays a pivotal role in the Gila's infamous dry lightning storms, with scores of ignitions that severely stress the County's ability to provide effective response. Adding to the complications of inherent wildland fire risk, is the continuing development of wildland urban interface communities, scattered remotely throughout the County. Of equal importance is the vulnerability of the County's communication sites and other critical facilities. Most of the sites are located on top of forested mountains, prime targets of catastrophic fire, which in turn would cripple our response efforts.

Assumptions: The Response Plan makes certain assumptions about preparedness, emergencies and response. It is assumed that:

- Emergencies occur that will require multiple agency response and that exhaust local jurisdiction resources.
- Assistance from other jurisdictions will be needed for large-scale emergencies or disasters
- The experience and expertise of annex coordinators called to the *Emergency Operations Center* during an emergency will compensate for gaps in emergency planning
- Individuals who are responsible for emergency response and coordination will have a working knowledge of the *Emergency Operations Plan*
- County, City and Village officials and response agencies will have been trained in the *Incident Command system (ICS)* and in *Emergency Operations Center* management
- *The Emergency Operations Center* is sufficiently organized and equipped to coordinate emergency resources.

Concept of Operations

The following priorities are listed in order of importance. Whenever demands for emergency resources (personnel or equipment) conflict, the operational demand that is highest on this list will prevail:

1. Save Lives
    a. Save human lives
    b. Treat the injured
    c. Warn the public to avoid further casualties
    d. Shelter and care for those evacuated.
    e. Save animals
2. Protect property
    a. Save property from destruction
    b. Take action to prevent further loss
    c. Provide security for property, especially in evacuated areas
3. Restore the Community to normal
    a. Restore essential utilities
    b. Restore community infrastructure such as roads
    c. Help restore economic basis of the community.

Training is the key to effective response and is one of the most significant of any operational concepts. Two areas of training unique but critical to successful response are the: incident command system, and support coordination at the Emergency Operations Center.

Emergency Actions Levels define the Plan's increasing severity and response level. They consist of:

Level One: Incident Command system is necessary but able to control emergency without additional assistance of the EOC.

Level Two: Resources that are immediately available to IC are exhausted. Local Emergency Operations Center is activated to manage and coordinate related, multiple, orlow level emergencies at different locations. Some precautionary evacuation maybe necessary.

Level Three: State response and management resources may be needed to assist local and regional response. Local area evacuation and mass care activities characterize this level. EOC at State and Local level are coordinating resources.

Level Four: This is the *worse case scenario* for a disaster. All local, regional, state and federal response and management are needed to handle a disaster. Wide area evacuation and mass care activities characterize this level. EOCs at all government levels are coordinating resources.

Organization and Assignment of Responsibilities

The County All Hazards Emergency Operations Plan describes general operational functions and organizes these specific emergency resources into *Annexes*. The A*nnexes* describe basic emergency functions and actions that can apply to any type of emergency These annexes are assigned coordinators who staff the Emergency Operations Center when it is activated. These annexes and coordinators include:

- Direction and Control*
- Communications (Central Dispatch)
- Public Information (varies)
- Law Enforcement (Sheriff or SC Police Dept)
- Fire and Rescue-structure (Silver City Fire Dept)
- Fire and Rescue-Wildland (State Forestry)
- Health and Medical (GRMC)
- Public Works and Damage Assessment(varies)
- Transportation and Resources(varies)
- Evacuation (State Police)
- Reception and Mass Care (American Red Cross)
- Animal Care (Grant County Animal Shelter)
- Records Keeping (Lead Jurisdiction)

* Normally assigned to the Director, OEM, but for specific hazards including wildfire, hazmat and terrorism, a highly skilled professional may be assigned

Each *Annex* contains a job description outlining general and specific duties, and a checklist that incorporates essential and time-critical tasks, special considerations and priorities. The intent of these job descriptions and checklists are to: 1)get coordinators into action-starting them immediately on critical coordination tasks; 2)direct coordinators in what to do with aid of wall posters, job descriptions, priorities, etc; 3)program initial work of coordinators with a checklist to show how he/she fits into the team; 4)help coordinators identify and outline reminders and priorities for specific emphasis; and 4)familiarize coordinators with essential reference information as they work through time-critical tasks in the checklist.

General policies for both responders and Annex coordinators include:

- When in doubt about the appropriate level of emergency response, do more than is expected.
- Emergency response agencies should expect to sustain themselves during the first 24 hours of an emergency.
- Emergency service personnel and EOC coordinators should exhaust their own channels of support before turning to others for assistance.
- County/City maintenance crews and equipment will provide primary assistance at the disaster site(debris clearance, road upgrading, damage assessment etc) and assist with the repair and restoration of essential services and vital facilities.

- All responding agencies and EOC coordinators will manage and coordinate their own people, equipment, facilities and supplies to accomplish their tasks.
- Lead jurisdiction in the emergency will be based on the location of the emergency, the jurisdiction committing the majority of initial response resources and the arrival of higher authorities (such as State or Federal agencies).

Authorities and References

The table below summarizes the authority of local officials during any emergency. The document which authorize EOC, ICS and emergency management operations is the State Civil Emergency Preparedness Act, State Executive Order and the Emergency Management Act.

	Order Evacuation	Activate EOC	Declare Disaster	Use Private Resources	Request State Assistance
County	-Chair, County Commission -Sheriff's Dept	-Chair County Commission -County Manager -OEM	-Chair, County Commission	-Chair, County Commission	-Chair, County Commission -County Manager -OEM
Silver City	-Mayor -SC Police Dept	-Mayor -City Manager -SC Police Dept	Mayor	Mayor	-Mayor -City Manager -OEM
Other Jurisdictions	-Mayor -Police Dept	-Mayor -Town Manager	Mayor	Mayor	-Mayor -Town Manager

In addition to the Authorities and References already cited, the following publications were used to develop the Plan.

a. Guide for All-Hazard Emergency Operations Planning, State and Local Guide, (SLG-101), FEMA, September 1996
b. Disaster Assistance Program (DAP), Local Government Handbook, NM DPS, OEM.

Recommended Response Projects

1. EAS system: Warning System to alert the community of impending danger

Currently, there is no early warning system in place in Grant County to alert the public of life threatening events such as wildfire, flash flood or hazmat discharges. Potential system components include audible sirens, Community Access Television (CATS), cable TV and radio interrupts, Weather Radio and automatic phone dial ups. Relying totally on door to door notifications is not only ineffective, but a disservice to the citizens.

2. EOP Review and revisions: A must for proper preparedness

Most planning documents generated in the public sector receive no regular review and revision. The Grant County Emergency Operations Plan was written and approved by the County Commission in May of 2000. There has been no formal review of this document since its installation. It is recommended that the LEPC install a standing committee to provide regular review and revision to this critical emergency planning document

3. Development of an Exercise Program: Testing the Plan

An exercise program should be developed and implemented by the Office of Emergency Management to ensure that the Emergency Operations Plan is a workable document, and addresses the latest in technique and policy.

4. Creation of a County Fire Marshal's Office: to Assist in Coordination

Our volunteer fire departments are just that—citizens volunteering to assist rural communities protect life and property. It is not their job to coordinate equipment, training and coverage needs of their departments. The National Fire Plan Implementation Team has developed and obtained funding for a county "wildland fire coordinator." It is hoped that this job will further develop into a formal County Fire Marshal position.

5. Recruitment and Development of our Rural Fire Departments

Our rural fire departments are the County's first line of defense. Yet, membership in these departments has been declining. Much of the reason for the declines is the County's depressed economy, and resultant lack of employment for our young people. Another reason are the increasing state mandates for more training of our volunteer fire personnel. It is critical that the Office of Emergency Management, The County, and the LEPC develop strategies to attract and keep more volunteers. One such strategy would be the creation of an elite "Strike Team," comprised of experienced, highly trained members of the various volunteer departments. Another strategy is mentioned above—the creation of a permanent County Fire Marshall.

APPENDIX I
WILDLAND URBAN INTERFACE COMMUNITIES

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Buckhorn

LEGAL: T14S, R18W Sec 33, T15S, R18W, sec 3,4,11

DESCRIPTIVE LOCATION: 38 miles west and north of Silver City on Hwy 180N

VEGETATION FUELS: grass, brush (mesquite) cottonwood & willow along Duck Creek

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 100

TOTAL ACRES: 175

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: Flat **SLOPE**: 0-5% **ASPECT**: E to NE

ACCESS:. Hwy 180 N

ROADS: Hwy 180, Duck Creek Rd north of Duck Creek, mostly county maintained; non CMR are narrow

BRIDGES: Christian Center Road bridge over Duck Creek is adequate for emergency vehicles

DRIVEWAYS: Driveways are dirt, and some narrow

WATER AVAILABILITY: Pump behind Buckhorn PO with overhead fill, Brown Fish Ponds, Holliman Pond

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD 8 miles

AVERAGE HAZARD RATING: Moderate

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Cliff

LEGAL: T15S, R17W, sec 28, 29, 33

DESCRIPTIVE LOCATION: 30 miles nw of Silver city on US Hwy 180N

VEGETATION FUELS: grass, mesquite, cottonwood, Gila River and Duck Creek riparian vegetation,

ESTIMATED DENSITY (population per square mile): 40

NUMBER OF LOTS: 175

TOTAL ACRES: 700

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: flat w/ some hills **SLOPE**: 0-20% **ASPECT**: South, mostly

ACCESS:. US Hwy 180, or Hwy 211 from Gila

ROADS: US 180, Hwy 211, Box Canyon road: all state maintained; some county maintained dirt roads

BRIDGES: Hwy 180 bridge over Gila River, Hwy 211 bridge over Gila River

DRIVEWAYS: most driveways are adequate for emergency vehicles

WATER AVAILABILITY: Cliff-Gila FD 13,000 gal; Wayne Dickerson on Hwy 180 mm 83 100 gpm pump

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD, in center of village

AVERAGE HAZARD RATING: Moderate

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Gila

LEGAL: T15S, R17W, Sec 23,26,27,34,35

DESCRIPTIVE LOCATION: 30 miles nw of Silver City on Hwy 211 (off Hwy 180N)

VEGETATION FUELS: grass, brush (mesquite), Gila River 1 mile west with riparian area (cottonwood, box elder)

ESTIMATED DENSITY (population per square mile): very dense around Gila Post Office, 250 population

NUMBER OF LOTS: 200

TOTAL ACRES: 350

CONSTRUCTION MATERIALS: not provided

ROOF: **SIDING:** **DECKS**:

TERRAIN: mostly flat, rolling hills **SLOPE**: 0-10% **ASPECT**: West

ACCESS: Highway 211 from US 180N

ROADS: Hwy 211 is paved, Turkey Creek Road is paved, numerous dirt roads, most are county maintained

BRIDGES: one on Hwy 211, crossing the Gila, some wooden bridges over irrigation ditches. Most are adequate for VFD trucks.

DRIVEWAYS: Most Driveways are adequate to narrow, Stailey Road is very narrow, with 90 degree turns

WATER AVAILABILITY: Fort West Irrigation ditch runs N to S thru Gila. Cliff-Gila Fire Dept has 13,000 gal & 100 gpm pump at Dickerson

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila FD is 4 miles west

AVERAGE HAZARD RATING: High

COMMENTS: due to proximity of dwellings in area near Post Office

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Mangus Springs (Valley)

LEGAL: T17S, R16W, sec 8

DESCRIPTIVE LOCATION: mile marker 96 on Hwy 180

VEGETATION FUELS: grass, brush (mesquite), Pinon Juniper to the west cottonwood along Mangus Creek.

ESTIMATED DENSITY (population per square mile): 25

NUMBER OF LOTS: 12

TOTAL ACRES: 200

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: flat to hilly **SLOPE**: 0-45% **ASPECT**: south

ACCESS: Hwy 180

ROADS: narrow, all but 2 dwellings are on the west side of Mangus Creek with low water crossings

BRIDGES: one cattle guard bridge over ditch, is barely adequate for C-GVFD tanker

DRIVEWAYS: narrow but open

WATER AVAILABILITY: stock tank on Greenwood divide (one and a half miles west on Hwy 180; Mangus Creek, Cliff-Gila Fire Dept

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD 12 miles nw on Hwy 180

AVERAGE HAZARD RATING: Moderate

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Mule Creek

LEGAL: T13S, R20W, sec 31; t13S, R21W, sec 36; T14S, R20W, sec 6; T14S, R21W sec 1

DESCRIPTIVE LOCATION: 27 miles northwest of Cliff on Hwy 78

VEGETATION FUELS: grass, brush (oak), PJ, cottonwood along creek

ESTIMATED DENSITY (population per square mile): 60

NUMBER OF LOTS:30

TOTAL ACRES: 110

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: rolling hills **SLOPE**: 5-35% **ASPECT**: north

ACCESS:. Hwy 78, 9 miles west of Hwy 180

ROADS: Hwy 78 is paved, Goats Pass Rd & Brushy Mt rd are dirt-County maintained

BRIDGES: none; low water crossing on Hwy78 over Mule Creek and two other drainages

DRIVEWAYS: narrow to 10-15 feet wide, some rough

WATER AVAILABILITY: Mule Creek (most of the time), ponds behind post office

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD, 27 miles

AVERAGE HAZARD RATING: Moderate

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Pine Cienega

LEGAL: T15S, R21W, parts of sec 1,11,12,14

DESCRIPTIVE LOCATION: 10 miles south of Mule Creek on Brushy Mt Rd

VEGETATION FUELS: grass, brush, P/J, ponderosa

ESTIMATED DENSITY (population per square mile): 27

NUMBER OF LOTS:20

TOTAL ACRES: 250

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: brushy, rough **SLOPE**: 10-50% **ASPECT**: west and east

ACCESS:. Brushy Mt. Rd

ROADS: Brushy Mt. Rd

BRIDGES: none

DRIVEWAYS: narrow to very narrow (less than 8 feet), with trees bordering

WATER AVAILABILITY: Mule Creek on Hwy 78 yr round, some stock water tanks between Pine Cienega and Mule Creek are iffy.

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD 37 miles

AVERAGE HAZARD RATING: Very High

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Riverside

LEGAL: T16S, R17W, sec 9

DESCRIPTIVE LOCATION: 26 miles nw of Silver City on Hwy 180, 4 miles se of Cliff

VEGETATION FUELS: grass, brush (mesquite), riparian veg along Gila River

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 35

TOTAL ACRES: 170

CONSTRUCTION MATERIALS: various

ROOF: various :

TERRAIN: flat, some rolling hills **SLOPE**: 0-15% **ASPECT**: Southwest

ACCESS: Hwy 180; Airport Mesa Rd

ROADS: Hwy 180; Airport Mesa Rd

BRIDGES: Bridge across Gila on Hwy 180

DRIVEWAYS: most are accessed off Hwy 180

WATER AVAILABILITY: Cliff-Gila Fire Dept; Gila River near Bridge

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD 4 miles

AVERAGE HAZARD RATING: Moderate

GRANT COUNTY
WILDLAND URBAN INTERFACE COMMUNITIES
CLIFF-GILA FIRE DISTRICT

NAME: Table Butte

LEGAL: T16S, R16W, parts of sec 29, 32

DESCRIPTIVE LOCATION: mile marker 94 on Hwy 180

VEGETATION FUELS: grass, brush (mesquite), pinon-juniper

ESTIMATED DENSITY (population per square mile): 20

NUMBER OF LOTS: 15

TOTAL ACRES: 100

CONSTRUCTION MATERIALS: various

ROOF: various

TERRAIN: rolling hills **SLOPE**: 10-30% **ASPECT**: Northeast

ACCESS:. Table Butte Rd and Quail Canyon Rd off Hwy 180

ROADS: Table Butte, Quail Canyon are County maintained and good

BRIDGES: none

DRIVEWAYS: good to narrow

WATER AVAILABILITY: ½ mile south Stock Tank on Hwy 180, Cliff-Gila Fire Dept 10 miles north

CLOSEST FIRE DEPARTMENT(in miles) Cliff-Gila VFD 10 miles

AVERAGE HAZARD RATING: Moderate

Lake Fire Complex

AC State	AC Fed	State %	Fed %	Est Cost	State Share	Fed Share	FEMA Reimb	Net State
246	3890	5.9	94.1	$3,000,000.00	$178,433.27	$2,821,566.73	$133,824.95	$44,608.32
246	4070	5.7	94.3	$3,500,000.00	$199,490.27	$3,300,509.73	$149,617.70	$49,872.57
228	4277	5.0	95.0	$3,000,000.00	$150,000.00	$2,850,000.00	$112,500.00	$37,500.00
GIS	GIS w/Labor fire			Incl Labor Fire	Pro-rata	Pro Rata	75% of St	St - FEMA reimb

Lake Fire Complex

AC State	AC Fed	State %	Fed %	Est Cost	State Share	Fed Share	FEMA Reimb	Net State
246	3890	5.9	94.1	$3,000,000.00	$178,433.27	$2,821,566.73	$133,824.95	$44,608.32
246	4070	5.7	94.3	$3,500,000.00	$199,490.27	$3,300,509.73	$149,617.70	$49,872.57
228	4277	5.0	95.0	$3,000,000.00	$150,000.00	$2,850,000.00	$112,500.00	$37,500.00
GIS	GIS w/Labor fire			Incl Labor Fire	Pro-rata	Pro Rata	75% of St	St - FEMA reimb