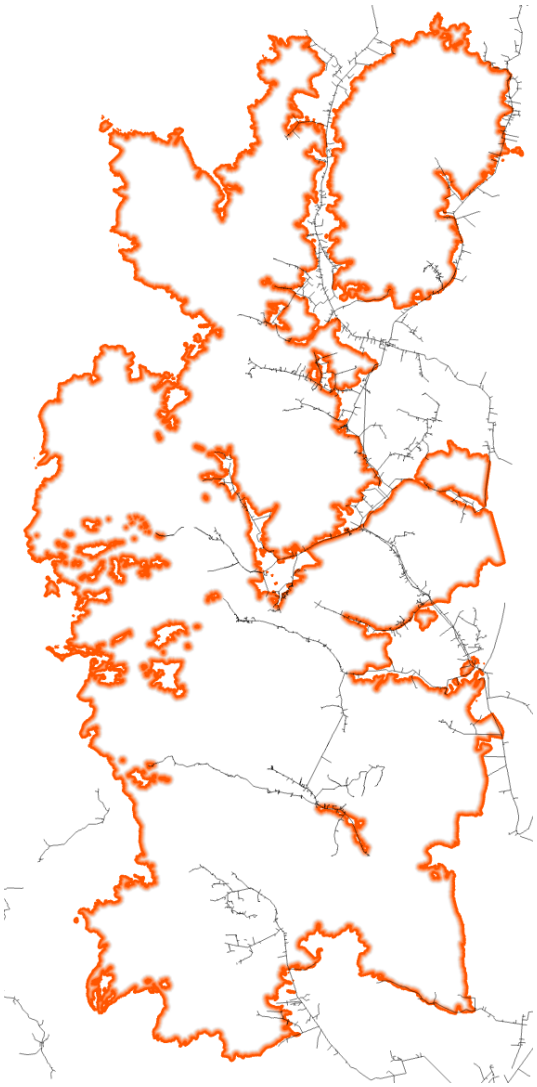
Hermits Peak/Calf Canyon Post-fire Debris Removal Plan

Mora-San Miguel Electric Cooperative

FEMA Event 4652DR-NM

Project Number 737782 (Category A)

September 2024 – Update April 2025 V2



HPCC Boundary – NIFC Final, Mar 13, 2023

SECTION 1

This Plan covers the woody debris removal from the hazard tree cutting along powerlines impacted by the Hermit's Peak/Calf Canyon Fire (HPCC). It is meant to be a guide for the removal of hazard/danger trees within the project area and directly complement of the Hazard Tree Cutting Project.

1.1 PURPOSE

The purpose of the Debris Removal project number 737782 (Project) is to establish a framework to facilitate the proper management of hazard/danger tree debris generated by the Hermit's Peak/Calf Canyon (HPCC) fire. The Project will identify, plan, and implement removal and final disposition of those danger/hazard trees throughout the Mora/San Miguel Electric Cooperative's (MSMEC) system within the HPCC boundaries in order to eliminate the hazard to the MSMEC power lines, infrastructure and right-of-way (ROW). The goal of this Project is to facilitate a reasonable, efficient and cost effective removal of the hazard/danger tree debris. The Debris Removal project adheres to the missions of New Mexico's Natural Resource and Environmental Departments to protect and enhance New Mexico's environment.

1.2 OVERVIEW

HPCC caused burned trees and the alteration of forest stand structure in many areas within its footprint resulting in both danger trees and hazard trees that threaten power lines, infrastructure, and work crew safety (ANSI a300 Part 7). This Debris Removal Plan (DRP) establishes the activities associated with the Project. If no action is taken to meet desired conditions and address the ecological and social impacts caused by the Hermits Peak Calf Canyon fire, it is anticipated that there will be an increase in dead and down material, increasing fuel loads and the risk of wildfire, plus increasing risk due to insect and disease. All of this will impact MSMEC power lines, infrastructure, right-of-way (ROW) and public safety within the burned areas, and reducing habitat connectivity and reforestation due to heavy coarse woody debris. This Project is in conjunction with Project 737786 Hazard Tree Cutting. Trees cut in Project 737786, along with hazard/danger trees that have already fallen due to structural damage, weakening effects due to the fire then impacted by other weather related events, will be addressed by the Project.

MSMEC has approximately 176 miles of power lines within the HPCC burned perimeter. Initial test assessment of a high/moderate severity burn along a 6,700' segment of the MSMEC system estimated up to approximately 743 danger/hazard trees threatening the MSMEC power lines and ROW. This test method extrapolated along the entire MSMEC system within the Project area estimates 126,324 danger/hazard trees. The Project will remove the wood as described below and leave the ROW accessible for future use by MSMEC.

Trees to be removed are located on a mixture of land ownership with the MSMEC having a ROW easement (or other agreements, as appropriate) across these properties as per the New Mexico Statute § 62-15-3. A small portion, approximately 4.72 miles of the power lines, are on National Forest System (NFS) land that remains to be addressed by the US Forest Service. The vast majority of trees to be removed reside on private lands or other ownership. This Plan only covers removal of hazard/danger trees on private and non-federal lands, NFS lands are not addressed here as they are being addressed through US Forest Service actions.

On all land ownerships that the MSMEC system and power lines reside, MSMEC does not own the trees (nor the wood). MSMEC has the authority and responsibility to address, within its ROW, the known hazards to its system from vegetation. Therefore, on each property where trees are cut or where trees have naturally fallen within the area of Project 737786, the landowner is responsible to decide the final disposition of the wood.

Through this Project, MSMEC will ask the landowner to decide whether they will keep the wood or have it removed by the Project. In areas where the landowner chooses to retain ownership of the wood, the Project will process (delimb and top) the trees and place the boles into a deck at a mutually agreeable, accessible location on that property that eliminates the hazards to the MSMEC system and ROW. The Project will treat the limbs and tops (slash) as required by 19.20.4.9 NMAC Subsection I (slash treatments). For properties upon which the landowner does not wish to retain ownership of the wood, the Project will remove the trees.

Under the Tree Cutting project, several items for contracting were identified including access and road maintenance; danger/hazard tree felling; possible stabilization work; and site clean-up. That ends the cutting project costs. The Debris Removal Project picks up at the point of removing the trees from the cut site to the landings. However, as far as the Work Plan is concerned, the debris removal will be included due to the inherent nature of forestry work but will be tracked separately. Skidding trees to the landing site (cost by the acre), and once at the landing site, it will be tracked (by tons). This is only if the Landowner requires the wood to be removed.

Road access and road maintenance will be performed to make existing roads usable for entry of crews and equipment while project work is ongoing. Due to the increase in heavy equipment use as a result of the debris removal operations, personnel or crew designated by MSMEC will be responsible to maintain road access and provide incidental repairs to ensure safety for the entry of crews and equipment while work is ongoing. Ongoing incidental repairs of these roads is unavoidable due to the severity of the event and the significant volume and weight of equipment using the roads in the performance of this critical debris removal work. None of this work is due to improper or excessive overuse. This work is only within the MSMEC jurisdiction and is strictly separate from private, Municipal, County, State, and Federal entities who are currently doing road maintenance in the area.

Trees may be processed where cut or at Debris Loading Sites (DLS or in forestry terms - landings), depending on whether all or only part of the tree is to be removed off site. Slash and small limbs that reside at the cutting location will be chipped or masticated to remain on site as per 19.20.4.9 NMAC Subsection J.

Wood that is to be removed (released by the landowner) will be moved to a TDSR/Sort yard (forestry term) area that can be easily accessed from an authorized road for over-the-road travel. An effort will be made to minimize additional environmental damage through the selection of best management practices and equipment used while still maintaining safety to crews, the public, and property.

Any resultant environmental damage that occurs from removal operations will be repaired or mitigated with standard BMPs for forest management such as slashing/mastication or develop waterbars when appropriate. Waterbars are a cross drainage diversion and/or hump constructed across a slope, road or trail. This is a practice that can be utilized where surface water runoff may cause erosion on exposed soil. It slows down runoff, reduce soil erosion, and encourages water infiltration.

SECTION 2

2.1 STATEMENT OF NEED

The Mora-San Miguel Electric Cooperative (MSMEC) has an urgent and critical need to address danger/hazard tree removals along it system lines with the boundaries of the Hermit s Peak/Calf Canyon Fire (HPCC). The HPCC burned within the MSMEC service territory during 2022. Subsequently, MSMEC has been repairing and/or replacing distribution and service lines impacted by the HPCC. Much of the repaired lines are still in danger from falling hazard trees, which could start additional fires.

2.2 Ground disturbance work analyzed - Ground disturbance under the FEMA PEA that will occur under this project includes:

- Site clearing, tree and vegetation cutting, clearing, and removal,
- Loosening of hydrophobic topsoil by mechanical means or hand tools, if necessary
- Temporary stream crossings, if necessary
- Installation of erosion and sediment control measures, where necessary
- Use of staging areas for equipment, equipment fuel
- Use of heavy equipment such as:

  Feller buncher with a swing boom - feller buncher is self-propelled with a cutting head designed to hold more than one tree at a time. Unlike a harvester, most feller bunchers are used solely for cutting, holding, and placing whole felled trees on the ground

  Harvester - A harvester is a self-propelled machine with a cutting head attachment that is used to fell and process—or delimb and buck—trees in cut-to-length operations. Harvesters come in track or wheel configurations, track harvesters are better-suited for soft, wet ground because they exert less pressure per square inch on the soil

Masticator - Masticator reduces forest vegetation into small chunks by grinding, shredding, or chopping material. The type of equipment varies from using a front-end to a boom-mounted rotary blade to a drum-type head.

Forwarder - Forwarders operate in conjunction with a harvester to haul cut-to-length logs processed in the woods to the landing. Typically they are wheeled units with a bunk for hauling and a grapple to load and unload material.

Skidder - Skidders are typically used to drag whole, felled trees to a landing or roadside with either a cable configuration or grapple, or both.

Excavators with a mulching head - An excavator mulching head is a powerful attachment that replaces the bucket on an excavator. It has steel cutter teeth or blades that can grind, cut, and mulch.

industrial woodchippers - Industrial woodchippers chip wood and slash material into chips that can collected via bowed trailer attachment or dispersed on the ground s surface.

Loader – Loaders are used for a number of purposes, but most commonly for loading logs into decks of log trucks.
Log Trucks – Log Trucks are used to transport logs between sites.
Self-Loader Log Trucks -self loader trucks have a boom and grapple and are able to self-load logs and woody material.
Hand-operated mechanized equipment such as **chainsaws** for cutting wood, and **common worker vehicles** to get to and from the project site,

2.3 Administration & Management

MSMEC is a qualified applicant/entity and will be responsible for administering and managing this project for danger/hazard tree removal that pose a threat to power line infrastructure. As a result of this disaster, MSMEC has acquired additional assistance to handle the needs above their normal workload. MSMEC has hired Transmission & Distribution Services, LLC (T&D), a long-standing relationship and New Mexico-based business, to assist with additional capacity to administer and manage disaster-related needs.

Coordination for this project will be with MSMEC, who has assigned T&D resources Adam Roybal (aroybal@t-d-services.com) and Brent Racher (bracher@t-d-services.com) as co-lead and Brent Racher as the key point-of-contact for Projects 737782 (Project). Thompson Consulting Services (TCS) will provide assistance, as well. Coordination included for these Projects will be with FEMA and New Mexico DHSEM. Additional coordination will likely include New Mexico EMNRD – Forestry Division, New Mexico Department of Transportation, US Forest Service, San Miguel County, Mora County, and other stakeholders.

2.4 Assessment

Before moving forward with professional assessments, it is important to define a hazard tree for the purpose of this project s assessments. Hazard trees fall, in part or in whole, with the probability of injuring people or property. In this case, the target or the object that is threatened by the falling tree, is the power lines themselves or the ROW in which they lie. The ROW for power lines must be kept free of trees and other debris, as it provides critical access to the power lines in case of an emergency. The ROW for MSMEC power lines is fifteen feet in both directions of the power line itself, covering a total width of thirty feet.

It is important to note that falling trees typically fall apart and break during their fall and often project branches and woody debris at a distance further than their total height. To accommodate for this phenomenon, this project (and many others) has determined that a tree height equivalent to one and a half times of the actual height is a better judgement criterion for actual striking distance.

Four types of Hazard Tree Assessments are being performed as part of this project. A Preliminary Assessment was conducted earlier this year to get a rough estimate of what it would take to cut and remove tree material. As more data has now become available the preliminary assessment has greatly expanded upon into the other three types of assessments: 1) GIS Analysis of the TreeMap Dataset, 2) Drone and Remote Sensing Assessments, and 3) Individual Tree Assessments.

2.4.1 GIS Analysis of TreeMap Dataset

Tree volume and biomass values for the Mora San Miguel Electric Coop (MSMEC) overhead lines corridor were derived using geographic information systems (GIS) analyses. MSMEC and T&D Services provided the power line locations. These data were projected to the NAD 1983 (2011) NM State Plane Coordinate System (East) for use in the analysis. All analyses were done using this map projection and coordinate system. A 150 buffer of the lines was created to define the corridor area.

The data source for the tree volume, biomass, and tree counts was the US Forest Service 2016 Treemap GIS dataset, https://data.fs.usda.gov/geodata/rastergateway/treemap/index.php. Tree map is derived from the US Forest Service Forest Inventory and Analysis program (FIA). The FIA program provides estimates of a wide range of forest characteristics for the coterminous United States based on field measurements. The Treemap project further develops these data using GIS analyses. A description of the analyses can be found at https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.1472. Though the data are from 206, they should provide a reasonable estimate of the amount of material present in the burned area.

The following datasets were downloaded from the Treemap website:

VOLCFNET_D Volume, standing dead, cubic feet per acre.
VOLCFNET_L Volume, live, cubic feet per acre.
DRYBIO_D Dry standing dead tree biomass, above ground (tons per acre).
DRYBIO_L Dry live tree biomass, above ground (tons per acre).
TPA_LIVE Number of standing dead trees per acre (DIA greater than 5").

TPA_DEAD Number of live trees per acre (DIA greater than 1")

These are raster format datasets with a cell size of 900 square meters. Each dataset was subset to a 150 buffer of the MSMEC overhead lines. Buffers of areas within USFS management and buffers of areas outside of USFS lands were generated before the subsetting was performed.

Each subset layer was then summarized to obtain totals for each category. Totals were derived by multiplying the mean values for each variable by the total acres of that variable in the dataset (area = number of cells times the area of each cell, converted to acres).

To understand the Removal Plan calculations, the following will be used. Reference: https://www.fs.usda.gov/rds/archive/catalog/RDS-2021-0074 or

https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.1472

Calculation of wood debris in cubic feet, and tons, within HPCC fire boundaries:

Results:

Volume (cubic feet) 5,895,210

Description	Volume (cubic feet)
Standing Live Non-USFS Land	5,450,900 cft
Standing Dead Non-USFS Land	132,449 cft
Total Non-USFS Land	**5,583,349 cft**
Standing Live USFS Land	300,461 cft
Standing Dead USFS Land	11,400 cft
Total USFS Land	**311,861 cft**

Biomass (tons) 111,210

Description	Biomass (tons)
Standing Live Non-USFS Land	102,964 tons
Standing Dead Non-USFS Land	2,272 tons
Total Non-USFS Land	**105,236 tons**
Standing Live USFS Land	5,789 tons
Standing Dead USFS Land	185 tons
Total USFS Land	**5,974 tons**

Source: USFS Treemap, https://data.fs.usda.gov/geodata/rastergateway/treemap/index.php

2.4.2 Drone and Remote Sensing Assessments

NM Department of Homeland Security and Emergency Management solicited and awarded a proof-of-concept contract using Drone Lidar collection, on approximately 5.5 miles of powerlines within the burn area. The reasoning behind this contract was to show that Drone Lidar technology would show where and how many trees are located within the 1-1/2 tree length of the utility right-of-way center line. The contract was ground-truth and the analysis is being conducted.

Lidar stands for Light Detection and Ranging. This technology uses laser light pulses emitted from a sensor system to measure the distance from the sensor to the target object. Light pulses are emitted in a rapid succession, enabling a surface to be virtually pained in light. The pulse returns are processed by the sensor so that the pulse time, signal reception time, and sensor location are recorded. The ranging data are, thus, geocoded, allowing for the precise spatial location of each light pulse return to be recorded. Due to the very narrow light beam width and the high density of pulses, lidar pulses are able to penetrate into the tree canopy and reflect back to the sensor multiple times, allowing the sensor to see" through the canopy and even record the structure of the vegetation canopy.

The Drone and Remote Sensing Assessments have started and will be ongoing to complete LiDAR coverage within the Powerline Corridors to rate hazard tree potential based on height and proximity to powerlines.

This project is using high-density airborne lidar data collected using aircraft or drones. Each lidar dataset collected is or will be classified so that ground, buildings, vegetation, and overhead utility lines and poles can be identified. A raster DTM will be derived. Non-vegetation features will be filtered out, and a raster DSM will be derived. The DTM will be subtracted from the DTM to generate a raster CHM for each dataset. The CHM is the primary input for tree-point delineation process.

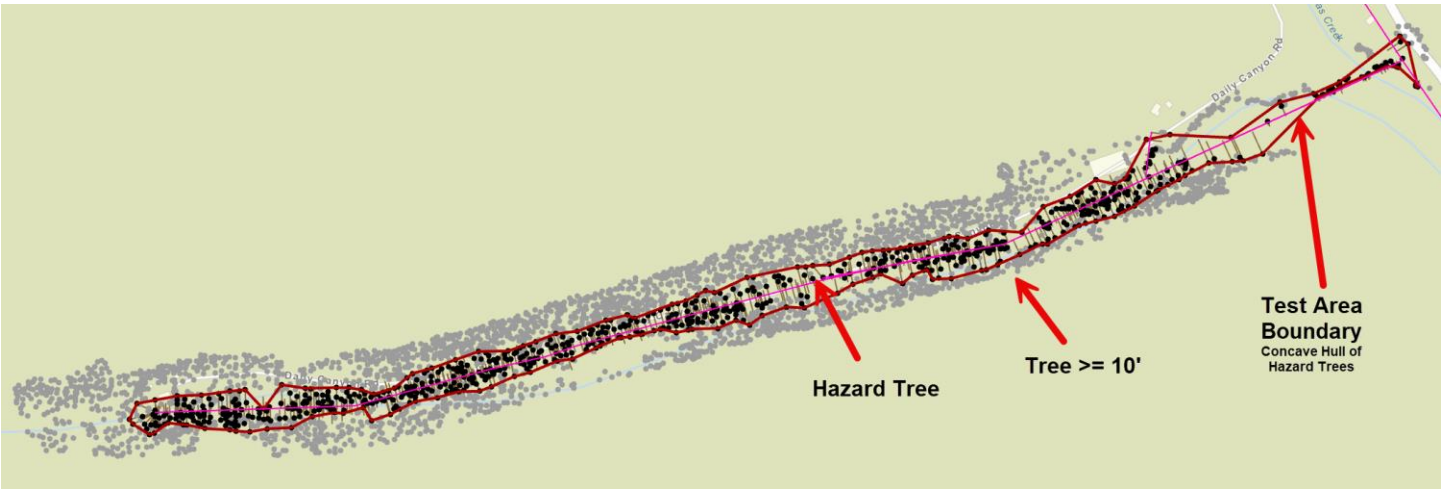
See current tree count analysis example below.

The test area is a 1-1/2 tree length buffer of the overhead lines along a 6,700' segment of the MSMEC system near Rociada. Approximately 90.5% of the test area in moderate to high burn severity. A concave hull polygon that encompasses the hazard trees was created to develop the boundary of the test area.

Test area acres: 25.6

Hazard trees (trees >= 10' tall within 1-1/2 tree length MSMEC line 15' ROW buffer) in test area: 743

Total trees over 10' tall in test area: 1006



Hazard tree density: 743 trees/25.6 acres = 29 trees per acre

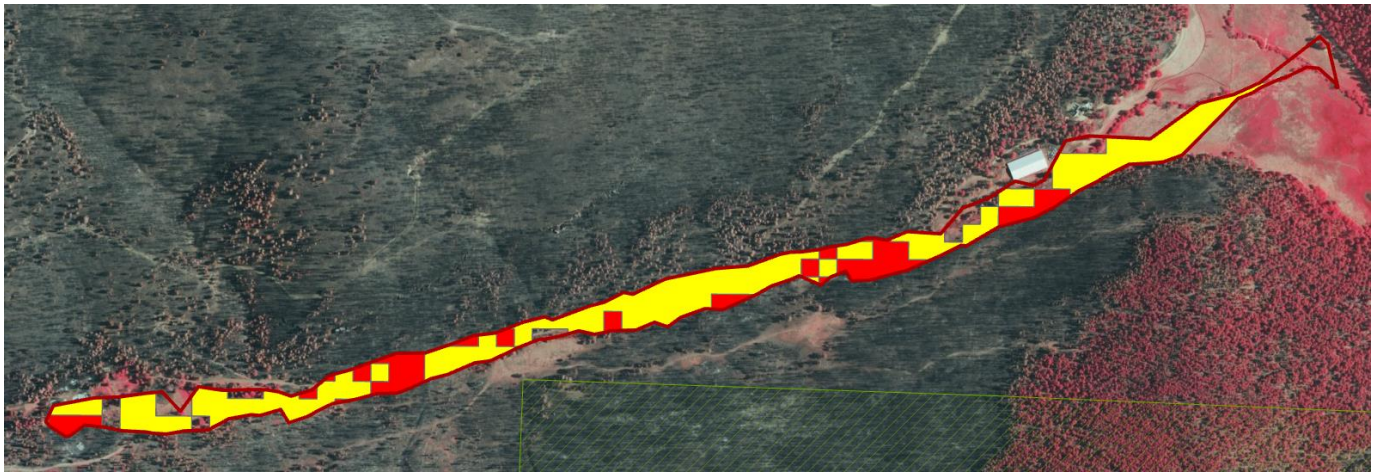
Total tree density: 1006/25.6 acres = 39.3 trees per acre

90% Hazard Tree Height = 75.6

90% Hazard Tree +1/2 height = 113.4

Mean width of Test Area = 162 (81 buffer)

23.9 Acres, 93.3%. of the test area is in moderate/high severity burned area. Red is High; Yellow is Moderate.



The spacing between trees ranges from about 6' to 106', with a mean spacing of about 19 feet.

Total acres in 114 buffer of MSMEC Overhead lines (non-USFS lands): 4,356

114 buffer is based on the 90th percentile trees + ½ height in the study area.

Total Hazard Trees: 29 TPA x 4,356 Acres = 126,324

Total Trees: 39.3 TPA x 4,356 Acres = 171,190.8

2.4.3 Individual Tree Assessments -

Individual tree assessments will be performed by professional Foresters and Arborists with assistance from technician crews. Individual tree assessments will determine if trees are dead, dying, or expected to live. Based on these assessments, field cutting crews will have everything needed to identify appropriate hazard trees (either by mark or by interactive mapping) and perform cutting activities.

2.4.4 **Hazard Tree Identification**

Hazard trees are defined as a tree that is dead, dying or a live tree likely to soon die (due to structural defects or other factors) within 1-1/2 tree length of the utility ROW. This is for level ground. An adjustment to the distance criteria will be developed for trees on steep slopes. A greater distance will be required for trees to slope from the right of way. Likewise, a slightly shorter distance will be acceptable for downslope trees. To accommodate for slope, a slope correction factor will be used. Slope correction factors are commonly used by Foresters to adjust tree measurements for slope corrections. Standard slope correction factors can easily be found online and within US Forest Service Common Stand Exams at Table of Contents (usda.gov). (citation).

In years to come, natural disturbance such as wind events, snowfall, etc., standing burned trees will accumulate to excessive fuel loads i.e., jack strawed. Once accumulated, these fuel loads would

constitute a future threat of wildfire. This would also create a potential threat to green islands that are remaining within the fire boundaries, which would create further undesired fuel loading in the area in the future.

Previously, the breakdown was established on a per-tree basis, but with such an expansive area, forest stand density (number of trees per unit area, e.g. acres) is an established measure we will use to make the Project's assessment. A per acre measurement is more efficient and cost effective than a per tree assessment. The Project's intent is to remove hazard trees threatening the MSMEC power lines, infrastructure, ROW in the safest, most efficient, cost-effective way for MSMEC, their members, the public and the taxpayers.

The assessment will also use burn severity as a guide as well and MSMEC prioritizes these threats in the following order:

1. High and moderate severity burns areas where MSMEC are currently working and will be working to replace/repair lines that were affected by the wildfire,
2. High and moderate severity burn areas where there are large swaths of danger trees and incidental hazard trees,
3. Low severity burned areas where there are smaller numbers or small pockets of danger trees and hazard trees, and
4. Danger trees created by changes in forest stand structure due to the HPCC Fire which leads to the increased probability of tree failure that will impact MSMEC or other infrastructure or personnel.

We know that maps developed for fire severity are conducted via technology and the maps should be ground-truth to refine the hazards. A Certified Forester and a Certified Arborist are currently working with MSMEC's lidar crew on the remaining approx. 165 miles making field assessments as the drone crew fly. Field assessments by Forester/Arborist will continue throughout the project area until all sites have been assessed.

These assessments will be used to develop site prescriptions and specifications for individualized units along the power lines that will be contracted for removal of the hazard. Input for cultural resources, T&E species, and other environmental impacts/considerations are included in unit prescriptions.

From these assessments and prescriptions, individualized Work Plans will be developed for contractual implementation. It is expected that, due to the on-going urgency of the threat, an initial Work Plan will be developed to get implementation started while further refinement continues for lower priority threats.

These assessments and prescriptions will provide the information to the Project of where debris is located for removal and an estimate of the quantity of debris that will be removed. Once assessments and prescriptions provide this information, further debris removal planning will be on going.

SECTION 3: PROJECT CONSIDERATIONS

Project considerations for hazard tree cutting are extensive and include, but are certainly not limited to, the following general categories: Health and Safety, Public Information and Communications, Environmental and Regulatory, and Cultural and Historic Resource Preservation, and Landowner Agreements, all of which are described in detail in following subsections.

3.1 Health & Safety

MSMEC complies with all Industry Standards and the Department of Health requirements to maintain and ensure the highest quality of health and safety standards. Hazardous tree removal presents unique challenges durning operations. The instability of fire-damaged trees, compromised ground conditions and potential for the unexpected necessitate stringent safety protocols. This section outlines the safety measures and protocols required to ensure the protection of personnel, MSMEC members, the general public, private property, and equipment in the 4 areas of interest (NOI) and will be used and if necessary updated for the rest of the hazardous tree removal project.

The Forest Contractor s have complete responsibility for compliance with safety requirements for the Contractor's employees. When operations are in progress the Contractor shall furnish, install, and maintain all safety protocols and procedures. Adhering to these safety guidelines and protocols is crucial in minimizing risks associated with hazardous tree removal in post-wildland fire environments. Continuous training, proper equipment maintenance, and thorough planning are key components to ensuring a safe and successful operation.

Information will be disseminated to the public regarding when and where the projects are occurring.

A. Safety Protocols

(1) Pre-Removal Assessment:

Site Inspection: Will conduct a thorough inspection of the site to identify potential hazards, such as unstable ground, slope, fire damaged trees structural integrity, etc. Environmental Conditions: Will monitor weather conditions and forecasts to avoid removal during high winds, rain, or other adverse conditions that could exacerbate hazards.

(2) Personal Protective Equipment (PPE):

Mandatory Gear: Will ensure all personnel wear appropriate PPE, helmets, eye protection, hearing protection, gloves, and chaps. Respiratory Protection: Use masks or respirators to protect against inhalation of ash, dust, and other particulates, when conditions warrant the need.

(3) Equipment Safety:

- Chainsaws and Power Tools: Will Inspect and maintain all equipment regularly. Ensure chainsaws are sharp, and all safety features are functional.
- Forestry Machinery: When using forestry machinery, ensure operators are qualified and machinery is inspected for any mechanical is inspected for any mechanical issues.

B. Operational Safety

(1) Communication: Briefing:

Contractors will conduct a safety briefing before beginning work to outline the plan, roles, and emergency procedures. Radios: Use radios to maintain clear communication between team members, especially when visibility is limited.

(2) Tree Felling:

- Hand Crew Cutting Techniques: Will use proper cutting techniques to control the direction of the tree s fall.
- Wedges and Felling Aids: Utilize wedges and other aids when needed to prevent the tree from leaning or falling prematurely.
- Ground Stability: Will assess ground stability around the tree to avoid accidents due to shifting or collapsing ground.

(3) Emergency Preparedness:

- First Aid Kits: Ensure first aid kits are available on-site, and personnel are trained in basic first aid.
- Emergency Contacts: Have a list of emergency contacts, including medical facilities and local emergency services, readily available.
- Fire Suppression Equipment: Have fire extinguishers, shovels, and other fire suppression tools on-site and easily accessible.

C. Post-Removal Safety

(1) Debris Management:

- Controlled Disposal: Only operators of specific machinery will be on site and slash will be either chipped or masticated. Tree boles will be decked at a DLS/landing on private land if the landowner retains the wood. If the landowner requires removal the boles will be decked at a DLS/landing to wait for transport.
- Stump Removal: If stump removal is required, the contractor will ensure the area is clear of personnel and follow safe operating procedures for masticators/grinding equipment.

(2) Site Inspection:

- Final Check: A final site inspection will be conducted to ensure all hazards have been addressed and the area is safe.
- Soil Stability: A check for soil stability and potential erosion issues that may require additional mitigation measures.

D. Training and Certification

(1) Personnel Training:

- Ongoing Education: Contractor or the lead Forman for the hand crew will provide ongoing training for all personnel in tree removal techniques, safety protocols, and equipment use.
- Certifications: Contractors will ensure all personnel who operate specialized equipment are trained for each specific task.

3.2 PUBLIC INFORMATION AND COMMUNICATIONS

MSMEC, with the assistance of T&D, established a plan and strategy to ensure that MSMEC members, affected landowners, and the communities receive accurate and timely information related to the parameters, rules, and guidelines for danger/hazard tree and debris removal. Basically, the strategy is to treat MSMEC Members with respect and kindness that facilitates empowered choices among those who have experienced the traumatic event.

External Communication

Objective: Inform MSMEC Members and external stakeholders plus manage public perception.

A. Media Relations:

- The project will designate a spokesperson for media inquiries.
- Prepare press releases with accurate information and updates.
- Use MSMEC member list and send updates through their billing system
- Set up a media briefing if required.

B. Social Media:

- Post updates on MSMEC social media channels.
- Monitor social media for misinformation and address it promptly.

Customer Communication: Inform customers that during flood, wind or other events that outages may happen but as always, MSMEC is about fast, efficient service and disruptions will be at a minimum.

C. Local government Engagement:

- Inform county and municipal leaders about the Project and conduct updates when necessary.
- Inform local organizations and political subdivisions of the state about the Project and conduct updates when necessary.

Ongoing Updates

Objective: Provide consistent updates as new information becomes available.

A. Regular Briefings:

- Use multiple channels (email, social media, press) for updates.

Key Considerations

Cultural Sensitivity: The fire had a significant impact on everyone in the surrounding area plus communities, especially since the flooding events, so the Project will be mindful of cultural sensitivities when communicating.

Data Privacy: The Project is ultra-aware of the regional residence s propensity concerning trust and privacy. So, ensuring that any communication will respect data privacy and that the Project will not disclose sensitive information is a must in order to have a successful project. The communications plan will be regularly reviewed and updated to ensure it aligns with current organizational practices and external environments.

3.3 ENVIRONMENTAL CONSIDERATIONS

1. Soil Erosion and Sediment Control

Overview –

After a wildfire, soil erosion can be a significant concern, as the loss of vegetation and changes to soil properties can increase the vulnerability of the landscape. Fire Severity also has an impact on the soils and will be taken under consideration when implementing forest management best management practices (BMPs) to mitigate these effects and promote soil stability and ecosystem recovery.

Objectives –

A. The Project will use soil erosion BMPs. The following are some of the examples the. Project might use but not limited to:

- Contour logs can be useful on slopes along the contour lines to slow water flow, reduce erosion, and capture sediment. Mulching (such as wood chips) to the soil surface will reduce rainfall impact, increase soil moisture retention, and promote seed germination.

- Check dams (constructed from log, or rock) can be used as temporary erosion control measures. Associated ground disturbance will be limited to surface soils only.
- Erosion control mats can be used to treat site-specific resource concerns including historic properties and other critical locations. Associated ground disturbance will be limited to surface soils only.
- Loosening of hydrophobic topsoil by mechanical means or hand tools might be necessary.

B. Landings - The number and size of landings will be minimized to the best of our abilities. The number of landings will be based on: number of individual landowners, accessibility to roads, slope (a slight 2 to 5% slope to permit drainage is preferred but not a requirement). The goal is to ensure that runoff does not discharge directly into a watercourse and soil conditions.

C. Landing will not occur in sites that have known sensitive cultural resources or sensitive riparian/SMZ or wetlands.

D. Beneficial effects of felling, skidding, and piling trees at the landing would be the downed, woody debris in the form of branches and limbs left on the site. This material would serve two purposes: first, the availability of barriers and shade structures to provide microsites for natural regeneration of tree seedlings. And secondly, organic matter on site for building soils and retaining moisture. The organic matter left on site decays over time and provides future soil, minerals, and nutrients for plant and tree growth. Slash at landings would be redistributed in areas where down wood debris would facilitate recovery such as covering bare soil. Slash may also be left on site and used as slash mats on steeper ground where ground-based equipment may be operating, if necessary.

2. Water Quality Protection

Overview -

Wildfires significantly impact water quality when subsequent rain events increase sediment and ash runoff into nearby water bodies. At this time (2 + years after the fire started), the burned area has shown an increase in flooding events with significant sediment movement due to the vegetation being burned off. The debris removal activities under this Project, will focus as much as possible on protecting water quality to ensure the safety of surrounding ecosystems and public health. Due to the nature of the Project (working within an established ROW) the Project intends to minimize its footprint in areas that work has to be conducted.

Objective -

A. Streamside Management Areas (SMA): The function of a SMA is to protect water quality along streams, lakes, and other water bodies by maintaining a natural sediment filter. Example of BMP for SMAs - To minimize damage, limit hazard tree removal on SMAs and sensitive forested wetlands during abnormally wet periods.

B. Equipment used will be operated in a manner that minimizes ground disturbance e.g., wide-tire skidders, forwarders, and tracked equipment in an SMA. Any rutting that does will be promptly

mitigated using BMPs to prevent environmental degradation, such as erosion or sedimentation into water bodies.

C. Use of techniques such as contour felling and the application of slash or chips to stabilize soils and promote vegetation regrowth.

D. Establishing buffer zones along waterways if necessary, implement erosion control BMPs, such as wattles, and check dams to reduce sediment transport, if needed.

E. Riparian Buffer Zones: To protect riparian function, the use of motorized equipment will not occur in riparian management zones, except when there is a designated stream crossing or when short-term uses are required to treat/maintain ROW/powerline infrastructure.

NMAC 19.20.4.9 Subsection G (1)(2) and (3) [,a,b,c,d] will be the guide when operations encounter these areas. New Mexico Forest Practices Guidelines BMPs for Riparians and SMAs will be conducted to protect water quality.

3. Wildlife Habitat Restoration

Overview -

While habitat restoration is a crucial component of overall fire recovery, it is not a factor in this debris removal plan because the primary goal is to address immediate threats to essential services and mitigate future issues that will happen if the ROW does not have the hazard/danger trees removed. However, incidental benefits could happen e.g. wildlife migration corridors would be improved if the corridors cross the powerline/ROW.

4. Air Quality Management

Overview -

Wildfires can leave behind pollutants that affect air quality but according to the Programmatic Environmental Assessment (PEA), FEMA does not anticipate effects to air quality from actions evaluated in the PEA.

Air quality under the Clean Air Act is managed by the New Mexico Environment Department s Air Quality Bureau (NMED AQB). The project area falls within the Pecos, possibly the Upper Rio Grande, and Canadian Airsheds (7) (NMED 2023b). In general, air quality in the Pecos Airshed is not impaired and there are currently no violations of the National Ambient Air Quality Standards (NAAQS) or the New Mexico Ambient Air Quality Standards (NMAAQS) (NMED 2023). Also, the Upper Rio Grande, and Canadian Airsheds currently have no violations of the National Ambient Air Quality Standards (NAAQS) or the New Mexico Ambient Air Quality Standards (NMAAQS). There are currently no EPA air quality non-attainment areas.

Objective –

A. Air quality has not been impaired for at least the last 12 years, with the exception of temporary exceedances for particulate matter as a result of large, uncharacteristic wildfires (NMED 2023).

5. Invasive Weeds

Overview -

The management of invasive weeds is important to forest management and the Soil and Water Conservation Districts. The Project intends to mitigate the spread of non-native plant species during debris removal activities.

Objective –

A. Monitor for invasive plant species that may colonize burned areas, as these can outcompete native vegetation. Known noxious or invasive weed populations will be flagged and avoided during project activities.

B. Decontamination procedures on vehicles and equipment will occur before entering the Project area and when moved to a new Project site if needed.

3.4 Regulatory Considerations

Further assessments will allow for subsequent Work Plans to identify all danger/hazard tree removal and debris disposal actions that may trigger additional compliance with regulatory considerations

A. Compliance with State and Federal Laws

Overview -

This Project will comply with 20.6.4 NMAC - The state of New Mexico is required under the New Mexico Water Quality Act (Subsection C of Section 74-6-4 NMSA 1978) and the federal Clean Water Act, as amended (33 U.S.C. Section 1251 et seq.) to adopt water quality standards that protect the public health or welfare, enhance the quality of water and are consistent with and serve the purposes of the New Mexico Water Quality Act and the federal Clean Water Act.

Objective –

According to SWQB Watershed Protection Section the best BMP for Fire Suppression/Fuels Management: Forest thinning / fuels reduction and post wildfire watershed rehabilitation. The Project will use NMED s SWQB Watershed Protection Section's (WPS), common BMPs implemented throughout New Mexico to address Nonpoint Source Pollution.

B. Permitting Requirements

Overview -

The Project will be mostly conducted on private lands, so MSMEC will coordinate with EMNRD Forestry Division, the agency that has responsibility as per the Forest Conservation Act, NMSA 1978, Sections 68-2-1 to 68-2-25 and the Commercial Harvest Requirements (NMAC 19.20.4). The standards must be followed whenever a single tree from the commercial forest species list in the statute, is severed in New Mexico, even if it is not sold.

The Project is following FEMA's PEA and the PEA specifically states, FEMA is the agency that has to initiate consultations with the U.S. Fish and Wildlife Service (USFWS), and SHPO (see mitigation measures for endangered species protection and cultural and historical resource preservation below). Also, the project does not anticipate a need for a permit from the U.S. Army Corps of Engineers under the Clean Water Act, or permit from New Mexico Environment Department, Surface Water Bureau.

C. Endangered Species Protection

Overview -

Four of the listed species in the FEMA PEA occur within San Miguel and Mora counties and have been identified within the fire boundary/ Project footprint. The other species listed in FEMA's PEA either do not occur within the footprint of the Project or not identified in Mora or San Miguel Counties.

Species/Habitat	Status	Proposed or Designated Critical Habitat Present within project area?	Occurrence	Minimization Measures	Determination	Brief Rationale
Southwestern willow flycatcher/ Willows and Alders	E	No	Mora and San Miguel	Equipment operation will take place in previously cleared areas or where vegetation is particularly sparse and unsuitable for flycatchers and all efforts would be made to minimize damage to native riparian vegetation		Willow or cottonwood habitat does exists in this project area but it was burned during the HPCC wildfire.
Western yellow-billed cuckoo/ Cottonwood galleries	T	No	Mora and San Miguel	Equipment operation will take place in previously cleared areas or where vegetation is particularly sparse, and all efforts would be made to minimize damage to native riparian vegetation. All necessary permits for access points, staging areas, and study sites would be acquired prior to construction activity.		Wllow or cottonwood habitat does exists in this project area but it was burned during the HPCC wildfire.
Mexican spotted owl (MSO)	E	No	Mora and San Miguel	If work must take place during Mexican spotted owl breeding and nesting season from March 1 to August 31, nesting surveys must be conducted by a permitted biologist prior to project implementation in order to identify any occupied nests and establish avoidance buffers until the young have fledged.		Pockets of mixed conifer killed by fire is no longer habitat for this species.

New Mexico Meadow Jumping Mouse	E	No	Mora and San Miguel	Avoid any controlled burning within adjacent wet meadows where feasible and do not create and burn slash piles in these adjacent meadows. Reducing fuels should reduce the potential for post-wildfire flooding and debris flows from forested habitat into NMMJM riparian habitat.		Critical habitat is located along 7.4 miles of Coyote Creek beginning at the confluence of Little Blue Creek and Coyote Creek downstream to the terminus just south of the Village of Guadalupita. (Mora)

NE – no effect; **NLAA** – may affect, not likely to adversely affect; **LAA** – may affect, likely to adversely affect; **No Jeopardy** - not likely to jeopardize the continued existence or adversely modify critical habitat

Objective -

Mexican spotted owl/Mixed Conifer Forest - FEMA letter dated December 20,2022 to U.S.Fish and Wildlife Service, *Informal consultation for Mexican Spotted Owl, Hazard Tree Removal following the Hermits Peak and Calf Canyon Fires on 20 private properties,* states "FEMA has determined that the federally funded work described above may affect, but is not likely to adversely affect the Mexican Spotted Owl (Strix occidentalis lucida) if performed during nesting and breeding season."

If or when necessary, The Project will hire a permitted biologist to survey for occupied nests. The majority of the PACs were severely burned but the Project wants ensure there aren't nesting pairs. If occupied nests are found through the survey, the Project will minimize impacts to terrestrial habitats, drones are being used to determine hazardous tree volume but not in suitable recovery habitats or in PACs and finally, the Project will conduct noise abatement by using timing restriction by starting work 2 hours after sunrise and stopping work at least 2 hours before sunset.

Southwestern willow flycatcher/ Willows and Alders - For nesting, the southwestern willow flycatcher requires dense riparian habitats with cottonwood/willow vegetation and microclimatic conditions that are dictated by the local surroundings. Saturated soils, standing water or nearby streams, pools, or cienegas are a component of nesting habitat that also influences the microclimate and density vegetation component. The southwestern willow flycatcher arrives on breeding grounds in late April to early May. Nesting begins in late May and early June, with fledging from late June to mid-August. Since the flycatcher is a summer breeder within its range in the United States, if possible, the Project will try to avoid the ROW riparian areas until after September. The bird is gone to wintering areas in Central America by the end of September. If or when necessary, a biologist will survey prior to entering the riparian ROW.

New Mexico Meadow Jumping Mouse/ Riparian -The jumping mouse is a habitat specialist (Frey 2006d, p. 3). It nests in dry soils, but uses moist, streamside, dense riparian/wetland vegetation up to an elevation of about 8,000 feet (Frey 2006d, pp. 34-45). The jumping mouse appears to only utilize two riparian community types: 1) persistent emergent herbaceous wetlands (i.e., beaked sedge and reed

canarygrass alliances); and 2) scrub-shrub wetlands (i.e., riparian areas along perennial streams that are composed of willows and alders) (Frey 2005, p. 53).

It is active only during the growing season of the grasses and forbs on which it depends. During the growing season, the jumping mouse accumulates fat reserves by consuming seeds. Preparation for hibernation (weight gain, nest building) seems to be triggered by day length. The jumping mouse hibernates about 9 months out of the year, longer than most other mammals (Morrison 1990, p. 141; VanPelt 1993, p. 1; Frey 2005a, p. 59). If possible, the Project will try to avoid the ROW riparian areas until after September. But, if necessary, the Project will implement measures to control erosion in the burned area, particularly along streambanks, to prevent sediment from degrading water quality and further damaging the habitat. A biologist may be necessary to survey prior to entering the riparian ROW.

Yellow-billed Cuckoo - Only the western population beyond the Pecos River drainage has been listed as threatened under the ESA, NM largest cuckoo population occur in the Rio Grande and Gila Rivers with smaller populations scattered throughout the state. Breeds in and migrates through riparian habitat and associated drainages, springs, wells and earthen ponds supporting mesic vegetation; and deciduous woodlands with cottonwoods and willows. If or when necessary, a biologist will survey prior to entering the riparian ROW.

D. Cultural and Historical Resource Preservation

Overview -

As per FEMA PEA First and Second tier allowance - Utilities, Communication and Towers; “when proposed activities are conform to the original footprint and/or performed in previously disturbed soils, including the area where the activity is staged and no historic properties are present or likely to be present.”

This description fits the Project. The power line itself was energized in 1949 and the Project’s purpose is to remove known hazards to MSNEC’s system from the ROW as well as any danger trees that can impact the system. It is the Project’s intent to engage with FEMA and/or the State Historic Preservation Office (SHPO) on known cultural and historic sites within the Project area.

According to the Programmatic Agreement (PA) between FEMA, NM SHPO and NM DHSEM, SHPO maintains a statewide inventory of known archaeological sites and historic structures in the State of New Mexico. The inventory is archived at the SHPO facilities, and many of the records are included in the New Mexico Cultural Resource Information System (NMCRIS), an integrated online information system. Upon request, SHPO shall provide FEMA and/or its designee(s) with available information about historic properties and known archaeological sites. SHPO may assist local jurisdictions and/or the Recipient(s) in the State of New Mexico with advance planning efforts to consider historic properties in the context of homeland security considerations, including disaster recovery, and mitigation programs for which FEMA funding is requested.

Objective -

(1) The Project will follow the Archaeological Standard Treatment Plan: In accordance with Stipulation II.C.6(a) of the FEMA PEA, potential adverse effects to an archaeological property may be resolved through alternative mitigation measures to avoid or minimize adverse effects, or through data recovery to recover important information that would have been otherwise lost as a result of an undertaking. FEMA staff or contractors that meet the Professional Qualifications for prehistoric or historic archaeology, appropriate to the properties being treated, shall determine applicability of an archaeological treatment plan (ATP), and the appropriate level of documentation, in consultation with the SHPO, land-managing agencies, and/or appropriate Tribe(s) and other consulting parties, as appropriate.

New Mexico is rich in cultural and historical resources. Forest contractors in New Mexico are no strangers to First and Second Tier Allowance and are highly skilled on implementing the removal of wood debris from within a defined wildfire boundary or when staging or durning the operation of associated machinery within a designated forest treatment unit. Forest hand crew contractors are also aware of the requirements since they are often asked to implement hazard tree removal projects when machinery is not used due to slope, soil conditions etc. Both Mechanical and hand crews have performed clearing and removal of vegetative snags, or other obstructions from natural arroyos, streams, or acequias by using documented pre disaster maintenance methods.

(2) The project will require Contractors that are skilled at the removal of fire damaged trees within rural electric cooperatives right-of-ways and public areas that otherwise pose a hazard to work crews or risk to buildings or structures on private or public lands. Chipping, masticating and disposal of woody debris within existing treatment area (ROW).

(3) If necessary, the Project will hire an archaeologist to survey known sites ahead of the forest contractor so we meet all requirements and minimize impacts on the cultural resources. The forest management BMPs used by contractors on multiple types of forest treatments have been known to enhance the preservation of the cultural site.

(4) When removing hazard tree in and around known sites; The Project will either use equipment with booms or hand fall the trees. Should rutting occur despite preventive measures, action will be taken to restore the affected areas in accordance with BMPs guidelines and cultural preservation standards. Resource restoration may include regrading and erosion control measures to return the site to its pre-operation condition (not pre-fire condition).

(5) Continuous monitoring by contractors and/or cultural resource specialists will occur during wood debris removal operations around known sites to ensure compliance with preservation standards. Regular communication with regulatory agencies will ensure that all preservation standards are being met throughout the wood debris removal process.

Tree Stumps - Tree stumps will be flush cut when necessary, otherwise the stump height will be up to 9" over any obstacle and 12" for trees over 18" DBH (diameter at breast height) which is the standard forest management BMP.

Stump Removal - As per the Public Assistance Program and Policy Guide, version 4, stumps that have 50 percent or more of the rootball exposed, removal of the stump and filling the rootball hole are eligible. If grinding a stump in-place is less costly than extraction, grinding the stump in-place is eligible.

The Project will evaluate the exposure percentage and will follow the Public Assistance Program and Policy Guide, version 4.

If the Project discovers any archeological resources during stump removal, the Project will immediately cease work and notify FEMA.

E. Collaboration with Local Agencies and Stakeholders

Overview -

Addressing environmental and regulatory considerations is vital for the successful recovery of private land after a wildfire in New Mexico. The project will collaborate with local government organizations e.g Soil and Water Conservation Districts and individual Acequias as well as San Miguel County and Mora County.

Further agency coordination includes FEMA, New Mexico DHSEM, New Mexico Historic Preservation Division (SHPO), U.S. Fish and Wildlife Service (Service) and/or New Mexico Department of Game and Fish (NMDGF), US Forest Service, New Mexico EMNRD – Forestry Division, and local stakeholders.

Objective -

Individual acequia are, by state law, political subdivisions of the State of NM. Most acequias are located in the North Central portion of the state including Mora, San Miguel counties.

Here is a partial list of acequias located in Mora and San Miguel Counties, New Mexico:

Mora County - Acequia de Holman, Acequia de Las Trampas, Acequia de Buena Vista, Acequia de La Cueva, Acequia de Mora, Acequia de Rito Cebolla, Acequia de Santa Gertrudis, Acequia de La Joya, Acequia del Llano, Acequia del Rio del Pueblo

San Miguel County - Acequia Madre de Las Vegas, Acequia de San José, Acequia de El Cerrito, Acequia de Los Vigiles, Acequia de Tecolote, Acequia de San Augustin, Acequia de Montezuma, Acequia de El Porvenir, Acequia de Los Ranchos, Acequia de San Isidro

These Acequias are part of the New Mexico Acequia Association (NMAA).

Objective -

(1) The Project will collaborate with NMAA to ensure the appropriate acequias are informed prior to contractors entering their boundaries.

Soil and Water Conservation Districts Overview -

The New Mexico Soil and Water Districts are a governmental subdivision of the state, a public body politic and corporate. The Board of Supervisors (Board) are charged with matters affecting soil erosion and flood water and sediment damage. Sections 73-20-25 through 73-20-48 NMSA 1978 is the summary description of the New Mexico Soil and Water Conservation District Act (Act).

Objective -

Tierra Y Montes and Mora Soil and Water Conservation Districts (Districts) are the administrative bodies responsible for the natural resource economic viability in partial areas of San Miguel and Mora counties. The Project will collaborate with the Districts when it's within the District's boundary.

3.5 LANDOWNER AGREEMENTS

Overview -

There are Right-of-way easements established with MSMEC members as well as per the New Mexico Statute § 62-15-3. Grantee shall have the right to construct, operate and maintain on the above-described lands and or in upon all streets, roads, or highways abutting said lands, a distribution line or system, and to cut and trim all trees and shrubbery, and from time to time all dead, weak, leaning or dangerous frees or limbs that are tall enough to strike the wires in falling, within the easement right-of-way, in accordance with all applicable provisions of the most current and accepted criteria of the National Electric Safety Code (NESC) and all applicable and current electrical and safety requirements of the State of New Mexico or the New Mexico Public Regulation Commission." MSMEC has defined this authority to manage the vegetation in the maintenance of its electrical distribution system that provides members with power through its right-of-way easements.

FEMA has reviewed the statute and based on the New Mexico Statute referenced, Mora San Miguel Electric Coop has the authority to enter private property and remove trees. As long as they are removing trees in accordance with what the law states (i.e. cut and trim all trees and shrubbery, and from time to time all dead, weak, leaning or dangerous trees or limbs that are tall enough to strike the wires in falling), there is no issue and no ROE is needed, and is not required by FEMA.

Only a small portion, about 4 miles of the powerlines are on public land.

Objective -

A. Right of Entry has been developed and approved by MSMEC for this Project, and Landowners will be informed and have the ability to review and sign if they so choose.

B. Land Use Agreements will be implemented for TDSR and/or TDMS. The Project will negotiate a monthly rate and any restoration beyond ordinary wear and tear* of the site and a condition report will be conducted.

***ORDINARY WEAR AND TEAR**: Ordinary wear and tear is based on the customary use of the land and not the use resulting from the incident.

***CONDITION REPORTS:** A joint pre- and post-use physical inspection report of the land shall be made and signed by the parties; the purpose of the inspections shall be to reflect the existing site condition

C. Discussions with local primary and secondary wood products business are being conducted. Due to the length of time it's taken to move on this Project, the wood is becoming punky (soft instead of sound) and most sawmills, pallet business, viga/latillas/fence post business or flooring/cabinet manufactures are expectedly, unsure of the quality of the wood. Keep in mind, the value of timber is based on the value of the products that can be made from them. At this point, burnt wood is not a hot commodity. A couple of end products can be made from burned trees besides firewood. Currently, Mora and San Miguel counties are experiencing a glut of firewood. However, there are a niche market, so some of the material will be wanted. This information will be passed on to the landowner.

Section 4: Implementation -

4.1 Debris Removal (project number 737782 [category A])

Overview -

MSMEC, with the assistance of T&D, will advertise the opportunity publicly and to firms known to be capable of performing the work needed, as a Request for Proposals or Request for Bids. Contract requirements and contractor qualifications will be established to meet the Hazard Tree Cutting Plan (FEMA Project #737786 category B) and subsequent Work Plans for the four (4) Areas of Interest, as well as the entire area within the HPCC perimeter.

Under the Tree Cutting project, several items for contracting were identified including access and road maintenance; danger/hazard tree felling; possible stabilization work; and site clean-up. That ends the cutting project costs. The Debris Removal Project picks up at the point of removing the trees from the cut site to the landings. However, as far as the Work Plan is concerned, the debris removal will be included due to the inherent nature of forestry work but will be tracked separately. Skidding trees to the landing site (cost by the tree), and once at the landing site, it will be tracked (by tons). This is only if the Landowner requires the wood to be removed.

4.2 Contracting

The Debris Removal Project and the Hazard Tree Cutting Project may be separate in FEMA's Public Assistance Grant but logistically, implementing this type of forestry project requires the contractor to cut, move the wood out of the way to cut more trees and deck. It is expected the contractors are capable of performing both of these projects back-to-back that they will likely save the taxpayers money through the combined effort due to cost savings associated with mobilization/demobilization costs. The contractors will know that both projects must be tracked independently.

Contract requirements (i.e. experience working under power line/removing hazard trees) and contractor qualifications/skills will be evaluated. It is expected that there will be multiple awards to various firms to fit the varied aspects of both Debris Removal and Hazardous Tree Cutting Projects.

It is also expected that the initial awards will be made to firms in the form of a task order, with additional task orders being awarded as additional Scopes of Work and Work Plans are completed.

4.3 Roads

Road access and road maintenance will be performed to make existing roads usable for entry of crews and equipment while project work is ongoing. Due to the increase in heavy equipment use as a result of the debris removal operations, personnel or crew designated by MSMEC will be responsible to maintain road access and provide incidental repairs to ensure safety for the entry of crews and equipment while work is ongoing. Ongoing incidental repairs of these roads is unavoidable due to the severity of the event and the significant volume and weight of equipment using the roads in the performance of this critical debris removal work. None of this work is due to improper or excessive overuse. This work is only within

the MSMEC jurisdiction and is strictly separate from private, Municipal, County, State, and Federal entities who are currently doing road maintenance in the area.

4.4 Conflict of Interest

MSMEC, with the assistance of T&D, will ensure that conflicts of interest (COI) are avoided. An initial step to avoid COI that MSMEC has already taken is to place the monitoring under T&D while future contracts for tree removal and disposal will be by separate contractors. If or when a COI arises, MSMEC will evaluate and take actions on those, as appropriate to the situation.

4.5 Temporary Debris Staging and Reduction (TDSR) / Temporary Debris Management Sites (TDMS)

Overview -

Temporary Debris Management Sites (TDMS) and Temporary Debris Staging and Reduction (TDSR) sites require proper planning, operation, and closure of which is crucial to ensure efficient debris removal and protection of public health and safety.

Ultimately, the final number of TDSR/TDMS will be determined when the landowner decides on the disposition of the wood (whether to keep the wood or have it removed). However, the Project has several areas that are being reviewed, and two properties that MSMEC owns and is willing to utilized for this purpose.

Objectives -

A. Factors for site selection are: located close to the areas being treated to minimize transportation time and costs, large enough to accommodate the anticipated volume of wood, avoiding environmentally sensitive areas, such as wetlands or floodplains, have a stable ground surface to support heavy machinery and vehicle traffic, and easily accessible via major roads or highways to facilitate the efficient movement of wood debris. This process will be conducted throughout the entire Project.

B. TDSR/TDMS Site Monitoring and Documentation: Records of debris volumes, reduction methods, and final destinations will be maintained. Portable modular truck scales will be set up at the TDSR/TDMS sites. Contractors will have to weigh their truck before and after loads, trip tickets will be documented and turned in daily.

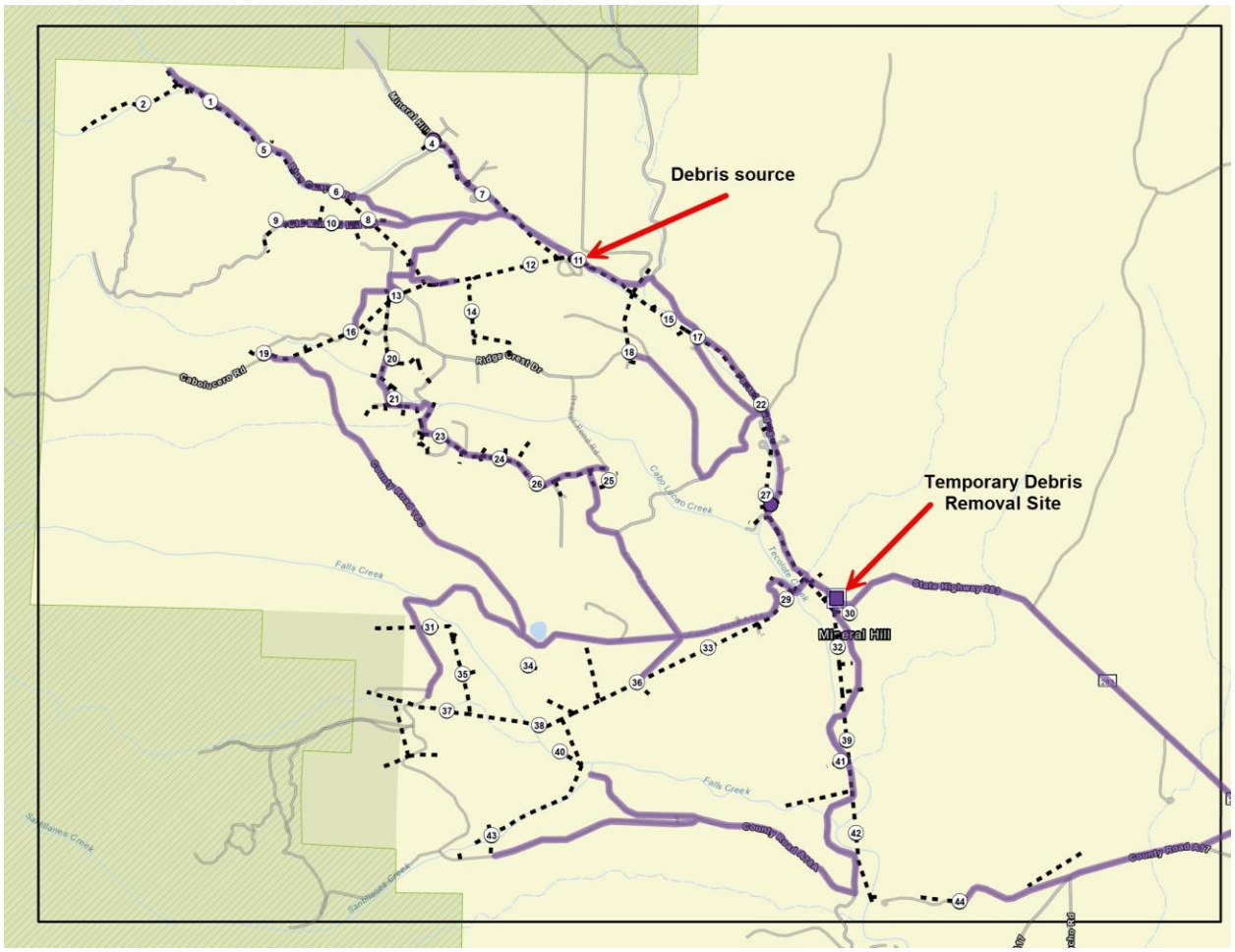
C. Continuous environmental monitoring, will be conducted throughout the operation. Regular inspections will be performed to ensure that wood debris reduction and handling are conducted in accordance with established protocols. TDSR site will be restored to its original condition or an agreed-upon condition with the landowner. This will include monitoring through an Automated Debris Management System (ADMS).

4.6 Sample Debris Removal Routing Analysis

Work being conducted to select areas for TDRS.

Sample routing from notional debris source locations to a notional Temporary Debris Removal Site in the Mineral Hill area.

Source locations are spaced at approximately ¼ mile intervals along the utility lines. The distance may be less for short segments.



The analysis was performed using ESRI s ArcGIS Network Analysis, Closest Facility workflow. This workflow uses ESRI s proprietary roads data. This tool also generates driving directions.

The following table lists the mileage and approximate drive time for the route from each debris source to the Temporary Debris Removal Site. The route is to the point on a road that is nearest the debris site. The tool also provides the distance between those locations.

Route	Travel Time (min)	Km	Miles		Route	Travel Time (min)	Km	Miles
01 - Location 1	14.02	7.9	4.9		23 - Location 1	8.61	5.1	3.2

02 - Location 1	15.01	8.3	5.2	24 - Location 1	7.69	4.5	2.8
03 - Location 1	9.55	5.9	3.6	25 - Location 1	6.75	3.8	2.4
04 - Location 1	9.52	5.9	3.6	26 - Location 1	7.11	4.1	2.6
05 - Location 1	12.67	7.3	4.5	27 - Location 1	1.53	1.1	0.7
06 - Location 1	10.94	6.5	4.0	28 - Location 1	1.47	1.1	0.7
07 - Location 1	8.08	5.2	3.2	29 - Location 1	1.96	0.9	0.6
08 - Location 1	9.83	6.1	3.8	30 - Location 1	0.15	0.1	0.1
09 - Location 1	11.62	7.0	4.3	31 - Location 1	8.97	4.9	3.0
10 - Location 1	10.56	6.5	4.0	32 - Location 1	0.76	0.5	0.3
11 - Location 1	5.92	4.2	2.6	33 - Location 1	3.08	1.6	1.0
12 - Location 1	6.74	4.6	2.8	34 - Location 1	5.74	3.1	2.0
13 - Location 1	9.70	6.4	4.0	35 - Location 1	9.82	5.2	3.3
14 - Location 1	9.90	6.5	4.0	36 - Location 1	4.52	2.4	1.5
15 - Location 1	4.10	3.1	1.9	37 - Location 1	10.30	5.5	3.4
16 - Location 1	10.96	7.0	4.3	38 - Location 1	12.12	5.7	3.6
17 - Location 1	5.40	2.9	1.8	39 - Location 1	2.72	1.5	0.9
18 - Location 1	8.46	4.2	2.6	40 - Location 1	12.12	5.7	3.6
19 - Location 1	12.21	6.8	4.2	41 - Location 1	2.86	1.6	1.0
20 - Location 1	11.78	6.3	3.9	42 - Location 1	5.06	2.7	1.7

21 - Location 1	10.18	5.9	3.6		43 - Location 1	11.83	6.5	4.0
22 - Location 1	2.69	2.0	1.2		44 - Location 1	10.70	7.3	4.5

4.7 Disposition of Debris

A. Primary and Secondary wood products business will be given notice that the material is available. Decadent wood will be chipped. If the chips are relatively clean they can be used for soil erosion products e.g. wattles, or compost and mulch.

B. Landfills accepting burned wood debris:

City of Roswell Landfill 3006 West Brasher Road, Roswell, NM 88203
City of Socorro Landfill 2465 State Road 1 Socorro, NM 87801
Mesa Verde C&D Landfill 601 La Luz Gate Road, Alamogordo, NM 88310

Reminder -

If the landowner chooses to retain ownership of the wood: The Project will process (delimb and top) the trees and place the boles into a deck at a mutually agreeable, accessible location on that property that eliminates the hazards to the MSMEC system and ROW. The Project will treat the slash as required by 19.20.4.9 NMAC Subsection I (slash treatments).

If the landowner chooses to have the wood removed: Trees will be processed where cut or at DLS/landing, depending on whether all or only part of the tree is to be removed off site. Some tonnage might be needed to control sediment.

If the landowner can't be found or won't make a decision, MSMEC will deck the wood on that property in an area that eliminates the hazards to the MSMEC system and ROW.

5.0 Monitoring/Quality Assurance & Reporting

Overview -

Adaptive management is key to the success of these efforts. Monitoring/quality assurance and reporting will occur throughout the term of the Project with a final report submitted for the Project at the conclusion of activities. Quality assurance and quality control will be done while debris removal contractors are working within their designated areas to ensure that debris removal is being done per work plans and scopes of work identified through the contracting process. Quality assurance checks will be performed regularly when a contractor first begins the project work to ensure that they are working safely and according to plan and making reasonable progress within their designated area. If a concern is identified during a quality assurance check, quality control measures will likely be implemented if deemed appropriate by MSMEC and T&D Services.

OBJECTIVE -

A. Report items and content will be mutually agreeable to meet the funding-entity requirements and MSMEC concerns.

B. Accounting for reimbursable items will be submitted with reimbursement requests in a manner mutually agreeable.

C. Monitoring BMPs - Adjust BMPs, and water quality improvement actions as needed to ensure the continued recovery if needed.

D. Lidar Drone flights will be conducted prior to starting the Project and at the completion of the Project. Since surface cover is an important determinant of post-fire erosion (Larsen et al., 2009), it is important to monitor vegetative recovery over time following post-fire treatments using field observations or remote sensing. This can help determine if the hazard tree removal landings and TDMS areas are less susceptible to runoff and erosion during future precipitation events.

E. Monitoring status of trees through ADMS.

5 .1 MAINTENANCE

OVERVIEW -

Maintenance of the ROW following the Project will done by MSMEC. The exceptions to this will be maintenance issues that continue to arise from the impacts of the HPCC Event. For example, it is expected that subsequent flooding will continue for several more years, although it may decrease in intensity as time from the HPCC Event increases. Another example, identified by New Mexico Forestry Division, increased insect damage continues to create danger and hazard trees in the remaining green tree islands as a result of forest insects fleeing the burned trees to concentrate in the remaining live trees that exist. These types of exceptions will be identified as maintenance needs, as appropriate in the future.

5.2 SCHEDULE

OVERVIEW -

First and foremost, time is of the essence to remove this hazard for the health and safety of MSMEC crews, customers, and the public. MSMEC, with the assistance of T&D, has prioritized this Project in a manner to remove the hazard expeditiously, to include staging, scheduling, and timing resources and contractors to meet the Work Plan. When a work plan has been developed adequately to begin addressing the highest priority needs, implementation will be initiated while lower priority assessments continue.

A big factor for MSMEC proceeding will be the assurance from FEMA and NM DHSEM that its actions moving forward will be reimbursable in a timely manner, since funding assistance has not been established. MSMEC does not have the financial capability to undertake this Project on their own, nor

the ability to cash flow the Project for an extended amount of time. It is critical that FEMA, DHSEM, and MSMEC establish a methodology to get monthly reimbursement requests processed.

5.2.1 Project Process Flow -

Program Management

- Identify priority area (severe burn areas, 4 Areas of interest, access points, landowners
- Project cost estimates
- Lidar flights
- Establish work unit boundaries
- Identify resource issues (wetlands, riparian zones, arch sites etc)
- Coordination with SHPO and FEMA EHP
- Identify TDSR/TDMS

Communications/ collaboration

- Program outreach with landowners, acequias (NMAA), and Soil and Water Conservation Districts)
- Verify land ownership
- Establish methods of communication with the communities

Hazard Tree Assessment

- Identify and mark incidental trees (if needed)
- Develop hazard tree prescription
- Geospatial Management
- Analysis of continues Lidar flights
- Enter trees into ADMS

Contractor Procurement

- Contractor Procurement Specifications (contractor experience working under and around power lines, type of equipment, qualifications/skills)
- Bid Analysis
- Develop and distribute work plans
- Develop and distribute monitoring work plans

Debris Removal Monitoring

- Monitor and document debris removal sites
- Monitor utilization or final deposition
- Quality assurance checks
- Reporting and tracking (including ADMS)

Program Quality Control

- Substantiate contractor performance, following safety requirements and Work Plan completion
- Confirm Work Plan completion
- Confirm BMPs are being followed

Funding Administration

- ADMS reconciliation with funding requests
- Review contractor invoices
- Produce Project Worksheets
- Request for reimbursement

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