Timberland Resource Consultants

Joint Timber Management Plan

For

Robert McKee

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TIMBER MANAGEMENT GUIDE

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JOINT TIMBER MANAGEMENT GUIDE

1. CURRENT PROPERTY OWNERS:

APN 223-071-006, -008,
APN 223-074-001, -005
Dead End Development
c/o Steve Dodge
P.O. Box 1666
Redway, CA 95560

APN 223-074-004
Tobias Hafenecker-Dodge
60 Rausch Street, #208
San Francisco, Ca 94103

APN 223-071-017,
APN 223-074-006
Kenneth Bullock
P.O. Box 803
Corte Madera, CA 94976

2. PROJECT DESCRIPTION

A Joint Timber Management Plan (JTMP) applies to "division" of land into assessor parcels containing less than 160 acres of Timber Production Zone (TPZ). Parcel is defined as "that portion of an Assessor's parcel that is timberland". Activities that may result in such a division include subdivision, lot line adjustment and conveyances of existing land units (e.g. land patents) underlying an Assessor's parcel zoned TPZ, when any conveyance contains less than 160 acres of TPZ land.

The project involves a Merger of five parcels into three and a Lot Line Adjustment between those parcels resulting in three parcels. Prior to the Merger and Lot Line Adjustment, the five parcels involved contain less than 160 acres of Timber Production Zone with four parcels containing less than 40 acres of Timber Production Zone. The total combined TPZ acreage of all of the parcels involved is 161.13. The majority of the lands within and surrounding these parcels are zoned for Agriculture. Following the Merger and Lot Line Adjustment, the three resulting parcels will contain less than 160 acres of Timber Production Zone, but with only one containing less than 40 acres (Parcel A 26.42 acres).

AREAS (ACRES) BEFORE MERGER AND LOT LINE ADJUSTMENT

PARCEL (APN#)	TPZ	AE	AE-B-5(160)	TOTAL
223-071-006, 223-071-008, 223-074-001, 223-074-005	38.61	29.56	177.28	245.45
PORTION OF 223-071-017, 223-074-006	56.49	56.76	50.38	163.63
PORTION OF 223-071-017	20.14	21.61	0	41.75
PORTION OF 223-071-017	10.92	30.83	0	41.75
223-074-004	34.97	0	118.50	153.47
TOTAL – ALL PARCELS	161.13	138.76	346.16	646.05

AREAS (ACRES) RESULTING FROM MERGER AND LOT LINE ADJUSTMENT

PARCEL	TPZ	AE	AE-B-5(160)	TOTAL
PARCEL A	26.42	0	177.28	203.70
PARCEL B	51.85	0	162.37	214.22
PARCEL C	82.86	138.76	6.51	228.13
TOTAL – ALL PARCELS	161.13	138.76	346.16	646.05

The Merger and Lot Line Adjustment is intended to reconfigure the five parcels into three parcels to result in more manageable parcels for each of the three property owners involved. The resulting parcel lines will be more in accord with the surrounding topography, following Buck Mountain Creek along one segment. Timber Production Zoned acres within the JTMP area will become less fragmented by parcel lines. Also, within the resulting parcels, less TPZ area will be separated by large watercourses. The area of land proposed to be merged and adjusted between the five existing parcels is not expected to significantly impact the future viability of the TPZ zoned portions of the parcels for future timber management. Acres for this JTMP were derived using the tentative Merger & Lot Line Adjustment Map prepared by a licensed surveyor, Michael O'Hern.

The purpose of the Joint Timber Management Plan is to provide a management guide for harvesting timber for all parcels affected by the division of land. This Joint Timber Management Plan includes both a *"Timber Management Plan"* and a *"Timber Management Guide"*. The objective of the *"Timber Management Plan"* is to identify joint access, rights-of-ways and the minimum stocking requirements of the Forest Practice Rules required to maintain viable timber producing management units. The objective of the *"Timber Management Guide"* is to provide a descriptive document that describes the property and outlines the management opportunities to the landowners.

3. MANAGEMENT OBJECTIVES

The timber management objectives are to achieve a maximum sustained production of high quality timber products while retaining aesthetic, recreational, watershed, wildlife, and fisheries resources. The TPZ portion of the JTMP area contains stands that are predominantly stocked with hardwood with a minor component of Douglas-fir. Consequently, any management in the near-term will likely consist of rehabilitation of unstocked areas or low acreage, even-aged regeneration units. The retention of aesthetic, recreational, watershed, wildlife, and fisheries resources shall be met by following the California Forest Practice Rules. The long-term JTMP management objective is to balance growth and harvest over time to obtain a sustainable periodic return and this may occur using either even-aged or uneven-aged prescriptions.

4. LEGAL DESCRIPTION

Management Unit A (Parcel A) – Upon completion of the Merger and Lot Line Adjustment, Management Unit A will be located in the northeast ¼ of Section 29, and the northwest ¼ of the northwest ¼ of Section 28, Township 4 South - Range 4 East, H.B.M. This area is currently located in APNs 223-074-001, 005, and 223-071-006, which are zoned AE-B-5(160) and TPZ. After the lot line adjustment, Management Unit A will have a mixed zone of AE-B-5 (160) (177.28 acres) and Timber Production Zone (26.42 acres). Its total acreage will be 203.7 acres. Management Unit A is located on the Garberville and Harris 7.5' quadrangles.

Management Unit B (Parcel B) – Upon completion of the Lot Line Adjustment, Management Unit B will be located in the southeast ¼ of Section 29, and the east half of the southwest ¼ of Section 29, Township 4 South - Range 4 East, H.B.M. This area is currently located in APNs 223-074-004 and 223-074-006 which are zoned AE-B-5(160) and TPZ. After the lot line adjustment, Management Unit B will have a mixed zone of AE-B-5 (160) (162.37 acres) and Timber Production Zone (51.85 acres). Its total acreage will be 214.22 acres. Management Unit B is located on the Garberville and Harris 7.5' quadrangles.

Management Unit C (Parcel C) – Upon completion of the Lot Line Adjustment, Management Unit C will be located in the southwest ¼ of Section 28, the southwest ¼ of the northwest ¼ of Section 28, and a portion of the northeast ¼ of the southeast ¼ Section 29, Township 4 South – Range 4 East, H.B.M. This area is currently in APNs 223-071-017, and a portion of APN 223-074-004 and are zoned AE, AE-B-5(160), and TPZ. After the lot line adjustment, Management Unit C will have a mixed zone of AE (138.76 acres), AE-B-5(160) (6.51 acres), and TPZ (82.86 acres). Its total acreage will be 228.13 acres. Management Unit C is located on the Garberville and Harris 7.5' quadrangles.

5. GENERAL LOCATION AND ACCESS

The JTMP area is located approximately 2 miles southeast of Garberville, CA. The JTMP area is accessed by a combination of public and private roads from Garberville, CA. Management Units A and B are accessed by private permanent and seasonal roads (Little Buck Mountain Road) off of Alderpoint Road. Management Unit C is accessed by private permanent and seasonal roads (Tooby Ranch Road) off of Alderpoint Road. Many of the existing roads which access the management units are rock surfaced. Many of the roads appear suitable for non-winter log hauling and year around passenger vehicle or four-wheel drive access. The grade of the existing seasonal roads are generally less than 16% with some steeper pitches. The road grades are suitable for hauling logs from the management units. The access roads should be adequately drained using a combination of outsloping, insloping with cross drains, water bars and rocked rolling dips to avoid concentrated runoff that may cause erosion. The road system within the JTMP area is adequate for servicing the property for timber management activities, however minor spur road construction and reconstruction may be needed to increase efficiency. If any new roads are deemed necessary in the future, they should be established in the best possible location as determined by an RPF. Landowners should consult with an RPF prior to the establishment of any new roads. Any road construction occurring within the JTMP area should be permitted under an approved THP or will be subject to Humboldt County's Grading Ordinance. http://co.humboldt.ca.us/planning/building/documents/grad_ord.pdf

See the "*Timber Management Plan*" for a description of access required for timber management.

6. HARVEST METHODS

With a few exceptions, the entire JTMP area can be yarded using a combination of ground based and cable based yarding. Exceptions would be corners and areas confined by large watercourses and property lines. The JTMP TPZ Yarding Map shows the areas of tractor or cable yarding within the TPZ zoned portions of the management units. Generally, ground based yarding occurs on slopes less than 50% and cable yarding on slopes in excess of 50%. The JTMP area was logged in the past utilizing ground based methods which established a skid trail network that led down to roads located adjacent to the major drainages. Many of these old existing skid trails and roads are located very close to the major watercourses, some of which have become impassable over time. Also, many of these legacy logging roads do not provide access for hauling logs to the current road system. For future tractor and cable yarding operations, it may be necessary for some new truck roads or skidtrails to be established or reopened across management unit boundaries. To effectively yard the management units, truck roads or skid trails may be required to cross watercourses. The crossing of watercourses by truck roads and skid trails requires planning and permitting under the CDFW 1600 process. The CDFW 1600 process is required when any substantial change is made to the bed and/or bank of a watercourse, regardless if such operations are associated with timber harvesting or not.

Cable yarding generally occurs on areas that are not accessible by tractors due to steep topography, watercourses and/or property lines. Although most of the areas designated as cable yarding were logged in the past using ground based equipment, today's standards favor that these areas be harvested using cable yarding systems. Within the areas suitable for cable yarding, roads are positioned to provide cable yarding settings that provide adequate deflection and access to the cable yarding areas of the JTMP. However, as previously noted, minor spur road construction may be needed to increase efficiency. Within the cable yarding areas, tractor operations, limited to the use of a few designated skid trails, may be required to access long corners, and/or to bunch logs. When cable yarding is required, all management units should consider harvesting concurrently to alleviate the cost of multiple entries and the filing of separate Timber Harvest Plans.

7. PHYSICAL DESCRIPTION

The major soil series type identified in the JTMP area is the Hugo (812) Series. Laughlin soils occur within the JTMP area as well. Hugo surface soil has grayish brown loam topsoil and pale brown clay loam subsoil. The parent material is sandstone and shale. The soil has moderately rapid permeability with good to excessive drainage. These soils are generally 20 to 40 inches deep to a restrictive layer. Its suitability for timber production is high. Laughlin is a brown, fine-loamy soil that is 20 to 30 inches deep. It is well-drained, has medium to very rapid runoff, and moderate permeability. It is not suitable for timber. It is covered by grass openings and open stands of oaks. *The Soil-Vegetation Map* (Sheets 29C-4 & 29D-3) show the JTMP Area (Hugo and Laughlin soils) as Site Class III and IV.

The majority of the JTMP area is underlain by bedrock of the Central Belt Franciscan Complex (Pliocene marine rocks). The Geomorphic Features Map shows areas containing Amphitheater Slopes, Disrupted Ground, Dormant Translational/Rotational Slides, and Active Slides too small to delineate within the JTMP area. Field observations confirmed that some of these mapped features are indeed "unstable areas" per 14 CCR 895.1. Based upon the presence of these features, future timber operations may have the potential to affect slope stability through the displacement of soil, division or concentration of drainage, reduction in interception or transpiration and/or reduction in root strength. Therefore, future THP/NTMPs may require input from a licensed geologist.

8. TIMBER HARVEST HISTORY

Timber harvesting has been light and infrequent in the past due to the high percentage of hardwood species throughout the stands in the area. Based upon aerial photo review and field observations, it appears that the most recent timber harvesting occurred through the JTMP area in the late 1970s to early 1980s. In 1968 aerial imagery, most of the timber stands in the JTMP appeared intact and few roads were visible. In the next set of available aerial imagery (1993), a road network was visible along with skid trails and small harvested openings. In 1968 aerial imagery, it appeared that the small drainage in the southwest corner of the property, Panther Canyon, had been harvested. In imagery from 1948, it could only be determined that some harvesting had likely occurred but an estimate of timing or intensity could not be definitive due to photo quality. Timber harvests targeted the most merchantable Douglas-fir and left unmerchantable Douglas-fir trees scattered throughout the stand. A look through available THP mapping sites did not reveal any record of THP's taking place within the JTMP area or surrounding properties in the last twenty-five years.

9. PRESENT TIMBER STAND DESCRIPTION and VOLUME SUMMARIES

The JTMP area is 646 acres with 161 acres of TPZ in total. Based upon data generated from the timber cruise and field observations, all areas within the JTMP zoned TPZ have been stratified into a single stand type. Levels of variability exist throughout the stand type with respect to environmental differences—i.e. slope, aspect, rocky outcrops, and proximity to watercourses.

Areas of the JTMP zoned as TPZ currently are in transition from mixed hardwood and oak woodland forest types to a conifer forest. The uplands are mainly white oak and black oak mixed with grassland meadows. Lower on the slope, Douglas-fir encroachment is slowly converting the forest. The canopy consists mainly of mixed hardwood species with scattered emergent Douglas-fir. Predominant Douglas-fir trees of 100 years and older, are scattered throughout the ownership, however have been naturally regenerating a young crop of trees throughout the TPZ area. Many are decadent trees seemingly left during the last entry due to defect or overall roughness. The existing volume of the sparse Douglas-fir within the TPZ portion of the JTMP is only approximately 2,750 board feet per acre. Douglas-fir in the lower canopy positions (trees 8" and less in DBH) will make up the principal stand into the future. As such, this new crop of Douglas-fir regeneration is considered to be the primary cohort as it will eventually comprise the most stems per acre throughout the JTMP area into the future, and will ultimately grow into the dominant stand. Hardwoods within the JTMP and TPZ area are dominated by white oak and black oak, with live oak, Pacific madrone and tanoak being common associated species. Few old growth stumps were observed during the timber cruise, generally occurring at lower elevations.

Currently, the stand contains 31 ft^2 of basal area per acre of Douglas-fir and 61 ft^2 of basal area per acre of hardwoods species on trees 10 inches DBH and greater. Species composition of this basal area is 33% Douglas-fir, 31% white oak and black oak, 13% bay laurel, 11% live oak, 7% tanoak, and 5% Pacific madrone. The stand

contains 19 trees per acre of Douglas-fir and 62 trees per acre of hardwood species combined. For trees 8 inches DBH and smaller, the area contains 170 stems per acre of Douglas-fir and 327 stems per acre of hardwood species. The forest stand occupies mainly Site Class IV lands and based on in-field measurements, Site Index is 100 at 50 years old. The understory contains moderate amounts of huckleberry, wood rose, grasses and forbs. Timber cruise data is summarized in the table below and detailed in the attached Cruise Report.

Stocking Statistics for Stand ID: TPZ Portions	
Average conifer diameter:	17.3 inches
Average hardwood diameter:	13.5 inches
Average conifer basal area/acre:	31.0 square feet
Average hardwood basal area/acre:	61.2 square feet
Conifer volume/acre:	2,749.5 board feet
Hardwood volume/acre:	39.2 green tons

10. CRUISE METHODOLOGY AND VOLUME DETERMINATION

The JTMP area was sampled in 2018 using the system described below:

a. The timber stands were inventoried using a nested variable plot sampling system.

b. The TPZ zoned portion of the Management Units were cruised using a 5-chain grid and a BAF of 25.

c. At every plot, a prism was used to determine which trees to tally. All trees 10 inches DBH and greater were tallied by species and measured for DBH and defect, with a subsample of heights at every third cruise plot. Form class was determined from field measurements and visual estimation. A form class of 69 was used for Douglas-fir.

d. At every plot a 1/300 acre plot was established and all trees 8 inches DBH and smaller were tallied by species and measured for DBH, height and defect.

e. The gross Scribner board foot volumes for conifers were calculated using Wensel & Krumland's board foot volume equation coefficients from the publication Volume & Taper Relationships for Redwood, Douglas-fir, & Other Conifers in California's North Coast (University of Ca., Bulletin 1907). The green ton volumes were calculated using volume tables developed by Richard G. Oderwald. These volumes are in tons to a four-inch top DOB, by DBH and total height, height in feet by five-foot increments. No deductions were made for hidden defects or expected breakage.

11. FUTURE YIELD

For the purpose of this JTMP, the stand type described above has been divided into three Management Units. As such, Management Units are described as MU-A, MU-B, and MU-C with respect to the Resulting Parcels A, B, and C of this Lot Line Adjustment and Merger. Calculation of the future yield projections did include growth on the existing scattered and decadent low volume of Douglas-fir that is present in the stand. The future yield projections are based on the future dominant cohort currently consisting of young regenerating Douglas-fir trees. This young emerging stand will not result in measurable volume until year 2038. Although currently the stand does contain unevenaged characteristics, the future trajectory of the young stand will be in transition to evenaged with scattered predominant trees.

The projected growth estimates for the JTMP area are based upon Table 4, Yield in Board Feet (Scribner rule) for Site Index 100, found on page 27 of *The Yield of Douglas-fir in the Pacific Northwest, Bulletin* 201 (Richard E. McArdle). Future yield projections include acreages for each Management Unit. All values assume no commercial harvesting.

STAND TYPE 1 Site Index 100	2018		2028		2038		2048	
	Total BF Volume	BF Vol/Acre	Total BF Volume	BF Vol/Acre	Total BF Volume	BF Vol/Acre	Total BF Volume	BF Vol/Acre
MU-A (26.4 acres):	72,600	2,750	72,600	2,750	114,840	4,350	199,320	7,550
MU-B (51.8 acres):	142,450	2,750	142,450	2,750	225,330	4,350	391,090	7,550
MU-C (82.8 acres):	227,700	2,750	227,700	2,750	360,180	4,350	625,140	7,550

12. SILVICULTURAL RECOMMENDATIONS

The long-term management objective for TPZ lands is to maximize the production of high quality forest products. Currently, the stands contain primarily hardwood species and scattered decadent Douglas-fir trees. Douglas-fir regeneration is becoming more present in the lower canopy positions. While some pockets of brush and hardwood regeneration occur, even moderately stocked areas appear to be on the right trajectory in terms of long term sustained yield.

The JTMP area could initially be managed using the rehabilitation silviculture method. The rehabilitation prescription could be prescribed over the areas where hardwood component is the highest. Commercial rehabilitation in a THP/NTMP may only occur in areas where the overall stocking of conifers is less than 50 square feet of basal area per acre.

Rehabilitation is designed to remove the existing hardwood component and replace it with conifer species. Following harvest of the hardwood stands, the logged areas should be site prepped and planted with conifer seedlings to a minimum of 435 seedlings per acre. Following planting, an intermediate hardwood treatment such as "hack and squirt" may need to be implemented in order to keep hardwoods from regenerating the site. The next commercial harvest entry would likely occur over 30 to 40 years later. When the rehabilitated stands reach a merchantable size, they can be commercially thinned to remove defect and mortality while establishing ideal spacing to promote growth on the residual stand. Following commercial thinning, the stand could be shifted into a unevenaged stand structure using selection or group selection prescriptions.

A less aggressive management approach would be either evenaged or unevenaged silviculture methods once conifer stands become established in the future. In an evenaged scenario, several silvicultural options could be used to regenerate the stand as allowed in the Forest Practice Rules. If a two-aged management system is used, artificial regeneration is advised following seed tree or shelterwood preparatory steps.

The aforementioned silvicultural recommendations are for large THP/NTMP projects. However, there are several practices that individual landowners can do to enhance their timber stands in between or prior to commercial operations. These include tree planting in open areas, hand releasing of conifers in hardwood thickets, and precommercial thinning. Precommercial thinning should focus on removing competing vegetation from around conifer regeneration or thinning out saplings and poles to release over crowded conifers. Additionally, pruning of limbs in timber stands can be undertaken on a small management unit scale and will enhance the quality of wood while allowing sunlight to reach the forest floor to promote regeneration in the understory.

In order to maximize potential growth, it is recommended to harvest trees that have mechanical damage or disease. Removal of the residual overstory and as many hardwoods as feasible will provide growing space for desirable conifers from natural and artificial regeneration. Site preparation by mechanical means may be undertaken following harvest to reduce competition of broadleaf species. Planted areas should be monitored to determine the need for intermediate treatments such as browse protection, inter-planting, tree release, and pre-commercial thinning.

13. CONSERVATION AND PROTECTION MEASURES

Roads: The existing permanent and seasonal roads are in good condition and provide timber harvesting access to the management units for future timber operations. These roads are currently used for ranching and property access. Trails shown on the JTMP maps are a combination of jeep trails and skid trails which can accommodate ATVs and in some places 4-wheel drive pick-up trucks. These trails are used for ranching purposes and in some cases could be used or upgraded as part of future timber harvesting plans. Many logging roads used in the past are now considered legacy roads or no longer exist. Future timber harvesting may require some new road

construction and / or watercourse crossings to be installed or replaced in order to access timber areas that were once accessed by legacy roads that are no longer serviceable. Future timber harvesting will require that the roads and crossings be maintained to present standards, which in part, are enforced by the Forest Practice Act (CALFIRE), Clean Water Act (WQ), and the Endangered Species Act (CDFW & NMFS). The landowner is encouraged to consult with an RPF prior to conducting any road maintenance activities that are not associated with a permitted timber operation.

Soil Conservation: Soil is the basic resource that allows a forest to grow, and measures should be taken now and into the future to protect this resource. Soil erosion potential is increased with concentration of runoff on bare mineral soil. Dispersion of water from roads and landings are the key to limiting erosion after logging. The landowner is encouraged to maintain all existing drainage structures and facilities on truck roads and skid trails. Most of these erosion control structures and facilities observed are adequately functioning, but nevertheless should still be periodically checked prior to the winter period to ensure that they are functional. Future timber harvesting will likely re-use these existing truck roads and skid roads, and their maintenance will be important for successive harvests and future management activities.

Fire Risk: This property is in a High Fire Hazard Severity Zone. The warm dry summers lead to conditions conducive to fire, and many of the abundant brush and hardwood species add to the rate of spread. Potential sources of ignition can come from lightning strikes or human sources. Fuel breaks along the main ridges and or roads should be maintained over time. One potential fuel break is located along the main ridge / access road into Parcels A and C. Other prevailing ridges within the ownership may be considered for fuel breaks in the future.

Commercial logging generally removes the least flammable portion of trees (their main stems or trunks) while leaving behind their most flammable portions (their needles and limbs) directly on the ground. Untreated logging slash can adversely affect fire behavior for up to 30 years following the logging operations. Commercial logging reduces the "over story" tree canopy, which moderates the "microclimate" of the forest floor. This reduction of the tree canopy exposes the forest floor to increased sun and wind, causing increased surface temperatures and decreased relative humidity. This in turn causes surface fuels to be hotter and drier, resulting in faster rates of fire spread, greater flame lengths and fire-line intensities, and more erratic shifts in the speed and direction of fires. Small diameter surface fuels are the primary carriers of fire. Current fire-spread models such as the BEHAVE program do not even consider fuels greater than three inches in diameter, because it is mainly the fine-sized surface fuels that allow the fire to spread.

Because forest management and timber operations have the potential for increasing the risk of fire; it is important that all timber harvest operations be conducted in compliance with State and local fire rules and regulations. For residences located on the property, the Forest Practice Rules require hazard reduction (treating logging slash) within 200 feet of a residence. In addition, when the option of burning piles or concentrations of slash is chosen to meet the slash treatment requirements as specified in these rules, such burning shall be done as follows: (a) Piles and concentrations shall be sufficiently free of soil and other noncombustible material for effective burning. (b) The piles and concentrations shall be burned at a safe time during the first wet fall or winter weather or other safe period following piling and according to laws and regulations. Piles and concentrations that fail to burn sufficiently to remove the fire hazard shall be further treated to eliminate that hazard. All necessary precautions shall be taken to confine such burning to the piled slash.

Wildlife: The JTMP area contains habitat for numerous plant and animal species. Timber operations have the potential to directly or indirectly impact fish, plants, and wildlife species. 14CCR 898.2(d) states that one of the Special Conditions under which the Director can disapprove a THP or an NTMP is when "Implementation of the plan as proposed would result in either a "taking" or finding of jeopardy of wildlife species listed as rare, threatened or endangered by the Fish and Game Commission or Fish and Wildlife Service, or would cause significant, long-term damage to listed species. Consequently, any future timber harvesting that has the potential to impact wildlife will require an impact assessment, which may include consultation with the Department of Fish and Wildlife, US Fish and Wildlife Service and National Marine Fisheries Service.

Pest and Disease: Phytophthora ramorum (P. ramorum), is the pathogen that causes the disease known as Sudden Oak Death (SOD). Sudden Oak Death is a new and virulent disease affecting hardwood forests in coastal California. The pathogen, *Phytophthora ramorum*, has reached epidemic levels in several California forests. The pathogen also colonizes the foliage of several other overstory and understory hosts without killing them. Phytophthora ramorum, has been found in Humboldt County. The Oak Mapper (http://www.suddenoakdeath.org/) website shows the closest location of SOD as being approximately 4,500 feet southwest of the JTMP area. Due to the presence of SOD in Humboldt County and nearby the JTMP area, it is assumed to be infected with SOD. Future THP and NTMPs are required to incorporate protection measures designed to mitigate potential negative

effects of SOD. Mitigation & management recommendations are taken from Sudden Oak Death Guidelines for Forestry at http://nature.berkeley.edu/comtf/pdf/ForestryGuideNov2006.pdf.

List of known host species: *Acer macrophyllum* (big-leaf maple), *Acer pseudoplatanus* (planetree maple), *Adiantum aleuticum* (western maidenhair fern), *Adiantum jordanii* (California maidenhair fern), *Aesculus californica* (California buckeye), *Aesculus hippocastanum* (horse chestnut), *Arbutus menziesii* (madrone), *Arctostaphylos Manzanita* (manzanita), *Calluna vulgaris* (Scotch heather), *Camellia* (camellia), *Castanea sativa* (sweet chestnut), *Fagus sylvatica* (European beech), *Frangula californica* (California coffeeberry), *Frangula purshiana* (cascara), *Fraxinus excelsior* (European ash), *Griselinia littoralis* (griselinia), *Hamamelis virginiana* (witch hazel), *Heteromeles arbutifolia* (toyon), *Kalmia* (mountain laurel), *Lithocarpus densiflorus* (tanoak), *Lonicera hispidula* (California honeysuckle), *Laurus nobilis* (bay laurel), *Maianthemum racemosum* (false Solomon's seal), *Michelia doltsopa* (michelia), *Parrotia persica* (Persian ironwood), *Photinia fraseri* (red tip photinia), *Pieris spp.* (Andromeda), *Pseudotsuga menziesii* (Douglas-fir), *Quercus agrifolia* (coast live oak), *Quercus cerris* (European turkey oak), *Quercus chrysolepis* (canyon live oak), *Quercus falcata* (southern red oak), *Quercus ilex* (Holm oak), *Quercus kelloggii* (California black oak), *Quercus parvula* var. *shrevei* (Shreve's oak), *Rhododendron* (rhododendron), *Rosa gymnocarpa* (wood rose), *Salix caprea* (goat willow), *Sequoia sempervirens* (redwood), *Syringa vulgaris* (lilac), *Taxus baccata* (European yew), *Trientalis latifolia* (western starflower), *Umbellularia californica* (pepperwood), *Vaccinium ovatum* (huckleberry), *Viburnum* (all species) (http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlist.pdf)

Plants: The JTMP area contains habitat for numerous special status plants (rare, threatened and endangered plants) and plant communities. Special status plants are limited to those that have been listed by state and federal agencies but include any plants that, based on all available data, can be shown to be rare, threatened, or endangered. Rare plant communities are those communities that are of highly limited distribution. These communities may or may not contain special status plants. The *California Natural Diversity Database's List of California Terrestrial Natural Communities* is used as a guide to the names and status of communities. Future timber operations will likely require botanical surveys utilizing *The Department of Fish and Wildlife's (CDFW) Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*.

Fish: The JTMP area contains a segment of Buck Mountain Creek. It is a Class I tributary to the East Branch of the South Fork of the Eel River that eventually drains to the Pacific Ocean. In August 2002, the State Fish & Game Commission found that coho salmon from Punta Gorda to the Oregon border warranted listing as threatened. In March 2005 coho salmon were listed under CESA as threatened north of Punta Gorda to the Oregon border. The Board of Forestry has approved rule language for the Forest Practice Rules that will enhance protection of anadromous salmonids and their habitat. The rule language provides a regulatory procedure for the issuance of incidental take permits for coho salmon that is integrated with the Forest Practice Act and the Forest Practice Rules. Without such an integrated approach, in addition to applying to the Cal Fire for approval of timber harvesting plans, timberland owners would have to engage in a lengthy, separate process for obtaining incidental take permits for coho salmon from CDFW for any timber operations and activities that would result in take of the species. This would involve separate environmental review processes and related costs to both the permit applicant & CDFW.

Water Quality: The JTMP area is located in the South Fork of the Eel River drainage in the Buck Mountain Creek planning watershed. The Environmental Protection Agency (EPA) pursuant to the federal Clean Water Act section 303(d) has listed the Eel River as an "impaired" waterbody. The listed pollutants are aluminum, dissolved oxygen, sedimentation and siltation, and excessive temperatures. The basis for listing cited by the EPA is impairment due to roads, timber harvesting, mining, natural causes, non-point sources, and flow modification. The EPA contends that the factors listed above have resulted in impairment of fisheries and aquatic habitat. The mechanisms for impairment are large scale and are associated with numerous past and present activities, both natural and anthropogenic, such as development, roads, timber harvesting, mining, landsliding, flooding, and point source pollution. Given the broad pattern of impacting activities, the contribution of any given forest management activity or timber operation toward the impairment cited by the EPA for the Eel River, appears to be minor. However, the sum of management and harvest impacts over time may exceed an as yet unidentified and unquantified threshold and become a significant mechanism of impairment in the future. It is this potential for a cumulative adverse impact, that has led to the adoption of specific forest practice regulations by the Board of Forestry, and appropriate mitigation measures in THP's/NTMP's, designed to lessen the likelihood of impact.

The Forest Practice Rules focus on the protection of watercourses through the installation and maintenance of erosion controls and silvicultural restrictions resulting in the retention of vegetation across a landscape over time. These practices represent the best currently available techniques for limiting possible project associated mechanisms of impairment.

The THP process, which is implemented by Cal Fire, may trigger one or more permits or other entitlements to carry out the project and ensure the protection of water quality. The range of permits needed depends on the type of action. There are also numerous federal requirements that only apply where an action is "federalized" due to funding or the need for a federal permit. All potential permits or entitlements are summarized below.

- A Section 1602 or 1611 Streambed Alteration Agreement is required through the California Department of Fish & Wildlife when an alteration to a bed, channel, or bank of a stream will occur, such as a crossing installation.
- The California Endangered Species Act (CESA) requires consultations with the California Department of Fish and Wildlife to determine if an activity is likely to affect or result in the take of a plant or animal (fish) listed by the State as threatened or endangered. Similar to CESA, the Federal Endangered Species Act (FESA) requires formal or informal consultation with the US Fish and Wildlife Service or the NOAA Fisheries where it is likely that the project could affect federally listed threatened or endangered species.
- Section 401 of the federal Clean Water Act requires that State water quality standards not be violated by the discharge of fill or dredged material into "Waters of the United States." The owner or operator of any facility or activity that discharges, or proposes to discharge, waste that may affect groundwater quality, or from which waste may be discharged in a diffused manner (for example, erosion from soil disturbance), must first obtain waste discharge requirements (WDRs) from the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Act. Some THP activities in the North Coast Region are covered by a categorical waiver.

Archaeology: The project area lies within an area known to be inhabited in the past by local Native American tribes. Archaeological resources are one of the many resources considered significant to California. Native American cultural resources are commonly situated on ridgelines and associated spurs; saddles; midslope terraces; at vegetative ecotones; at confluences of drainages, and areas adjacent to seasonal and perennial watercourses including springs. Given the presence of many of the aforementioned features within the JTMP area it is likely that resources associated with Native Americans may be found within the project area. In addition to Native American resources the FPR also require surveying for the presence of historic resources. Old cabin sites and can and glass bottle dumps are examples of some of the types of historic artifacts that could be found in the JTMP area. Also, logging debris such as discarded wire rope chokers, tractor parts, oil cans, fuel containers, wedges, drag saw parts, spring boards, saw blades, axes, soda and liquor bottles, or canteens. The FPRs require that these resources be surveyed for, disclosed when found and protected from future timber operations as appropriate. Currently, these surveys can be conducted by trained resource personnel (Trained RPFs), however in the future these resources may need to be surveyed for by a professional archaeologist.

14. MANAGEMENT PLAN UPDATES

It is highly advised that the Joint Timber Management Guide be updated on a periodic basis, to revise growth predictions and specific changes to the timberland. Updates should include recommendations to improve the current stand conditions such as commercial thinning or salvage operations, and treatments for pre-commercial stands such as pre-commercial thinning and brush control. The forest landowners are advised to retain professional guidance concerning forest management decisions to take advantage of the best information on current practices and markets. Meeting the objectives of the landowners is a necessary function of these updates and their participation is encouraged.

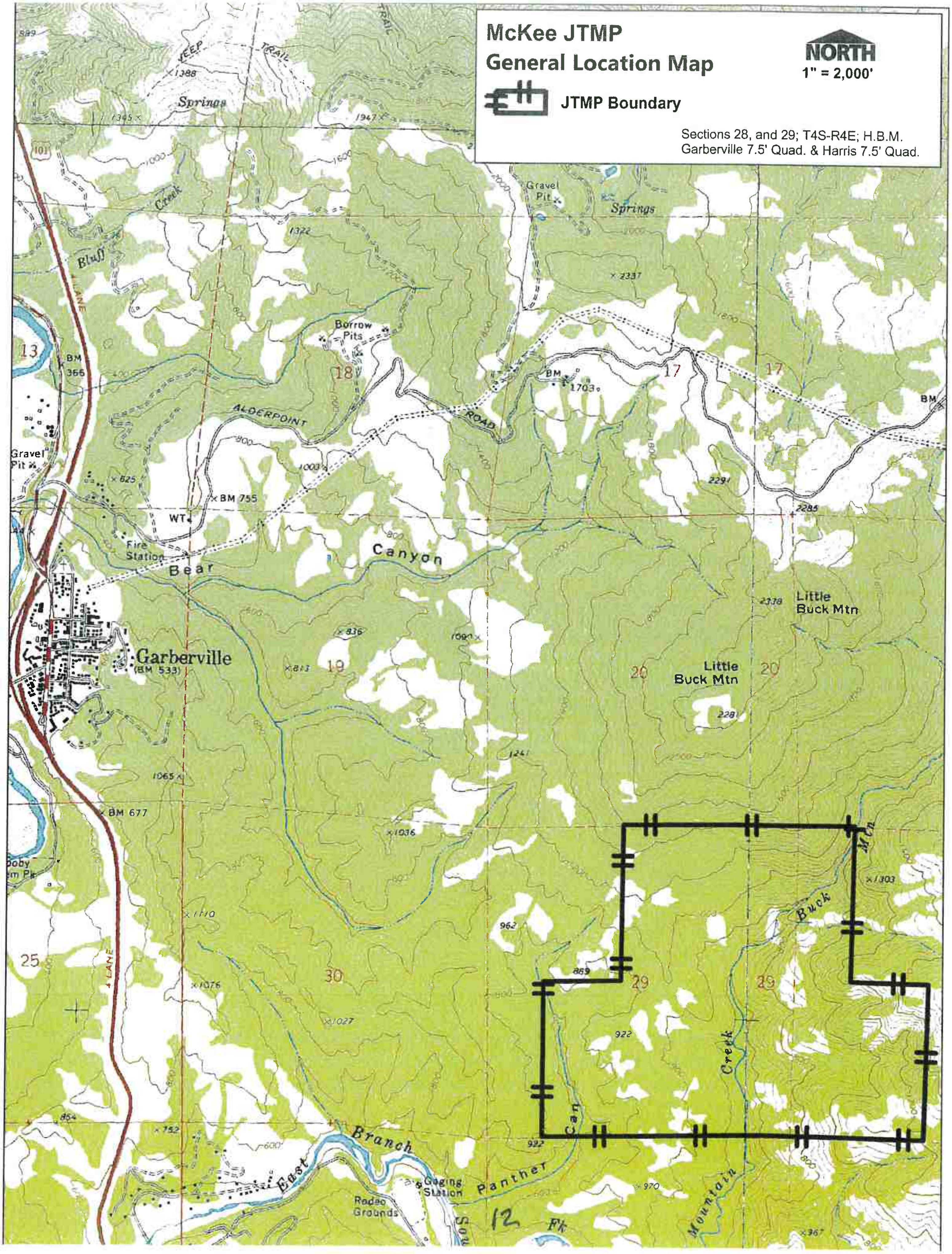
15. MANAGEMENT COST

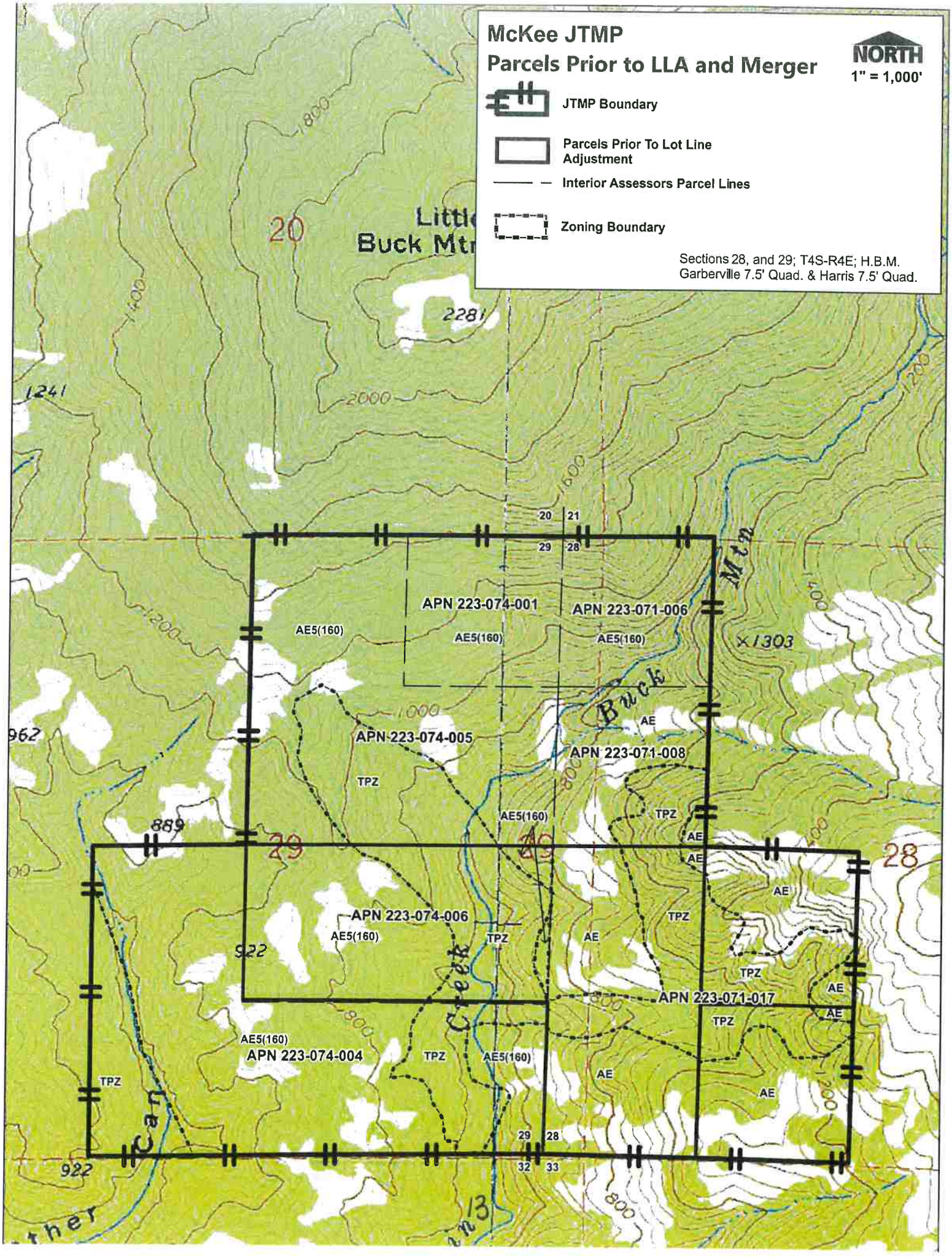
Cost that will be incurred for management activities could include but are not necessarily limited to the following: road maintenance, surveying, forest protection, tree planting, timber stand improvement and related harvesting costs. These costs will not necessarily coincide with revenues received from harvests. Landowners should be prepared for these costs that are necessary to maintain a productive, healthy forest ecosystem.

16. LEGAL REQUIRMENTS

The landowner should be aware that harvest activities will require a State approved Timber Harvest Plan (THP) or equivalent document and that all timber operations are subject to regulations included in the Forest Practice Act and the current California Forest Practice Rules including compliance with US Fish and Wildlife Service Northern Spotted Owl survey protocols and protection measures. Other permits that also may be required are Department of Fish and Game Stream Alteration Agreement and a Water Quality Waste Discharge Permit.

JTMP MAPS


McKee JTMP
General Location Map
NORTH
1" = 2,000'
JTMP Boundary
Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.
Garberville
(BM 533)
Bear
Canyon
ALDERPOINT
ROAD
Borrow
Pits
Fire
Station
Gravel
Pit
Springs
Bluff
Creek
Little
Buck Mtn
Buck
Mtn
Creek
Mountain
Panther
East
Branch
Fk
Gaging
Station
Rodeo
Grounds
13
18
17
19
20
25
30
29
28
12


McKee JTMP
Parcels Prior to LLA and Merger
NORTH
1" = 1,000'
JTMP Boundary
Parcels Prior To Lot Line Adjustment
Interior Assessors Parcel Lines
Zoning Boundary
Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.
APN 223-074-001
APN 223-071-006
APN 223-074-005
APN 223-071-008
APN 223-074-006
APN 223-071-017
APN 223-074-004
AE5(160)
AE
TPZ
Buck Mtn
Buck Creek
20
21
29
28
32
33

McKee JTMP
Resulting Parcels / Management Units Map

NORTH
1" = 1,000'

JTMP Boundary

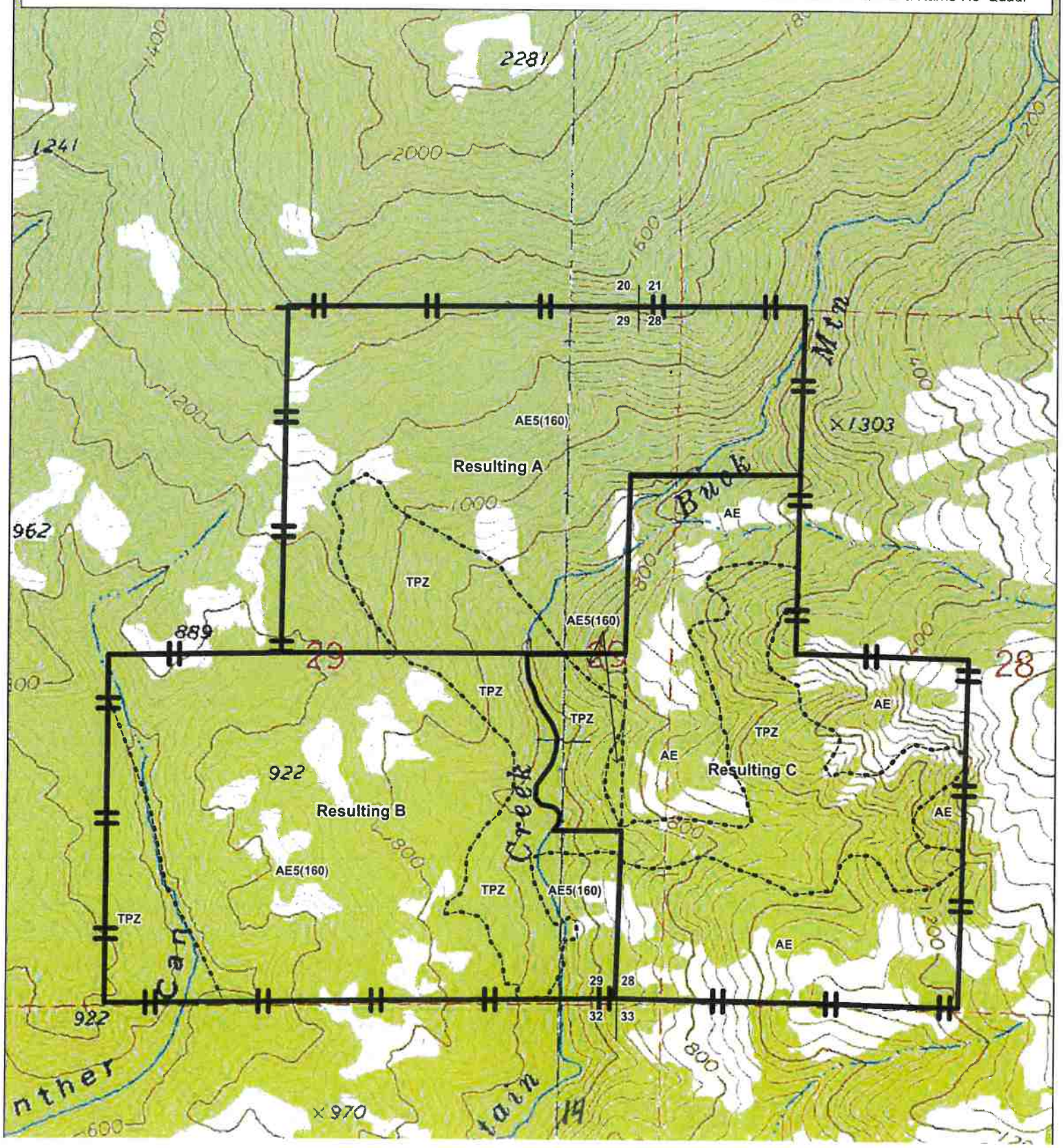
Resulting Parcel Boundary

Zoning Boundary

Resulting Parcels / Management Units After LLA and Merger

Resulting A TPZ-26.42 ac; AE5(160)-177.28 ac; Total-203.7 ac
Resulting B TPZ-51.85 ac; AE5(160)-162.37 ac; Total-214.22 ac
Resulting C TPZ-82.86 ac; AE-138.76 ac; AE5(160)-6.51 ac; Total-228.13 ac

Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.



McKee JTMP
Resulting Parcels / Management Units Map

NORTH
1" = 1,000'

JTMP Boundary

Resulting Parcel Boundary

Zoning Boundary

Resulting Parcels / Management Units After LLA and Merger

Resulting A TPZ-26.42 ac; AE5(160)-177.28 ac; Total-203.7 ac
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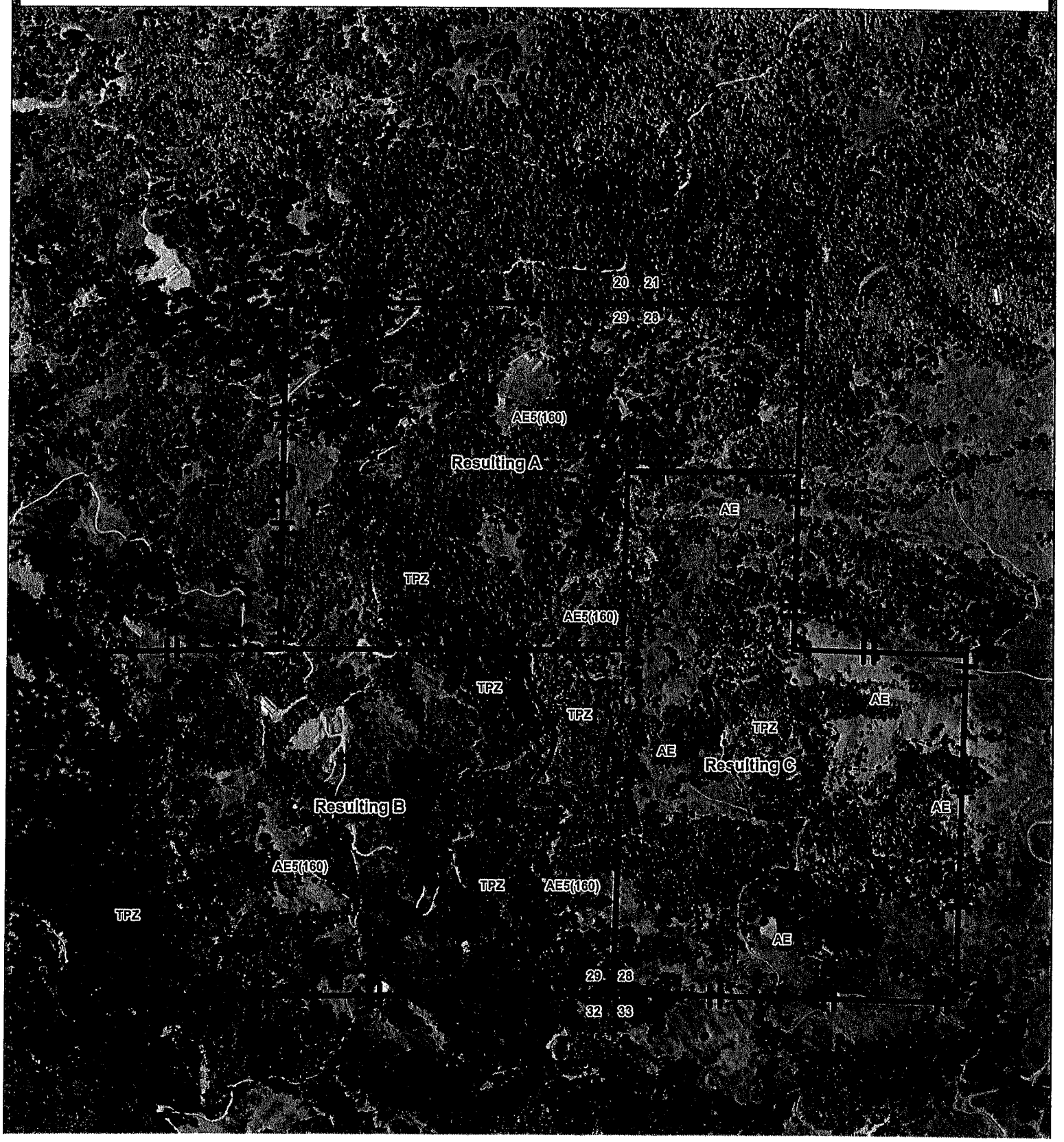
Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.



McKee JTMP

JTMP Map

NORTH
1" = 1,000'

JTMP Boundary

Resulting Parcel Boundary

Zoning Boundary

Existing House

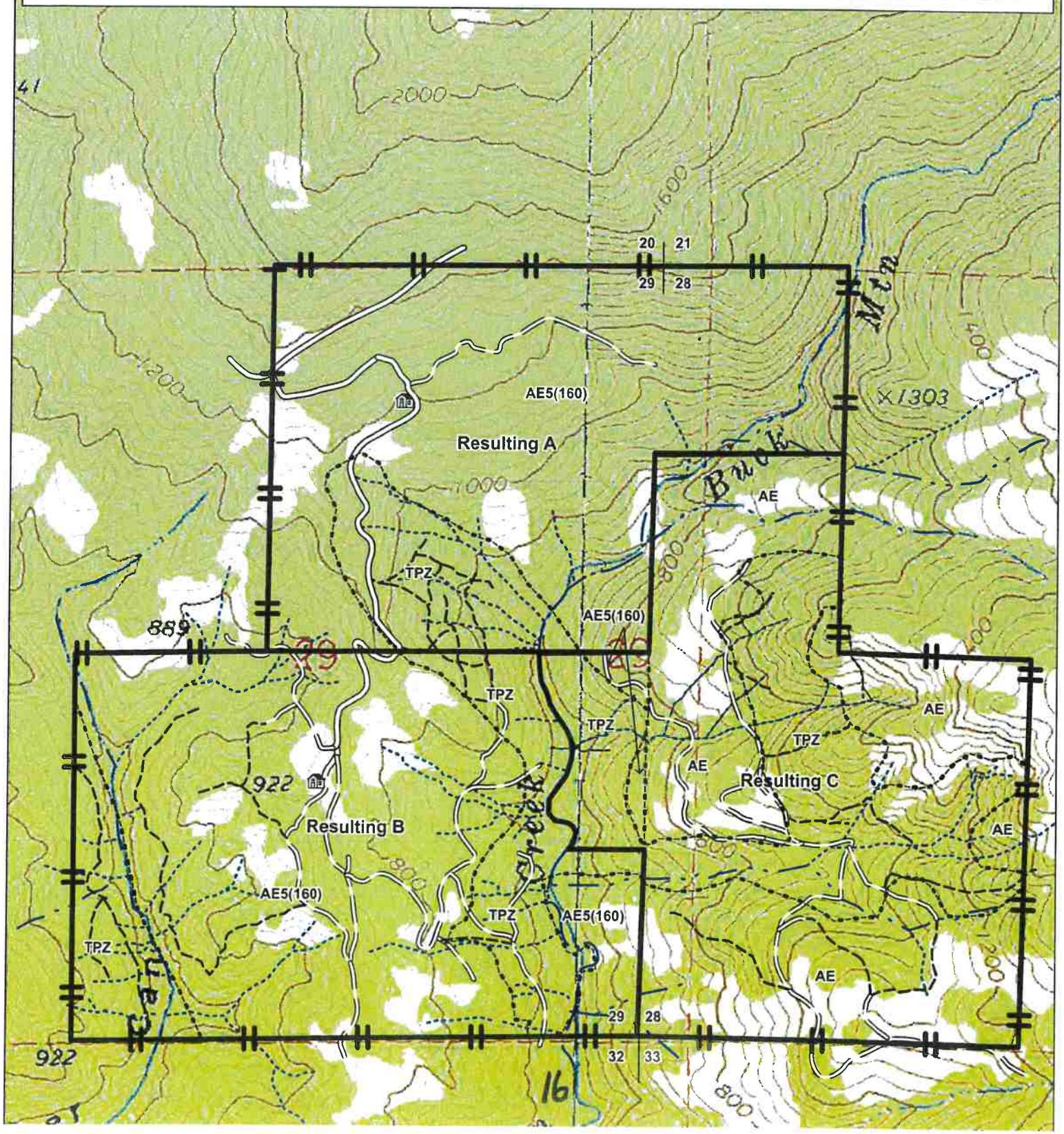
JTMP Roads

Permanent
Seasonal
Trail

JTMP Watercourses

Class I Watercourse
Class II Watercourse
Class III Watercourse

Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.



McKee JTMP

JTMP - TPZ Yarding Map

JTMP Boundary

Resulting Parcel Boundary

Zoning Boundary

Existing House

JTMP Roads

Permanent

Seasonal

Trail

JTMP Watercourses

Class I Watercourse

Class II Watercourse

Class III Watercourse

NORTH

1" = 1,000'

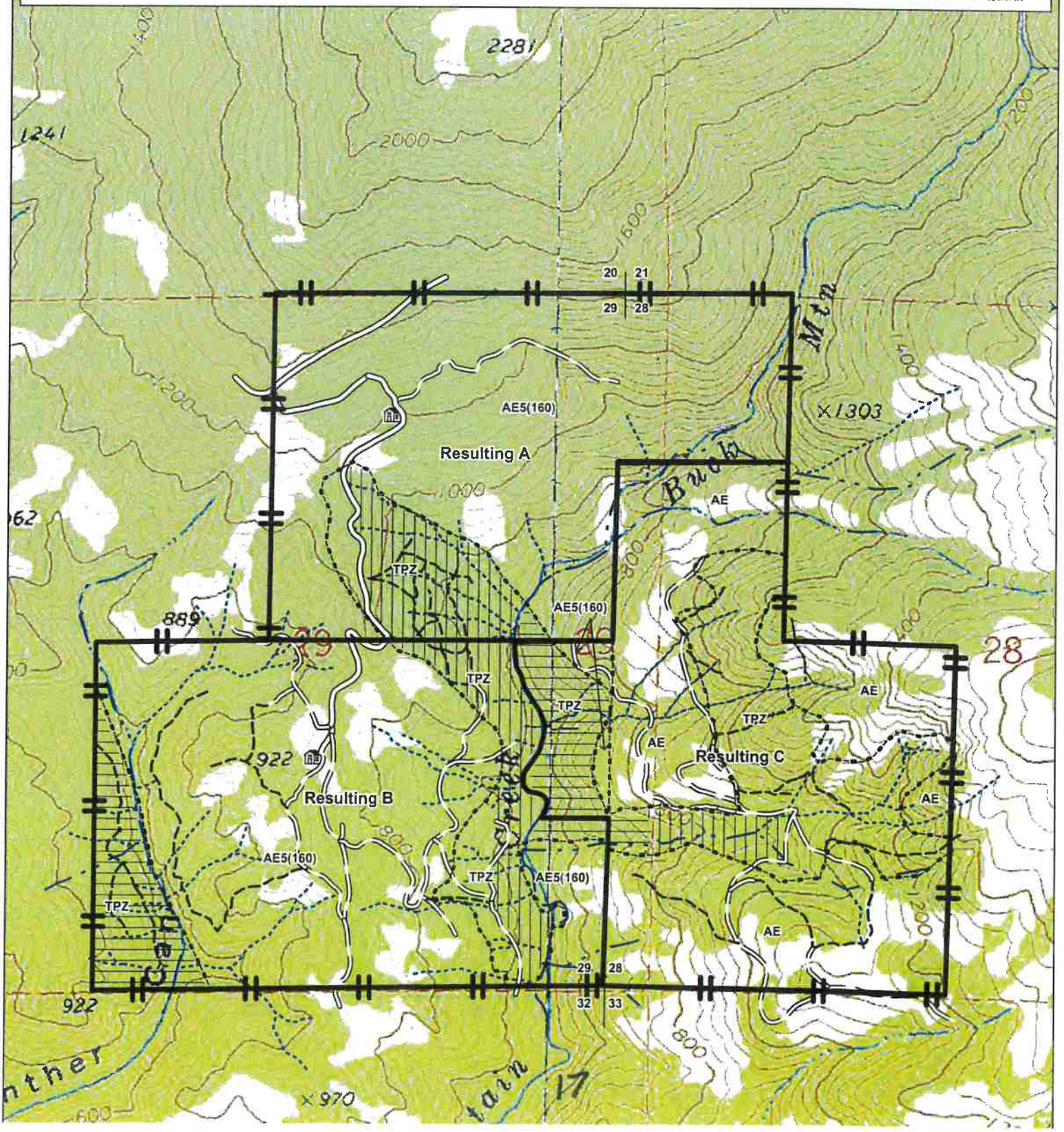
TPZ Yarding Methods

Cable

Cable / Tractor Longline

Tractor

Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.



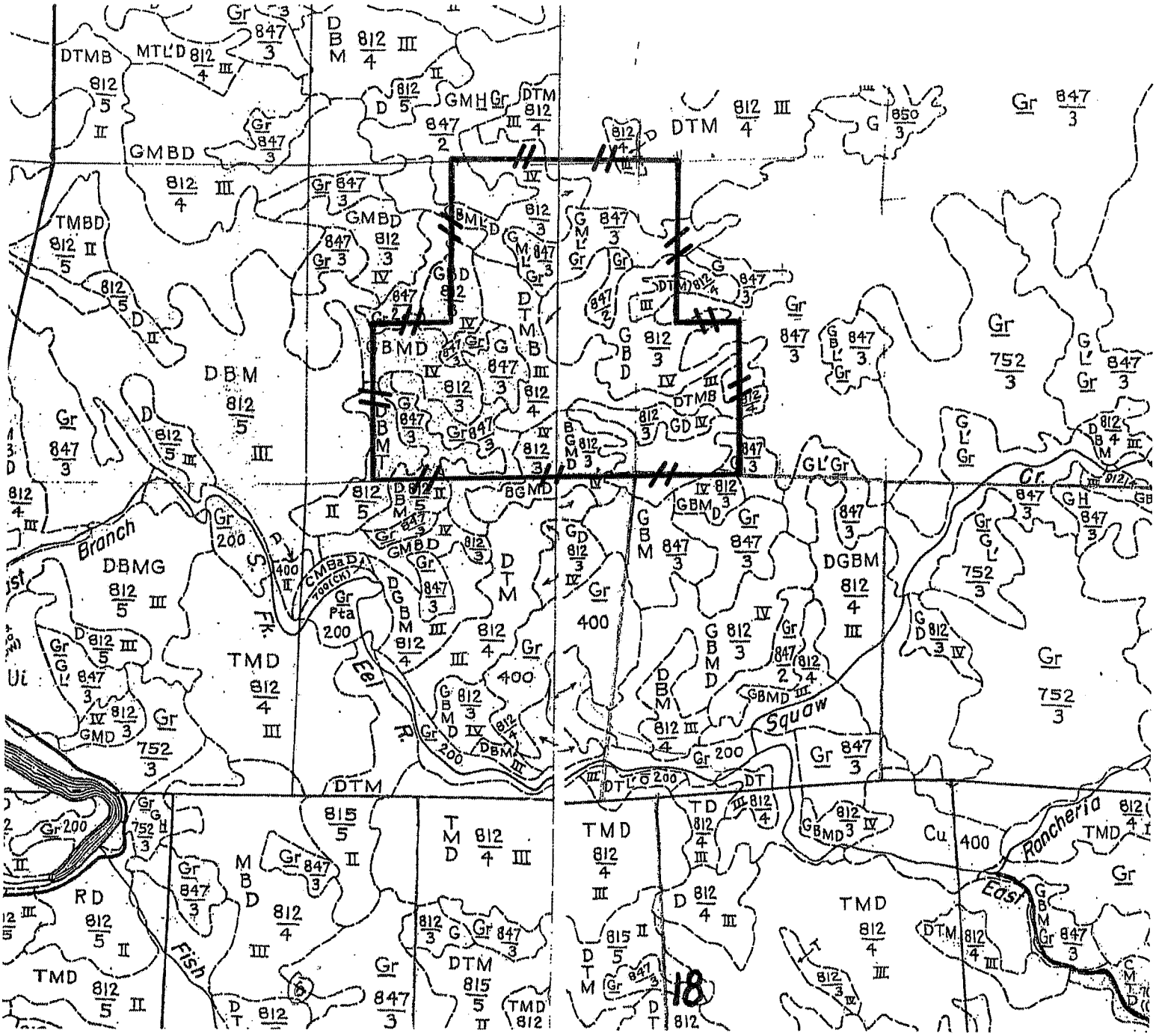
Garberville & Harris
SOIL - VEGETATION MAP

McKee JTMP
Soils Map

—//— JTMP Boundary
812 - Hugo
847 - Laughlin

N
W E
S

1" = 2,640' | SECTIONS 28 & 29, T4S-R4E, H.B.M.



CRUISE REPORTS

Stand Number: 1
Stand ID: TPZ Portions

Area (acres): 161.0

#Points: 67

Product Group / Product Species--Volume1/2 Tables	DBH *(Inches)*	# Trees	Volume 1	Volume 2	Basal Area	Mean Merch. Height
Dimensional Wood						
Sawtimber		#	*Board Feet*		*sq. ft.*	***
Douglas-fir--DF69/						
	10.0	6.2	188.1	0.0	3.4	0.0
	12.0	2.7	133.3	0.0	2.1	0.0
	14.0	2.7	210.9	0.0	2.8	0.0
	16.0	1.3	153.2	0.0	1.9	0.0
	18.0	1.3	174.9	0.0	2.3	0.0
	20.0	1.4	297.8	0.0	3.1	0.0
	22.0	0.7	160.4	0.0	1.8	0.0
	24.0	0.5	200.4	0.0	1.7	0.0
	26.0	0.7	247.6	0.0	2.8	0.0
	28.0	0.4	146.8	0.0	1.6	0.0
	30.0	0.4	232.8	0.0	2.2	0.0
	32.0	0.2	157.4	0.0	1.2	0.0
	34.0	0.3	127.0	0.0	1.9	0.0
	36.0	0.1	79.3	0.0	0.6	0.0
	42.0	0.1	80.0	0.0	0.6	0.0
	44.0	0.1	159.5	0.0	1.2	0.0
QuadMnDBH/MnHt/Subtotals	17.3	19.1	2,749.5	0.0	31.0	0.0
Product Group Total	**17.3**	**19.1**	**2,749.5**	**0.0**	**31.0**	**0.0**

Stand Number: 1
Stand ID: TPZ Portions

Area (acres): 161.0

#Points: 67

Product Group **Product** Species--Volume1/2 Tables	DBH *(inches)*	# Trees	Volume 1	Volume 2	Basal Area	Mean Merch. Height
Pulpwood						
Chips		#	*Tons*		*sq. ft.*	***
True oak--RGO Tons by Feet/						
	10.0	10.4	2.7	0.0	5.7	0.0
	12.0	7.8	3.5	0.0	6.1	0.0
	14.0	5.4	3.3	0.0	5.8	0.0
	16.0	1.8	1.5	0.0	2.5	0.0
	18.0	1.6	2.1	0.0	2.9	0.0
	20.0	0.7	1.1	0.0	1.6	0.0
	22.0	0.5	0.4	0.0	1.2	0.0
	24.0	0.5	1.3	0.0	1.7	0.0
	28.0	0.1	0.5	0.0	0.6	0.0
QuadMnDBH/MnHt/Subtotals	13.3	29.0	16.3	0.0	28.1	0.0
Live oak--RGO Tons by Feet/						
	10.0	6.4	1.9	0.0	3.5	0.0
	12.0	2.7	1.2	0.0	2.1	0.0
	16.0	1.8	1.5	0.0	2.5	0.0
	18.0	0.4	0.3	0.0	0.7	0.0
	20.0	0.3	0.5	0.0	0.6	0.0
	22.0	0.3	0.4	0.0	0.7	0.0
	26.0	0.1	0.2	0.0	0.4	0.0
QuadMnDBH/MnHt/Subtotals	12.7	11.9	6.0	0.0	10.5	0.0
Bay laurel--RGO Tons by Feet/						
	10.0	1.1	0.3	0.0	0.6	0.0
	12.0	2.8	1.4	0.0	2.2	0.0
	14.0	2.6	1.8	0.0	2.8	0.0
	16.0	1.0	1.2	0.0	1.3	0.0
	18.0	0.5	0.7	0.0	1.0	0.0
	20.0	0.8	1.4	0.0	1.8	0.0
	22.0	0.2	0.5	0.0	0.6	0.0
	24.0	0.5	1.3	0.0	1.6	0.0
QuadMnDBH/MnHt/Subtotals	15.1	9.5	8.8	0.0	11.8	0.0

Stand Number: 1
Stand ID: TPZ Portions

Area (acres): 161.0

#Points: 67

Product Group / Product Species--Volume1/2 Tables	DBH *(Inches)*	# Trees	Volume 1	Volume 2	Basal Area	Mean Merch. Height
Pulpwood						
Chips		#	*Tons*		*sq. ft.*	***
Tanoak--RGO Tons by Feet/						
	10.0	4.4	2.0	0.0	2.4	0.0
	12.0	2.8	1.9	0.0	2.2	0.0
	14.0	0.6	0.5	0.0	0.6	0.0
	16.0	0.4	0.5	0.0	0.6	0.0
	18.0	0.2	0.3	0.0	0.4	0.0
QuadMnDBH/MnHt/Subtotals	11.6	8.3	5.2	0.0	6.1	0.0
Pacific madrone--RGO Tons by Feet/						
	10.0	0.7	0.3	0.0	0.4	0.0
	14.0	0.3	0.3	0.0	0.4	0.0
	16.0	0.5	0.5	0.0	0.7	0.0
	18.0	0.5	0.7	0.0	1.0	0.0
	20.0	0.2	0.3	0.0	0.4	0.0
	22.0	0.7	0.9	0.0	1.8	0.0
QuadMnDBH/MnHt/Subtotals	16.9	3.0	3.0	0.0	4.6	0.0
Product Group Total	**13.5**	**61.7**	**39.2**	**0.0**	**61.2**	**0.0**

Stand Number: 1
Stand ID: TPZ Portions

Area (acres): 161.0

#Points: 67

Product Group / Product Species--Volume1/2 Tables	DBH *(Inches)*	# Trees	Volume 1	Volume 2	Basal Area	Mean Merch. Height
Biomass						
Regeneration		#	*Basal Area*		*sq. ft.*	***
Douglas-fir--REGEN/						
	1.0	89.6	0.5	0.0	0.5	0.0
	3.0	13.4	0.7	0.0	0.7	0.0
	4.0	17.9	1.6	0.0	1.6	0.0
	5.0	17.9	2.4	0.0	2.4	0.0
	6.0	4.5	0.9	0.0	0.9	0.0
	7.0	4.5	1.2	0.0	1.2	0.0
	8.0	22.4	7.8	0.0	7.8	0.0
QuadMnDBH/MnHt/Subtotals	4.0	170.1	15.0	0.0	15.0	0.0
True oak--REGEN/						
	4.0	4.5	0.4	0.0	0.4	0.0
	5.0	4.5	0.6	0.0	0.6	0.0
	8.0	26.9	9.4	0.0	9.4	0.0
QuadMnDBH/MnHt/Subtotals	7.3	35.8	10.4	0.0	10.4	0.0
Live oak--REGEN/						
	1.0	58.2	0.3	0.0	0.3	0.0
	2.0	4.5	0.1	0.0	0.1	0.0
	3.0	13.4	0.7	0.0	0.7	0.0
	4.0	17.9	1.6	0.0	1.6	0.0
	5.0	4.5	0.6	0.0	0.6	0.0
	6.0	9.0	1.8	0.0	1.8	0.0
	8.0	4.5	1.6	0.0	1.6	0.0
QuadMnDBH/MnHt/Subtotals	3.3	111.9	6.6	0.0	6.6	0.0
Bay laurel--REGEN/						
	1.0	9.0	0.0	0.0	0.0	0.0
	2.0	9.0	0.2	0.0	0.2	0.0
	3.0	4.5	0.2	0.0	0.2	0.0
	4.0	4.5	0.4	0.0	0.4	0.0
	5.0	4.5	0.6	0.0	0.6	0.0
	6.0	13.4	2.6	0.0	2.6	0.0
	7.0	4.5	1.2	0.0	1.2	0.0
	8.0	4.5	1.6	0.0	1.6	0.0
QuadMnDBH/MnHt/Subtotals	4.8	53.7	6.9	0.0	6.9	0.0

Stand Number: 1
Stand ID: TPZ Portions

Area (acres): 161.0

#Points: 67

Product Group / Product Species--Volume1/2 Tables	DBH *(Inches)*	# Trees	Volume 1	Volume 2	Basal Area	Mean Merch. Height
Biomass						
Regeneration		#	*Basal Area*		*sq. ft.*	***
Tanoak--REGEN/						
	1.0	62.7	0.3	0.0	0.3	0.0
	2.0	4.5	0.1	0.0	0.1	0.0
	3.0	35.8	1.8	0.0	1.8	0.0
	4.0	4.5	0.4	0.0	0.4	0.0
	5.0	4.5	0.6	0.0	0.6	0.0
	6.0	4.5	0.9	0.0	0.9	0.0
	7.0	4.5	1.2	0.0	1.2	0.0
	8.0	4.5	1.6	0.0	1.6	0.0
QuadMnDBH/MnHt/Subtotals	3.2	125.4	6.8	0.0	6.8	0.0
Pacific madrone--REGEN/						
	1.0	40.3	0.2	0.0	0.2	0.0
	2.0	4.5	0.1	0.0	0.1	0.0
	4.0	13.4	1.2	0.0	1.2	0.0
QuadMnDBH/MnHt/Subtotals	2.2	58.2	1.5	0.0	1.5	0.0
Product Group Total	**3.9**	**555.2**	**47.2**	**0.0**	**47.2**	**0.0**
Snags						
Snags		#	*Board Feet*		*sq. ft.*	***
Live oak--RWD68/						
	16.0	0.3	19.5	0.0	0.4	0.0
QuadMnDBH/MnHt/Subtotals	16.0	0.3	19.5	0.0	0.4	0.0
Pacific madrone--RWD68/						
	16.0	0.3	12.6	0.0	0.4	0.0
	22.0	0.1	13.6	0.0	0.4	0.0
QuadMnDBH/MnHt/Subtotals	18.3	0.4	26.1	0.0	0.7	0.0
Product Group Total	**17.4**	**0.7**	**45.6**	**0.0**	**1.1**	**0.0**
Stand Total		**636.7**			**140.5**	

Stand Number: 1
Stand ID: TPZ Portions # Points: 67 Area (acres): 161.0

Product Group / Product / Species	Lower Limit	Mean	Upper Limit	Standard Error	CI %error	C.V.
Dimensional Wood -- 66% CI						
Sawtimber		*Board Feet*				
Douglas-fir	2,217.90	2,749.46	3,281.03	554.42	19.3	165.1
Overall	2,217.90	2,749.46	3,281.03	554.42	19.3	165.1
Pulpwood -- 66% CI						
Chips		*Tons*				
True oak	12.73	16.28	19.83	3.71	21.8	186.3
Live oak	4.09	6.03	7.96	2.02	32.1	273.9
Bay laurel	6.12	8.76	11.39	2.75	30.1	257.2
Tanoak	2.71	5.23	7.75	2.63	48.2	411.5
Pacific madrone	2.01	2.95	3.89	0.98	31.7	270.7
Overall	34.06	39.24	44.43	5.41	13.2	112.8
Biomass -- 66% CI						
Regeneration		*Basal Area*				
Douglas-fir	10.79	15.04	19.29	4.43	28.3	241.2
True oak	5.08	10.38	15.68	5.53	51.1	436.2
Live oak	3.94	6.57	9.20	2.74	40.0	341.9
Bay laurel	3.38	6.86	10.34	3.63	50.7	433.0
Tanoak	4.12	6.84	9.56	2.84	39.8	339.5
Pacific madrone	0.60	1.49	2.38	0.93	59.7	509.7
Overall	39.91	47.18	54.45	7.59	15.4	131.6
Snags -- 66% CI						
Snags		*Board Feet*				
Live oak	0.80	19.51	38.21	19.51	95.9	818.5
Pacific madrone	8.54	26.13	43.72	18.35	67.3	574.8
Overall	20.24	45.64	71.04	26.49	55.7	475.2
All Product Groups		2,881.53				

Stand Number: 1
Stand ID: TPZ Portions # Points: 67 Area (acres): 161.0

Product Group / Product / Species	Lower Limit	Mean	Upper Limit	Standard Error	CI %error	C.V.
Dimensional Wood -- 66% CI						
Sawtimber		*sq. ft.*				
Douglas-fir	25.45	31.04	36.64	5.84	18.0	153.9
Overall	25.45	31.04	36.64	5.84	18.0	153.9
Pulpwood -- 66% CI						
Chips		*sq. ft.*				
True oak	22.12	28.13	34.15	6.27	21.4	182.4
Live oak	7.30	10.52	13.74	3.36	30.6	261.2
Bay laurel	8.23	11.79	15.35	3.71	30.2	257.7
Tanoak	3.17	6.12	9.07	3.08	48.3	411.9
Pacific madrone	3.19	4.63	6.07	1.50	31.1	265.6
Overall	53.48	61.19	68.91	8.04	12.6	107.6
Biomass -- 66% CI						
Regeneration		*sq. ft.*				
Douglas-fir	10.79	15.04	19.29	4.43	28.3	241.2
True oak	5.08	10.38	15.68	5.53	51.1	436.2
Live oak	3.94	6.57	9.20	2.74	40.0	341.9
Bay laurel	3.38	6.86	10.34	3.63	50.7	433.0
Tanoak	4.12	6.84	9.56	2.84	39.8	339.5
Pacific madrone	0.60	1.49	2.38	0.93	59.7	509.7
Overall	39.91	47.18	54.46	7.59	15.4	131.6
Snags -- 66% CI						
Snags		*sq. ft.*				
Live oak	0.02	0.37	0.73	0.37	95.9	818.5
Pacific madrone	0.24	0.75	1.25	0.52	67.3	574.4
Overall	0.51	1.12	1.73	0.64	54.5	465.4
All Product Groups	129.21	140.54	151.87	11.81	8.1	68.8

Stand Number: 1
Stand ID: TPZ Portions
Points: 67
Area (acres): 161.0

Product Group / Product / Species	Lower Limit	Mean	Upper Limit	Standard Error	CI %error	C.V.
Dimensional Wood -- 66% CI						
Sawtimber		---------- # ----------				
Douglas-fir	15.55	19.08	22.61	3.68	18.5	157.9
Overall	15.55	19.08	22.61	3.68	18.5	157.9
Pulpwood -- 66% CI						
Chips		---------- # ----------				
True oak	21.69	28.96	36.22	7.58	25.1	214.3
Live oak	7.71	11.93	16.16	4.40	35.4	302.0
Bay laurel	6.41	9.49	12.57	3.22	32.5	277.5
Tanoak	4.09	8.33	12.57	4.42	50.9	434.6
Pacific madrone	1.97	2.97	3.96	1.04	33.5	285.7
Overall	52.47	61.68	70.89	9.61	14.9	127.5
Biomass -- 66% CI						
Regeneration		---------- # ----------				
Douglas-fir	129.93	170.15	210.37	41.95	23.6	201.8
True oak	19.04	35.82	52.60	17.50	46.8	399.9
Live oak	71.44	111.94	152.44	42.24	36.2	308.9
Bay laurel	31.74	53.73	75.72	22.94	40.9	349.4
Tanoak	84.73	125.37	166.02	42.39	32.4	276.8
Pacific madrone	37.70	58.21	78.72	21.39	35.2	300.8
Overall	487.59	555.22	622.86	70.54	12.2	104.0
Snags -- 66% CI						
Snags		---------- # ----------				
Live oak	0.01	0.27	0.52	0.27	95.9	818.5
Pacific madrone	0.12	0.41	0.70	0.30	70.5	601.8
Overall	0.29	0.68	1.06	0.40	56.5	482.0
All Product Groups	569.42	636.66	703.90	70.13	10.6	90.2

TIMBER MANAGEMENT PLAN

Table of Contents

TIMBER MANAGEMENT PLAN

1. CURRENT PROPERTY OWNERS

APN 223-071-006, -008,
APN 223-074-001, -005
Dead End Development
c/o Steve Dodge
P.O. Box 1666
Redway, CA 95560

APN 223-074-004
Tobias Hafenecker-Dodge
60 Rausch Street, #208
San Francisco, Ca 94103

APN 223-071-017,
APN 223-074-006
Kenneth Bullock
P.O. Box 803
Corte Madera, CA 94976

2. TIMBER MANAGEMENT PLAN OBJECTIVES

The objective of the *"Timber Management Plan"* is to identify access, rights-of-ways & minimum stocking standards of the Forest Practice Rules required to maintain viable timber producing parcels.

3. PROJECT DESCRIPTION

A Joint Timber Management Plan (JTMP) applies to the "division" of land into assessor parcels containing less than 160 acres of Timber Production Zone (TPZ). Parcel is defined as "that portion of an Assessor's parcel that is timberland". Activities that may result in such a division include subdivision, lot line adjustment and conveyances of existing land units (e.g. land patents) underlying an Assessor's parcel zoned TPZ, when any conveyance contains less than 160 acres of TPZ land.

The project involves a Merger and a Lot Line Adjustment between five parcels, to result in three separate parcels. The area involved contains a total of 161 acres of Timber Production Zoned land. The three resulting parcels will each contain less than 160 acres of TPZ, therefore a Joint Timber Management Plan (JTMP) is required to demonstrate that the resulting management units will be suitable for timber production and harvesting. The five existing parcels prior to the Merger and Lot Line Adjustment each contain less than 160 acres of TPZ land.

4. ACCESS AND ROADS FOR JTMP MANAGEMENT UNITS

The management units are accessed by rock surfaced permanent and seasonal roads that lead from the county maintained, paved Alderpoint Road. These roads are known as Little Buck Mountain Road and Tooby Ranch Road.

Management Unit A - Management Unit A is accessed by permanent and seasonal roads that come off of Alderpoint Road and Little Buck Mountain Road. Some roads within Management Unit B can provide access to portions of Management Unit A. Also, roads in Management Unit C can provide potential logging access to the southeastern corner of Management Unit A. Therefore, Management Unit A shall be provided access to the roads located across Managements Units B and C, along the designated roadways shown on the Timber Management Plan Map. Road use shall be for the purpose of timber harvesting, logging access, and timber management activities pursuant to the attached Timber Management Plan Use Agreement.

Management Unit B - Management Unit B is accessed by permanent and seasonal roads that come off of Alderpoint Road and Little Buck Mountain Road, and through Management Unit A. Roads in Management Unit C can also provide potential logging access to the southeastern portion of Management Unit B. Therefore, Management Unit B shall be provided access to the roads located across Managements Units A and C, along the designated roadways shown on the Timber Management Plan Map. Road use shall be for the purpose of timber harvesting, logging access, and timber management activities pursuant to the attached Timber Management Plan Use Agreement.

Management Unit C – Management Unit C is accessed by permanent and seasonal roads that come off of Alderpoint Road and Tooby Ranch Road. Roads in Management Unit A can also provide potential logging access to the northwestern corner of Management Unit C. Therefore, Management Unit C shall be provided access to the roads located across Management Unit A, along the designated roadways shown on the Timber Management Plan Map. Road use shall be for the purpose of timber harvesting, logging access, and timber management activities pursuant to the attached Timber Management Plan Use Agreement.

Each of the management units do not require specific access for skid trails and/or cable corridors. Access for new non-descript skid trails and cable corridor construction have been described in the attached Timber Management Use Agreement. The access described in the Timber Management Use Agreement is required to maintain viable timber management units. If new skid trails and cable corridors are required to be established across management unit boundaries their location should be jointly established by the affected management unit owners to benefit current and future timber operations. Landowners should consult with an RPF prior to the establishment of any skid trails or cable corridors. Any skid trail or cable corridor construction occurring within the JTMP area should be permitted under an approved THP or equivalent document, pursuant to the Timber Management Plan Use Agreement.

The Timber Management Plan Use Agreement is to ensure that access is available for each management unit for the eventual commercial harvest of timber products. Each party shall have the right to construct skid trails and cable corridors, pursuant to the Timber Management Plan Use Agreement, across real property of the other parties for the purpose of forestry management and timber harvesting, provided that locations of new skid trails and cable corridors are determined by an RPF in association with approved THP or equivalent document.

5. MIMIMUN STOCKING STANDARDS

912.7, 932.7, 952.7 Resource Conservation Standards for Minimum Stocking [All Districts, note (b)(1)(D)]
The following resource conservation standards constitute minimum acceptable stocking in the Coast Forest District after timber operations have been completed.

(a) Rock outcroppings, meadows, wet areas, or other areas not normally bearing commercial species shall not be considered as requiring stocking and are exempt from such provisions.

(b) An area on which timber operations have taken place shall be classified as acceptably stocked if either of the standards set forth in (1) or (2) below are met within five (5) years after completion of timber operations unless otherwise specified in the rules.

(1) An area contains an average point count of 300 per acre on Site I, II and III lands or 150 on site IV and V lands to be computed as follows:

(A) Each countable tree [Ref. PRC § 4528(b)] which is not more than 4 inches d.b.h. counts 1 point.

(B) Each countable tree over 4 inches and not more than 12 inches d.b.h. counts 3 points.

(C) Each countable tree over 12 inches d.b.h. counts as 6 points.

(D) [Coast] Root crown sprouts will be counted using the average stump diameter 12 inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of 6 per stump.

(2) The average residual basal area measured in stems 1 inch or larger in diameter, is at least 85 square ft. per acre on Site I lands, and 50 square ft. per acre on lands of Site II classification or lower. Site classification shall be determined by the RPF who prepared the plan.

(3) To the extent basal area standards are specified in the rules in excess of 14 CCR § 912.7(b)(2) [932.7(b)(2), 952.7(b)(2)], up to 15 square feet of basal area of those standards higher than the minimum may be met by counting snags, and decadent or deformed trees of value to wildlife in the following sizes:

(A) 30 inches or greater dbh and 50 feet or greater in height on site I and II lands;

(B) 24 inches or greater dbh and 30 feet or greater in height on site III lands; and

(C) 20 inches or greater dbh and 20 feet or greater in height on site IV and V lands.

(c) The substitution provided for in 14CCR § 912.7(b)(3) [932.7(b)(2), 952.7(b)(2)] may only be done when the potential spread of insects and diseases will not have a significantly adverse impact on long term productivity or forest health.

(d) The resource conservation standards of the rules may be met with Group A and/or B commercial species. The percentage of the stocking requirements met with Group A species shall be no less than the percentage of the stand basal area they comprised before harvesting. The site occupancy provided by Group A species shall not be reduced relative to Group B species. When considering site occupancy, the Director shall consider the potential long term effects of relative site occupancy of Group A species versus Group B species as a result of harvest. If Group A species will likely recapture the site after harvest, Group B species do not need to be reduced. The time frames for recapturing the site shall be consistent with achieving MSP. The Director may prohibit the use of Group A and/or B commercial species which are non-indigenous or are not physiologically suited to the area involved. Exceptions may be approved by the Director if the THP provides the following information & those exceptions are agreed to by the timberland owner:

(1) Explain and justify with clear and convincing evidence how using Group A non-indigenous, or Group B species to meet the resource conservation standards will meet the intent of the Forest Practice Act as described in PRC § 4513. The discussion shall include at least:

(A) The management objectives of the post-harvest stand;

(B) A description of the current stand, including species composition and current stocking levels within the area of Group B species. The percentage can be measured by using point-count, basal area, stocked plot, or other method agreed to by the Director.

(C) The percentage of the post-harvest stocking to be met with Group B species. Post harvest percentages will be determined on the basis of stocked plots. Only the methods provided by 14 CCR §§ 1070-1075 shall be used in determining if the standards of PRC § 4561 have been met.

(D) A description of what will constitute a countable tree, as defined by PRC § 4528 for a Group B species and how such a tree will meet the management objectives of the post-harvest stand.

The Director, after an initial inspection pursuant to PRC § 4604, shall approve use of Group B species, as exceptions to the pre-harvest basal area percentage standard, if in his judgment the intent of the Act will be met, and there will not be an immediate significant and long-term harm to the natural resources of the state.

TIMBER MANAGEMENT PLAN USE AGREEMENT

1. Each of the parties shall have the right to use designated roadway across real property of the other parties as shown on the Timber Management Plan Map and described in the Timber Management Plan for the purpose of timber management activities. This may include, but is not limited to, road access for trucks, machinery and personnel.
2. Each of the parties shall have the right to construct skid trails and cable corridors across real property of the other parties, provided that locations of new skid trails and cable corridors are determined by an RPF in association with the preparation of a THP or other applicable permit. If an RPF identifies the need to construct new skid trails or cable corridors across management unit boundaries, the RPF shall mark their location on the ground. The RPF shall notify the management unit owners of the proposed location and the management unit owners shall be allowed to propose an alternative location. The RPF shall use the alternative location if said alternative is of reasonably equal utility to the management unit owners and of reasonably equal cost. The management unit owners should cooperate in good faith, reasonable manner in establishing the location of new skid trails or cable corridors.
3. It is recognized that repairs and maintenance of roads may be required periodically. Roads shall be maintained in substantially the same condition as is excepting for improvements to better maintain said roads including drainage structures and facilities and possibly road surfacing as needed. Roads shall be no wider or larger than is necessary for the particular use. Roads shall be generally no wider than 16 feet with widening for turns and turnouts as required for safety. Maintenance of roads shall be the responsibility of the landowner utilizing the roads for timber management.
4. No party shall be required to make payment to the other for the use of the roadway for timber management, save and except the maintenance thereof as herein provided.
5. Current and/or future owners of Management Units A, B, and C, shall be considered "Party, Parties" and are subject to the Timber Management Unit Agreement.

McKee JTMP
Timber Management Plan Map

NORTH
1" = 1,000'

JTMP Boundary

Resulting Parcel Boundary / Management Unit Boundary

Existing House

JTMP Roads
- Permanent
- Seasonal
- Trail

JTMP Watercourses
- Class I Watercourse
- Class II Watercourse
- Class III Watercourse

Timber Harvesting / Logging Access Roads Legend

- Road Over Parcel A To Be Used For Timber Harvesting And Logging Access For Parcels B And C
- Road Over Parcel A To Be Used For Timber Harvesting And Logging Access For Parcel B
- Road Over Parcel A To Be Used For Timber Harvesting And Logging Access For Parcel C
- Road Over Parcel B To Be Used For Timber Harvesting And Logging Access For Parcel A
- Road Over Parcel C To Be Used For Timber Harvesting And Logging Access For Parcels A and B
- Road Over Parcel C To Be Used For Timber Harvesting And Logging Access For Parcel A

Sections 28, and 29; T4S-R4E; H.B.M.
Garberville 7.5' Quad. & Harris 7.5' Quad.