EL DORADO COUNTY
PLANNING & BUILDING DEPARTMENT

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Date: December 7, 2020

To: Planning Commission

From: Tom Purciel, Project Planner

Subject: CUP19-0013/PD19-0006/Better Place Forest: Recommended Project Conditions and Minor Modifications to Project Description Regarding Signs

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Staff recommends a minor amendment to the Project Description to clarify the applicant's desire to establish a future sign program as part of the official Development Plan for the conditional use permit.

In addition, staff recommends seven additional conditions of approval that addresses potential concerns regarding environmental protection measures (five new conditions), future project signage (one new condition) and development of a project-specific Wildland Fire Safe Plan (one condition). The new conditions, which are depicted with underlines, are organized under the appropriate enforcement agency (Planning Services Division and El Dorado County Fire Protection District) and would be integrated into the balance of the project conditions under those agencies.

RECOMMENDED AMENDMENT TO THE PROJECT DESCRIPTION (SIGNS):

Staff recommends the following text be added to the Project Description for clarification regarding signs: (staff report page 5, first paragraph, third sentence and Condition of Approval No. 1, second paragraph, third sentence) "<u>The Development Plan also includes a single 12 square foot unlit freestanding entry sign located on the north side of the entrance driveway at Blair Road at the location shown on the site plan (Exhibit G)</u>".

RECOMMENDED NEW CONDITIONS OF APPROVAL

Planning Services Division:

<u>The following environmental protection measures from the Cremains Treatment Methodology Memo (staff report Exhibit J) shall be implemented as part of the project operation:</u>

1. <u>Cremains shall be diluted with native soil at a minimum 3:1 ratio (by volume).</u>

2. <u>As needed, chelating agents or bacterial additives shall be incorporated into cremains to promote decomposition.</u>

3. Ensure proper erosion control measures are in place and well maintained to limit the transport of cremains and associated nutrients into waterways and sensitive areas. Cremains scattered around trees shall be covered with forest detritus or mulch to effectively limit erosion. On steeper slopes, disturbed areas may need to be monitored and re-covered if erosion becomes apparent.

4. Cremains spreading shall be prohibited within the active bed or banks of any watercourse or in wetland habitats. Additionally, 50-foot buffers shall be observed adjacent to non-fish bearing watercourses where spreading should not take place during the wet season (October 15 - April 15).

5. Cremains spreading shall be prohibited within 50' of the El Dorado Irrigation District canal.

Consistent with the applicant's desire for a future sign program to be established as part of the official Development Plan for the conditional use permit, staff recommends the new condition of approval below:

6. **Sign Program**: Prior to issuance of a building permit, the applicant shall submit final sign plans for the proposed freestanding entry sign in conformance with Zoning Ordinance Section 130.36.070 (Sign Development and Design Standards). Such plans shall be incorporated into the official Development Plan for the project site.

El Dorado County Fire Protection District:

7. **Fire Safe Plan:** As required by General Plan Policy 6.2.2.2 (development limitations in high and very high wildland fire hazard areas), a final Fire Safe Plan shall be recorded on the project parcels to the satisfaction of the Fire District Prior to issuance of a building permit. A copy of the Fire Safe Plan shall be submitted to the Planning Division.

Attachment:

1. Draft WildFire Safe Plan (Forest Management Plan)

Better Place Forests
Pollock Pines Park
Draft Forest Management Plan

NCRM, Inc.

11/18/2020

STAFF MEMO 12/7/20 ATTACHMENT 1 - DRAFT WILDFIRE SAFE PLAN (FOREST MANAGEMENT PLAN)

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1.0 INTRODUCTION

Since 2015, Better Place Forests has protected forests and connected people with their eternal peace and beauty so that these natural wonders will be available for enjoyment and provide ecological value for generations to come. In alignment with this mission, Better Place Forests began due diligence to potentially acquire the Pollock Pines Park property in 2019.

1.1 Forest Management Plan Scope

In 2019, NCRM Inc. was contracted to develop a Forest Management Plan (FMP) to be used by Better Place Forests as a tool to guide management options to best achieve desired stewardship objectives. The FMP will describe stand and habitat conditions on the property, prescribe a variety of management recommendations to achieve the long-term goals, and outline Best Management Practices (BMPs) to be utilized during management activities. The FMP will integrate data from professional analysis of the forest, as well as on-going botanical and biological survey efforts.

1.2 Better Place Forest Management Objectives

The objectives of the FMP include:

- Promote and develop a healthy, viable forest landscape
- Promote and develop late-seral forest habitat critical to sensitive wildlife species
- Maintain and enhance habitat diversity including conifer forests, hardwood forests and riparian corridors
- Restoration of legacy impacts
- Reduction in forest hazards including fire, insects, and disease

2.0 GENERAL PROPERTY INFORMATION

2.1 Landowner Summary Information

Property Name: Pollock Pines Park
Property Owner: Cecil Wetsel
Primary Contact: Scott Roycroft
Phone Number: (415) 308-2339
Email Address: scott@betterplaceforests.com

2.2 Location and Zoning

The 48-acre Pollock Pines park property is located near the town of Pollock Pines, in El Dorado County, California. The property is accessed via Blair Road which spurs off of the Pony Express Trail from State Highway 50 in Pollock Pines. The access gate to the property is located directly across from Apple Creek Ct. The property lies in Sections 25 and 36, Township 11 North, Range 12 East, Mount Diablo Base and Meridian, and can be found on the Pollock Pines 7.5' USGS quadrangle. Most of the property boundary has been recently surveyed, staked, and flagged, and the remainder is identifiable by the El Dorado Irrigation District (EID) canal and Blair road.

The property includes Assessor Parcels 101-240-45, 101-220-02, and 101-220-03. The following zoning type has been designated by El Dorado County for the property:

Residential, One Acre (R1A) Zone. The R1A, One-acre Residential Zone, is used to create a more dispersed suburban residential character to an area by providing for and regulating medium density residential development at the highest range of one dwelling per acre. Accessory structure and uses and low-intensity commercial agricultural pursuits (crop lands, orchards, raising and grazing of domestic farm animals) are considered compatible with this zone. [1]

2.3 General Property Description

The Pollock Pines property is comprised of a diverse landscape containing second-growth mixed conifer stands of various age classes, a smaller hardwood component, and riparian habitat.

The terrain varies from gentle slopes across the majority of the property with a few steeper banks adjacent to the Class II watercourse that bisects the property and the EID canal. Generally, slopes range from 0% – 10% in flatter areas near the entrance to the property to up to 45% surrounding the Class II watercourse. Across the property average slope is an estimated 20%. Elevations range from approximately 3,630 feet above mean sea level where the South

[1] El Dorado County Zoning Ordinance, Title 130 El Dorado County Code (2019). Page 52.

Fork of Long Canyon exits the property to approximately 3,800 feet at the top of the property along the canal. The Property is located near the top of South Fork of Long Canyon creek in the Long Canyon watershed. There is a small network of seasonal roads and landings, along with a few defined skid trails within the property.

The climate varies seasonally with warm dry summers and precipitation arriving in the form of rain and snow during the winter months. The average precipitation for the area is 46 inches, with winter snow accumulation varying between 2-6 feet. Winter snow levels can fluctuate in this area annually depending on temperature. Mean annual temperatures range from an average high of 69 degrees Fahrenheit to a low of 45. Temperatures can reach over 100 degrees in the summer and as cold as 5 degrees in the winter.

One notable aspect of the property is the El Dorado Irrigation (EID) Canal that contours across the top of the property line. The canal is used as part of the water supply for El Dorado County.

See the attached topographical maps and image for property landform and features.

2.4 Historic Property Use

Prehistoric inhabitants of the area surrounding Pollock Pines were the Nisenan of the Maidu people. These people mostly lived below 3,000' in elevation and used the higher elevations of the Sierra Nevada for seasonal hunting and forging. Acorns from black oaks were a mainstay of the Maidu diet, along with wild game, fish, berries, insects, grubs, and other seasonal plants and roots. Grinding holes, created by the process of preparing acorns, can be found throughout this region of the Sierra, often near permanent water sources such as streams or lakes. Native communities frequently used fire as a tool for burning out underbrush to encourage the sprouting of grass and young plants to augment feed for wild game.

Pollock Pines was integral to early California pioneering history due to its location along the main route between "east" and "west" over the summit of the Sierra Nevada. In 1844 Captain Freemont of the US Topographical Engineers, along with guide Kit Carson, established a route over the crest of the Sierra that followed the South Fork of the American through Pollock Pines to reach the central valley. This route later become the part of the famous Pony Express Trail, which used horse and pack trains to deliver mail across the divide. A group of Mormon settlers also established a route from Sly Park to the Carson summit now referred to as Mormon Emigrant Trail.

The Gold rush and the subsequent population boom that followed created a large demand for timber products in the area, leading the creation of a substantial logging industry. Almost all

accessible areas have been logged at least twice in the region.[2] The early days of logging utilized oxen and other animals to yard logs to local mills, later to be replaced by mechanized logging following the turn of the century. In 2009, one of the last operating mills in the area in Camino closed, ending a long run of local timber production in the area. While logging still occurs, both on private and public lands, sawlogs are transported out of the area to be milled. Tourism is now the main economic business for Pollock Pines, due to the town's proximity to El Dorado National Forest and other recreational attractions such as Lake Tahoe, skiing, boating, hiking, fishing, and hunting.

There is abundant evidence that the property was home to a camp at one time, apparently consisting of rustic off grid cabins, most likely constructed in the decades following WWII. While most of the structures have been removed, there is still evidence of historic use, including a spring box, water supply lines, and a dilapidated cedar water tank. The archeological significance of this historical infrastructure is undetermined. Any future development or timber operations should be prepared to investigate the property for culturally significant sites as required by the California Environmental Quality Act (CEQA).

A large water storage and hydroelectric project owned by the Sacramento Municipal Utility District (SMUD) exists below the property on the South Fork American River. These projects were constructed between 1950-1970 and utilize a series of dams to provide power and water storage to downstream communities.

2.5 Surrounding and Unauthorized Land Use

The predominant land use surrounding the property is semi-rural residential home sites, with some working timber land, as well as public land designated for recreation. Situated near the town of Pollock Pines, the property is also located close to town infrastructure, including commercial businesses, a school, and numerous homes. The majority of neighbors are comprised of small private landowners. It is expected these adjacent lands will continue to be developed at a slow rate, as the area is zoned for residential development.

The most notable unauthorized access the to the property occurs along the bank of the EID canal where local residents walk on an unofficial trail. Impacts from the use of the canal trail appear to be minimal and do not currently present a problem. There is some potential for vehicle trespass off of Blair Road, but unwanted access is mitigated by maintaining the locked gate. The most practical method of protecting the property from the risks of trespass is continuing the practice of maintaining a presence on the property through regular patrols. The

[2] https://www.thepollockpinesepic.com

local agency that would normally be contacted to resolve security issues on this property is the El Dorado County Sheriff's Office.

The property appears to have been recently surveyed, with fresh survey markers, including stakes, paint, and flagging.

3.0 FOREST RESOURCES

3.1 Geology and Soils

Pollock pines generally falls within the Shoo Fly Terrane, which is comprised of old sedimentary formations deposited along the continental margin of California 800-700 million years ago. Rock in this terrane includes sandstone, shale, limestone, and chert that were derived from ocean floor mantle. Subsequent volcanic activity that occurred alongside the uplift of the Sierra Nevada filled in many valleys and stream beds. Additional alluvial gravels were deposited in the area on top of the metamorphic bedrock surrounding Pollock Pines before the American River began to carve its way down to its present-day canyon located to the north.[3]

The soil type on the property is generally Cohasset loam. This soil is well drained and underlain by weathered andesitic conglomerate at the depth of more than 40 inches. Permeability is moderate and the surface runoff is medium to rapid. The main use for this soil is timber production and fruit tree orchards. The erosion hazard rating for the property was determined to be moderate in previous Harvest Plans, with a mean slope of around 20%. The mild slopes are generally well suited for road and trail construction, with the exceptions of steeper banks adjacent to the Class II watercourse.

3.2 Forest Stands

The property is comprised of productive working forestland. Forest stands and age classes present on the property vary based on the past timber harvest activities. Initial timber harvests in the area most likely took place in the 1800's and early 1900's. More recent timber management occurred in 1998 and 2007 respectively under the Timber Harvest Plans 4-98-138-ELD (1998) and 4-03-029-ELD (2003). Currently there are two main age classes on the property, a mature conifer class ranging from 60-120+ years of age, with a much younger regeneration class of 15-25 years. Some younger pines and fir species were planted following the previous timber harvests.

[3] David Alt and Donald W Hyndman, 2000. "Roadside Geology of Northern and Central California"

The property has five main conifer species, including ponderosa pine, white fir, incense cedar, Douglas fir, and sugar pine. The property has an approximate average basal area of 160 sq. ft. per acre, with areas of lower stocking in prior group selection harvests, and some well stocked units surpassing 200 sq. ft per acre. The species composition estimated at the time of the 2003 Timber Harvest Plan was: ponderosa pine 10%, sugar pine 2%, incense cedar 26%, Douglas fir 36%, and white fir at 26%.[4] A few Pacific yew are scattered throughout the property, usually in wetter areas.

Hardwoods make up a small component of the forest stand, averaging around 5 sq. ft. of basal area per acre. The main hardwood species is black oak, some of which have been noted to be mature and decadent. Other hardwoods include bigleaf maple, which is usually located in riparian areas, and Pacific dogwood in the understory.

The principle silviculture used in the past two harvests was group selection, or a method of harvesting "groups" of timber in small .25 to 2.5-acre clear cuts. These areas are easily identifiable pockets of open canopy with a younger age regeneration stand. Residual seed trees remain in the group selection units. In areas not recently harvested there is a more diverse age range, with some intermediate class timber. The riparian zones adjacent surrounding the Class II watercourse boast the largest variety of species and age classes and have been historically harvested using selective silviculture. Diameters on the ownership generally range from 6 to 30 inches, with a few dominant trees that can exceed 50 inches.

Tree quality and form is generally very high. The area has been determined in the past to be Site I, and well suited for timber production and forest land.[5] Site classification places timberland into one of five classes (I-V) based on productive potential. Site I denotes the highest productivity. Past harvests appear to have been conscious of sanitation, or the process of selectively removing trees the exhibit poor health, undesirable crown structure, or disease. Overall, prior timber management operations have left a healthy timber stand.

There is some observed white fir mortality within the stand. White fir generally prefers the cold winters of high elevations, and usually will not grow naturally below 3000 feet in elevation. The property is close to the lower end of acceptable elevations for white fir, and thus some of the stress exhibited in older trees could be the result of being on the edge of its tolerable temperature and precipitation ranges.

The property also contains scattered individual trees exhibiting late seral characteristics, but currently no areas meet the Forest Practice Rule definition of Late Successional Forest, which is

[4] THP 4-03-029-ELD, Allen. 2003.
[5] Dilworth, 1942. "Site Classification for the Mixed Conifer Selection Forests of the Sierra Nevada"

defined as stands of dominant and predominant trees that meet the criteria of Wildlife Habitat Relationship (WHR) class 5M, 5D, or 6 with an open, moderate or dense canopy closure classification, often with multiple canopy layers, and are at least 20 acres in size. Functional characteristics of late succession forests include large decadent trees, snags, and large down logs.

The property does contain structurally diverse forest stands containing late seral characteristics which provide greater habitat value for wildlife than stands without such elements. Trees often display multiple beneficial wildlife habitat attributes such as basal hollows, small cavities, internal rot or mistletoe broom, crevice cover, broken or multiple crowns, large lateral limbs, and epicormic branching.

Standing dead trees, or snags, and large woody debris (LWD) are additional key components to the late seral forest. Snags and LWD of highest wildlife value are thought to be greater than 16 inches in diameter and 20 feet in height/length. Small, medium, and large snags exist in low concentrations.

3.3 Forest Inventory

If desired by the landowner, the Pollock Pines property could be inventoried to gather information on timber volume, growth rates, timber site quality, stand attributes, and other baseline information for management purposes.

A typical cruise design consists of a systematic cruise grid, with a random start laid out across all timber strata. At each cruise point, a variable radius plot using would be installed to capture data on trees 5 inches Diameter at Breast Height (DBH) and larger, with a nested smaller fixed radius plot to capture data on trees less than 5 inches DBH.

3.4 Restoration Forestry

Restoration of forests, watercourses, and wildlife habitats are priority goals for the property. The second growth pine, fir, and cedar managed forest offers the opportunity to implement ecologically based management practices which will accelerate the development of late seral stands, maintain and enhance habitat diversity, reduce the effects of past timber harvest and road building on the watershed, and reduce forest hazards to levels that existed prior to historic era manipulation.

The characteristics of a late seral forest include large trees as part of a multilayered canopy and the presence of large numbers of snags and downed logs that contribute to an increased level

of stand decadence and functional habitat for late seral-associated wildlife species. A functional late seral Sierran Mixed Conifer forest generally contains around 70 trees per acre (TPA). Although the existing stand does have dominate well-spaced second growth, including quantities of snags, there are also younger regeneration units of approximately 150 TPA, and riparian and untreated units with upwards of 250 TPA. As a general estimate, without current stand tables, the property exhibits and average density of around 200 TPA. In order to accelerate the transition of these stands to a late seral condition, we must consider implementation of a management strategy for stand succession.

One option is passive management allowing the forest to grow into a late seral condition without management manipulation. This option can take generations, if not centuries, before the desired condition is met. Over time the stands naturally thin, but the existing high stand densities create potential wildfire risks from heavy fuel loads and ladder fuels from the ground to the crowns. Given the fire ignition potential from the adjacent residential developments, the potential risks from passive management are considerable.

A second option is active management utilizing density reducing silvicultural prescriptions where appropriate. These prescriptions would allow for accelerated development of late seral conditions by reducing the number of trees per acre and transferring the per acre growth onto fewer larger trees across the matrix of the property. Removal of the excess smaller diameter trees, or “thinning from below”, also functions to reduce the horizontal and vertical continuity of forest fuels reducing the risk of catastrophic fire.

Land managers can utilize a mix of silvicultural prescriptions as tools encourage transition of forest lands to more natural conditions. *Unevenaged-Selection* – Under this method, trees of multiple diameters are removed individually or in small groups (normally sized from .25 to 2.5 acres). *Intermediate Treatment-Commercial Thin* – This method is used for the removal of trees in a young growth evenaged stand to maintain or increase average stand diameter, promote timber growth and/or improve forest health.

In the context of the Pollock Pines property this management goal is best realized in the regeneration areas previously harvested as “groups” or small clear cuts. These younger stands should be monitored for health and species composition and may require additional thinning to achieve desired forest goals. In areas that have not been intensively managed in the last 50 years, the main goal is to maintain the dominant overstory, while removing overly dense suppressed trees to improve fire resiliency.

3.5 Forest Hazards

Forest Insects

While forest insect epidemics are not as spectacular, they damage and kill more trees in California than wildfire. Besides the forest resource loss, dead trees killed in large numbers increase fire hazard and thereby threaten scenic and watershed values. The largest loss of conifers by insects is likely to be caused by bark beetles. Defoliating insects can deform and retard the growth of infested trees, but generally do not pose a serious threat to the entire stand. Cone and seed attacking insects may result in reproduction irregularities, or even inability to reproduce. The most desirable management approach to prevent beetle infestation involves prompt detection of wind-throw or other stand disturbances, timely removal of threatened or infested trees and maintenance of a vigorous stand.

To date detections of insect infestations have not been noted, however the six bark beetles that most frequently attack pine and Douglas-fir in the region include

- Western pine beetle
- Mountain pine beetle
- Pine engraver beetle
- California five spined Ips beetle
- Douglas-fir bark beetle
- Douglas-fir engraver beetle

All six of these beetles belong to the family *Scolytidae*, with the first four species listed attacking pine, and last two attacking Douglas-fir. They are all known to attack and kill trees of normal vigor, but generally prefer trees of reduced strength, or those adjacent to other attacks, blow-down, logging areas where damage to residual trees has occurred, or fire damaged areas. They all live and mine an area between the bark and wood, thereby disrupting the flow of water and minerals within the tree. Boring dust is often pushed out through the holes, coloring the exuded pitch and forming a “pitch-tube” in pines and streaming pitch in Douglas-firs. After an insect attack the tree's foliage often changes color and dies; however, many times, this occurs subsequent to the insect’s flight to new trees. Following fire and wind-throw events, or should an outbreak occur, timely salvage operations should be performed to reduce the risk of epidemic infestations.

Forest Diseases

There are numerous forest diseases that are commonly found throughout the region; however, they are usually limited to local, isolated areas. Often times, these local problem areas are tied to a complex of problems, such as low stand vigor, advanced age, or severe environmental factors such as drought that influence the incidence of disease. Commonly, these diseases occur in conjunction with insect problems. As there are stands on the property that contain damaged trees the possibility of an insect or disease problem occurring must be considered. Some of the more common diseases in the area are discussed below.

In Douglas-fir the most prevalent disease is *Phellinus pini*, known as white pocket rot, white speck or red ring rot. This is the most damaging wood rot in the western states. The presence of fruiting bodies or "conks" is the best indicator of infection. The size and frequency of the conks present may provide an indication of the amount of decay, but caution must be exercised until local conditions can be assessed. Infections associated with white speck become established through living and dead branches or branch stubs. The best way to reduce risk of white speck infection is to avoid damaging trees within the stand.

Fomes annosus root rot can attack Douglas-fir on the property. The sapwood and inner bark of small to medium sized roots and the heartwood of larger roots is infested when the fungus attacks. Frequently, the infection spreads through the roots and into the lower trunk of the host, causing butt rot of the heartwood. Heartwood and root rots often predispose fir trees to wind throw and/or fatal insect attack. Within 2 to 6 years, the disease moves to the tree's root crown and girdles it, thereby killing the tree. The *Fomes* fungus subsequently acts as a wood decay organism and may remain viable in surrounding soil for as long as fifty years. The disease is spread by spores that colonize freshly cut stumps, growing into the root system and spreading to surrounding areas via root contacts with adjacent trees. Group killing of trees, with the oldest deaths at the center and more recently dead trees on the periphery, is a common symptom of infection within pine stands. The presence of fruiting bodies on infected trees is the best evidence of disease. These vary in size, but are usually found around the base of the tree just below the duff, or within the hollow of infected stumps. Examination of roots or root crowns can also indicate the presence of the disease.

Another disease that could be present in the Douglas-fir is *Leptographium wageneri* var. *pseudotsugae*, black stain root disease. Black stain is recognizable by weakening symptoms in the trees such as declining vigor, reduced needle retention, and dull gray/green foliage discoloration. Black stain will occur in the sapwood of the roots, root crown and lower bole. The stain in cross section follows the annual rings in circular pattern and not radially as typical of other stains. Since black stain spreads by root graft (as well as by spores), the disease can be

partially controlled by removing all the infected trees from the area of infection as well as adjacent trees not yet displaying symptoms.

Dwarf Misletoe (*Arceuthobium spp.*) is known to reduce vigor and growth rate of their hosts. Dwarf Mistltoe can affect pines, true firs, and Douglas fir. It has also been found to reduce the reproduce value o trees by as much as 60% in moderately infected trees. Infection starts in twigs and the resulting parasite lives indefinitely causing swellings or irregular growth called witches rooms on branches and trunks. Swellings on the tree trunks develop into canker which provides an entry point for insects. Heavy infection can stunt or deform younger trees and impair the growth of older trees. An effective control measure for Dwarf Mistletoe is the removal of all affected overstory trees.

Sudden Oak Dealth (SOD) is a plant disease caused by the pathogen *Phytophthora ramorum*. This disease may be transported to new areas when infected plants, infested soil, or contaminated water are moved. The property currently does not have any evidence of SOD and is not in an area considered to be infested by the pathogen. The black oak population is most susceptible to SOD.

Integrated Pest Management Methods

Integrated pest (insect and disease) management techniques, as described specifically above, are generally grouped into the following control methods:

- *Biological controls* involve the use of natural enemies such as predators, parasites, pathogens, and competitors.
- *Cultural controls* are the use of practices that help to reduce the chance of pest establishment including; not damaging trees during operations, limiting soil compaction during operations, maintaining stand health, species manipulation (planting resistant varieties), and general sanitation.
- *Mechanical and physical controls* employ manual removal of pests/infection by cutting or picking infected foliage, washing overrun areas of the plant, smashing pests, and the use of traps/attractants and exclusion devices such as screen or fencing.

Forest Fire

Fire has a long history in the region and on the property. Prehistorically, Native Americans utilized fire to re-invigorate browse for wildlife, improve conditions for mast production, and to drive game while hunting. Early homesteaders potentially burned areas periodically following the initial logging in an attempt to remove logging slash and enhance livestock carrying

capacity. Burning was possibly used to treat slash following logging operations. Burn scars were noted on cedar stumps and estimated to be approximately 50 to 60 years old.

The practice of widespread broadcast control burning is still implemented in the watershed, but normally at higher elevations under the management of the United States Forest Service (USFS). Burning in and around Pollock Pines is highly unlikely due to the density of residential and commercial businesses. Going forward, burning is most likely to be limited to slash pile concentrations following fuels reduction and/or silvicultural operations on the property.

In the fall of 2014, the King Fire was started near King Mountain Road in Pollock Pines which quickly grew over the next five days to a total of 97,000 acres. Fortunately, the prevailing winds pushed the fire northeast and the community of Pollock Pines was spared. Moving forward fire is a preeminent reality in the west slope of Sierra.

Given the proximity to surrounding residential areas, and the potential for fire in the town of Pollock Pines and surrounding area, fuels management on the property is imperative. There are many home sites in the area, some with excessive fuel and brush loads. The likelihood of catastrophic fire is high and a major concern for residents, the town of Pollock Pines, and State and local governments. The evacuation route from the property is via Blair Road. The lead responding agency would be CalFire with potential assistance from the United States Forest Service and/or local volunteer fire departments. At this time, the priority fire ignition concerns on the property include accidental ignitions that could occur during on-site operations, accidental or intentional ignitions due to trespassers, or residential activity near the property.

Opportunities for the installation of shaded fuel breaks exist jointly with the goals of reducing brush and ladder fuels for aesthetic and accessibility purposes. Shaded fuel breaks can be important to slow the spread of wildfire if they are constructed in the correct location and maintained. Shaded fuel breaks stop the continuity of fuels to keep flame length low and give firefighting crews a line of defense in the event of a fire. Fuel breaks are best along strategic land formations such as ridges, main roads or watercourses where natural or artificially created openings lack fuels. Shaded fuel breaks can also be constructed along property lines where the threat of wildfire from a neighboring area has a higher potential for occurrence.

Fire prevention in the area is paramount. Heavy equipment/vehicles that operate on the property should contain a shovel, axe, and fire extinguisher. Chainsaws should be properly equipped with spark arrestors and during operations a shovel should be nearby. Following daily operations, during fire season, a general inspection of the operation area should be conducted to ensure no fires are detected. All parking areas should be hardscaped or prepared as to not allow dry grass or vegetation to come into contact with hot engine blocks or catalytic converters.

3.6 Forest Roads and Trails

Roads

The Pollock Pines property contains a small forest road system that was utilized during previous timber harvests. In general, the roads are in very good condition, with no slides or significant fill failures observed. The "loop" of the county road was utilized for efficient hauling of the main landing, and a portion of this section of road was rocked. The remaining roads on the property are all seasonal roads and are not operable during wet conditions in their current state. The only established access to the property is through the gate off of Blair Road.

Property roads currently could be upgraded with better passive drainage in some areas, including rolling dips, water bars, inside ditch work, and other Best Management Practices to ensure road integrity. While no major issues were observed, grading sections of roads, especially any through-cuts with poor drainage, is recommended for long-term road use.

There is one established watercourse crossing on the Class II watercourse (South Fork of Long Canyon Creek) that utilized a 12'' corrugated metal pipe. The pipe is aging, and currently displays some signs of plugging and overtopping in the past. It is recommended that this crossing is upgraded if the road is to be used for future management and access to the southern area of the property.

Species habitat improvement for downstream fisheries is the main goal of repairing and maintaining roads and watercourse crossings. Proper installation and maintenance of crossings will reduce the potential for sediment introduction to waterways during significant storm events. Other goals for the road system are to provide access for fire suppression and stand management activities.

Any work in special management areas should respect/observe setbacks and critical periods for sensitive species.

Trails

In general trail construction should not alter the functional capacity of an environmentally sensitive area, disrupt the site hydrology in ways that may increase erosion and sedimentation, or impact trees selected for retention in a negative way. Trail construction should mimic the natural topography of the site and be built on contour as much as possible to minimize diversion potential utilizing methods that promote free drainage of storm flows and do not carry water down the trail surface Actions should include out-sloping of trails at a minimum slope of 2-3% and installation of frequent reverse grade dips and/or knicks so that water sheds from the trail into vegetated areas at many locations in an unconcentrated fashion.

Correspondingly, trails left unsurfaced (bare native soil) post-construction promote erosion of the running surface. Trail surfacing utilizing rock or wood chips must be considered. Any trails within 50 feet of a watercourse or trails that are hydrologically connected to a watercourse should be rocked to minimize direct delivery of sediment. Any exposed surface not associated with a pathway should be revegetated. Furthermore, disturbance within headwall swales should be avoided as these areas are particularly sensitive to unnatural soil movement. Future activities that may impact watercourses should be evaluated to determine if notification to the California Department of Fish and Wildlife (CDFW) is necessary. Per CDFW, you must submit a notification if you have a project that would do any of the following: Divert or obstruct the natural flow of any river, stream, or lake; Change the bed, channel, or bank of any river, stream, or lake; Use material from any river, stream, or lake; Deposit or dispose of material into any river, stream, or lake.

Also, trail construction must be carefully planned to not cut or fill around trees selected for retention. Tree roots must not be severed during construction, which could lead to mortality or structural failure of the impacted individual. Conversely, fill should not be placed against trees as this may limit oxygen supply and/or create an area of entry for insects or diseases as soil placed against the tree will hold moisture and promote rot.

3.7 Forest Management Descriptions and Recommendations

The property is made up of a single mixed conifer unit that is 48 acres and fairly uniform, with the exception of the riparian corridor surrounding the South Fork of Long Canyon Creek and prior group selection harvest areas. Timber quality is generally very high on the site.

Much of the stand has been shaped by previous management projects. This area was last operated under the THP 4-03-029-ELD utilizing the group selection silvicultural method, putting the residual stand age at approximately 100 years with younger age classes present in the 20-year age range. There are some individual late seral elements remaining. The forest is comprised of primarily white fir and Douglas-fir, with ponderosa pine, incense cedar, and scattered sugar pines. There is also a lesser hardwood component of black oak, with bigleaf maple, and Pacific dogwood. A small population of pacific yew was observed as well.

Moving forward, the goal of Better Place Forest is to continue to develop late seral characteristics within the timber stand with an emphasis on fuels reduction and fire resiliency. Suppressed, intermediate, and low quality/unhealthy conifers may be considered for removal by variable density thinning to reduce overstocking. Additionally, ladder fuels, and fuel loading in general, are of concern in this unit. Concentrations of low brush can be cut or masticated (on favorable slopes) to reduce fuel continuity. Slash generated from thinning or brush treatments

should be lopped to within 30" of the ground and scattered to provide erosion control. Residual slash left around trees to be retained should be scattered away from the bole.

Group Selection and Regeneration Areas

In areas previously harvested as "groups" there exists a young stand of third growth timber, often overshadowed by large residual seed trees. These pockets of pine, fir, and cedar were planted following prior harvest and are intermixed with native seed sprouting. The group harvest areas should be monitored for health and density moving forward. Specific trees that do not display healthy crowns, possess irregular growth form or become suppressed may be removed to improve spacing. Given that the Better Place Forest Company is interested in playing a role in active management, these young stands may be pruned and thinned to develop healthy upward growth.

Snags and White Fir Die-off

While snags are not in high concentration on the property, they do exist across the ownership. Large snags provide excellent habitat, particularly for birds. Snags over 18'' in diameter should not be removed unless deemed a safety hazard for property operations, facilities, roads, trials, or neighbors.

A notable percentage of snags found of the property are associated with white fir mortality. While there are currently no signs of pest or insect infestation, tree mortality should be monitored moving forward. White fir tend to prefer colder higher elevations, and the Pollock Pines site is at the lower end of their ecological range. Current drought and higher temperature trends induce stress in these trees, contributing to gradual die off.

Riparian (South Fork Long Canyon Creek) Corridor

The main watercourse through the property hosts a variety of riparian species, including Bigleaf maple, Pacific dogwood, needle spike-rush, common rush, ferns, and smartweed. Depending on slope, the California Forest Practice Rules require a setback of 50 to 100 feet along Class II watercourses for timber management. It is recommended that limited development and road building occur adjacent to these watercourses, and forest management focuses on a "thin from below" strategy. Hand crews may be used in lieu of heavy equipment in these areas. Erosion control structure maintenance should be undertaken during the winter months to prevent excessive erosion on trails. Extra care should also be taken when working near areas of riparian habitat.

Hardwoods

The primary hardwood on the property is black oak. In some cases, these oaks have developed into mature and/or decadent trees. Oaks provide excellent forge and habitat for wildlife and should be retained. In certain instances, smaller encroaching conifers may be thinned from around oak trees in an effort to maintain growing space.

Visual and Scenic Concerns

Surrounded by private property on all sides, the Pollock Pines property provides a viewshed for the surrounding community. It is important to consider the scope of future forest projects and their associated aesthetic impact. Visual buffers may be considered, particularly on the north west and north east property lines that have exposed views into private residences.

Timing & Logistics

Timing and logistics of restoration work across the property is based on type of work proposed, access into the respective forest stands, equipment requirements and availability, and regulatory permit requirements.

Eradication of invasive species such as Himalayan blackberry can be removed by means of mechanized or hand crew labor and can utilize treatments such as fire or herbicide. Low brush on favorable slopes may be treated by methods such as mastication and fuel loading in steeper areas managed with hand crews.

3.8 EID Canal

The main El Dorado Irrigation District Canal passes across the top of the property, serving functionally the property line for most of the eastern and southern boarders. The EID canal begins in the small community of Kyburz, about 15 miles east of the property, where it diverts water out of the South Fork of the American River. Through a series of canals and small reservoirs the system uses gravity to supply water most of the county.

The California Forest Practice Rules traditionally require a 25’ – 50’ setback on Class IV watercourse. A Class IV watercourse is defined as a manmade ditch or canal used to convey water. Since the EID canal has a high value to the county and its residences, this plan recommends observing a 50’ buffer from the bank of the canal for all management and future management activities. This will both meet and exceed the Forest Practice Rules and ensure that no negative scenic, environmental, or structural impacts occur. The canal also is used as a hiking path by locals who utilize the bank of the canal as a trail. Currently this access does not seem to present a problem but should be monitored into the future.

3.9 Permitting

There are currently no active Timber Harvest Plans (THPs) or Non-industrial Timber Management Plans (NTMPs) on the property. The last commercial harvest on the project area was conducted in 2003, when the entire property was operated under THP 4-03-029-ELD.

Future operations which propose the management of commercially sized conifer trees (generally 12" or greater DBH), which would be sold, bartered, or traded, will require a permit from the State in the form of either a THP with a full cumulative impacts assessment addressing potential effects on; watershed resources, soil productivity, biological resources, recreational resources, visual resources, cultural resources, greenhouse gas, and vehicular traffic, or Emergency Notice for Fuel Hazard Reduction The permitting process that best aligns with the proposed restoration forestry operations on the property is the THP process. A THP would outline site specific treatments on individual units based on vegetation characteristics, topography, access, seasonal wildlife restrictions and regulatory constraints. This comprehensive planning approach helps to provide assurance to the State and public that sustainable forest operations on these small parcels will be undertaken, and environmental impacts mitigated. Pre-commercial operations will not require a permit, however if potential wildlife habitat is to be modified resource agency consultation is recommended.

The lead agency in the THP process is CalFire. Additional resource agencies and required permits may include: California Department of Fish and Wildlife (CDFW) 1600 permit or incidental take permit, State Water Resource Control Board (SWRCB) Storm Water Pollution Prevention Plan or Waste Discharge Permit, County/City grading permit, California Environmental Quality Act (CEQA), Army Corps of Engineers (ACE) 404 permit, and U.S. Fish and Wildlife Service (USFWS) Technical Assistance.

If controlled burning is utilized for vegetation management, a burn permit from CalFire will be required. Controlled burning should only be conducted on a burn day when smoke will dissipate. The local agency responsible for air quality and smoke management issues is the El Dorado County Air Quality Management District (https://edcgov.us/AirQualityManagement/). The District should be consulted for proper permitting prior to any burning. The goal is to minimize smoke impacts on smoke sensitive areas (SSAs), avoid cumulative smoke impacts, and prevent public nuisance.

Development projects outside of the timber permitting process must still comply with CEQA. In these cases, the County would likely serve as the lead agency rather than CalFire. County government will use an internal process to navigate resource agency requirements and present permit conditions as required for compliance. These projects may also require additional permitting from agencies such as: California Department of Fish and Wildlife (CDFW) 1600

permit or incidental take permit, State Water Resource Control Board (SWRCB) Storm Water Pollution Prevention Plan or Waste Discharge Permit, County/City grading permit, California Environmental Quality Act (CEQA), Army Corps of Engineers (ACE) 404 permit, and U.S. Fish and Wildlife Service (USFWS) Technical Assistance.

3.10 Forest Carbon

Forestlands store vast quantities of carbon through the sequestration of carbon dioxide (CO_2) primarily in the form of biomass in conifer and hardwood trees. Through the process of photosynthesis, trees absorb CO_2 from the atmosphere and store (sequester) it as carbon in biomass (tree trunk, branches, foliage, and roots). The process of photosynthesis produces oxygen that is released back to the atmosphere.

Forests have the potential to act as carbon "sinks" based on this ability to sequester carbon. A carbon sink occurs when carbon sequestration is greater than the carbon released over a given time period. Forests release carbon to the atmosphere through the process of decay. Most of the release of CO_2 in forests occurs at the ground level through the decay of leaves, needles, branches, and large wood debris.

To analyze Pollock Pines Park forest carbon stocks, a forest stand inventory data cruise could be conducted and processed using FORSEE, a growth and yield modeling program for California forests. Tree level data from FORSEE would then be processed using a carbon calculation script in order to calculate carbon stocks per the California Air Resources Board (ARB) compliance forest project protocol.

4.0 BIOLOGICAL RESOURCES

4.1 Habitats and Plant Communities

The California Wildlife Habitat Relationship (WHR) program is a computer-based wildlife information retrieval system utilized to gather information on species habitat requirements and associations, as well as their California distributions. Habitat classification was developed for the California Department of Fish and Wildlife WHR System by the California Interagency Wildlife Task Group to identify and classify existing vegetation types and recognize major vegetative complexes. Components of the WHR system include; a wildlife species list, species information (status, distribution, habitat requirements, life history, etc.), species distribution maps, a computer database for modeling species habitat relationships, and habitat classification and vegetation descriptions (structure, composition, habitat stages, biological setting, physical setting, distribution, etc.).

The WHR habitat types reported to occur on the Pollock Pines property are listed below and are more fully and broadly described within *A Guide to Wildlife Habitats of California* (Mayer & Laudenslayer 1988, and references therein). The habitat descriptions provided below have been taken directly or are adapted from this guide. Please refer to the attached WHR Map for specific habitat-type locations.

4.2 Unique Habitat Elements

Many species of wildlife require the presence of specialized habitat elements. The combination of special habitat elements, cover, food, and water provide the essential features for functioning wildlife habitat. Habitats with a variety of special habitat elements are typically more capable of supporting a wide range of wildlife species as they provide 'microhabitats' for perching and roosting sites, suitable nesting, rearing, and/or denning areas, protective cover, and nearby foraging and watering areas. The juxtaposition of habitats across a landscape increases the wildlife habitat value by creating 'Ecotones', or the interface between two differing habitat types. Consequently, they are more diverse than either single habitat type, as they contain elements of both habitats. These "edge effects" can be dramatic when the habitat types are very different. Edge effects have been known for many years to confer positive values to certain types of wildlife. However, edge effects can also have negative effects when large stands of trees are fragmented and interior forest species are exposed to changes in the physical environment (increased temperature) or an increase of invasive species.

The majority of habitat present at the Pollock Pines Property is typical of Sierran Mixed Conifer. The vegetation structure of the forest has been impacted by historic logging and burning,

creating variability in the stand. There are both even and uneven aged components within the ownership, with an overstory of mixed conifer and the understory of white fir and incense-cedar and some elements approaching a late seral characteristic. Forest stands form closed, multilayer canopy with nearly 100 percent overlapping cover. Where openings occur, shrubs and conifer regeneration are common in the understory.

Five conifer and one hardwood species make of up the primary composition of the forest, with a few other secondary species dispersed across the ownership. White fir, Douglas-fir, ponderosa pine, sugar pine, and incense cedar make up the majority of the canopy, with a smaller component of back oak. The presence of white fir, incense-cedar and sugar pine are associated with mesic giant sequoia sites.

Deerbrush, manzanita, mountain misery, Oregon grape, mountain whitethorn, gooseberry, rose, and mountain misery are common shrubs species in the area. Grasses and forbs found in mixed conifer forests include mountain brome, Field sedge, blue wildrye, iris, juncus, and needlegrass.

Small, medium and large size snags in varying decay classes exist in the area. In general, there is a low amount of large woody debris in the property. Other special habitat elements include snags, broken-topped trees, trees with complex crowns, cavities and loose bark, hardwood pockets, large woody debris, hollow logs, and animal trails. No dens have been located on the property however, the presence of den habitat is expected to occur.

Multistoried stands are defined as stands composed of two or more canopy layers. Multistoried stands contribute to vertical heterogeneity of stands and influence species diversity. Several multistory stand types exist within the property, including areas elements exhibiting late seral characteristics. The most notable contrast in stand type occurs in the areas previously harvested as “group selection” or small clear-cuts. In these zones, large amounts of sunlight filter through residual seed trees to a much younger timber stand of approximately 10 to 25 years of age.

The riparian zones across the property provide habitat for water dependent non-fish species such as amphibians, and aquatic invertebrates. Riparian areas are vegetated with big leaf maple and Pacific dogwood. Understory plants include Oregon grape, currant, mountain misery, wild rose, and snowberry. The South Fork of Long Canyon Creek runs through the property, eventually connecting to the South Fork American River.

4.3 Terrestrial Species

The Pollock Pines Property contains suitable habitat for many native species, including some with special status or protections.

The following non-listed bird and animal species are likely to be present on this property;

- gray fox
- northern saw whet owl
- winter wren
- red tail hawk
- sharp-shinned hawk
- black bear
- black tail deer
- pileated woodpecker
- bobcat
- northern flicker
- wrentit
- striped skunk
- barn swallow
- chipmunk
- gray squirrel
- dusky footed woodrat
- western screech owl
- hermit thrush
- dark eyed junco
- chestnut-backed chickadee
- stellar jay
- North American robin
- California myotis bat
- Long-eared myotis bat
- Silver-haired bat
- Southern long-toed salamander
- Great egret
- Western bumble bee
- North American porcupine

Special Status species which may be present on the property include:

California Spotted Owl (*Strix occidentalis occidentalis*) (Status: CDFW Species of Special Concern) uses mature forest with permanent water and suitable nesting trees or snags as

habitat. Nests are typically found in areas of high canopy cover, with a multi-layered canopy, old decadent trees, a high number of large trees, and coarse downed woody debris.

Northern Goshawk (*Accipiter gentilis*): (Status BLM, USFS S-Sensitive, CDF Sensitive Species, CDFW Species of Special Concern) Habitat can be in both deciduous and coniferous forests in tree stands with tall, old-growth, and heavy intermediate canopy coverage. Goshawks typically require close proximity to openings for hunting.

Peregrine Falcon (*Falco peregrinus*): (Status: Federal Delisted in 1999, California Candidate for Delisting, CDF Sensitive Species). Peregrine Falcon uses bodies of water in open areas with cliffs and canyons nearby for cover and nesting. Peregrines prey mostly on birds (in flight) and their nest is a scrape on a depression or ledge in open area. Man-made structures are often used; abandoned raptor nests and tree cavities occasionally used. A variety of vegetative communities that possess the necessary water sources provide suitable habitat for this species. The peregrine breeds near wetlands, lakes, rivers or other water sources on high cliffs, banks, dunes and mounds. The breeding season extends from March to late August. The incubation period is approximately 32 days.

Sierra Nevada Mountain Beaver (*Aplodontia rufa californiaca*): (Status: CDFW Species of special concern) Usually found within riparian forest, riparian scrub, or riparian woodland. Beavers source food from plant vegetation, including thimbleberry, salmonberry, blackberry, dogwood, salal, ferns, lupines, willows, and grasses. Burrows are located in deep soils in dense thickets, preferably near a stream or spring.

Great Blue Heron (*Ardea Herodias*): (Status: CDF Sensitive Species) Great Blue Herons grow up to 4.5 feet tall and live for 15 years. They can typically be found along coastlines, in marshes, or near the shores of lakes or streams. Shallow waters are the preferred hunting grounds for this carnivorous bird, as fish comprise up to 75% of their diet. Great Blue Herons are solitary hunters and colony nesters. Tall trees and occasionally low shrubs are utilized for nesting. Herons can produce two to seven eggs per breeding cycle which take both parents to incubate; chicks are capable of surviving without the parents in roughly two months.

Long-eared owl (*Asio otus*): (Status: CDFW Species of Special Concern) Owls prefer to roost and nest within dense stands of wood but hunt over open ground. Diet is small rodents, especially voles.

Great Grey Owl (*Strix nebulosi*): (Status: California Endangered) One of the largest owls, the Great Grey Owl can range from 24 to 33 inches tall. Habitat ranges from dense northern coniferous forests near open areas to mixed oak woodlands. In 2015 a study estimated that there are fewer than 300 birds in the state. The owl does not build nests, instead using large nests previously built by raptors. They will also nest in broken top trees and cavities. Grey Owls

have excellent hearing and will locate prey by sound. The main source of food is small rodents, such as pocket gophers and voles.

Osprey (*Pandion haliaetus*): (Status: CDF Sensitive Species, DFW Watch List) Osprey are found in nearly any area with shallow fish-filled water, as they feed almost exclusively on fish. They will make their nests on naturally occurring or manmade structures (i.e. utility poles or specially designed nesting platforms) and can be found in North, Central, and South America depending on the time of year. Osprey are roughly two feet tall with a wingspan of up to six feet. In favorable conditions an Osprey can have a 25-year life span. The clutch will range in size from one to four eggs with a nesting period of approximately 55 days.

Golden Eagle (*Aquila chrysaetos*): (Status: CDF Sensitive Species, California Species of Special Concern). The golden eagle typically inhabits rolling foothills, mountain areas, sage-juniper flats, cliffs, rock outcrops and deserts. Open terrain for hunting is a necessity with such conditions being provided by grasslands, deserts, savannahs and early-successional forests. Cliffs and large trees are required for nesting. Nests are large and conspicuous. Major food sources include lagomorphs (rabbits and hares) and rodents, as well as lesser amounts of mammals, birds, reptiles and carrion. The golden eagle has also been known to take calves and lambs. Typical hunting methodology consists of high elevation soaring (100 to 300 feet) or low, sweeping gliding. Less common approaches include locating prey from a perch or pirating from other predators. The breeding season is late January through August with peak activity occurring between March and July; eggs are laid early February to mid-May. The incubation period is approximately 44 days of a 65- to 70-day nesting period. Nests may be abandoned if disturbed by humans during early incubation.

Bald Eagle (*Haliaeetus leucocephalus*): (Status: CDFW Fully Protected, California Endangered, Federal Delisted) The Bald eagle is an opportunistic feeder which subsists mainly on fish but will take small game and rodents as well. It builds large nests in large mature trees or snags. Habitat includes areas near wetlands, ocean, rivers, or lakes, usually within an old-growth or mature stand for perching, roosting and nesting.

Pacific Fisher (*Martes pennanti*): (Status: CDF&W Candidate Species) The Fisher is known to inhabit intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure. Suitable habitat for fishers consists of large areas of mature, dense forest stands with greater than 50% canopy closure containing snags, cavities, internal hollows, mistletoe brooms and downed hollow logs.

California Wolverine (*Gulo gulo*): (Status: CDFW Fully Protected, Federal Sensitive Species) Usually found in alpine and sub-alpine regions of California, the wolverine populations are extremely rare. They are primarily scavengers, eating carrion, but at times will predate on other

small mammals as well. Gestation is 30-50 days, in which two or three young "kits" are born in the spring. The male wolverine can range over 240 square miles. Female wolverines burrow into snow during winter months to create dens. The most recent wolverine siting in the area occurred in 2009 near Lake Tahoe.

Sierra Nevada Red Fox (*Vulpes Vulpes necator)*: (Status: California Threatened, Federal Candidate) The Red Fox ranges from Sonora Pass to the Oregon Cascades in small populations. They are hunters with a diet of small mammals and occasionally birds and insects. Lifespan is long lived relative to other foxes, typically five of six years.

Townsend's Big Eared Bat (*Corynorhinus townsendii*): (CDF&W Candidate Species). This species is found primarily in rural settings from inland deserts to coastal redwoods and is highly associated with caves and mines. While buildings may do, they need to be "cave like". Additionally, Townsend's big eared bat requires roosting, maternity, and hibernation sites free from human disturbance. They may also use large trees with basal hollows, cavities, and loose bark for day roosts, night roosts, and maternity roosts.

Grey Wolf (*Canus Iupus*): (Status: Federal Endangered, California Endangered) While the only known population of Grey wolf in California exists at the northern end of the state next to the Oregon border, this species has been slowly making a comeback in western states. Currently there are no records of Grey Wolf in the area of the property, but they area does provide potential habitat of the species.

Pallid Bat (*Antrozous pallidus*): (CDF&G Special Concern). The pallid bat is a common, widely distributed species throughout California. Pallid bats generally occur in dry, rocky habitat but are occasionally found in forested areas. Pallid bats generally roost in caves, crevices, mines, cliffs, and occasionally in buildings, tree hollows or under loose bark. Unlike most other local bat species, pallid bats will forage on the ground as well as in flight. This species forages in open areas and prey include insects and occasionally very small vertebrates.

See Attachments for California Natural Diversity Database and Biogeographic Information & Observation System queries covering all lands within three miles of the property.

4.4 Aquatic Species

The South Fork of Long Valley Creek is the primary aquatic habitat. The watercourse contains seeps and springs which provide year-round habitat for amphibians and other species. Obligate riparian plants are found, particularly in the lower reaches of the watercourse. There are multiple fish barriers down-stream of the property and the creek lacks the size and structure to support fish species. A few small ephemeral tributaries contribute to the watercourse, but do

not show signs of creditable riparian habitat. The Class IV EID canal carries significant amounts of water at times, but flow is turned on and off depending on water needs.

Some sensitive or listed species that have possible habitat on the property are:

Foothill yellow-legged frog (*Rana boylii*): (Status: CDFW Special Concern) The Foothill yellow-legged rang occurs throughout the Coast Ranges and Sierra and Cascade Ranges in the western US. They are found at elevations ranging from sea level to 6,000 of elevation. The frogs prefer flowing streams and rivers with rocky substrate and sunny banks. Dams on many major rivers and tributaries have impaired habitat and procreating, leading to large declines in populations. Mating occurs in the spring leading to the female deposing egg masses containing 100 to 1000 eggs. Eggs will hatch between five and thirty days. Preferred reproductive habitat is found in clear streams with flow velocities ranging from 0.1 to 0.6 meters per second.

California red-legged frog (*Rana draytonii*): (Status: Federal Threatened, CDFW Special Concern) The California red-legged frog is found in California and northern Mexico. The species is most commonly found along the Coast Ranges, and in isolated areas of the foothills of the Sierra Nevada. The species had disappeared from an estimated 70% of its historic range and is now only found in 28 counties of California. Breeding occurs from November to March. The species is usually active in daylight and inhabits dense, shrubby, or emergent riparian vegetation and still or slow-moving perennial and ephemeral water bodies that also serve as breeding sites. Tadpoles take about 7 months to metamorphose into frogs.

Sierra Nevada Yellow-legged Frog (*Rana sierrae*): (Status: Federal Endagered, California Threatened, CDFW Species of Special Concern) This frog is endemic to the Sierra Nevada Range in California. Habitat includes mountain creeks, lakes, streams, and pools, preferring sunny areas. Tadpoles require permanent water habitat for at least two years while they develop. The frog has been found at elevations between 1,200 and 7,500 feet. Breeding season occurs in the spring and metamorphosis from tadpole to frog can take up to 4 years depending on site temperature. The species feeds on insects such as beetles, ants, bees, wasps, flies, and dragonflies. Over the course of the last hundred years 90% of its population has been eliminated. Its decline is attributed to many factors, including introduced predator species, drought, and probably pesticides.

Western Pond Turtle (*Emys mamorata*): (Status: CDFW Species of Special Concern) The western pond turtle is endemic to the western coast of the United States ant Mexico. Habitat includes permanent and intermittent waters, including marshes, streams, rivers, ponds and lakes. It favors habitats with large numbers of emergent logs or boulders that provide bank habitat. In cases where intermittent ponds dry up, the western pond turtle can spend upwards of 200 days

out of water. The western pond turtle has an omnivorous died including insects, crayfish, small fish, tadpoles, frogs and plant foods such as algae, lily pads, and tule and cattail roots.

4.5 Botanical Species

The upper and lower montane conifer forests, or Sierran mixed conifer forests, are the dominant vegetation community across the property. Plant community types found within Sierran mixed conifer forests include both native and non-native species, including sensitive and listed species. The conservation of special status native plants ant their habitat is essential to maintaining biological diversity. Some of the plant species with special or protected status are listed below:

Pleasant Valley mariposa-lily (*Calocortus calvatus var. avius*): (Status: Federal Sensitive Species, CA Rare Plant Rank 1B.2)

Red Hills soaproot (*Chlorogalum grandiflorum*): (Status: BLM Sensitive Species, CA Rare Plant Rank 1B.2)

Saw-toothed lewisia (*Lewisia serrata*): (Status: USFS Sensitive Species, CA Rare Plant Rank 1B.1)

Stebbins phacelia (*Phacelia stebbinsii*): (Status: USFS Sensitive Species, CA Rare Plant Rank 1B.2)

Brownish beaked-rush (Rhynchospora capitellata): (Status: CA Rare Plant Rank 2B.2)

Sierra blue grass (*Poe sierrae*): (Status: USFS Sensitive Species, CA Rare Plant Rank 1B.3)

Other potential botanical species present on the property are listed below:

- Oregon grape (*Berberis aquifolium*)
- Chaparral honeysuckle (*Lonica interrupta*)
- Creeping snowberry (*Symphoricarpos mollis*)
- Filed sedge (*Carex praegracilis*)
- needle spike-rush (*Eleocharis acicularis*)
- Western brackenfern (*Pteridium aquilinum*)
- Madrano (*Arbutus menziesii*)
- Whiteleaf manzanita (*Arctostaphylos viscida*)
- Wintergreen (*Pryola picta*)
- Deerweed (*Acmispon glaber*)
- Mountain pink currant (*Ribes nevadense*)
- Sierra gooseberry (*Ribes roezlii*)

- Hartweg's iris (*Iris hartwegii*)
- common rush (*Juncus effuses*)
- fireweed (*Epilobium brachycarpum*)
- blue wildrye (*Elmus glaucus*)
- Deer brush (*Ceanothus integerrimus*)
- service berry (*Amelanchier alnifolia*)
- Mountain misery (*Chamaebatia foliolosa*)
- Wild strawberry (*Fragaria vesca*)
- Toyon (*heteromeles arbutifolia*)
- Wild rose (*Rosa californica*)
- Thimbleberry (*Rubus parviflorus*)
- California dewberry (*Rubus ursinus*)
- Sweet bedstraw (*Galium trifolium*)
- Alum root (*Heuchera micrantha*)

Invasive Species:

The following non-native invasive species could potentially inhabit the property: Himalayan blackberry, bull thistle, Cut-leaf blackberry, Field hedge parsley, Prickly lettuce, and English ivy. The distribution of these species is generally limited to specific areas on the property.

Himalayan Blackberry is the most commonly observed invasive. Its population is limited to isolated areas and the riparian corridor through the property. While difficult to remove, the blackberry can be selectively treated by cutting, mowing, burning, or applying herbicide. In general, the population should be monitored moving forward, and selective areas should be identified for treatment.

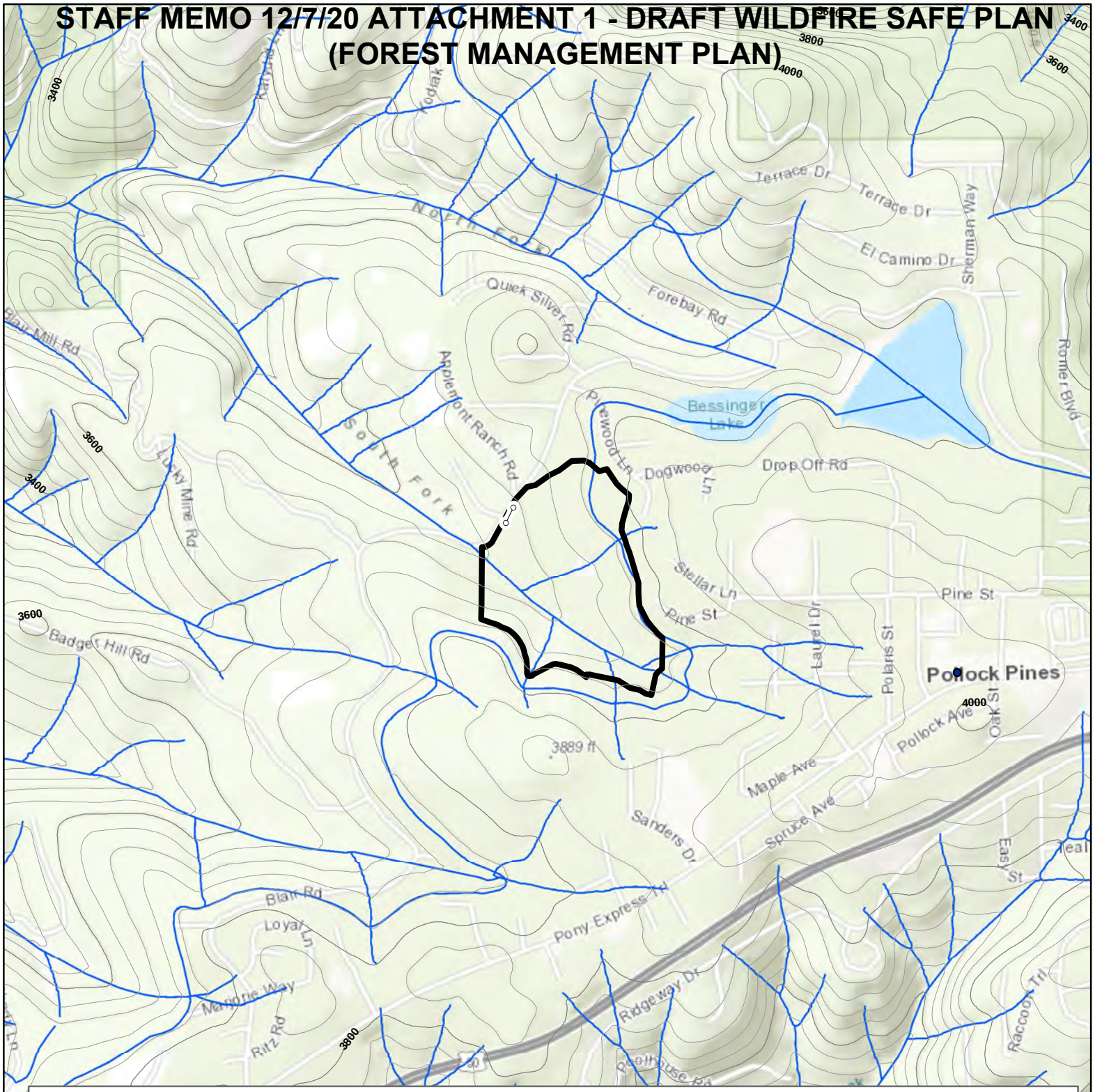
5.0 RECREATION RESOURCES

Recreational opportunities are limited as access to the property is controlled and intended for customers, their families, and invited guests. Customers and guests may use the grounds for light recreational activities such as hiking and picnicking. No camping or hunting is permitted on the property. As mentioned above, the EID canal provides local access for hikers along the canal bank. Currently this does not appear to pose any issue but should be monitored in the future.

6.0 LIST OF ATTACHMENTS

- Property Location Map
- Imagery Map
- Management Unit Map
- Soils Type Map
- Water Resources Map
- CNDDB Query Information

STAFF MEMO 12/7/20 ATTACHMENT 1 - DRAFT WILDFIRE SAFE PLAN (FOREST MANAGEMENT PLAN)



Better Place Forests - Pollock Pines Property

Property Location Map

11/5/2019

Sections 25 & 26
T11N R12E
MDBM

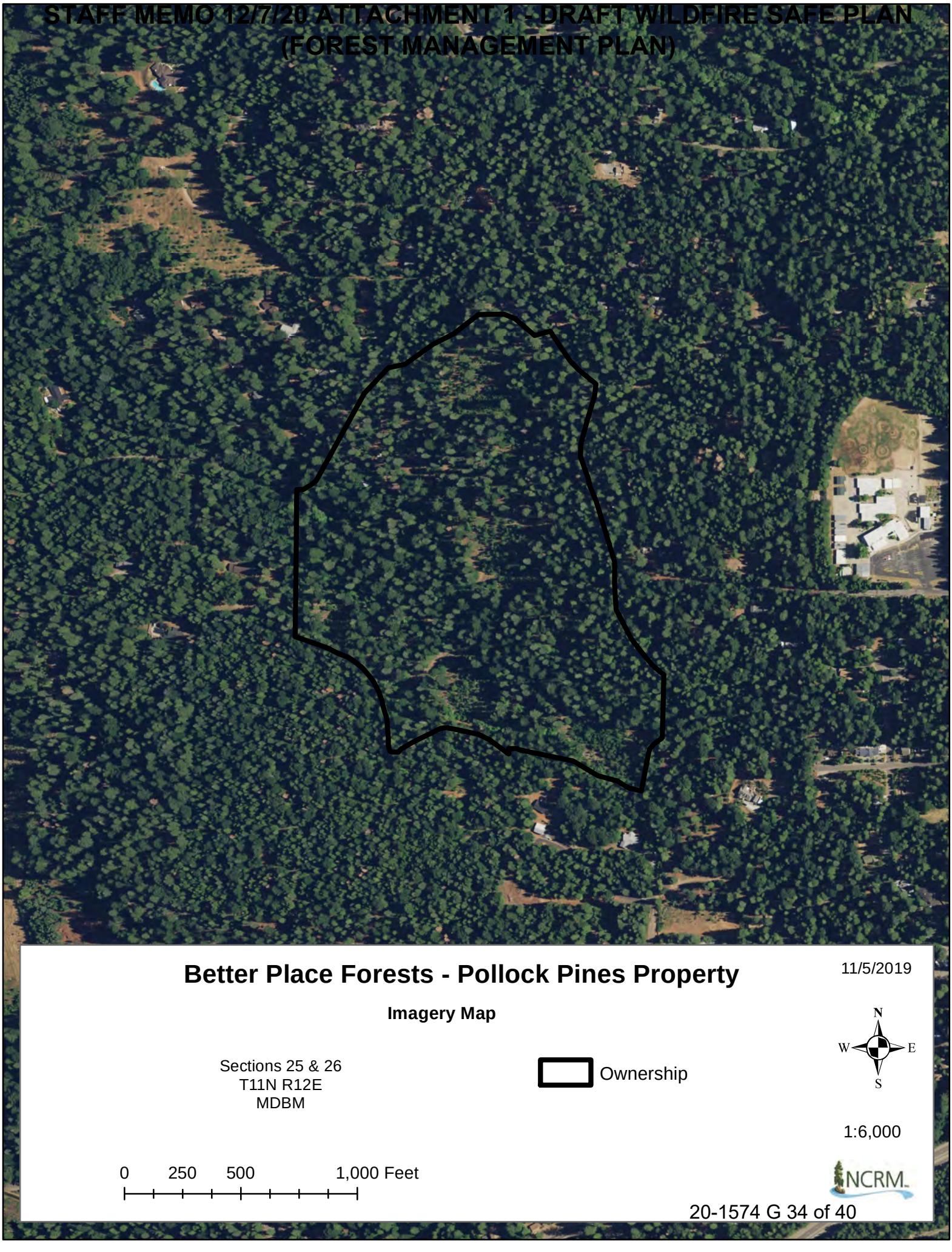
Ownership

N
W E
S

1:14,000

0 625 1,250 2,500 Feet

NCRM



Better Place Forests - Pollock Pines Property

11/5/2019

Imagery Map

Sections 25 & 26
T11N R12E
MDBM

Ownership

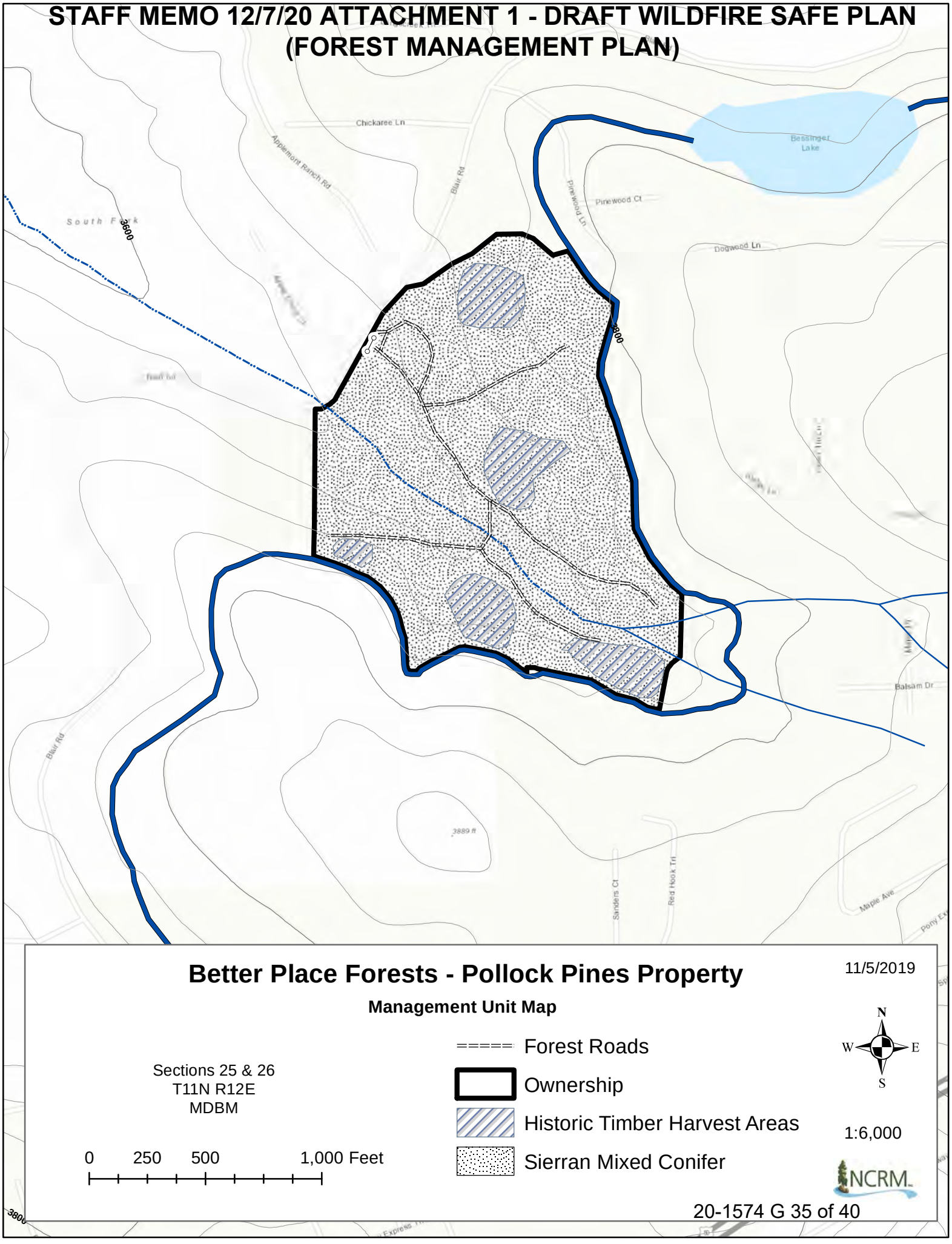
N
W E
S

1:6,000

0 250 500 1,000 Feet

NCRM

STAFF MEMO 12/7/20 ATTACHMENT 1 - DRAFT WILDFIRE SAFE PLAN (FOREST MANAGEMENT PLAN)



Better Place Forests - Pollock Pines Property

Management Unit Map

11/5/2019

Sections 25 & 26
T11N R12E
MDBM

0 250 500 1,000 Feet

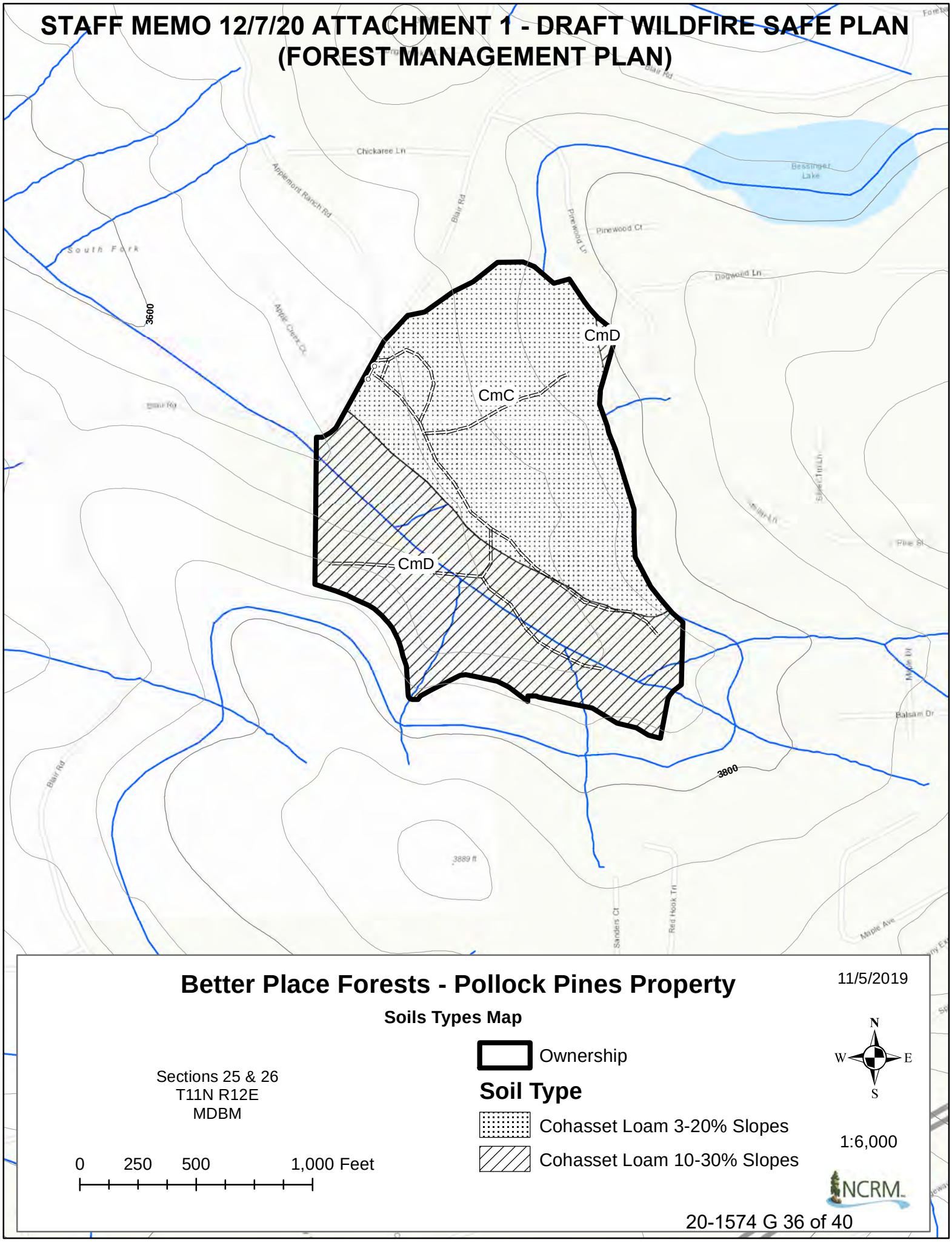
Forest Roads
Ownership
Historic Timber Harvest Areas
Sierran Mixed Conifer

N
W E
S

1:6,000

NCRM

STAFF MEMO 12/7/20 ATTACHMENT 1 - DRAFT WILDFIRE SAFE PLAN (FOREST MANAGEMENT PLAN)



Better Place Forests - Pollock Pines Property

Soils Types Map

11/5/2019

Sections 25 & 26
T11N R12E
MDBM

Ownership

Soil Type

Cohasset Loam 3-20% Slopes

Cohasset Loam 10-30% Slopes

N
W E
S

0 250 500 1,000 Feet

1:6,000

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Better Place Forests - Pollock Pines Property

11/5/2019

Water Resources Map

Sections 25 & 26
T11N R12E
MDBM

Ownership

Forest Roads

Watercourse Class

Culvert Crossing

2

3

4

N
W E
S

0 250 500 1,000 Feet

1:6,000

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CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Pollock Pines (3812075) OR Tunnel Hill (3812086) OR Devil Peak (3812085) OR Robbs Peak (3812084) OR Slate Mtn. (3812076) OR Riverton (3812074) OR Camino (3812066) OR Sly Park (3812065) OR Old Iron Mountain (3812064))
AND County IS (El Dorado)
AND Elevation IS greater than OR equal to 3000
AND Elevation IS less than OR equal to 4000

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Rana draytonii	California red-legged frog	Amphibians	AAABH01022	1541	1	Threatened	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2468	12	None	Candidate Threatened	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Accipiter gentilis	northern goshawk	Birds	ABNKC12060	433	1	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest
Arctostaphylos nissenana	Nissenan manzanita	Dicots	PDERI040V0	13	3	None	None	G1	S1	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Closed-cone coniferous forest
Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	Monocots	PMLIL0D095	131	12	None	None	G4T2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Lower montane coniferous forest
Carex cyrtostachya	Sierra arching sedge	Monocots	PMCYP03M00	28	3	None	None	G2	S2	1B.2	null	Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Riparian forest
			CARA2421CA	5	1	None	None	GNR	SNR	null	null	null

Central Valley Drainage Resident Rainbow Trout Stream	Central Valley Drainage Resident Rainbow Trout Stream	Inland Waters										
Chlorogalum grandiflorum	Red Hills soaproot	Monocots	PMLIL0G020	137	22	None	None	G3	S3	1B.2	BLM_S-Sensitive	Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	1	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1375	1	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Horkelia parryi	Parry's horkelia	Dicots	PDROS0W0C0	44	7	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Ione formation
Lewisia serrata	saw-toothed lewisia	Dicots	PDPOR040E0	11	2	None	None	G2	S2	1B.1	USFS_S-Sensitive	Broadleaved upland forest, Lower montane coniferous forest, Riparian forest
Monadenia mormonum buttoni	Button's Sierra sideband	Mollusks	IMGASC7071	5	1	None	None	G2T1	S1S2	null	null	Chaparral, Cismontane woodland, Valley & foothill grassland
Myotis thysanodes	fringed myotis	Mammals	AMACC01090	86	1	None	None	G4	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	null
Myotis volans	long-legged myotis	Mammals	AMACC01110	117	2	None	None	G5	S3	null	IUCN_LC-Least Concern,	Upper montane coniferous forest

											WBWG_H-High Priority	
Nebria darlingtoni	South Forks ground beetle	Insects	IICOL6L100	4	1	None	None	G1	S1	null	null	null
Orobittacus obscurus	gold rush hanging scorpionfly	Insects	IIMEC07010	2	1	None	None	G1	S1	null	null	Riparian forest
Phacelia stebbinsii	Stebbins' phacelia	Dicots	PDHYD0C4D0	79	3	None	None	G3	S3	1B.2	USFS_S-Sensitive	Cismontane woodland, Lower montane coniferous forest, Meadow & seep
Poa sierrae	Sierra blue grass	Monocots	PMPOA4Z310	61	2	None	None	G3	S3	1B.3	USFS_S-Sensitive	Lower montane coniferous forest
Viola tomentosa	felt-leaved violet	Dicots	PDVIO04280	54	1	None	None	G3	S3	4.2	null	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest