BIOLOGICAL RESOURCES INVENTORY REPORT
FOR THE

HOUSING ELEMENT REZONE STUDY AREA

NEVADA COUNTY, CALIFORNIA

Prepared for:

RBF CONSULTING
4540 Duckhorn Drive, Suite 202
Sacramento, CA 95834
Contact: Alex Jewell, Project Manager

Prepared by:

DUDEK
853 Lincoln Way, Suite 208
Auburn, CA 95603
Contact: Markus Lang

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INTRODUCTION

Study Area Parcels

The 18 pre-selected candidate sites associated with the Housing Element Rezone project are located in the western portion of Nevada County, approximately 50 miles northeast of Sacramento and about 50 miles west of Lake Tahoe (refer to Figure 1 - Site & Vicinity Map). The study area sites are irregularly shaped properties ranging in size from 1.08 acres to 20.1 acres and make up a total area of total area of ±149 acres. The candidate sites are generally clustered within three areas, the Grass Valley Sphere of Influence (Sites 1-9), Penn Valley area (Sites 10-13), and the Lake of the Pines area (Sites 14-18). Figure 1 shows the location of each site on a U.S. Geological Survey 7.5 minute quadrangle. Aerial photos of each site are included in Figures 2a through 2g. The sites are also identified by Assessor's Parcel Number in Table 1, below. Table 2 provides the latitude and longitude of the approximate center of each site and site acreage.

Table 1
Study Area Assessor's Parcel Numbers

Grass Valley SOI	Penn Valley Area	Lake of the Pines Area
Site 1: 07-380-17	Site 10: 51-120-06	Site 14: 57-141-29
Site 2: 29-350-12	Site 11: 51-150-29	Site 15: 57-270-02
Site 3: 35-412-15	Site 12: 51-151-62	Site 16: 57-270-03
Site 4: 35-412-17	Site 13: 51-370-02	Site 17: 57-270-06
Site 5: 35-412-18		Site 18: 11-181-03
Site 6: 35-412-19		
Site 7: 35-412-21		
Site 8: 35-550-15, and 35-412-20		
Site 9: 35-412-16		

Table 2
Study Area Parcel Location and Size

Site	Latitude	Longitude	Area (Acres)
Site 1	39.206113	-121.076031	1.08
Site 2	39.199927	-121.056057	11.36
Site 3	-121.027693	39.229399	9.15
Site 4	-121.030705	39.230186	11.35
Site 5	-121.028872	39.230425	4.5
Site 6	-121.030294	39.231567	9.7
Site 7	-121.024948	39.230597	9.9
Site 8	-121.025972	39.232056	10.43
Site 9	-121.029533	39.228844	6.49
Site 10	-121.179690	39.199741	5.95
Site 11	-121.179006	39.199101	3.1
Site 12	-121.183313	39.197108	4.37
Site 13	-121.179578	39.202567	20.1
Site 14	-121.093437	39.044641	5.0
Site 15	-121.089722	39.041133	5.0
Site 16	-121.088566	39.040082	18.12
Site 17	-121.083233	39.042138	2.36
Site 18	-121.056880	39.022511	11.03

Setting

The 18 selected sites are located in the western foothills of the Sierra Nevada at elevations ranging from ±1,400 feet (Penn Valley sites) to ±2,700 feet (Grass Valley sites). The majority of the rezoning areas are undeveloped and surrounded by a variety of existing development, including single-family residential, rural residential, commercial agricultural, recreational, and utility uses. Major roadways, including State Route 49, Brunswick Road, and State Route 20 abut or are in close proximity to each of the sites. Habitat types on the 18 sites include disturbed, annual grassland, blue oak woodland, valley oak woodland, montane hardwood, Sierran mixed conifer, foothill riparian, blue oak-foothill pine, and mixed chaparral. Perennial and intermittent streams and wetland areas occur on several of the sites. Specific site characteristics for each of the 18 sites, including topography, habitat

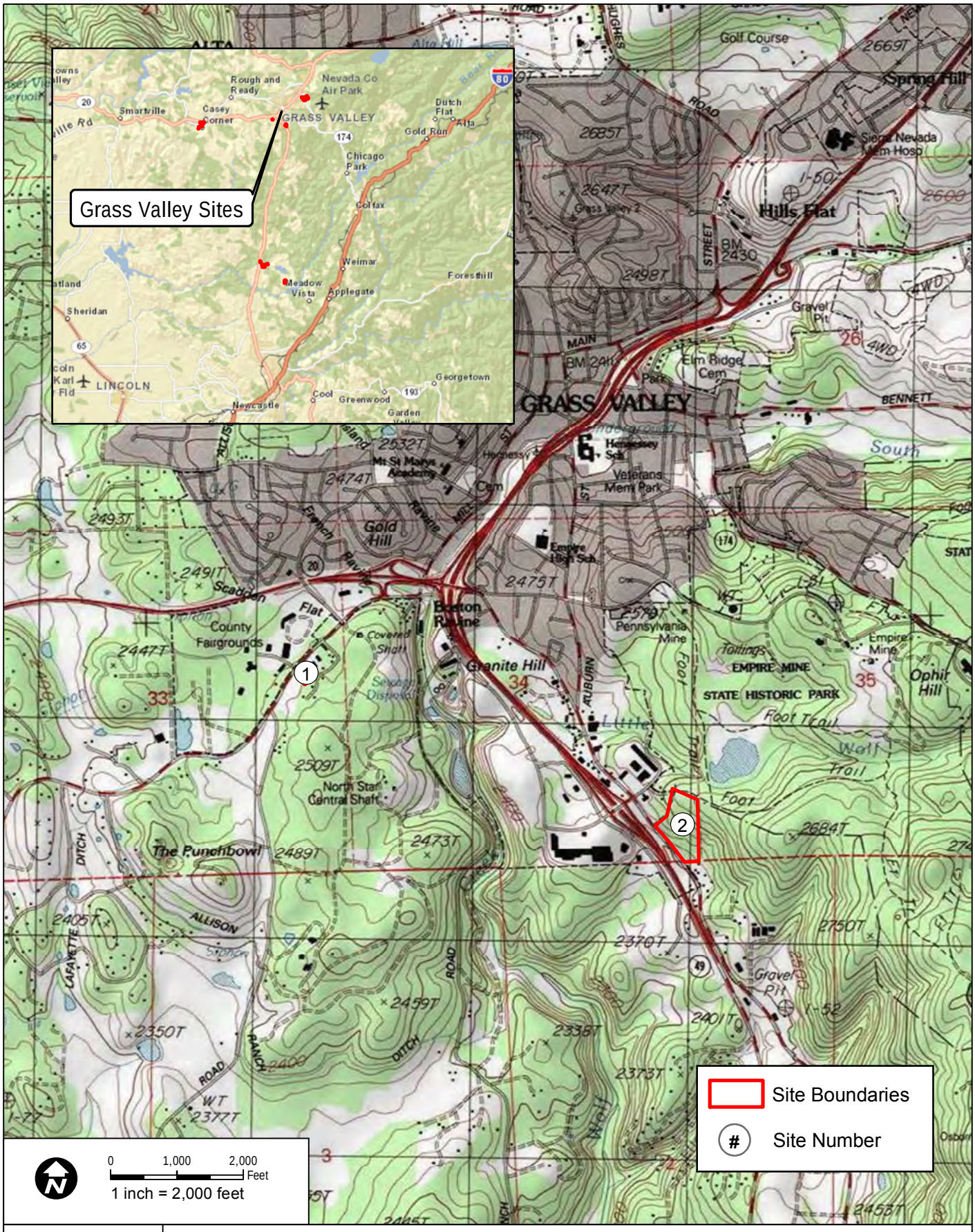

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FIGURE 1a

Site & Vicinity Map

Grass Valley Sites - South

BASEMAP: USA Topo Maps

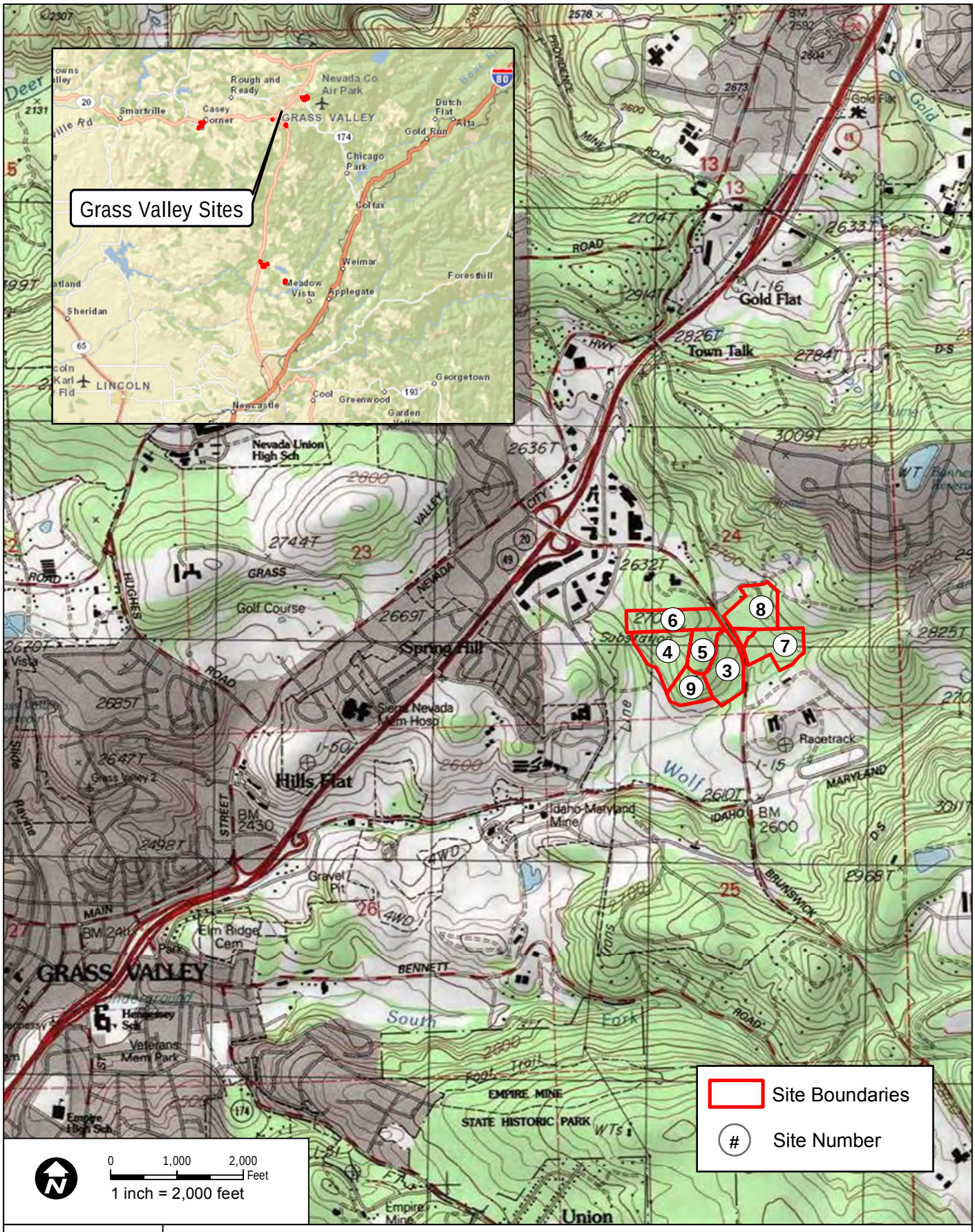

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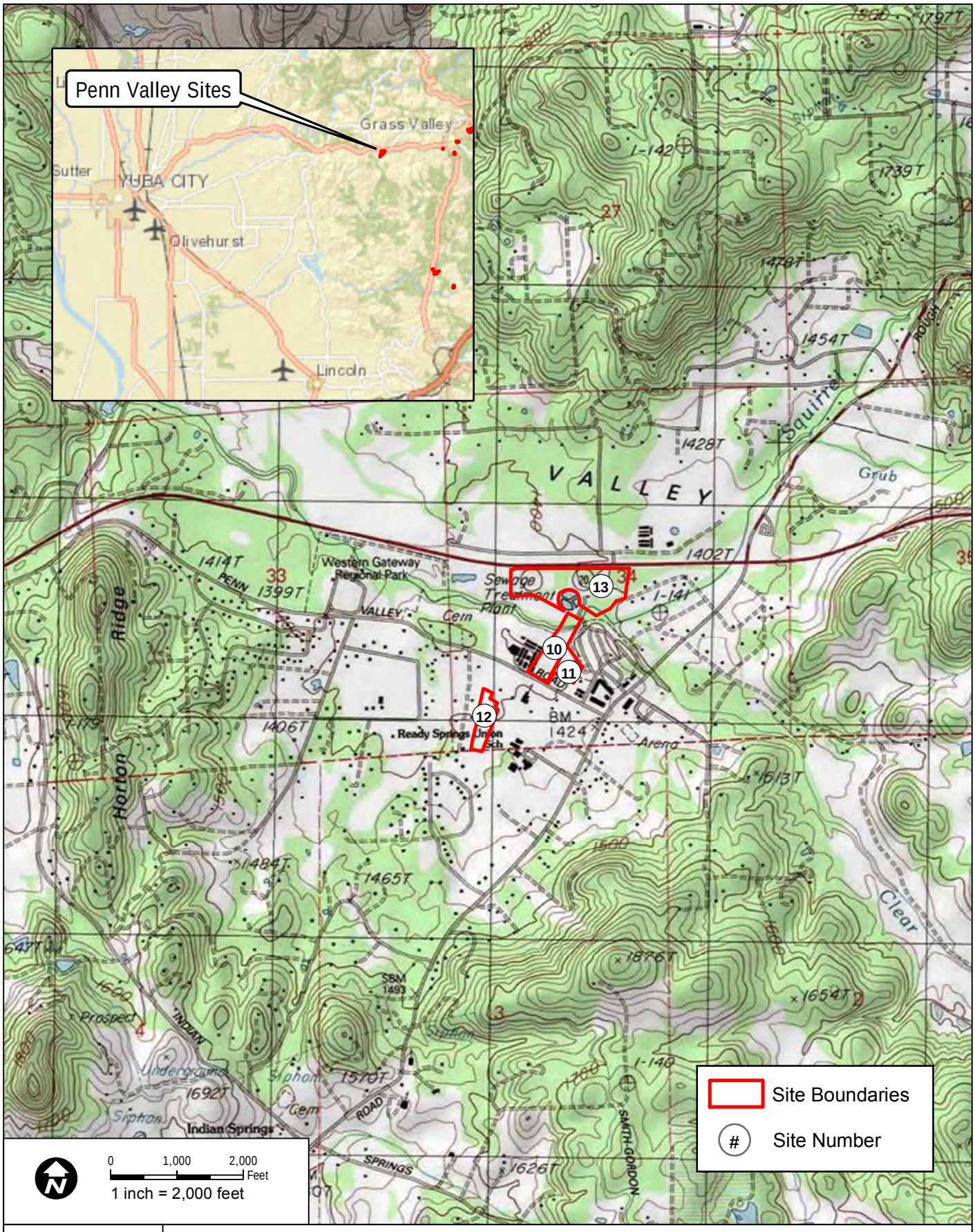
FIGURE 1b

Site & Vicinity Map

Grass Valley Sites - North

BASEMAP: USA Topo Maps



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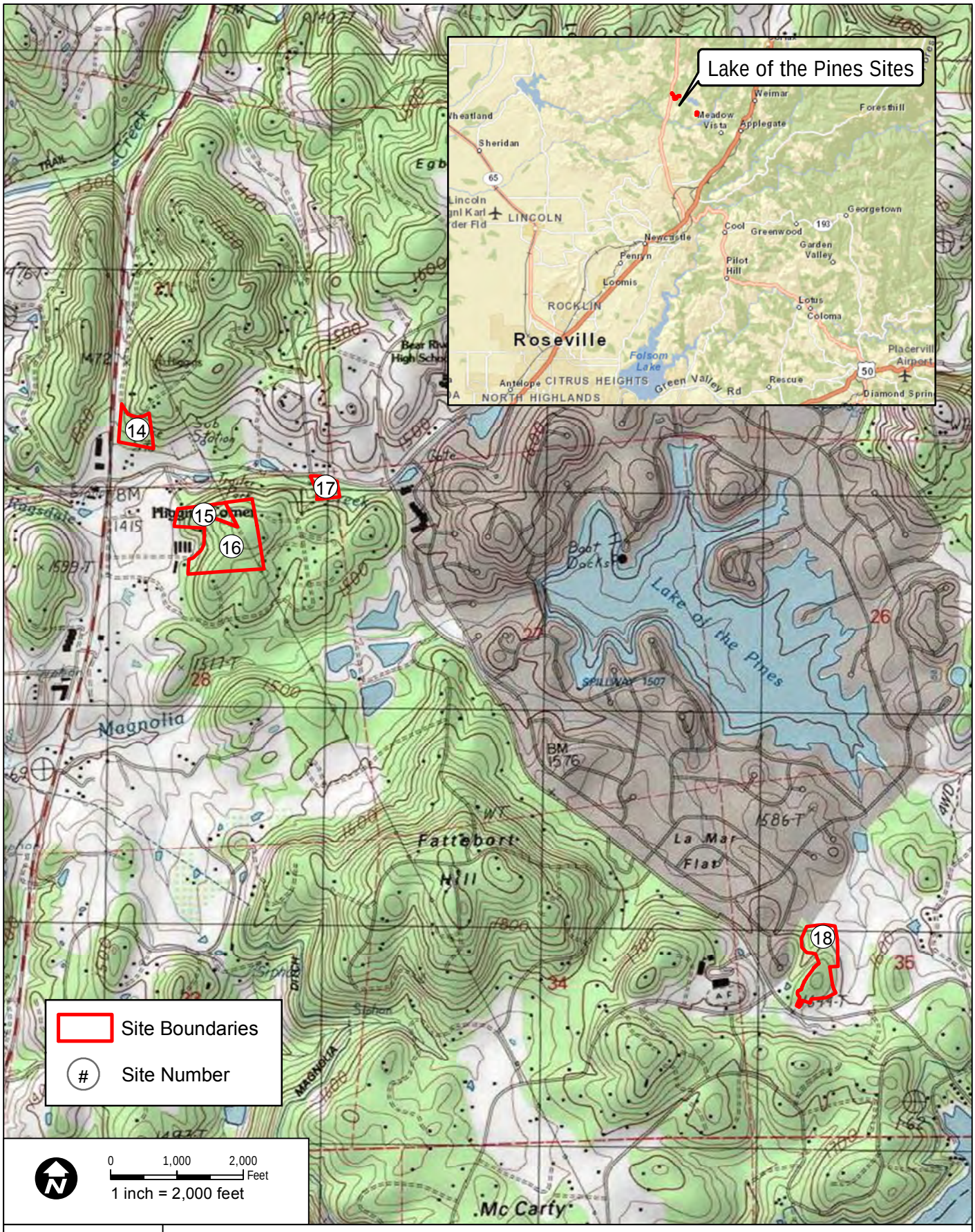
BASEMAP: USA Topo Maps

FIGURE 1c

Site & Vicinity Map

Penn Valley Sites



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BASEMAP: USA Topo Maps

FIGURE 1d

Site & Vicinity Map

Lake of the Pines Sites

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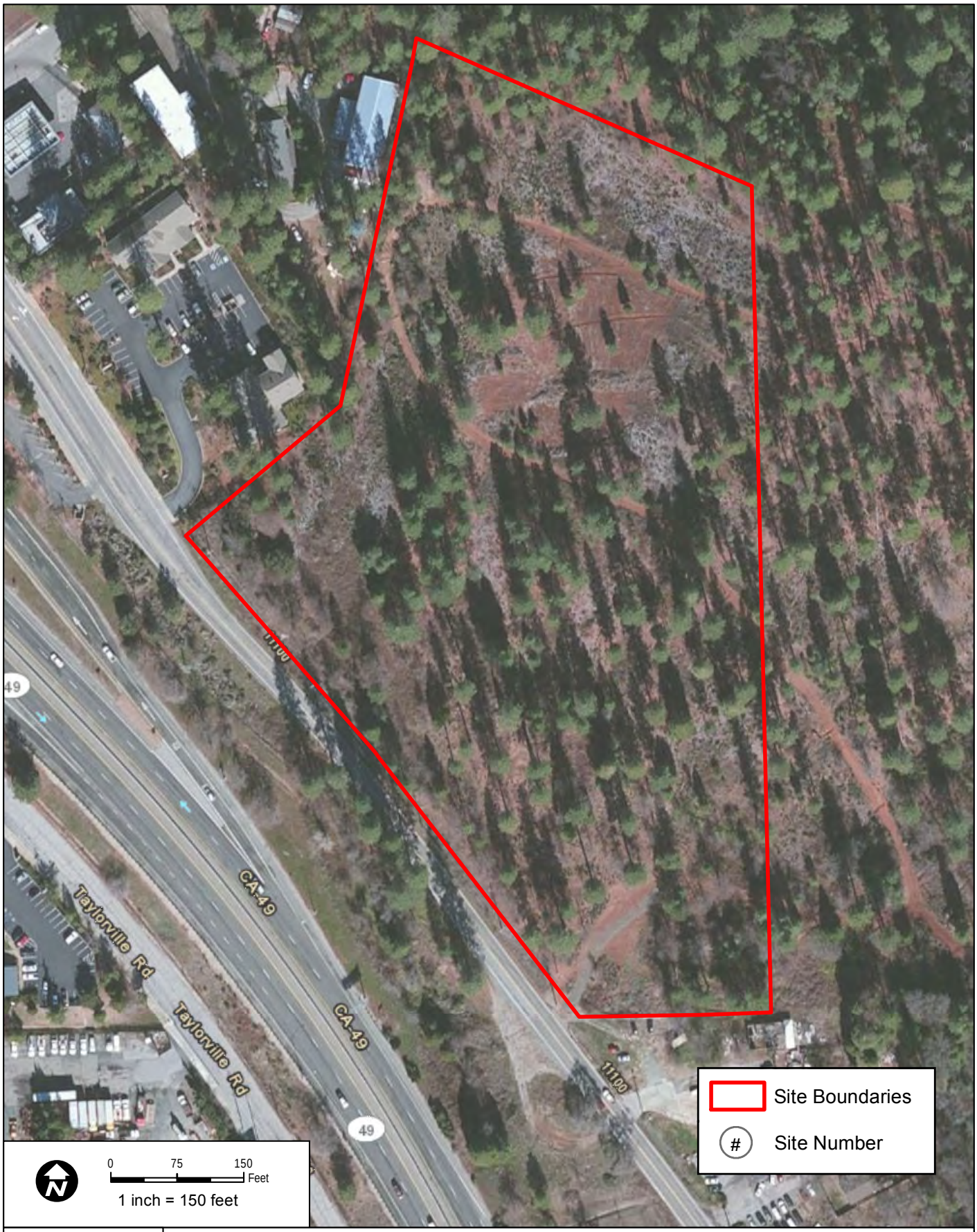
IMAGERY: ESRI World Imagery

FIGURE 2a

Aerial Photo

Grass Valley Site 1



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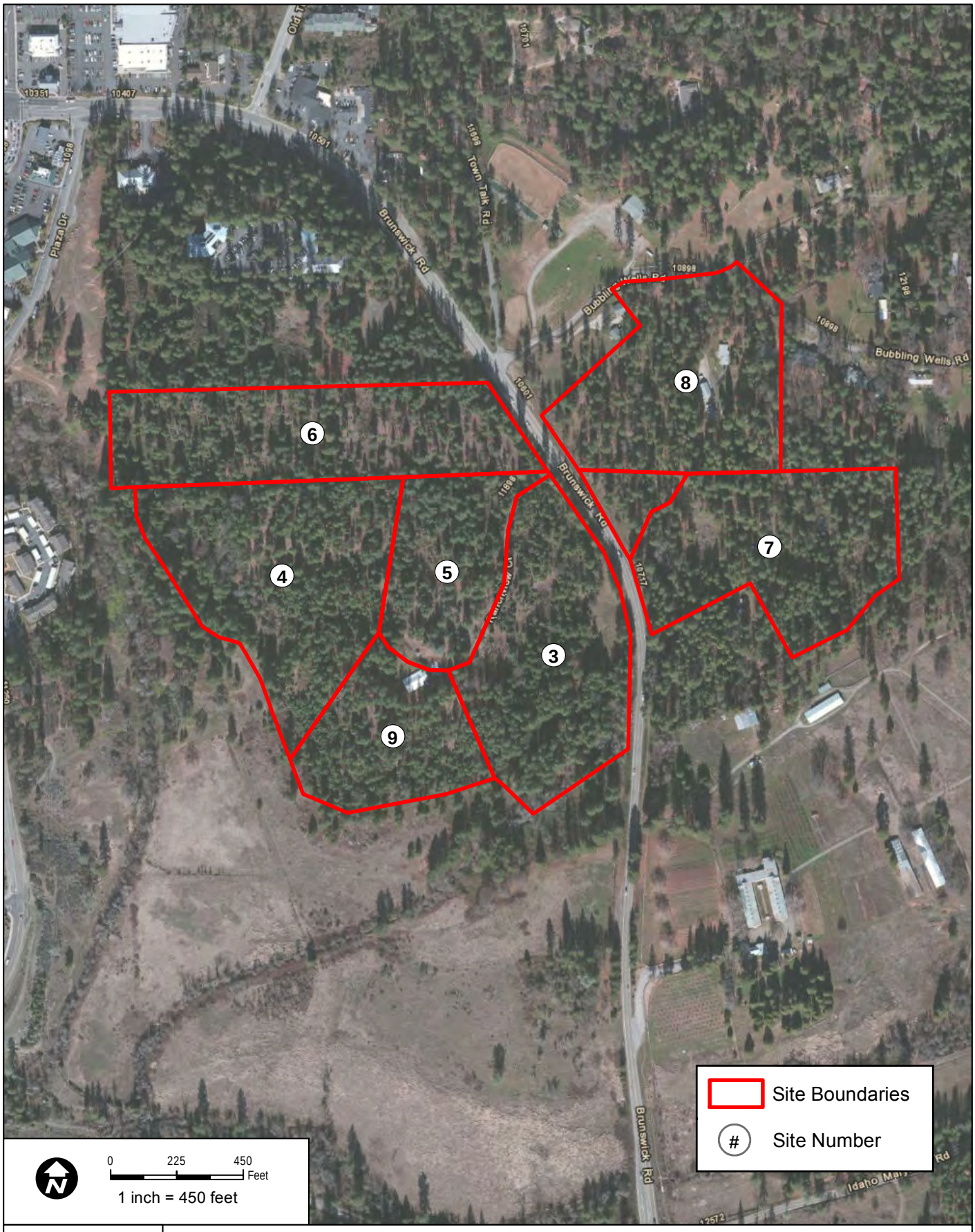
IMAGERY: ESRI World Imagery

FIGURE 2b

Aerial Photo

Grass Valley Site 2



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IMAGERY: ESRI World Imagery

FIGURE 2c

Aerial Photo

Grass Valley Sites 3-9

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IMAGERY: ESRI World Imagery

FIGURE 2d

Aerial Photo

Penn Valley Sites 10, 11

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IMAGERY: ESRI World Imagery

FIGURE 2e

Aerial Photo

Penn Valley Site 12

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IMAGERY: ESRI World Imagery

FIGURE 2f

Aerial Photo

Penn Valley Site 13

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IMAGERY: ESRI World Imagery

FIGURE 2g

Aerial Photo

Lake of the Pines Site 14

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IMAGERY: ESRI World Imagery

FIGURE 2h

Aerial Photo

Lake of the Pines Sites 15, 16

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IMAGERY: ESRI World Imagery

FIGURE 2i

Aerial Photo

Lake of the Pines Site 17

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IMAGERY: ESRI World Imagery

FIGURE 2j

Aerial Photo

Lake of the Pines Site 18

types, and hydrologic features, are provided in descriptions of the sites, figures, and in tables, below. Representative photos of several of the sites are provided in Figures 3a through 3c.

Proposed Project Description

To meet the County's unmet housing need as determined by the Regional Housing Needs Assessment performed by the California Department of Housing and Community Development, and as identified in the County's Housing Element, Nevada County needs to have enough vacant land zoned for high density residential (R3) development to accommodate an additional 1,270 low and very-low income housing units. For additional information, refer to the County's 2009-2014 Housing Element, which was adopted by the County in May of 2010.

The project proposes to rezone sufficient acreage to higher density residential, or the equivalent of higher density residential, to meet the minimum low and very low income requirements. The 18 sites under consideration are candidates for rezoning based on the outcome of preliminary constraints analyses and outreach to property owners. No development of the candidate sites is planned at the present time; future development would occur on these sites as market conditions allow and at the discretion of the individual property owners and developers.

METHODS

The objectives of this Biological Resources Inventory Report include the following:

- Identify and describe the biological communities present in the study area
- Record plant and animal species observed in the study area
- Evaluate and identify sensitive resources and special-status plant and animal species that could be affected by project activities
- Provide conclusions and recommendations

The following describes the methods employed for background data collection and field work conducted for this report.

Data Sources

For this assessment, RBF Consulting provided digital base files for each of the project parcels. The Nevada County GIS department provided the County's hydrologic layer and deer migration maps. Aerial imagery was obtained from Environmental Systems Research Institute (ESRI) world imagery data. Soils information was obtained from the SSURGO soils database and from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) and from NRCS's online Soil Data Mart (NRCS 2012). Habitats are classified according to the California Wildlife Habitat Relationships (CWHR) habitat classification scheme (CWHR 2013). Previous wetland delineation and biological inventory reports prepared for some of the sites and made available by the Nevada County Planning Department were also reviewed.

Special-Status Species Reports

The California Department of Fish and Wildlife (CDFW) maintains a database containing the locations of special-status species and sensitive biological communities. This database is known as the California Natural Diversity Data Base (CNDDB) and it can be searched for those species and habitats occurring on specific USGS quadrangles. Dudek queried the CNDDB for location records for special-status species known to occur in the region surrounding the project sites. Separate queries were performed for the Lake of the Pines sites and for those in the Penn Valley and Grass Valley areas to ensure that appropriate occurrence data for each of the site cluster areas was obtained. Quadrangles included in the query for the Lake of the Pines sites included Lake Combie, Auburn, Gold Hill, Chicago Park, Colfax, Greenwood, Grass Valley, Rough and Ready, and Wolf. Quadrangles included in the query for the Grass Valley and Penn Valley sites included Rough and Ready, French Corral, Nevada City, Smartville, Camp Far West, Oregon House, Grass Valley, Wolf, and Lake Combie. These quads were also included in a search of the California Native Plant Society (CNPS) inventory of rare plant species. Dudek biologists also reviewed the special-status species lists for the nine-quad areas created by the U.S. Fish and Wildlife Service (USFWS) and the CNPS Electronic Inventory of special-status plants in the region. The resulting lists of special-status species, and corresponding habitat requirements, were used to evaluate the potential for special-status species to occur within the study area. Appendix A includes the results returned from each database search as well as a table that evaluates the potential for each species to occur within the study area.

For the purposes of this report, special-status species are those that fall into one or more of the following categories, including those:

- listed as endangered or threatened under the federal Endangered Species Act (including candidates and species proposed for listing),
- listed as endangered or threatened under the California Endangered Species Act (including candidates and species proposed for listing),
- designated as rare, protected, or fully protected pursuant to California Fish and Game Code,
- designated a Species of Concern by CDFW,
- defined as rare or endangered under Section 15380 of the California Environmental Quality Act (CEQA), or
- Rank 1 or 2 species as designated by the CNPS Electronic Inventory of rare plant species.

Field Surveys

Each of the sites was visited by Dudek Senior Biologist Barry Anderson and Natural Resources Specialist Markus Lang. Reconnaissance-level surveys were conducted at each of the sites to determine habitat types, to record typical plant species, to identify potential constraints, and to determine if conditions are suitable to support special-status species. Reconnaissance surveys were conducted on May 9, May 14, and November 27, 2012. Focused rare plant surveys were not conducted, though surveys focused on habitats likely to support special-status plant species and, to the extent possible given the season the

survey was conducted, each plant taxon observed were identified to the taxonomic level necessary to determine rarity and listing status.

While no intensive survey of trees was conducted for the candidate sites as part of this inventory, Dudek field staff noted general tree species composition, estimated percent canopy cover for oak woodlands, and noted exceptionally large trees, as well as general size characteristics of oak woodlands on the subject sites. This information was used in the site constraints analysis provided to RBF Consulting and the County.

Appendix B is a list of plants and wildlife observed onsite for each of the three candidate site areas. Plant names follow *The Jepson Manual* (Baldwin et al. 2012). Standard field guides were used to identify wildlife.

SURVEY AND LITERATURE SEARCH RESULTS

Site Descriptions

Grass Valley Sphere of Influence

Sites 1 through 9 are located within the City of Grass Valley SOI (Figure 1), and are situated generally along the southern and western boundaries of the City. The area identified as the Grass Valley SOI is within unincorporated Nevada County and abuts the existing Grass Valley city limits. It has been identified in the City of Grass Valley General Plan as an area that could be annexed into the City in the future. Sites 1 and 2 are within areas of existing commercial development. Sites 3 through 9 are in a more transitional setting along Brunswick road where urban development along Sutton Way gives way to parcels that are undeveloped or sparsely developed with rural residential uses. Grass Valley area sites are shown on Figures 1a and 1b, Figures 2a through 2C, and in habitat maps provided in Appendix D.

Site 1

Site 1, a rectangular shaped parcel, is located on the southeastern side of McCourtney Road between Personeni Road and Genes Road. The site is generally undeveloped and nearly flat with only a gentle slope to the northwest. This site was previously cleared, graded and surfaced with gravel and is used for overflow parking during fairgrounds events. The entire site is in a disturbed condition and supports no natural plant communities. Vegetation onsite includes sparse weeds growing at the edge of the parking area and ponderosa pines (*Pinus ponderosa*) along the perimeter of the site. Stormwater from the site infiltrates or flows off of the site via sheetflow; no defined drainage features occur on the site. Land uses adjacent to the site include the Nevada County Fairgrounds to the north, commercial development on the southwest and northeast, and large lot single family residential to the southeast.

Site 2

Site 2 is located on La Barr Meadows Road just south of the La Barr Meadows Road/McKnight Way intersection. Site 2 is bound by commercial and residential land uses on the northwest and south, La Barr Meadows Road and State Route 49 on the southwest,

Site 10: View to north. Annual grassland community. Wetland swale is visible in foreground. Squirrel Creek riparian zone is tree band in background. Large valley oaks visible at left. Grassland community is contiguous with Site 11.

Site 12: Looking east along constructed drainage basin at north end of property. Annual grassland (mowed) is visible at right and is dominant community on this site. Landmark oaks were noted on this site.

Site 13: Looking south into property near shallow swale and within valley oak woodland. Oak woodlands occur within annual grassland community.

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Photo Dates: May 5, May 9, November 27, 2012

FIGURE 3a

Site Photos

Penn Valley Sites

Site 7: View to southeast into riparian area along eastern boundary of site. This stream flows into the site from Site 8 and joins with a larger tributary to Wolf Creek near the south-west corner of the parcel.

Site 7: Looking east across recently harvested area. Most conifers in upland areas were harvested from the site. Black oaks and madrones are scattered within harvested area.

Site 6: Looking east from near high point of site. Photo shows regeneration of area recently disturbed by timber operations in foreground; intact Sierran mixed conifer forest in background. Common species include ponderosa pine, douglas-fir, incense cedar, and sugar pine, as well as black oak.

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FIGURE 3b

Site Photos

Grass Valley Sites

Site 14: View to southwest into blue oak woodland.

Site 15: View to north into mixed oak woodland. Dominant species is black oak.

Site 17: View to southeast into site from Rosewood Court. Dense riparian vegetation associated with Ragsdale Creek abuts road edge. Oak woodland is visible in background.

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FIGURE 3c

Site Photos

Lake of the Pines Sites

the Empire Mine State Historic Park on the north, and a portion of the approximately 45-acre La Barr Meadows property on the east, of which Site 2 comprises the western portion.

Site 2 is undeveloped; however, past uses of Site 2 include hard rock gold mining and there is evidence of past soil disturbance on the site. A single dirt access road winds through the property, accessing La Barr Meadows Road at the southeast corner of the site and passes through the site generally from west to east into the Empire Mine property. The plant community throughout the site can best be described as Sierran mixed conifer forest, but it has been heavily modified by past timber harvest and/or fuels modification treatments resulting in an open canopy and sparse understory condition. Dominant trees onsite include ponderosa pine and California black oak (*Quercus kelloggii*), with subdominants being incense cedar (*Calocedrus decurrens*) and madrone (*Arbutus menziesii*). Dominant understory species include whiteleaf manzanita, hollyleaf redberry (*Rhamnus illicifolia*), pinemat manzanita (*Arctostaphylos nevadensis*), poison oak (*Toxicodendron diversilobum*), buckbrush (*Ceanothus cuneatus*) , toyon (*Heteromeles arbutifolia*), French broom (*Genista monspessulana*), and mountain misery (*Chamaebatia foliolosa*). The site slopes moderately to steeply to the southwest. A blackberry patch grows near the northernmost corner of the site frontage along La Barr Meadows Road and could indicate a small seep or seasonally wet area and should be further investigated prior to development. No other defined hydrologic features are onsite.

Sites 3 through 9

Sites 3 through 9 are located on Brunswick Road, north of Idaho Maryland Road and south of Bubbling Wells Road. Sites 3, 4, 5, 6, and 9 are on the west side of Brunswick Road and are accessed by Triple Crown Drive. Sites 3, 4, 5, 6, and 9 are contiguous parcels with an irregular shape. Site 9 is partially developed with a single family home and outbuildings on the northern portion of the site. All of the other sites in this cluster are undeveloped. Sites 7 and 8 are contiguous and irregularly shaped parcels located across Brunswick Road to the east of Sites 3, 4, 5, 6, and 9. These parcels are gently to steeply sloped.

Sites 3 through 6, and 9 are on a low, forested hilltop with variable stand density and several small openings in the canopy. Evidence of homeless encampments, including tents and other debris, is scattered throughout this cluster of sites. Some of these sites exhibit evidence of past mining activities, including mine waste piles and small excavations. The plant community on these sites is Sierran mixed conifer forest that has been modified in varying degrees by historical timber harvesting and forest fuels modification treatments. Dominant tree species onsite include ponderosa pine and douglas-fir (*Pseudotsuga menziesii*); subdominants include sugar pine (*Pinus lambertiana*), incense cedar, and madrone. California black oak are sparsely scattered under the conifers. Service-berry (*Amelanchier utahensis*), bracken fern (*Pteridium aquilinum*), whiteleaf manzanita (*Arctostaphylos viscida*), French broom, poison oak, Himalayan blackberry, and creeping snowberry (*Symphoricarpos mollis*) are well represented in the understory. A perennial tributary to Wolf Creek bisects the southern portion of Site 3 and is the only defined hydrologic feature on any of these sites. Riparian vegetation is associated with this stream. Representative species in the riparian zone include white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiocarpa*), Himalayan blackberry, California wild rose (*Rosa californica*), cutleaf blackberry (*Rubus laciniatus*), and California blackberry

(*Rubus ursinus*). Surrounding land uses include undeveloped land, rural residential, and commercial development off of Sutton Way west of this cluster of sites.

Site 3 contains an abandoned wood structure in the eastern, downslope portion of the site. Except for a narrow riparian strip along the site's southern boundary, the site is Sierran mixed conifer forest. A small meadow occurs in a forest clearing in the east-central portion of the site and contains non-native upland species of grasses and forbs. The site slopes moderately to the southeast. An unnamed perennial tributary to Wolf Creek bisects the parcel along its southernmost boundary and supports a riparian vegetation community. Brunswick Road forms the eastern site boundary; rural residential and undeveloped land is adjacent to this site to the west and the south.

Sites 4 is undeveloped and supports a Sierran mixed conifer forest community. The site slopes moderately to steeply to the southwest. No notable hydrologic features occur on this site, though a broad and shallow swale occurs in the southern half of the parcel. This swale follows the slope to the southwest. Aerial imagery and topography indicates that surface water may be present at the base of this swale near the western site boundary. This area was not investigated due to steep slopes and dense brush. If hydrology is present in this area it would represent a negligible constraint to site development. Adjacent land uses include rural residential and undeveloped parcels. Commercial development along Sutton Way is less than 300 feet west of the western site boundary of this parcel.

Site 5 is an undeveloped property that is completely surrounded by other properties within the study area (Sites 3, 4, 6, and 9). This site is situated on a low hilltop knoll and supports a Sierran mixed conifer forest type. The site slopes in all directions away from the top of the knoll. No defined hydrologic features occur on this site. The northeast corner of this site abuts Brunswick Road.

Site 6 is an undeveloped parcel that supports Sierran mixed conifer forest that has been heavily modified by thinning activities. Access roads occur throughout the site and appear to have at one time been surfaced with gravel. Haul roads, cut stumps, and tree and shrub stature, as well as a lower stand density and canopy closure than the other sites in this area indicate that the forest on Site 6 was thinned relatively recently. The understory has been thinned, likely during harvesting, and soils exhibit evidence of disturbance associated with timber operations. Seedling and sapling-sized California black oak are sparsely distributed in open, thinned areas. Open areas recently disturbed by forest thinning support grasses and herbaceous species, including *Iris sp., Fritillaria sp.,* and *Calochortus sp.* Site 6 occurs on a small knoll and slopes gently in all directions away from the high point at the center of the site. No defined hydrologic features occur on Site 6. Adjacent land uses include rural residential to the north, Brunswick Road to the east, undeveloped forest to the south, and commercial development along Sutton Way to the west.

Site 7 abuts the east side of Brunswick Road across from the cluster of candidate sites abutting Brunswick Road from the west. The site is accessed via a culverted crossing of a small drainage, and slopes gently to moderately toward Brunswick Road to the southwest. Small shed structures and abandoned equipment are scattered throughout upland portions of this site and there is evidence of historical grading on the site. The majority of the site supports Sierran mixed conifer forest, albeit heavily modified by timber operations. The site is substantially disturbed as a result of timber harvesting conducted in 2012, which

cleared most of the understory vegetation and merchantable timber from the site. Trees remaining on the site are mostly madrone and California black oak. . Well-developed riparian corridors associated with perennial tributaries to Wolf Creek occur along the western and southern site boundaries. Shallow swales that could be the result of past mining disturbance also occur on this site. Several small wetland seeps are scattered around the site and support hydrophytic species. The source of the hydrology in these wet areas is unclear. Surrounding land uses include agricultural development and rural residential to the south, Brunswick Road to the west, and rural residential to the north and east.

Site 8 abuts the northern parcel boundary of Site 7 and consists of two separate parcels. This site is partially developed with two existing structures on site, one single family residence and one outbuilding. The existing development is accessed from Bubbling Wells Road via a gravel surfaced road that crosses a small perennial drainage over culverts. A secondary access to the site is provided by a gate off of Brunswick Road that accesses a dirt ranch road that crosses the same drainage over culverts. The site shows evidence of past mining disturbance in the form of waste piles and small depressions where soil has been excavated. The majority of the site is Sierran mixed conifer forest that has been thinned and in which the understory has been largely cleared. Ponderosa pine is the dominant species and some large specimens grow on this property. An intermittent stream runs parallel to Brunswick Road along the southwestern boundary of the site and supports sparse riparian vegetation and a grouping of willows at the northern parcel boundary. A perennial stream runs in a narrow ditch that bisects the site generally north-south and accepts runoff from a small intermittent tributary ditch to the west. This stream supports riparian vegetation, including white alder, willows, and Himalayan blackberry within a corridor that ranges from about 10 feet to up to 100 feet wide. Other hydrologic features include small depressions from past mining activities in which wetland plant species were observed. These features could be jurisdictional pursuant to Section 404 of the Clean Water Act. The site slopes gently to the west and the area between the perennial and intermittent streams is nearly level. Adjacent land uses include rural residential to the north and east, Brunswick Road to the west, and Site 7 to the south.

Site 9 is contiguous with Sites 3, 4, and 5 and contains one existing residence in the northern half of the site. The site slopes moderately to the south. The site supports Sierran mixed conifer forest. The forest has been thinned and the understory cleared for defensible space within an approximately 100 foot radius of the residence. The remaining forest has a higher stem density and a more developed understory, though it has been harvested in the past. One patch of blackberry grows incongruously southeast of the residence and could be associated with the septic leach field. No defined hydrologic features occur onsite. Vacant land occurs on all sides of this parcel. The forest onsite transitions to open annual grassland just beyond the southern boundary of the parcel.

Penn Valley Area

The community of Penn Valley is in unincorporated western Nevada County, approximately six miles west of the City of Grass Valley. Penn Valley has grown in recent years with several commercial and community development project. These sites are at a lower elevation than those in the Grass Valley area, approximately 1,500 feet, and occur

within areas of existing development. Penn Valley area sites are shown on Figure 1c and Figures 2d through 2f, and in habitat maps provided in Appendix D.

Sites 10 and 11

Sites 10 and 11 are undeveloped contiguous parcels located in the Penn Valley Area south of State Route 20, on the north side of Penn Valley Drive, east of the intersection with Broken Oak Court. Site 10 is undeveloped and nearly level with only a gradual slope to the northeast toward Squirrel Creek. Small, intermittent drainages meander across the site and join with an intermittent stream that flows in an eroded and incised channel along the western boundary of the property. Stormwater is delivered onto the site via three 36-inch culverts under Penn Valley Drive and a large culvert discharging to the central west portion of the site from the adjacent self-storage facility. Runoff from Site 11 is also delivered onto the site from the east.

Site vegetation consists primarily of non-native annual and perennial pasture grasses, though wetland species and blackberry grow within the drainages. Common species in the grassland community include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), yellow star-thistle (*Centaurea solstitialis*), wild carrot (*Daucus carota*), bull thistle (*Cirsium vulgare)*, orchard grass (*Dactylis glomerata*), and Italian ryegrass (*Festuca perennis*). Common species observed in drainages onsite include rushes (*Juncus xiphioides*, *Juncus sp.*) and sedges (*Carex sp.*), Himalayan blackberry, curly dock (*Rumex crispus*), English plantain (*Plantago lanceolata*), Harding grass (*Phalaris aquatic*a), mugwort (*Artemisia douglasiana*), and willowherb (*Epilobium densiflorum*). Squirrel Creek bisects the northern end of the site and supports a foothill riparian plant community. Species representative of the riparian community along Squirrel Creek include valley oak (*Quercus lobata*), Oregon ash (*Fraxinus latifolia)*, white alder, willows, cherry plum (*Prunus cerasifera*), and blue elderberry (*Sambucus nigra ssp. caerulea*). Several elderberry bushes, the unique habitat of the valley elderberry longhorn beetle, were noted growing along the banks of Squirrel Creek. Adjacent land uses include Site 11, the post office, and the Creekside Village mobile home park to the east, a self-storage facility and vacant land on the west, and wastewater percolation ponds to the north.

Site 11 is undeveloped and supports annual grassland. The site has a mild slope to the west. Three large valley oaks with a dbh of greater than 36 inches grow around the perimeter of this site and qualify as Landmark Oaks. An abandoned concrete house foundation is located near the eastern boundary of the site and a few ornamental trees grow in this area. A wetland swale receives stormwater runoff from the post office development south of the site and delivers it west into the wetland swale complex on Site 10. Adjacent land uses include a mobile home park to the east and north, Site 10 to the west, and commercial development to the south.

Site 12

Site 12 is southwest of Sites 10 and 11 across Penn Valley Road on Broken Oak Court. This site is undeveloped and generally flat. An unpaved drive traverses the northern part of the site and appears to provide access to recently developed areas west and north of the site. This site supports an annual grassland community. Three valley oaks with diameters in excess of 36 inches occur on this site and qualify as Landmark Oaks. Two of these large

trees are in fair to good condition; one is in declining health and has dropped most of its large limbs. A man-made drainage basin with wetland species is present on the north end of the site and generally follows the northern boundary . It appears maintenance of this area includes periodic vegetation removal. This feature appears to be isolated and to serve as a retention basin for stormwater runoff from the residential properties north of the site. The only other hydrologic feature is a small concave depression in the north central portion of the site that supports some hydrophytic species that are indicative of wetland conditions. Adjacent land uses include multifamily residential development across Broken Oak Court to the east and south, and small lot and rural residential development to the north and west.

Site 13

Site 13 is an undeveloped parcel bordered by State Route 20 to the north, residential development to the east, Squirrel Creek, wastewater percolation ponds, a mobile home park to the south, and undeveloped land to the west. Vegetation communities onsite include annual grassland, valley oak woodland, Sierran mixed conifer, and foothill riparian. Valley oaks occur sparsely throughout the annual grassland community and likely were more uniformly distributed on the site prior to historical clearing activities. Two areas of the valley oak woodland vegetation type are mapped on the site. The eastern woodland area is comprised of a mix of oak species including interior live oak (*Quercus wislizenii*), valley oak, and blue oak (*Quercus douglasii*). Several large oak trees occur on this parcel and likely qualify as Landmark Oak trees. The oak woodland community intergrades with the Sierran mixed conifer habitat type at the site's eastern margin where some valley oaks and interior live oaks grow in a forest dominated by ponderosa pine with a subcanopy of scattered California black oaks. A remnant walnut orchard grows in the southeastern corner of the site. Foothill riparian vegetation occurs where Squirrel Creek runs through the southeast portion of the site. Species representative of this riparian zone include valley oak, white alder, willow, blackberry, and wild grape (*Vitis californica*)(also see riparian species for Site 10). Elderberry shrubs were observed near Squirrel Creek.

Topography onsite is gently rolling with a slight slope toward Squirrel Creek to the south. A wetland swale runs in a general north-south alignment within the western band of valley oak woodland and supports some wetland plant species. A small intermittent stream enters the site at the northern boundary near the edge of pavement on SR 20 and bisects the site, splitting into at least two shallowly incised channels through most of the site, and connects to Squirrel Creek at the south end of the site. Vegetation in this area is dominated by a narrow band of blackberry bushes that grow under a dense canopy of mixed oak species. Hydrophytic species grow within the intermittent stream channel in places. The only other hydrologic feature onsite is a small depression in the southwest corner of the site that supports blackberry bushes. Circular wastewater percolation ponds are located just south of Site 13, near Squirrel Creek. All vegetation is cleared around the ponds, which are surrounded by an earthen berm. Access to Site 13 from the south is provided by a concrete stream crossing over Squirrel Creek.

Lake of the Pines

Sites 14 through 18 are located near Lake of the Pines, which is an unincorporated and gated community located within the southern portion of Nevada County approximately 12

miles north of Auburn. Sites 14, 15, and 16 are situated near the Combie Road / State Route 49 intersection. Site 17 is located at the southeast corner of the Rosewood Road / Combie Road intersection and Site 18 is located northeast of the Table Meadows Road / Combie Road intersection. Land uses surrounding these parcels include commercial, rural and medium-density residential, undeveloped land, and golf course facilities. Perennial Ragsdale Creek bisects Site 17 and is the only defined hydrologic feature on these sites. Lake of the Pines area sites are shown on Figure 1d and Figures 2g through 2j, and in habitat maps provided in Appendix D.

Site 14

Cameo Drive forms the northern boundary of this undeveloped site, while State Route 49 forms the western boundary of this site. This site slopes moderately to the south and west. Adjacent land uses include rural residential to the north and east, a fire station to the south, and State Route 49 to the east. This site supports an oak woodland plant community comprised of a nearly homogenous stand of blue oaks on most of the site, intergrading with an area of mixed blue oaks and interior live oaks on the steeper western portion of the site. Some foothill pine (*Pinus sabiniana*) also occurs within the mixed oak woodland area. The mixed oak area is densely stocked with an understory dominated by poison oak, while non-native annual grasses, including soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and dogtail grass (*Cynosurus echinatus*) make up the understory under blue oaks on the remainder of the site. Canopy cover is 80 to 90 percent over most of the site and approaches 100 percent within the mixed oak woodland area. The oak woodland onsite qualifies as a Landmark Grove per section L-II 4.3.15 of the Nevada County Zoning Ordinance. No defined hydrologic features occur on the site.

Sites 15 and 16

Sites 15 and 16 are contiguous parcels located southeast of the intersection of State Route 49 and Combie Road. Access to these sites from State Route 49 is via Woodridge Drive, which runs along the boundary of the two parcels and terminates under powerlines near a small wastewater facilities building on Site 16. The site is moderately to steeply sloped to the northeast and east. Land uses surrounding these parcels include vacant land and a trailer park to the north, vacant land and a storage facility to the west, and rural residential to the south and east. Site 15 is partially developed with rural residential uses and a horse corral, while Site 16 contains a small shed-like structure housing wastewater facilities and an associated leach field downslope of this building. Undeveloped portions of Site 15 are characterized by a montane hardwood woodland community dominated by California black oak. Sub-dominant species include interior live oak and foothill pine. Trees are closely spaced and generally of small diameter. Canopy cover ranges from 80 to 100 percent and the woodland on this site qualifies as a Landmark Grove. Dominant species in the understory of the woodland area include poison oak, whiteleaf manzanita, hoary coffeeberry (*Frangula californica ssp tomentella*), and small diameter trees. No defined hydrologic features were noted on this site.

Site 16 is undeveloped, except for a wastewater disposal field and associated groundwater monitoring well network and pump building. The site slopes steeply to the west along the access road, but is more moderately sloped toward the interior and eastern portions of the site. The western half of this site supports a montane hardwood woodland community

dominated by interior live oak with scattered California black oaks. A mixed chaparral community occurs in the central portion of the site, likely the result of defined past disturbances on this parcel. Dominant species observed in this small chaparral community include whiteleaf manzanita, buckbrush, yerba santa (*Eriodictyon californica*), coyote brush (*Baccharis pilularis ssp. consanguinea*), and coffeeberry. The remainder of the site supports a low density mixed blue-oak foothill pine community. On Site 16 this habitat is characterized by a low density mix of tree species interspersed with groups of shrubs and non-native annual grasslands. Representative tree species in this community include interior live oaks, foothill pine, and ponderosa pine. Representative shrubs include whiteleaf manzanita and poison oak. No defined hydrologic features were noted on Site 16.

Site 17

Site 17 is an undeveloped, densely vegetated parcel. The site slopes moderately to the north down to Ragsdale Creek, and bisects the site east-west along the site's northern boundary and supports a dense foothill riparian corridor. Ragsdale Creek is the only substantial hydrologic feature on the site. Himalayan blackberry, willows, and valley oak are dominant species in the riparian corridor on this site. The remainder of the site supports a densely wooded montane hardwood community of mostly smaller diameter trees. California black oak is the dominant species in this community, with interior live oak as a subdominant species and valley oak intergrading along the riparian corridor. Canopy cover of this woodland is 90 – 100 percent, qualifying the woodland onsite as a Landmark Grove. Scattered ponderosa pine and foothill pine also occur. Site 17 is bound by single family residential property on the south, Rosewood Road and undeveloped land to the east, undeveloped land to the west, and commercial development across Combie Road to the north.

Site 18

Site 18 is adjacent to the Hole 6 green of the adjacent Darkhorse Golf Course, which abuts the site on the north and east. Single family residential development and open space are east and south of the site. A small knoll occurs within the southern half of the site and the site slopes moderately away from this high point in all directions. A rock outcrop occurs at the high point of the site. Vegetation onsite is split between two plant communities. The southern half of the site supports a montane hardwood woodland community in which blue oak is the dominant species, and interior live oak and California black oak also occur. Trees on this site are generally of larger diameter and well-spaced. Some large diameter blue and black oak specimens grow on this property and likely meet County criteria for Landmark Oak status. The canopy cover in this oak woodland is 80 to 90 percent, which exceeds the County's criteria for a Landmark Grove. Understory throughout this site is primarily non-native grasses and forbs. Species recorded in the understory include gray ripgut brome, dogtail grass, blue wildrye (*Elymus glaucus*), mule ears (*Wyethia helenoides*), whiteleaf manzanita, arrowleaf balsamroot (*Balsamorhiza sagittata*), crimson clover (*Trifolium incarnatum*), and yellow star tulip (*Calochortus monophyllus*). The northern half of the site supports a Sierran mixed forest community and is dominated by well-spaced, mature ponderosa pines. No significant hydrologic features occur on this site, though a small ephemeral drainage occurs in the northwest portion of the property. Stormwater entering this drainage traverses through the site to the northeast.

Soils

Seventeen soil units are mapped within the sites under consideration. Soil types mapped on each of the sites are shown in Table 3, below. Three of these soils meet hydric criteria: Alluvial land, loamy; Alluvial land, clayey; and Placer Diggings. These soils typically occur in drainageways, depressions, and floodplains. No serpentine or gabbro soils (which are known to support special status plant species) occur on any of the candidate sites. Appendix C contains soil maps for each of the sites.

Table 3
Study Area Soils

Site	Soils Unit
1	Sites loam, 2 to 9 percent slopes
2	Alluvial land, clayey Musick sandy loam, 5 to 15 percent slopes Musick sandy loam, 15 to 50 percent slopes Sites loam, 15 to 30 percent slopes Sites very stony loam, 15 to 50 percent slopes
3	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes Alluvial land, clayey
4	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes Alluvial land, clayey
5	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes
6	Sites very stony loam, 2 to 15 pe rcent slopes Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes
7	Sites loam, 15 to 30 percent slopes Alluvial land, clayey Sites loam, 9 to 15 percent slopes
8	Alluvial land, clayey Mariposa-Rock outcrop complex, 2 to 50

	percent slopes Sites loam, 2 to 9 percent slopes Sites loam, 9 to 15 percent slopes Sites loam, 15 to 30 percent slopes
9	Sites loam, 2 to 9 percent slopes Sites loam, 15 to 30 percent slopes
10	Alluvial land, loamy Sierra sandy loam, 2 to 9 percent slopes
11	Alluvial land, loamy Sierra sandy loam, 2 to 9 percent slopes
12	Sierra sandy loam, 2 to 9 percent slopes
13	Ahwahnee sandy loam, 2 to 9 p ercent slopes Aiken loam, 9 to 15 percent slopes Alluvial land, loamy Placer diggings
14	Boomer loam, 5 to 15 percent slopes Boomer-Rock outcrop complex, 5 to 30 percent slopes
15	Boomer loam, 5 to 15 percent slopes Boomer-Rock outcrop complex, 5 to 30 percent slopes
16	Boomer-Rock outcrop complex, 5 to 30 percent slopes
17	Boomer loam, 5 to 15 percent slopes Boomer-Rock outcrop complex, 5 to 30 percent slopes
18	Auburn-Argonaut complex, 2 to 15 percent slopes Boomer loam, 5 to 15 percent slopes Rescue-Rock outcrop complex, 5 to 30 percent slopes Sites very stony loam, 15 to 50 percent slopes

Hydrology/Potential Wetlands and waters of the U.S. and California

Hydrologic features on the study sites include perennial, intermittent, and ephemeral streams, wetland swales, seeps, and seasonally wet depressions, as described in descriptions of the sites above. The primary perennial drainages associated with the study sites are Squirrel Creek (Sites 10 and 13), Ragsdale Creek (Site 17), and perennial tributaries to Wolf Creek (Sites 3, 7, 8). Ragsdale Creek flows into Wolf Creek approximately 1.4 miles west of Site 17. Squirrel Creek is a tributary to Deer Creek, which flows into the main stem of the Yuba River downstream of Englebright dam. The Yuba River eventually delivers flows to the Feather River near Yuba City. Wolf Creek drains to the Bear River, which flows into Camp Far West Reservoir before reaching the Feather River south of Yuba City. The Feather River is a tributary to the Sacramento River. Sites clustered in Penn Valley are in the Upper Yuba watershed (HUC 18020125), while sites in the Grass Valley and Lake of the Pines area are within the Upper Bear River watershed (HUC 18020126).

Table 4, below, provides a summary of the features identified on each of the sites. Maps included in Appendix D show the general location of these features. No formal wetland delineation was conducted as part of this analysis and the locations and areas of all hydrologic features identified in tables and figures are approximate and provided only to assist in a preliminary analysis of constraints on each site. A revised wetland delineation was prepared in 2010 for the Penn Valley Oaks project site, which includes Sites 10 and 11, and was submitted to the Corps for verification. This delineation revised and updated a delineation prepared for the sites and previously verified by the Corps in 2000 and 2001. The 2010 delineation mapped a total of 1.02 acres of wetlands and other waters of the U.S. on Sites 10 and 11, including 0.42 acres of palustrine emergent wetlands and 0.60 acres of other waters, including Squirrel Creek and a small tributary. It is unknown whether the 2010 delineation has been verified by the Corps.

A formal wetland delineation verified by the Corps is required to ascertain the extent of waters of the U.S. and the actual area subject to Corps jurisdiction under Section 404 of the Clean Water Act. Any impact to waters of the U.S. requires a permit from the Corps issued under Section 404 of the Clean Water Act. Section 401 of the Clean Water Act requires the State to provide a water quality certification to condition the issuance of federal permits under Section 404 to ensure protection of State waters. The Regional Water Quality Control Board (RWQCB) has jurisdiction for the issuance of 401 water quality certifications.

An area that exhibits a predominance of hydrophytic vegetation, where associated with a stream or pond, may be regulated by the Regional Water Quality Control Board as waters of the State of California. In some cases the Regional Board will take jurisdiction over areas not regulated by the Corps, such as isolated hydrologic features.

The CDFW regulates activities affecting the bed, bank, or channel of creeks, rivers, lakes, ponds, and other water bodies pursuant to Section 1602 of the California Fish and Game Code. This permit is commonly called a Streambed Alteration Agreement and typically specifies measures to mitigate the impacts of a proposed project, including compensatory mitigation or project design modifications.

Table 4
Hydrologic Features

Site	Feature Type	Estimated Size (Acres/Linear Ft.)	Location
1	--	--	--
2	potential seep	0.14/--	southwest margin of site
3	perennial stream	--/448	southeast site boundary
4	--	--	--
5	--	--	--
6	--	--	--
7	perennial stream	--/462	southeast site boundary
	perennial stream	--/391	western portion of site
	intermittent stream	--/96	bisects western portion of site
	potential seep	0.02/--	central portion of site - scattered
	wetland swale	0.06/--	eastern third of site
	wetland swale	--/356	southeast corner, area not defined
8	intermittent stream	--/538	southwest site boundary
	intermittent stream	--/277	northwest corner
	wetlands	<0.10/--	northwest corner and scattered in western third of site in past mining disturbance areas
	perennial stream/vegetated ditch	--/932	bisects site north to south; has riparian corridor up to 100 feet wide
9	--	--	--
10	isolated wetland	0.17/--	southern half of site
	wetland swale	0.53/--	southern half of site
	intermittent stream	--/755	western site boundary
	perennial stream (Squirrel Creek)	--/323	bisects north end of site
11	seasonal wetland	0.27/--	southwest corner of site
12	constructed drainage basin	0.11/--	northern site boundary.

	seasonal wetland	0.04/--	north-central portion of site
13	wetland	0.01/--	southwestern corner of site
	intermittent stream	--/646	bisects center of site north-south
	intermittent stream	--/407	bisects center of site north-south, channel splits from other intermittent channel
	wetland swale	0.16/--	center of site, north of offsite wastewater ponds
	perennial stream (Squirrel Creek)	--/248	southeast corner of site
14	--	--	--
15	--	--	--
16	--	--	--
17	perennial stream (Ragsdale Creek)	--/390	bisects site E-W and has wide associated riparian zone
18	--	--	--

Biological Communities

Seven habitat types were mapped within the 18 candidate sites: disturbed, annual grassland, blue oak woodland, montane hardwood, Sierran mixed conifer, foothill riparian, and mixed chaparral. The Northern Sierra Nevada Foothills Vegetation Project (NSNFVP)(Menke et al 2011) mapped plant communities in the foothills and assigned classifications according to the Manual of California Vegetation 2nd Edition (MCVII). Mapping included the rezone candidate sites under consideration in the Penn Valley and Lake of the Pines area. Review of the NSNFVP mapping and accompanying report determined that vegetation classifications and mapping are particularly unreliable as they apply to mixed conifer and California black oak communities. While the mapping and habitat classifications assigned by the NSNFVP were consulted, we decided conditions on each of the sites were better represented by assigning classifications according to the CWHR habitat classification scheme. Habitat maps included in Appendix D use the CWHR system to map habitat types for each of the candidate sites. Table 5 provides the area of each habitat type mapped within each project site. Figures 3a through 3c provide representative photographs of habitat conditions encountered. Each of these biological communities is described in greater detail below Table 5.

Table 5
Vegetation Communities*

Site	Disturbed (Acres)	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
1	1.15	-	-	-	-	-	-	- -	
2	-	-	-	-	-	10.48	-	- -	
3	-	-	-	-	-	9.28	0.83	-	-
4	-	-	-	-	-	11.48	-	- -	
5	-	-	-	-	-	5.61	-	- -	
6	-	-	-	-	-	10.06	-	- -	
7	-	-	-	-	-	8.23	1.37	-	-
8	-	-	-	-	-	11.00	1.48	-	-
9	-	-	-	-	-	5.81	-	- -	
10	-	5.55	-	-	-	-	1.03	-	-
11	-	3.08	-	-	-	-	-	- -	
12	-	4.56	-	-	-	-	-	- -	
13	-	10.81	6.52	-	-	1.29	1.31	-	-
14	-	-	-	5.13 -		-	-	-	-
15	1.37	-	-	-	3.86	-	-	- -	
16	-	-	-	-	5.25	-	-	1.68	11.93
17	-	-	-	-	1.43	-	1.04	-	-
18	2.42	-	-	-	4.82	3.80	-	- -	
	Total Acreage								
	4.94	**24**	**6.52**	**5.13**	**15.36**	**77.04**	**7.06**	**1.68**	**11.93**

*Acreage total for all habitats on a parcel may vary slightly from County parcel size data due to mapping.

Disturbed/Developed

This is not a CWHR habitat classification, but is applied to developed or substantiaqlly disturbed areas where vegetation cover is largely absent. This designation is applied to one Nevada County property. It is best described as a habitat that has severe disturbance, such as grading or other activities that removes much of the vegetation. Plant species that do occur in these areas typically occur around the edges of cleared or developed areas and are non-native, ornamental or ruderal species that are adapted to high levels of disturbance.

Site 1 is primarily a disturbed habitat.

Annual Grassland

Annual grasslands are dominated by annual, non-native grasses and forbs. Common species include bromes (*Bromus* spp.), Italian ryegrass, wild oat, orchard grass, Mediterranean barley, filarees (*Erodium* spp.), and others. Nevertheless, native species do occur in this grassland, including bulbs, legumes, and some grasses, including blue wildrye. Ruderal species often occur scattered at grassland edges and in areas that have been historically disturbed and include yellow star-thistle, wild carrot, and hedge parsley (*Torilis arvensis*). All of the grass species are dormant during the dry summer months.

Sites 10, 11, 12, and 13 are grasslands or have large grassland components.

Valley Oak Woodland

Valley oak is the dominant species in this habitat, though other oak species may also occur. Valley oaks in this habitat type grow in a mosaic with annual grasslands and more dense groupings of forest-like stands. Dispersed stands are generally on upland soils while a more dense woodlands generally are along streams or on more fertile soils. Shrubs and grasses make up the understory, with a more dense shrub layer typically occurring along drainages. Poison oak, toyon, and coffeeberry are common understory species. On the candidate sites, understory species in this habitat type are non-native grasses, poison oak, Oregon ash, and Himalayan blackberry. Associate trees include blue oak and interior live oak.

Site 13 supports a valley oak woodland community in groupings among non-native annual grassland.

Blue Oak Woodland

The dominant species in blue oak woodland is the blue oak. Other trees found in blue oak woodland include interior live oak, California buckeye (*Aesculus californica*), and foothill or gray pine. The understory in blue oak woodlands is often herbaceous, but can include a number of shrubs. Non-native grasses form the most common understory plants, but buckbrush, poison oak, and white-leaf manzanita may be common.

Site 14 supports blue oak woodland with a small patch of interior live oak on the west side.

Montane Hardwood

Montane hardwood habitats can have a variety of tree species depending on the elevation and location in the state. The dominant species are hardwood trees, mostly oaks. Conifers may be present in small amounts and vary by location, but typically make up less than a third of the trees in this community. On the Nevada County sites, Montane Hardwood is dominated by interior live oak, California black oak, and blue oak. Ponderosa pines and foothill pines may be present in this community. Montane Hardwood habitats often have a shrubby understory because of the lack of fire.

Sites 15, 16, and 17 support Montane Hardwood habitat units.

Sierran Mixed Conifer

Sierran Mixed Conifer habitat supports a variety of coniferous tree species and often includes several hardwood species. On the Nevada County sites this habitat is dominated by ponderosa pine, but incense cedar, Douglas-fir, and sugar pine are also present on most sites. Hardwoods include California black oak and madrone. The understory is often shrubby and common species are toyon, white-leaf manzanita, and coffeeberry (*Frangula californica*). Many of these shrubs would be absent in the presence of periodic fires. Many of these sites exhibit evidence of recent or historic timber harvesting or fuels reduction treatments that have reduced tree stem density or cleared the understory shrub layer.

Sites 13, 2, and 3 through 9 support Sierran Mixed Conifer habitat.

Foothill Riparian

Foothill Riparian habitat occurs along creeks, streams, and rivers in the foothills of California. This habitat is composed of hardwood species that include Fremont cottonwood (*Populus fremontii*), white alder, and willows (*Salix* spp.). The willows may be trees or shrubs, depending on the level of disturbance in the stream system. Valley oaks are common along the edges of some riparian habitats. American dogwood or red osier (*Cornus sericea*), California rose, and Himalayan blackberry are common shrubby species.

Sites 3, 7, 8, 10, 13, and 17 have a riparian component embedded in the primary habitat.

Mixed Chaparral

Mixed chaparral supports a variety of shrub species that typically grow in dense groupings. In the foothills area this community sometimes is early successional on recovering disturbance areas within other communities. This community was observed on one of the study area parcels in the Lake of the Pines area. Species that occur in the mixed chaparral community on this parcel include whiteleaf manzanita, buckbrush, yerba santa, coyote brush, and hoary coffeeberry.

Site 16 supports a small unit of this habitat type.

Blue Oak-Foothill Pine Woodland

This habitat type differs from blue oak woodland by having a greater proportion of foothill pines intermixed with blue oak and interior live oak. The blue oak-foothill pine woodland community occurs on one of the candidate sites in the Lake of the Pines area. This habitat typically has mixed species tree and shrub groupings with annual grassland in small openings. Canopy cover is generally low and trees are mature. Overstory is dominated by foothill pine and blue oak, but interior live oak and California buckeye may also be present. The shrub layer, where present, is comprised of white-leaf manzanita, poison oak, and buckbrush. Non-native annual grasses and forbs occur in a small-scale mosaic of openings.

Site 16 supports a small area of the blue oak-foothill pine community.

Special-Status Species

The California Natural Diversity Data Base (CNDDB) search recorded occurrences of 14 special-status plant species and 14 special-status wildlife species within the 9-quad regions

searched around the Lake of the Pines and Penn Valley and Grass Valley site clusters. One additional plant species was added from the CNPS list for the 9-quad search area and two additional wildlife species were added from the list returned by the USFWS database search for Nevada County. Field surveys and the best professional judgment of Dudek biologists were used to further refine this list of species based on habitat requirements and occurrence location data.

Several of the special-status species of plants that are known to occur near some of the sites are known only from serpentinite or gabbro soil units, which do not occur on any of the candidates sites. The USFWS list for Nevada County includes species that only occur at elevations far below the study area like Delta smelt, and that occur only at higher elevation in the Sierra Nevada or east of the Sierra crest, such as Lahontan cutthroat trout,. Species known only from much lower or higher elevations are not considered in this analysis. Of the 31 species considered, four plants and seven wildlife species have some potential to occur on the project site and are included in Table 6. One additional plant species, Pine Hill flannelbush, is included in Table 6 because it is federally listed as endangered and there are occurrences in proximity to some of the sites near Grass Valley. Similarly, though California red-legged frog is considered unlikely to occur, it is included in the table because there are occurrences of this species in the project region and it is a listed species. Complete lists of all special-status plant and wildlife species identified by database queries for the project region, as well as a discussion of habitat requirements and potential to occur on the candidate sites, are presented in Appendix A. A discussion of those species considered possible or likely to occur within the study area is provided following the table.

Table 6
Special-Status Species that Could Occur Within the Candidate Sites

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Plants					
Western viburnum *Viburnum ellipticum*	none	none	2.3	Chaparral; cismontane woodland; lower montane coniferous forest. North facing, shaded slopes.	Possible - Suitable habitat on several forested sites. (Sites 3, 4, 7, 8, 9, 17 most suitable)
Brownish beaked-rush *Rhynchospora capitellata*	none	none	2.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest / mesic; elevation range 455 - 2000 meters (approx. 1,493 - 6,652 feet).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. (Sites 3, 7, 8, 10, 11, 12, 13, 17)
Finger rush *Juncus digitatus*	none	none	1B.1	Vernal pools (cismontane woodland; lower montane coniferous forest). 660-790 meters.	Possible - Wet, open areas on several sites provide marginally suitable habitat. (Sites 3, 7, 8, 10, 11, 12, 13)

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Scadden Flat checkerbloom *Sidalcea stipularis*	none	CE	1B.1	Marshes and swamps (montane freshwater).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. Recorded in Nevada County growing with *Rhynchospora capitellata*. (Sites 3, 7, 8, 10, 11, 12, 13, 17)
Pine Hill flannelbush *Fremontodendron decumbens*	FE	CR	1B.2	Chaparral; cismontane woodland; [gabbroic or serpentinite].	Unlikely – Not observed during surveys. Typically occurs on serpentinite or gabbro substrates that do not occur on any of the candidate sites.
Invertebrates					
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT***	none	--	Elderberry shrubs, found in riparian corridors and oak woodland.	Possible - Elderberry shrubs were observed in Squirrel Creek drainage and could occur along other drainages and in woodlands (occurs on Sites 10 and 13; possible on Sites 3-10, 15-18).
Amphibians					
California red legged frog *Rana draytonii*	FT	none	--	Ponds or slow moving water with overhanging vegetation	Unlikely. Aquatic habitat on sites is flowing streams or shallow and intermittent. Wastewater ponds near Site 13 lack vegetation. Nearest occurrence is over 6 miles northeast of Grass Valley sites.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Foothill yellow-legged frog *Rana boylii*	none	CSC	--	Shaded streams with rocky substrate. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Likely - Squirrel Creek, Ragsdale Creek, and a perennial tributary to Wolf Creek provide suitable habitat. Species reported from Squirrel Creek and known from Bear River in Nevada County. (Sites 3, 7, 10, 13, 17)
Reptiles					
Western pond turtle *Emys marmorata*	none	CSC	--	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	Possible – Aquatic habitat on some sites is marginally suitable. Moderate flows and lack of basking sites make available aquatic habitat suboptimal. (Sites 3, 7, 10, 13, 17)
Birds					
California black rail *Laterallus jamaicensis coturnculus*	none	CT	--	Salt and freshwater marshes with dense cover. Interior populations known from Sierra Nevada foothills. Typical inland habitat is irrigation-fed wetlands >0.25-acre.	Possible - Dense vegetation in riparian corridors are marginally suitable habitat. (Sites 3, 7, 8, 10, 13, 17)
Long-eared owl *Asio otus*	none	CSC	--	Dense, mixed forests and tall shrublands, usually next to open spaces. Often nests in an abandoned crow, magpie, or hawk nest, occasionally in a natural tree cavity.	Possible - Riparian and oak woodland communities, especially near open grassland areas, provide suitable nesting habitat.
Yellow warbler *Dendroica petechia*	none	CSC	--	Breeds in riparian vegetation throughout California; populations in Sacramento and San Joaquin valleys are declining. Common in eastern Sierran riparian habitats below 8,000 feet.	Possible - Riparian corridors provide suitable habitat for this species. (Sites 3, 7, 8, 10, 13, 17)

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Grasshopper sparrow *Ammodramus savannarum*	none	CSC	--	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	Possible - Suitable grassland habitat occurs on some of the sites, though the project area is considered outside the typical range of this species. This species and other migratory songbirds could nest within candidate sites.
Nesting Raptors****	none	CFP	--	Grasslands, large trees in woodland/forest/riparian communities.	Likely - Suitable habitat is present on all sites.

*Status Codes:

Federal

FE Federal Endangered
FT Federal Threatened
FP Federal Proposed Species

State

CE California Endangered
CT California Threatened
CR California Rare (plants only)
CSC California Species of Concern
CFP California Fully Protected

CNPS

Rank 1B Rare, Threatened, or Endangered in California
Rank 2 R, T, or E in California, more common elsewhere
1- Seriously threatened in California
2- Fairly threatened in California
3- Not very threatened in California

**Definitions for the Potential to Occur:

- **None.** Habitat does not occur.
- **Unlikely.** Some habitat may occur, but disturbance or other activities may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the study area may be outside the range of the species.
- **Possible.** Marginal to suitable habitat occurs, and the study area occurs within the range of the species.
- **Likely.** Good habitat occurs, but the species was not observed during surveys.
- **Occurs:** Species was observed during surveys.

***Proposed for de-listing by USFWS in 2012.
****Protected under Fish & Game Codes and Federal Migratory Bird Treaty Act.

Special-Status Plants

Our assessment did not include conducting floristic, special-status plant surveys to agency guidelines, which would have included a comprehensive botanical survey and identification of each plant species to determine any listing/rarity status. Nevertheless, our surveys in May were conducted when many of the special-status plant species with potential to occur would have been identifiable by flowers or foliage and we focused on habitats likely to support special-status species in order to determine whether rare plant species were or could be present on each site. Below is a discussion of the species that could occur on the sites reviewed.

Western viburnum *(Viburnum ellipticum*) is a three to 12 foot shrub in the honeysuckle family (Adoxaceae). It has no state or federal status. It is a CNPS Rank 2 species, meaning that it is rare in California, but more common elsewhere. It is differentiated from other members of the family by its simple, coarsely dentate leaves. It grows in chaparral, foothill woodlands, and lower montane forests at widely scattered locations in the Sierra Nevada

and northern Coast Ranges of California. Viburnum is much more common and widespread from Oregon north. Oval-leaved viburnum blooms in May and June. This plant was not observed during surveys, and no occurrences are known from within five miles of any of the sites, but suitable habitat occurs on several forested sites. Sites 3, 4, 7, 8, 9, and 17 provide shaded slopes that would be most suitable for this species.

Brownish beaked-rush (*Rhynchospora capitellata*) is not listed pursuant to the federal or state ESAs; however, it is designated as a CNPS Rank 2 species. This species is an herbaceous perennial that occurs in montane coniferous forest in meadows, seeps, marshes, swamps, and moist areas. Brownish-beaked rush blooms from July to August and it is known to occur at elevations ranging from ±1,500 to ±6,500 feet. There are recorded occurrences of this species from Nevada County. The CNDDB documents one occurrence of brownish-beaked rush approximately two miles northwest of Site 2. Wetlands and riparian areas provide potential habitat for this species.

Finger rush (*Juncus digitatus*) is an annual monocot in the rush family (Juncaceae). It has no state or federal status, but is a CNPS Rank 1B.1 species. It forms dense clumps of thin stems that are red in color and short relative to other common rushes. The fruit is a red, one to two centimeter long, curved, linear-oblong capsule. Finger rush grows in vernal pools, swales, and seeps at elevations ranging from ±2,100 to ±2,700 feet. In California this species is known from occurrences in the foothills of the Cascade Range in Shasta County and from the Sierra Nevada foothills in Nevada County. A large population of this species is recorded from just southeast of the intersection of Idaho Maryland Road and Brunswick Road, less than a half of a mile south of the Brunswick candidate site cluster. Wet, open areas on Sites 3, 7, and 8 provide marginally suitable habitat for this species.

Scadden Flat checkerbloom (*Sidalcea stipularis*) is a perennial member of the mallow family (Malvaceae). It is a California endangered species and is a Rank 1B CNPS species. The leaves of this checkerbloom are spread evenly along the stems rather than being crowded at the base of the stems, a feature that separates it from most other checkerblooms. Two other species have similar leaves, but only the Scadden Flat checkerbloom occurs in the Sierra Nevada. It occurs at only three locations in Nevada County near Grass Valley where it occurs in wetlands. It blooms in July and August.

Special-Status Wildlife

The 18 candidate sites provide habitat components that could support a variety of wildlife species. Aquatic habitats and associated riparian corridors on several of the sites provide habitat for aquatic-dependent species and important cover for wildlife movement in the area. Forest and woodland communities that occur on many of the sites, particularly those with a nearby water source or close to open foraging habitat, provide important cover for wildlife and provide high quality roosting and nesting opportunities for songbirds and shelter for mammals. Though few were noted on the surveyed parcels, standing dead snags on forested sites provide nesting cavities for birds such as owls and woodpeckers and den or nest cavities for small mammals. Taller trees located near open areas could provide good nesting sites for raptors such as red-tailed hawk and other species.

Common wildlife observed on the sites included mule deer (*Odocoileus hemionus*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), chipping sparrow (*Spizella passerina*), California quail (*Callipepla californica*), and Brewer's blackbird (*Euphagus cyanocephalus*). Common wildlife expected to occur on or move through the site includes red

tail hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), common raven (*Corvus corax*), California ground squirrel (*Otospermophilus beecheyi*), black-tailed hare (*Lepus californicus*), striped skunk (*Mephitis mephitis*), Pacific treefrog (*Pseudacris regilla*), western gray squirrel (*Sciurus griseus*), coyote (*Canis latrans*), and mule deer. Riparian communities associated with the various drainages crossing the study corridor are expected to provide important seasonal nesting habitat for numerous migratory songbirds, including some special-status species. No known established deer migration routes or critical habitat is known to occur on any of the sites.

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) is listed as threatened under the Federal ESA, though the USFWS formally proposed to de-list the species in October 2012 following a lawsuit brought against USFWS by a coalition of flood control agencies, reclamation districts, and farm bureaus. The proposed de-listing is currently under public review.

This species is associated with elderberry shrubs (*Sambucus sp.*) during its entire life cycle. Thus, these shrubs are typically protected as a means of avoiding impacts to the beetle. It appears that in order to serve as habitat, elderberry shrubs must have stems one inch or greater in diameter at ground level. The beetles are not found in elderberry above 3,000 feet in elevation. The adults emerge from pupation inside the stems of the elderberry shrubs in the spring, as the flowers on the shrubs begin to open. The exit holes made by the emerging adults are distinctive small oval openings. Often these holes are the only clue that the beetles occur in an area. The adults feed on the elderberry foliage until the onset of mating in June. The females lay eggs in crevices in the bark before dying a short time later. Upon hatching, the larvae tunnel into the stem of the elderberry shrub where they spend one to two years eating the interior wood, which constitutes their sole food source while in the stem.

Elderberry shrubs were observed on Sites 10 and 13 near Squirrel Creek and could be found on others, particularly those with a riparian component. Sites in the Grass Valley area are near the upper elevation range of this species.

Foothill yellow-legged frog (*Rana boylii*) is a California Species of Special Concern and a U.S. Forest Service and Bureau of Land Management sensitive species. This species is found in the drainages on the western slope of the Sierra Nevada up to about 6,000 feet. They are found in or near rocky perennial streams with cobble-sized or larger gravels and rocks. They prefer partially shaded habitats and shallow riffles but are occasionally found in vegetated backwater pools and slow moving rivers with mud substrate. This species is reported from Squirrel Creek and known from the Bear River in Nevada County in several locations less than five miles from some of the candidate sites. Squirrel Creek, Ragsdale Creek, and a perennial tributary to Wolf Creek provide suitable habitat for this species on Sites 3, 7, 10, 13, and 17.

Western pond turtle (*Emys marmorata*) is a California Species of Special Concern. This species is found in quiet waters in a wide variety of aquatic habitats, including ponds, marshes, lakes, streams, and irrigation ditches and may occur in water that ranges in salinity content from fresh to brackish to seawater. This species prefers habitats with abundant cover (logs, algae, vegetation) and exposed basking sites (logs, boulders). Females build nests along wetland margins or in adjacent uplands in April and May. Egg-laying occurs in July and August and requires soils that are at least 10 cm deep, usually with southern exposure. Females leave the watercourse in late afternoon and evening, and

travel into adjacent wetland margins or uplands to build nests. Aquatic habitat on some sites is marginally suitable for this turtle. Moderate flow rates and lack of basking sites make available aquatic habitat suboptimal; nevertheless, there is some potential for this species to occur on Sites 3, 7, 10, 13, and 17.

California black rail (*Laterallus jamaicensis coturnculus)* is a State listed threatened species that inhabits salt, fresh, and brackish water marshes. In freshwater habitats, their preference is for dense bulrush and cattails. They require marshes with little daily and/or annual water fluctuations in order to provide adequate cover from predators and to conceal nest sites. Their nests are concealed in dense vegetation, usually consisting of herbaceous wetland species. Since 1994 populations of the California black rail have been documented in several counties in the foothills of the Sierra Nevada. Typical inland habitat consists of persistent irrigation-fed wetlands over 0.25-acre that support dense riparian and wetland vegetation, including cattails, rushes, and Himalayan blackberry. The CNDDB documents several occurrences of California black rail within less than five miles of several of the candidate sites. While no high quality habitat for this species occurs within any of the proposed rezone sites, there is some potential for this species to utilize dense vegetation associated with perennial and intermittent streams on Sites 3, 7, 8, 10, 13, and 17.

Long-eared owl (*Asio otus*) Long-eared owl is a California Species of Special Concern. This owl nests in the Sierra Nevada foothills, northeastern California, and scattered locations in the Coast Range and desert region. Winter range includes the Central Valley. Long-eared owl forages in open areas near woodlands and nests and roosts within riparian woodland and live oak thickets near foraging habitat. The most suitable habitat for this species occurs on sites with an oak woodland or riparian component, though all candidate sites except for Site 1 could provide nesting habitat for this species.

Yellow warbler (*Dendroica petechia*) and other nesting migratory songbirds: Yellow warbler is an uncommon to common, summer resident in the northern Sierra Nevada. It primarily breeds in riparian woodlands up to 8,000 feet, but is also known to breed in montane chaparral, open ponderosa pine and mixed conifer habitats with substantial amounts of shrub cover. During migration, this species is found in a variety of forest and woodland habitats. Nests consist of an open cup placed approximately 2 to 16 feet above the ground in a deciduous tree or shrub. Breeding generally takes place from mid-April to early-August with peak activity occurring in June. Incubation is approximately 11 days. Young fledge at about 9 to 12 days following hatching. Young yellow warblers breed the following year after hatching.

The CNDDB documents one occurrences of yellow warbler approximately 7 miles southwest of the Penn Valley site cluster. Riparian corridors on Sites 3, 7, 8, 10, 13, and 17 provide suitable nesting habitat for this species and it is considered likely that yellow warbler nesting could occur on these sites.

Riparian, woodland, grassland, and chaparral habitats occurring on the candidate sites could provide suitable nesting habitat for many species of migratory birds species afforded protection under the MBTA, including grasshopper sparrows and other species.

Raptors: While no listed species of raptor is considered likely to occur on any of the candidate sites, large trees on, or adjacent to, all eighteen of the sites could be used for nesting by raptors, including common species such as red-tailed hawk and red-shouldered hawk, and raptors designated as California Species of Special Concern, such as sharp-

shinned hawk and Cooper's Hawk. All raptors are protected under the Migratory Bird Treaty Act and by the California Fish and Game Code.

Oak Woodland, Oaks and Other Trees

Section L-II 4.3.15 of the Nevada County Zoning Ordinance requires projects to minimize impacts to trees, and to maximize the long-term preservation of trees in their natural setting. The ordinance calls for avoidance of impacts to Landmark Trees or Landmark Groves. Landmark Trees are defined as any oak with a diameter at breast height (dbh) of at least 36 inches, or any tree whose size, visual impact, or association with a historically significant structures or event has caused it to be marked for preservation by the county, state, or federal governments. Landmark Groves are defined as hardwood tree groves with at least 33 percent canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government.

The Nevada County Code discourages removal of Landmark Trees or trees within Landmark Groves and requires that a Management Plan be prepared to identify impacts to Landmark Trees or Groves and specify measures that would avoid or reduce such impacts. The Code further specifies that a Tree Protection Plan be prepared to identify measures for the protection of designated trees or groves that will remain onsite following improvements.

Landmark Trees

Oak trees meeting the size standard to be considered Landmark Trees were observed on Sites 11, 12, 13, 14, and 18. It is considered possible that Landmark Trees could also occur within forested areas on Sites 15, 16, and 17.

Landmark Groves

Oak woodlands meeting the Nevada County Code definition of a Landmark Grove were observed within Sites 13, 14, 15, 16, 17, and 18. See mapping of habitat types for each site provided in Appendix D. Landmark Groves observed included a fine example of a blue oak woodland on Site 14, as well as mixed oak woodlands and oak woodlands dominated by interior live oak and black oak. The oak woodlands on the subject sites are considered moderately degraded according to the definition provided in Giusti (2008). Moderately degraded oak woodlands have been altered from a pristine state by limited roads or development, but natural regeneration still occurs and wildlife habitat values remain. Woodlands on the candidate sites are somewhat fragmented by surrounding development and roads, and many have been modified by past land use practices. Impacts within these woodlands are considered mitigable.

RECOMMENDATIONS & CONCLUSIONS

Waters of the United States Including Wetlands

Sites 2, 3, 7, 8, 10, 11, 12, 13, and 17 have hydrologic features that may be considered waters of the U.S. No potential waters of the U.S. were identified on Sites 1, 4, 5, 6, 9, 14, 15, 16, and 18. Only the Corps can determine the extent of its jurisdiction over hydrologic features onsite. Prior to development of sites containing potential jurisdictional features, a formal

wetland delineation should be prepared to the standards required by the Corps' Sacramento District office and submitted to the Corps to be verified. Project design should avoid impacts to the delineated features to the extent feasible.

Activities that propose fill in or would affect hydrology in any waters of the U.S. shown on a verified delineation map would require a permit from the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act. Any project affecting these areas would also need to obtain a water quality certification from the Regional Water Quality Control Board pursuant to Section 401 of the federal Clean Water Act. The Corps and the Regional Board would add conditions to the permits that would stipulate required mitigation for the proposed impacts to waters of the U.S. and waters of the State of California, which could include one or more of the following: onsite creation, offsite creation, purchase of credits in a mitigation bank, or payments to an in-lieu fund. The precise mitigation and monitoring requirements would depend on the extent of impacts and the types of jurisdictional waters affected.

Streams, Ponds, and Riparian Habitat

Sites 2, 3, 7, 8, 10, 11, 12, 13, and 17 have features that could be subject to regulation under Section 1602 of the Fish and Game Code. For any impacts to the bed, bank, or channel of perennial and intermittent creeks or other water bodies subject to regulation under Section 1602 of the Fish and Game Code, the project developer must apply for and obtain a Streambed Alteration Agreement from the CDFW. All mitigation measures for impacts to waters of the state must be implemented in accordance with the terms and conditions of the Streambed Alteration Agreement.

Special-Status Plants

1) Floristic Surveys: Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for any of the candidate sites, the project sponsor shall provide, to the Director of the County Planning Department, the results of a floristic survey for special-status plant species. The floristic survey should be carried out within habitats suitable to support species that could occur on the subject site and should be timed to coincide with the blooming periods of those species. Should any special-status plant species be identified during the surveys, the applicant shall retain a qualified botanist to develop and oversee implementation of a management plan to reduce impacts to the species. Depending on the species identified, appropriate measures could include avoidance, impact minimization, transplanting, and soil/seed salvage and must incorporate measures to satisfy regulatory requirements of agencies with jurisdiction over the species at issue. Where onsite avoidance is feasible, barrier fencing, stakes, flagging or other measures shall be implemented prior to site disturbance to ensure impact avoidance. (Sites 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, and 17)

Special-Status Wildlife

1) **VELB**. Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for any of the candidate sites, surveys for elderberry shrubs shall be conducted. The results of the survey shall be submitted to the Director of the County Planning Department for review and approval. Any elderberry shrubs

measuring 1.0 inch or greater in diameter shall be mapped and clearly marked in the field. At all times during development of the project, developers shall comply with the conservation guidelines set forth in USFWS's *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (July 9, 1999), which guidelines generally require a buffer of 100 feet around each elderberry shrub with stems measuring 1.0 inch or greater in diameter at ground level. If encroachments into this buffer are required, consultation with the USFWS shall be required. Mitigation for impacts on VELB habitat shall be determined via consultation with USFWS pursuant to Section 7, Section 10, or USFWS 1999 Guidelines, as applicable, and may include onsite mitigation planting or the purchase of mitigation credits from an approved conservation bank. If necessary, agency-approved mitigation developed through the permitting process would establish the appropriate and required mitigation for impacts to this species. (Sites 3 through 10, and 15 through 18)

Note: This species was proposed for de-listing by USFWS in 2012. Public comments are currently being accepted on the proposed rule for de-listing.

2) **Foothill yellow-legged frog. Suitable breeding, aestivation, and dispersal habitat for the foothill yellow-legged frog is present along perennial waterways within** several of the proposed rezone sites. Prior to any disturbance within 100 feet of known or potential habitat for foothill yellow-legged frog (i.e., riparian areas), pre-construction surveys shall be conducted to determine if this species is present within the disturbance area. If surveys determine that foothill yellow-legged frogs is present, consultation with CDFG should be initiated to determine if the proposed disturbance would adversely impact this species and what measures should be implemented to avoid impacts to this species. (Sites 3, 7, 10, 13, and 17)

3) **Western pond turtle.** Potential basking, foraging, and dispersal habitat for the western pond turtle is present along perennial waterways within some of the candidate sites. Construction activities within 200 feet of perennial streams should be conducted outside the nesting season for this species, which is typically from May 1 through July. Where disturbance would occur within 200 feet of perennial streams during the nesting season, pre-construction surveys shall be conducted to determine whether the proposed disturbance could adversely affect this species. This determination shall be made by a qualified biologist based on the suitability of the affected habitat for this species and/or the presence or absence of this species in the affected area as determined by surveys of suitable habitat. If pond turtles are observed, a determination shall be made in consultation with CDFW as to whether or not construction will adversely impact this species and what measures shall be implemented to mitigate adverse impacts. (Sites 3, 7, 10, 13, and 17)

4) **Nesting Raptors and other species of birds.** Take of any active raptor nest is prohibited under California Fish and Game Code Section 3503.5. Take of other nesting migratory birds is prohibited under the Federal Migratory Bird Treaty Act. To avoid take of any active raptor nest or disturbance of other protected native birds, to the extent feasible, site disturbance shall be avoided from March 1 through August 31, which coincides with the typical nesting season for most common bird species in the region.

If construction, grading or other project-related activities will occur during the typical nesting season, a pre-construction nesting survey shall be conducted by a qualified wildlife biologist to determine if any raptors or protected native birds are nesting in or in the immediate vicinity of vegetation that will be removed. The survey shall be conducted within 15 days prior to the start of work from March through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August. If active nests are found in the work area, the biologist shall determine an appropriately-sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist, and if necessary, in consultation with the CDFW (and USFWS as appropriate). Buffer widths shall be determined based on the nesting species and its sensitivity to disturbance. The no-work buffer zone shall be delineated by highly visible temporary construction fencing.

Monitoring of nest activity by a qualified biologist may be required if the project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No project-related construction activity shall commence within the no-work buffer area until a qualified biologist confirms that the nest is no longer active.

Oak Woodland, Oaks and Other Trees

Landmark Trees

In accordance with the Nevada County Code, prior to approval of a site plan, grading plan, or any permit authorizing construction for any of the candidate sites with potential to support Landmark Trees, a survey shall be conducted to identify the location of all Landmark Trees. The provisions of the County Code, including preparation of a Management Plan and Tree Protection Plan shall be implemented to identify mitigation measures to reduce impacts to Landmark Trees and protect any that would remain following site development. (Sites 11, 12, 13, 14, and 18)

Landmark Groves

In accordance with the Nevada County Code, prior to approval of a site plan, grading plan, or any permit authorizing construction for any of the candidate sites that support Landmark Groves, a Management Plan and Tree Protection Plan shall be prepared and implemented to identify mitigation measures to reduce impacts to Landmark Groves. Mitigation measures should be included in the Management Plan that ensures no net loss of oak woodland habitat. This could be accomplished through preservation of onsite oak woodlands in a conservation easement, purchase of offsite oak woodlands, on or offsite enhancement of degraded oak woodlands, or by paying in-lieu fees used to purchase and preserve comparable oak woodland communities offsite. The Tree Protection Plan should include measures for the protection of individual trees and Landmark Groves that would remain on a site following improvements. These plans should be prepared in accordance with Nevada County Code and should include measures to protect trees during and following construction activities. Measures could include specifications for protective fencing and construction buffers, project modifications, woodland maintenance prescriptions for fuel reduction and forest health, and specifications for appropriate uses of

the woodland area following site development, and identify financial responsibility for all measures. (Sites 13, 14, 15, 16, 17, and 18)

Deer Habitat and Migration Routes

No critical deer habitat or deer migration routes are present within any of the candidate sites. Sites 3 through 9 are at the western edge of winter range according to deer habitat mapping obtained from Nevada County. While deer may move through these sites, these sites are within or adjacent to developed areas and are not considered important to the continued viability of migrating deer in Nevada County.

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Appendix A.
Special-Status Species Known to Occur in the Study Area Region

Appendix A

Special-Status Wildlife Species Known to Occur in Study Area Region

	Status*	Habitat	Probability on Project Site
Insects			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	Fed: FT State: - Other: *	Requires host plant, elderberry (Sambucus spp.) for most of its life cycle. Shrubs must have stem diameters at ground level of 1.0 inch or greater and shrubs must be found less than 3,000 feet in elevation.Typically riparian and upland associated.	Possible - Elderberry shrubs observed on Sites 10 and 13 and could be on others. Study area is at higher elevation than most occurrences of this species. Proposed for de-listing by USFWS Oct. 2, 2012.
Amphibians			
California red-legged frog *Rana aurora draytonii*	Fed: FT State: CSC Other: -	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Unlikely - Perennial streams are shallow and maintain moderate flow rates. Intermittent streams are shallow and seasonal. Wastewater ponds near Site 12 are unvegetated.
Foothill yellow-legged frog *Rana boylii*	Fed: - State: CSC Other: *	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Possible - Squirrel Creek, Ragsdale Creek, and a perennial tributary to Wolf Creek provide suitable habitat. Species reported from Squirrel Creek and known from Bear River in Nevada County.
Reptiles			
Western pond turtle *Emys marmorata*	Fed: - State: CSC Other: -	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	Possible - Some potential for this species to occur in aquatic habitat onsite, although water movement in these areas is not optimal for this species.
Coast horned lizard *Phrynosoma coronatum*	Fed: - State: CSC Other: -	Open lowlands, washes, and sandy areas with an exposed gravelly-sandy substrate containing scattered shrubs. Edge of Sacramento Valley and in the Sierra Nevada foothills. Also observed in riparian woodland clearings and dry uniform chamise chaparral.	Unlikely - Few open sandy areas with exposed substrate occur on subject sites.
Birds			
Bald eagle *Haliaeetus leucocephalus*	Fed: - State: CE Other: *	Occurs along shorelines, lake margins, and rivers. Nests in large, old-growth or dominant trees with open branches.	Unlikely - No large water bodies or larger waterways near candidate sites.

Appendix A

Special-Status Wildlife Species Known to Occur in Study Area Region

	Status*	Habitat	Probability on Project Site
Northern harrier *Circus cyaneus*	Fed: - State: CSC Other: -	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; seldom found in wooded areas. Found in or near freshwater and salt marshes. Nests on the ground in shrubby vegetation near marsh edge.	Unlikely - This species typically occurs at lower elevations of the Central Valley. Sites provide suitable nesting habitat for other protected raptors.
California black rail *Laterallus jamaicensis coturnculus*	Fed: - State: CT Other: *	Inhabits salt, fresh, and brackish water marshes with little daily and/or annual water fluctuations. In freshwater habitats, preference is for dense bulrush and cattails. Several scattered populations documented from Butte Co. to southern Nevada Co.	Possible - Dense vegetation in riparian corridors are potenitally suitable habitat.
Long-eared owl *Asio otus*	Fed: - State: CSC Other: -	Dense, mixed forests and tall shrublands, usually next to open spaces. Nesting often in an abandoned crow, magpie, or hawk nest, occasionally in a natural tree cavity.	Possible - Riparian and oak woodland communities, especially near open grassland areas, provide suitable nesting habitat.
Bank swallow *Riparia riparia*	Fed: - State: CT Other: *	Colonial nester near riparian and oher lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	Unlikely - No appropriate exposed, sandy banks were observed on any of the sites.
Yellow warbler *Dendroica petechia*	Fed: - State: CSC Other: *	Breeds in riparian vegetation throughout California; populations in Sacramento and San Joaquin valleys are declining. Common in eastern Sierran riparian habitats below 8,000 feet.	Possible - Riparian corridors provide good habitat for this species. (Sites 3, 7, 8, 10, 13, 17)
Grasshopper sparrow *Ammodramus savannarum*	Fed: - State: CSC Other: -	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	Possible - Suitable grassland habitat occurs on some of the sites. This species and other migratory songbirds could nest within candidate sites.
Mammals			
Western red bat *Lasiurus blossevillii*	Fed: - State: - Other: *	Forests and woodlands up to conifer forests. Roosts primarily in trees and occasionally shrubs.	Unlikely - Rare above 200 meters and typically associated with wider riparian corridors of mature sycamore and cottonwood that do not occur on any of the sites. Breeding restricted to lower elevations in CA (Pierson et al 2004).
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Fed: - State: CSC Other: *	Found in a variety of habitats. Most common in mesic sites with forest or woodland component. Roosting and maternity sites in caves, mines, lava tubes, tunnels, and buildings. Gleans insects from brush or trees and feeds along habitat edges.	Unlikely - Could forage, but not likely to roost on any of the sites due to lack of structures, caves, or mines.

Appendix A

Special-Status Wildlife Species Known to Occur in Study Area Region

	Status*	Habitat	Probability on Project Site

***Status**	Federal:	State:	Other:
	FE - Federal Endangered	CE - California Endangered	Some species have protection under the other designations, such as the California Department of Forestry Sensitive Species, Bureau of Land Management Sensitive Species, U.S.D.A. Forest Service Sensitive Species, and the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. Certain areas, such as wintering areas of the monarch butterfly, may be protected by policies of the California Department of Fish and Game.
	FT - Federal Threatened	CT - California Threatened	
	FPE - Federal Proposed Endangered	CR - California Rare	
	FPT - Federal Proposed Threatened	CC - California Candidate	
	FC - Federal Candidate	CFP - California Fully Protected	
	FPD - Federal Proposed for Delisting	CSC - California Species of Special Concern	

Appendix A

Special-Status Plant Species Known to Occur in Study Area Region

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Adoxaceae				
Viburnum ellipticum Western viburnum	Fed: - State: - CNPS: List 2.3	May-July	Chaparral; cismontane woodland; lower montane coniferous forest.	Possible - Suitable shaded habitat on several forest/woodland sites. (Sites 3, 4, 7, 8, 9, 17 most suitable)
Agavaceae				
Chlorogalum grandiflorum Red Hills soaproot	Fed: - State: - CNPS: List 1B.2	May-June	Chaparral; cismontane woodland; [serpentinite or gabbroic].	Unlikely - Typically occurs on serpentinite or gabbro substrates that do not occur on any of the candidate sites.
Alliaceae				
Allium jepsonii Jepson's onion	Fed: - State: - CNPS: List 1B.2	May-August	Cismontane woodland; lower montane coniferous forest [serpentinite or volcanic]. 300 to 1160 meters.	Unlikely - Typically occurs on serpentinite substrates that do not occur on any of the candidate sites.
Campanulaceae				
Downingia pusilla Dwarf downingia	Fed: - State: - CNPS: List 2.2	March-May	Valley and foothill grassland (mesic); vernal pools.	Unlikely - Vernal pool habitat does not occur.
Convolvulaceae				
Calystegia stebbinsii Stebbins' morning-glory	Fed: FE State: CE CNPS: List 1B.1	May-June	Chaparral (openings); cismontane woodland; [serpentinite or gabbroic].	Unlikely - Typically occurs on serpentinite or gabbro substrates that do not occur on any of the candidate sites.
Cyperaceae				
Rhynchospora capitellata Brownish beaked-rush	Fed: - State: - CNPS: List 2.2	July-August	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest / mesic; elevation range 455 - 2000 meters (approx. 1,493 - 6,652 feet).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. (Sites 3, 7, 8, 10, 11, 12, 13, 17)

Appendix A

Special-Status Plant Species Known to Occur in Study Area Region

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Juncaceae				
Juncus digitatus Finger rush	Fed: - State: - CNPS: List 1B.1	May-June	Vernal pools (cismontane woodland; lower montane coniferous forest). 660-790 meters.	Possible - Wet, open areas on several sites provide marginally suitable habitat. (Sites 3, 7, 8, 10, 11, 12, 13)
Lamiaceae (Labiatae)				
Monardella follettii Follett's monardella	Fed: - State: - CNPS: List 1B.2	June-June	Lower montane coniferous forest (rocky, serpentinite).	Unlikely - Typically occurs on serpentinite or gabbro substrates that do not occur on any of the candidate sites.
Malvaceae				
Fremontodendron decumbens Pine Hill flannelbush	Fed: FE State: CR CNPS: List 1B.2	April-June	Chaparral; cismontane woodland; [gabbroic or serpentinite].	Unlikely - Typically occurs on serpentinite or gabbro substrates that do not occur on any of the candidate sites.
Sidalcea stipularis Scadden Flat checkerbloom	Fed: - State: CE CNPS: List 1B.1	July-August	Marshes and swamps (montane freshwater).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. Recorded in Nevada County growing with Rhynchospora capitellata. (Sites 3, 7, 8, 10, 11, 12, 13, 17)
Mielichhoferiaceae				
Mielichhoferia elongata Elongate copper-moss	Fed: - State: - CNPS: List 2.2	September-November	Cismontane woodland (metamorphic rock, usually vernally mesic); 500-1,300 meters.	Unlikely - Fens do not occur on candidate sites. No records within 5 miles of sites. Existing record from region needs fieldwork.
Montiaceae				
Lewisia cantelovii Cantelow's lewisia	Fed: - State: - CNPS: List 1B.2	May-October	Broad-leaved upland forest; chaparral; cismontane woodland; lower montane coniferous forest; [mesic, granitic].	Unlikely - Seeps or wet cliff habitats do not occur on candidate sites.

Appendix A

Special-Status Plant Species Known to Occur in Study Area Region

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Pottiaceae				
Didymodon norrisii Norris's beard-moss	Fed: - State: - CNPS: List 2.2	September-November	Cismontane woodland; lower montane coniferous forest [intermittently mesic, rock].	Unlikely - Typically found on seasonal sheet flow over exposed rock. Habitat on sites is unlikely to support this species. Known from once occurrence in 1981 over 5 miles from project site.

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CSC - California Species of Special Concern

CNPS (California Native Plant Society - List.RED Code):
List 1A - Extinct
List 1B - Plants rare, threatened, or endangered in California and elsewhere
List 2 - Plants rare, threatened, or endangered in California, more common elsewhere
List 3 - Plants about which more information is needed, a review list
List 4 - Plants of limited distribution, a watch list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

These buttons will not appear on your list.

Revise Selection

Print this page

Print species list before going on to letter.

Make Official Letter

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 120508082145

Database Last Updated: September 18, 2011

No quad species lists requested.

County Lists

Nevada County

Listed Species

Invertebrates

- Branchinecta lynchi
  - vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus
  - valley elderberry longhorn beetle (T)
- Lepidurus packardi
  - vernal pool tadpole shrimp (E)

Fish

- Hypomesus transpacificus
  - delta smelt (T)

- Oncorhynchus (=Salmo) clarki henshawi
  - Lahontan cutthroat trout (T)

- Oncorhynchus mykiss
  - Central Valley steelhead (T) (NMFS)
  - Critical habitat, Central Valley steelhead (X) (NMFS)

- Oncorhynchus tshawytscha
  - Central Valley spring-run chinook salmon (T) (NMFS)
  - Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
  - winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Rana draytonii
  - California red-legged frog (T)
  - Critical habitat, California red-legged frog (X)

Reptiles

- Thamnophis gigas
  - giant garter snake (T)

Plants

- Calystegia stebbinsii
  - Stebbins's morning-glory (E)

- Fremontodendron californicum ssp. decumbens
  - Pine Hill flannelbush (E)

- Senecio layneae
  - Layne's butterweed (=ragwort) (T)

Proposed Species

Amphibians

- Rana draytonii
  - Critical habitat, California red-legged frog (PX)

Candidate Species

Amphibians

- Rana muscosa
  - mountain yellow-legged frog (C)

Mammals

- Martes pennanti
  - fisher (C)

Plants

- Ivesia webberi
  - Webber's ivesia (C)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.
See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this

on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be August 06, 2012.

Penn and Grass Valley Sites

Inventory of Rare and Endangered Plants

v7-12apr 4-11-12

Status: search results - Tue, May. 8, 2012, 22:16 b

{QUADS_123} =~ m/542B|558C|558D|543A|543D|559D|542A|542(Search

Tip: Want to search by habitat? Try the **Checkbox and Preset** search page.[all tips and help.] [search history]

Your Quad Selection: Rough And Ready (542B) 3912122, French Corral (558C) 3912132, Nevada City (558D) 3912131, Smartville (543A) 3912123, Camp Far West (543D) 3912113, Oregon House (559D) 3912133, Grass Valley (542A) 3912121, Wolf (542C) 3912112, Lake Combie (542D) 3912111

Hits 1 to 13 of 13

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
		1	**Calystegia stebbinsii**	Stebbins' morning-glory	Convolvulaceae	List 1B.1
		1	**Clarkia biloba ssp. brandegeeae**	Brandegee's clarkia	Onagraceae	List 1B.2
		1	**Didymodon norrisii**	Norris' beard moss	Pottiaceae	List 2.2
		1	**Fremontodendron decumbens**	Pine Hill flannelbush	Sterculiaceae	List 1B.2
		1	**Fritillaria eastwoodiae**	Butte County fritillary	Liliaceae	List 3.2
		1	**Juncus digitatus**	finger rush	Juncaceae	List 1B.1
		1	**Lathyrus sulphureus var. argillaceus**	dubious pea	Fabaceae	List 3
		1	**Lewisia cantelovii**	Cantelow's lewisia	Montiaceae	List 1B.2
		1	**Mielichhoferia elongata**	elongate copper moss	Mniaceae	List 2.2
		1	**Monardella follettii**	Follett's monardella	Lamiaceae	List 1B.2
		1	**Plagiobothrys glyptocarpus var. modestus**	Cedar Crest popcorn-flower	Boraginaceae	List 3
		1	**Rhynchospora capitellata**	brownish beaked-rush	Cyperaceae	List 2.2
		1	**Sidalcea stipularis**	Scadden Flat checkerbloom	Malvaceae	List 1B.1

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

Lake of the Pines Sites

Inventory of Rare and Endangered Plants

v7-12apr 4-11-12

Status: search results - Tue, May. 8, 2012, 22:19 b

{QUADS_123} =~ m/542D|527A|527B|541B|541C|526B|542A|542E Search

Tip: `Lathyrus Astragalus` returns species from both genera.[all tips and help.]
[search history]

Your Quad Selection: Lake Combie (542D) 3912111, Auburn (527A) 3812181, Gold Hill (527B) 3812182, Chicago Park (541B) 3912028, Colfax (541C) 3912018, Greenwood (526B) 3812088, Grass Valley (542A) 3912121, Rough And Ready (542B) 3912122, Wolf (542C) 3912112

Hits 1 to 14 of 14

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.
ADD checked items to Plant Press | check all | check none
Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
		1	**Allium jepsonii**	Jepson's onion	Alliaceae	List 1B.2
		1	**Calystegia stebbinsii**	Stebbins' morning-glory	Convolvulaceae	List 1B.1
		1	**Chlorogalum grandiflorum**	Red Hills soaproot	Agavaceae	List 1B.2
		1	**Clarkia biloba ssp. brandegeeae**	Brandegee's clarkia	Onagraceae	List 1B.2
		1	**Fremontodendron decumbens**	Pine Hill flannelbush	Sterculiaceae	List 1B.2
		1	**Fritillaria eastwoodiae**	Butte County fritillary	Liliaceae	List 3.2
		1	**Juncus digitatus**	finger rush	Juncaceae	List 1B.1
		1	**Lathyrus sulphureus var. argillaceus**	dubious pea	Fabaceae	List 3
		1	**Monardella follettii**	Follett's monardella	Lamiaceae	List 1B.2
		1	**Plagiobothrys glyptocarpus var. modestus**	Cedar Crest popcorn-flower	Boraginaceae	List 3
		1	**Poa sierrae**	Sierra blue grass	Poaceae	List 1B.3
		1	**Rhynchospora capitellata**	brownish beaked-rush	Cyperaceae	List 2.2
		1	**Sidalcea stipularis**	Scadden Flat checkerbloom	Malvaceae	List 1B.1
		1	**Viburnum ellipticum**	oval-leaved viburnum	Adoxaceae	List 2.3

To save selected records for later study, click the ADD button.
ADD checked items to Plant Press | check all | check none
Selections will appear in a new window.

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Ammodramus savannarum*** grasshopper sparrow	ABPBXA0020			G5	S2	SC
2	***Asio otus*** long-eared owl	ABNSB13010			G5	S3	SC
3	***Calystegia stebbinsii*** Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
4	***Circus cyaneus*** northern harrier	ABNKC11010			G5	S3	SC
5	***Clarkia biloba ssp. brandegeeae*** Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2
6	***Dendroica petechia brewsteri*** yellow warbler	ABPBX03018			G5T3?	S2	SC
7	***Didymodon norrisii*** Norris' beard moss	NBMUS2C0H0			G3G4	S3S4	2.2
8	***Downingia pusilla*** dwarf downingia	PDCAM060C0			G2	S2	2.2
9	***Emys marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
10	***Fremontodendron decumbens*** Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
11	***Fritillaria eastwoodiae*** Butte County fritillary	PMLIL0V060			G3Q	S3	3.2
12	***Haliaeetus leucocephalus*** bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
13	***Juncus digitatus*** finger rush	PMJUN013E0			G1	S1	1B.1
14	***Lasiurus blossevillii*** western red bat	AMACC05060			G5	S3?	SC
15	***Lasiurus cinereus*** hoary bat	AMACC05030			G5	S4?	
16	***Laterallus jamaicensis coturniculus*** California black rail	ABNME03041		Threatened	G4T1	S1	
17	***Lathyrus sulphureus var. argillaceus*** dubious pea	PDFAB25101			G1G2	S1S2	3
18	***Lewisia cantelovii*** Cantelow's lewisia	PDPOR04020			G3	S3	1B.2
19	***Mielichhoferia elongata*** elongate copper moss	NBMUS4Q022			G4?	S2	2.2
20	***Myotis yumanensis*** Yuma myotis	AMACC01020			G5	S4?	
21	***Oncorhynchus tshawytscha*** chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
22	***Phrynosoma blainvillii*** coast horned lizard	ARACF12100			G4G5	S3S4	SC
23	***Rana boylii*** foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
24	***Rhynchospora capitellata*** brownish beaked-rush	PMCYP0N080			G5	S2S3	2.2

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	***Riparia riparia*** bank swallow	ABPAU08010		Threatened	G5	S2S3	
26	***Sidalcea stipularis*** Scadden Flat checkerbloom	PDMAL110R0		Endangered	G1	S1.1	1B.1

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Allium jepsonii*** Jepson's onion	PMLIL022V0			G1	S1.2	1B.2
2	***Ammonitella yatesii*** tight coin (=Yates' snail)	IMGASB0010			G1	S1	
3	***Andrena subapasta*** A vernal pool andrenid bee	IIHYM35050			G1G3	S1S3	
4	***Banksula galilei*** Galile's cave harvestman	ILARA14040			G1	S1	
5	***Calystegia stebbinsii*** Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
6	***Chlorogalum grandiflorum*** Red Hills soaproot	PMLIL0G020			G3	S3	1B.2
7	***Clarkia biloba ssp. brandegeeae*** Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2
8	***Corynorhinus townsendii*** Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
9	***Emys marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
10	***Fremontodendron decumbens*** Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
11	***Fritillaria eastwoodiae*** Butte County fritillary	PMLIL0V060			G3Q	S3	3.2
12	***Juncus digitatus*** finger rush	PMJUN013E0			G1	S1	1B.1
13	***Laterallus jamaicensis coturniculus*** California black rail	ABNME03041		Threatened	G4T1	S1	
14	***Lathyrus sulphureus var. argillaceus*** dubious pea	PDFAB25101			G1G2	S1S2	3
15	***Martes pennanti (pacifica) DPS*** Pacific fisher	AMAJF01021	Candidate		G5	S2S3	SC
16	***Phrynosoma blainvillii*** coast horned lizard	ARACF12100			G4G5	S3S4	SC
17	***Poa sierrae*** Sierra blue grass	PMPOA4Z310			G2G3	S2S3	1B.3
18	***Rana boylii*** foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
19	***Rhynchospora capitellata*** brownish beaked-rush	PMCYP0N080			G5	S2S3	2.2
20	***Sidalcea stipularis*** Scadden Flat checkerbloom	PDMAL110R0		Endangered	G1	S1.1	1B.1
21	***Viburnum ellipticum*** oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3

Appendix B.
Species Observed Within the Study Area

Appendix B

Plant Species Observed on Candidate Sites

Ferns and Allies

Dennstaedtiaceae

Pteridium aquilinum var. pubescens	Bracken fern

Equisetaceae

Equisetum sp.	Horsetail

Gymnosperms

Cupressaceae

Calocedrus decurrens	Incense cedar

Pinaceae

Pinus lambertiana	Sugar pine
Pinus ponderosa var. ponderosa	North Plateau ponderosa pine
Pinus sabiniana	Gray pine
Pseudotsuga menziesii var. menziesii	Douglas-fir

Angiosperms - Dicots

Adoxaceae

Sambucus nigra subsp. caerulea	Blue elderberry

Anacardiaceae

Toxicodendron diversilobum	Western poison-oak

Apiaceae (Umbelliferae)

**Daucus carota*	Queen Anne's lace
**Torilis arvensis*	Field hedgeparsley

Apocynaceae

**Vinca major*	Periwinkle

Asteraceae (Compositae)

Artemisia douglasiana	California mugwort
Baccharis pilularis subsp. consanguinea	Coyote brush
Balsamorhiza sagittata	Arrowleaf balsam-root
**Centaurea solstitialis*	Yellow starthistle
**Cirsium vulgare*	Bull thistle
**Sonchus arvensis*	Field sow thistle
Wyethia angustifolia	Narrowleaf mules ears
Wyethia helenioides	Gray mules ears

Betulaceae

Alnus rhombifolia	White alder
Corylus cornuta subsp californica	California hazelnut

Boraginaceae

Eriodictyon californicum	Yerba santa

Caprifoliaceae

Lonicera sp.	Honeysuckle
Symphoricarpos mollis	Creeping snowberry

Ericaceae

Arbutus menziesii	Madrone
Arctostaphylos viscida	Whiteleaf manzanita

Fabaceae (Leguminosae)

Astragalus sp.	Loco weed
**Genista monspessulana*	French broom
Lathyrus sp.	Wild pea
Lathyrus sulphureus	Sulphur-flowered pea
**Robinia pseudoacacia*	Black locust
**Trifolium dubium*	Little hop clover
**Trifolium hirtum*	Rose clover
**Vicia villosa*	Winter vetch

Fagaceae

Quercus chrysolepis	Canyon live oak
Quercus douglasii	Blue oak
Quercus durata var. durata	Leather oak
Quercus kelloggii	California black oak
Quercus lobata	Valley oak
Quercus wislizeni var. wislizeni	Interior live oak

Lamiaceae (Labiatae)

**Prunella vulgaris var. vulgaris*	Common self-heal

Oleaceae

Fraxinus latifolia	Oregon ash

Onagraceae

Epilobium densiflorum	Dense-flower spike-primrose

Plantaginaceae

**Plantago lanceolata*	English plantain

Polygonaceae

**Rumex crispus*	Curly dock

Rhamnaceae

Ceanothus cuneatus var. cuneatus	Buck brush
Ceanothus diversifolius	Pine mat
Ceanothus integerrimus var. integerrimus	Deer brush
Ceanothus lemmonii	Lemmon's ceanothus
Frangula californica subsp. tomentella	Hoary coffeeberry
Rhamnus ilicifolia	Hollyleaf redberry

Rosaceae

Amelanchier sp.	Western serviceberry
Chamaebatia foliolosa	Sierra mountain misery
Heteromeles arbutifolia	Toyon
**Prunus cerasifera*	Cherry plum
Prunus sp.	Prunus
Rosa californica	Califronia rose

**Rosa sp.*	Wild rose
**Rubus armeniacus*	Himalayan blackberry
Rubus laciniatus	Cutleaf blackberry
Rubus ursinus	California blackberry

Rubiaceae

Galium aparine	Goose grass

Salicaceae

**Populus alba*	White poplar
Populus fremontii subsp. fremontii	Fremont cottonwood
Salix exigua	Narrow-leaved willow
Salix gooddingii	Goodding's black willow
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Salix sp.	Willow

Sapindaceae

Acer macrophyllum	Big-leaf maple
Aesculus californica	California buckeye

Scrophulariaceae

**Verbascum thapsus*	Woolly mullein

Vitaceae

Vitis californica	California wild grape

Angiosperms -Monocots

Cyperaceae

Carex sp.	Sedge
Cyperus eragrostis	Tall flatsedge
Eleocharis sp.	Spikerush

Juncaceae

**Juncus effusus*	Soft rush
Juncus mexicanus	Mexican rush
Juncus sp.	Rush
Juncus xiphioides	Iris-leaved rush

Liliaceae

Fritillaria sp.	Fritillary

Poaceae (Gramineae)

**Avena sp.*	Oat
**Bromus diandrus*	Ripgut grass
**Bromus hordeaceus*	Soft chess
**Cynodon dactylon*	Bermudagrass
**Cynosurus echinatus*	Hedgehog dogtail
**Dactylis glomerata*	Orchard grass
Elymus glaucus	Blue wildrye
**Festuca perennis*	Italian ryegrass
**Hordeum marinum subsp. gussoneanum*	Mediterranean barley
Melica sp.	Melicgrass
**Phalaris aquatica*	Harding grass
Poa sp.	Bluegrass

Themidaceae

Triteleia laxa	Ithuriel's spear

Typhaceae

Typha latifolia	Broad-leaved cattail

Appendix B
Wildlife Species Observed on Candidate Sites

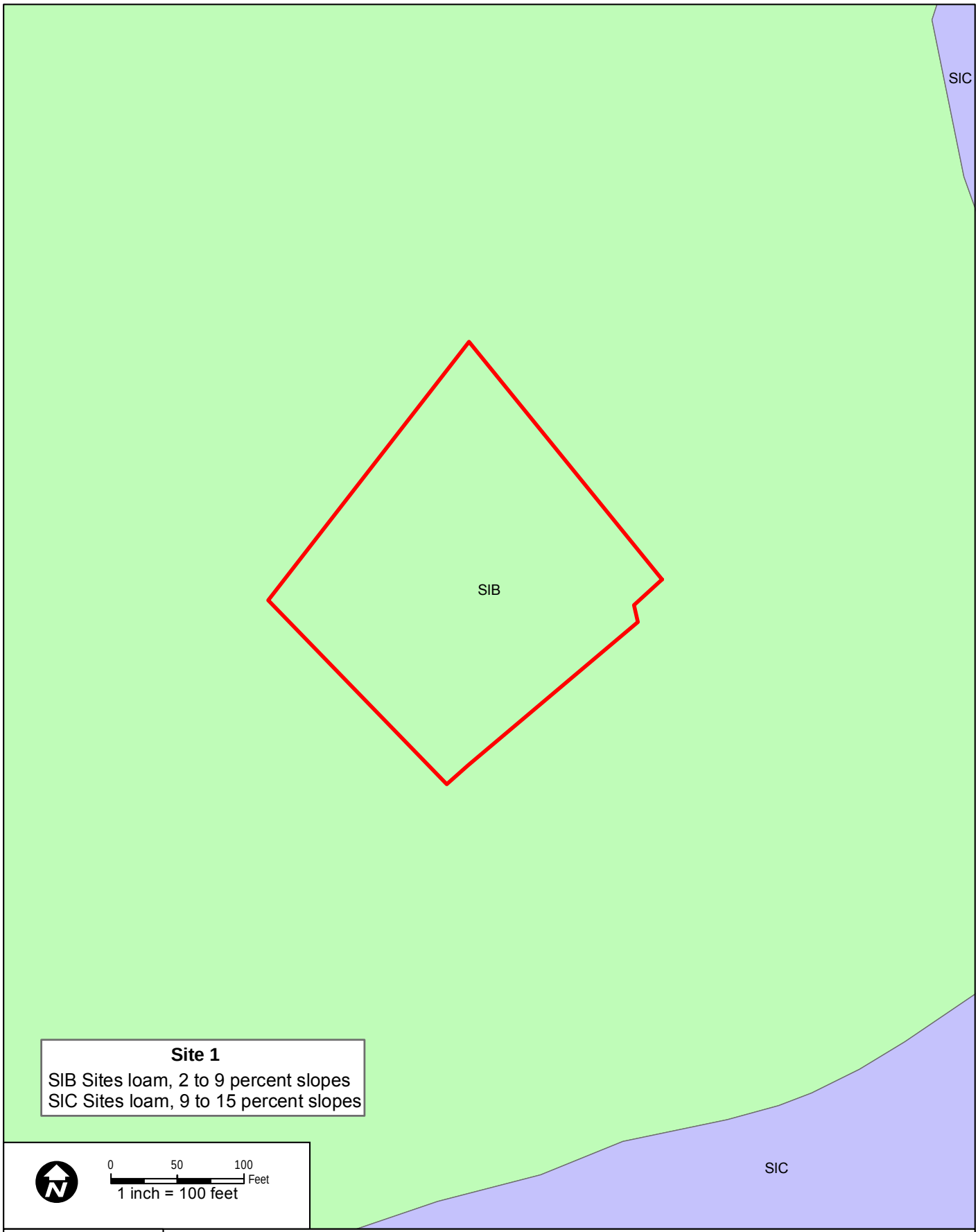
Birds

California quail	*Callipepla californica*
American crow	*Corvus brachyrhynchos*
European starling	*Sturnus vulgaris*
Chipping sparrow	*Spizella passerina*
Brewer's blackbird	*Euphagus cyanocephalus*

Mammals

Mule deer	*Odocoileus hemionus*

Appendix C.
Study Area Soils Maps



Site 1

SIB Sites loam, 2 to 9 percent slopes
SIC Sites loam, 9 to 15 percent slopes

0 50 100 Feet
1 inch = 100 feet

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January 2013

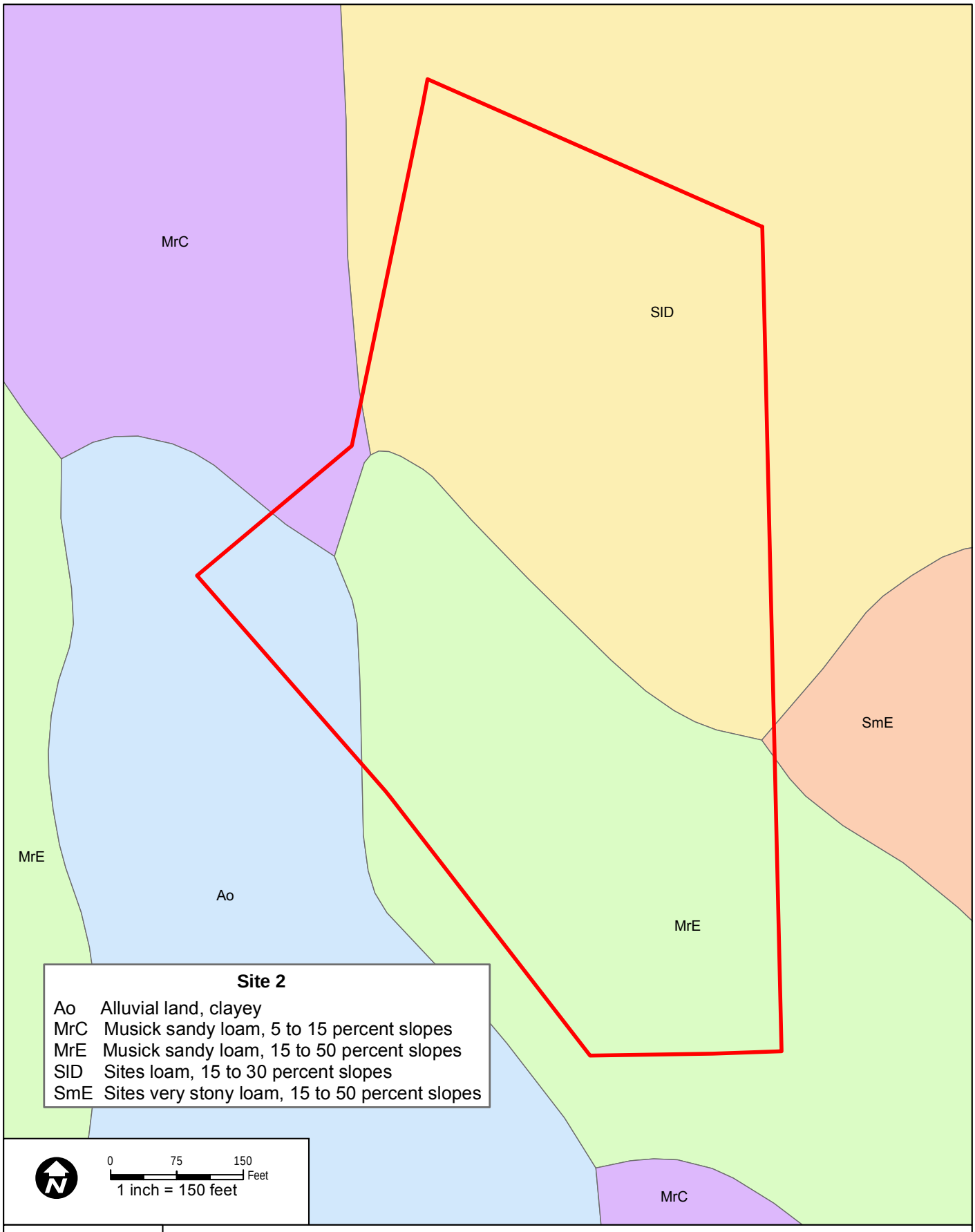
Nevada County Housing Element Rezone

Nevada County, CA

Site 1

Soils Map

SOURCE: NRCS SSURGO Database



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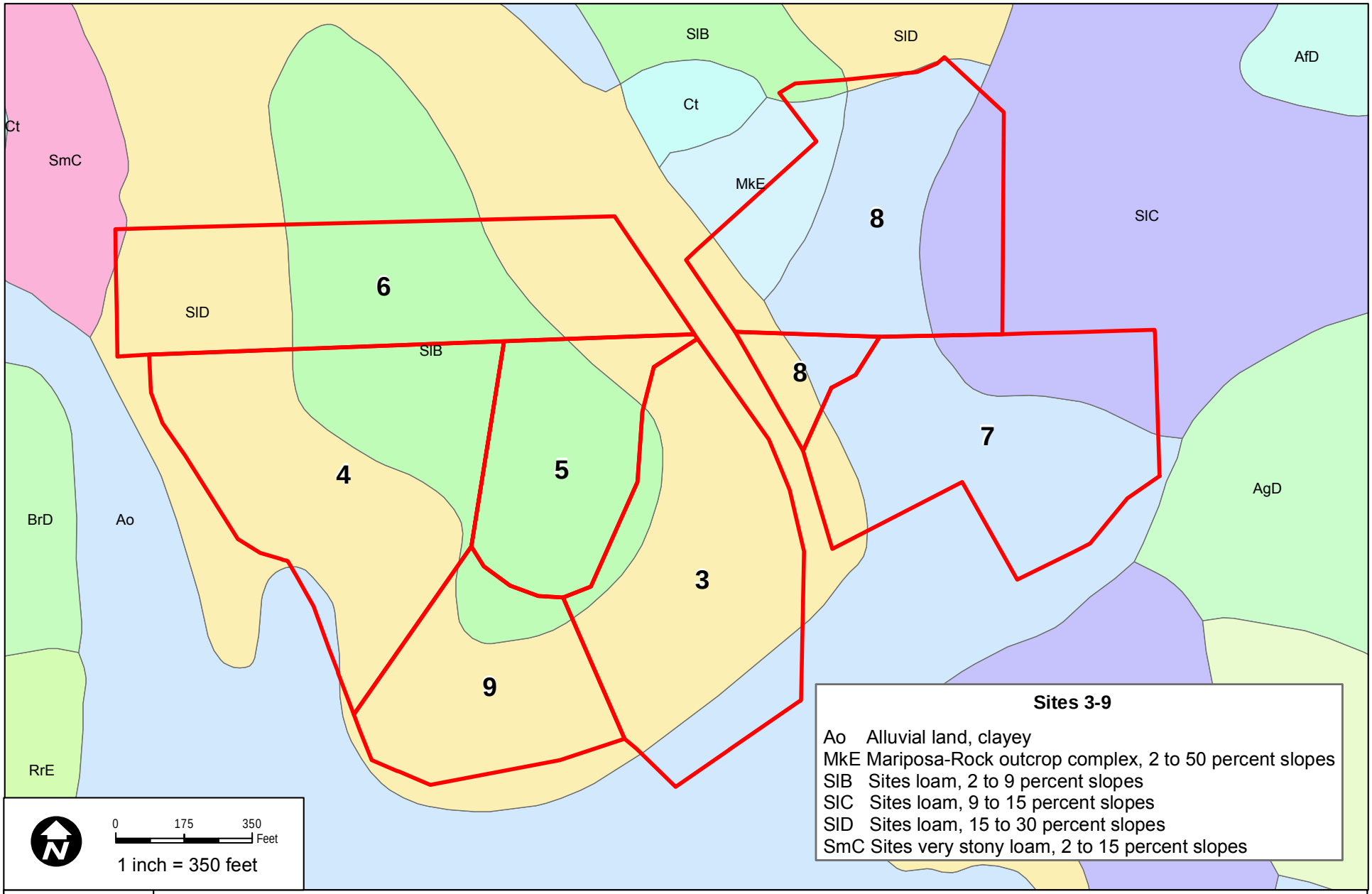
Site 2

Soils Map

SOURCE: NRCS SSURGO Database



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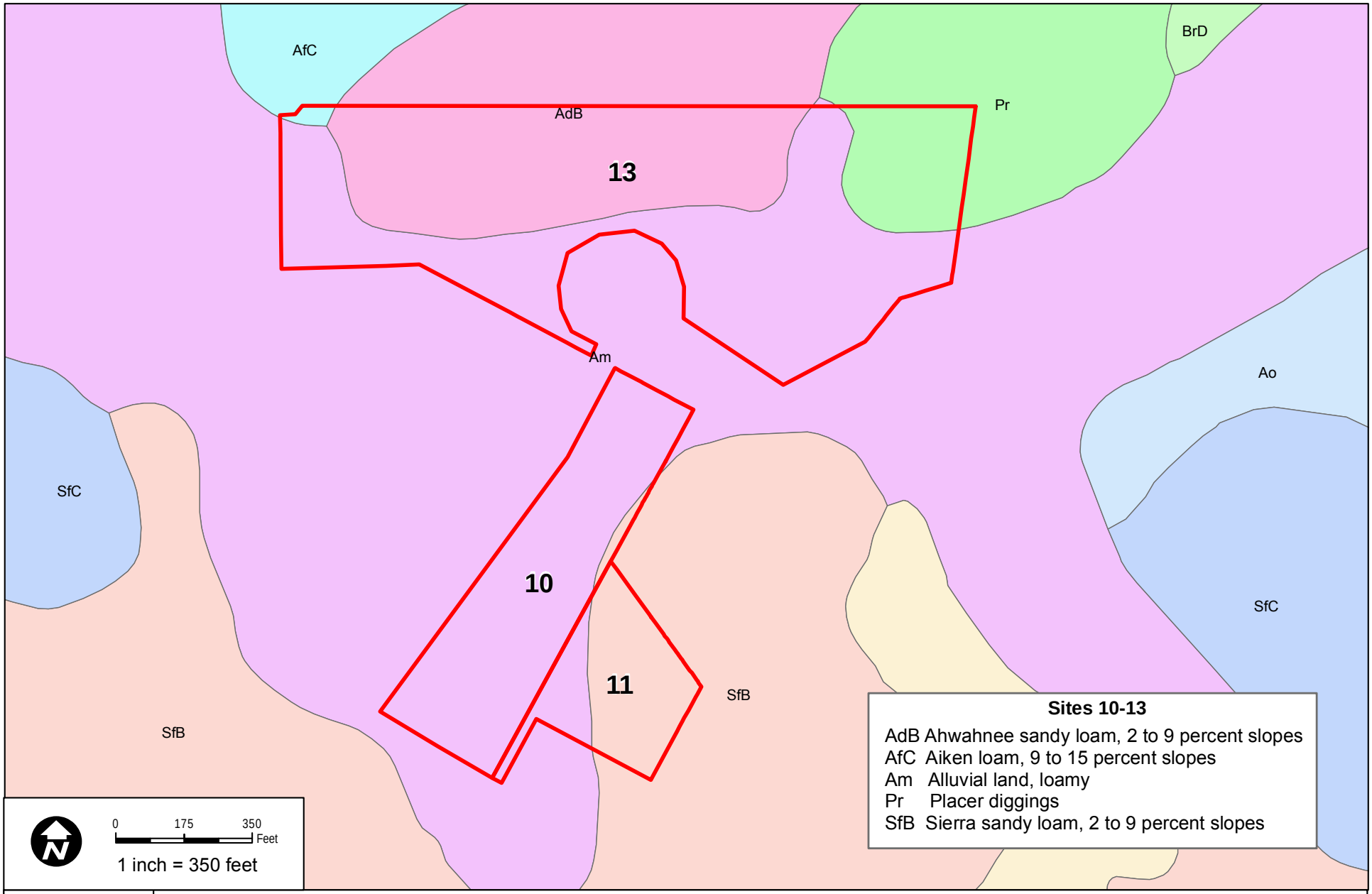
Sites 3-9

Soils Map

SOURCE: NRCS SSURGO Database



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Sites 10-13

Soils Map

SOURCE: NRCS SSURGO Database

Site 12

SfB Sierra sandy loam, 2 to 9 percent slopes

0 75 150 Feet

1 inch = 150 feet

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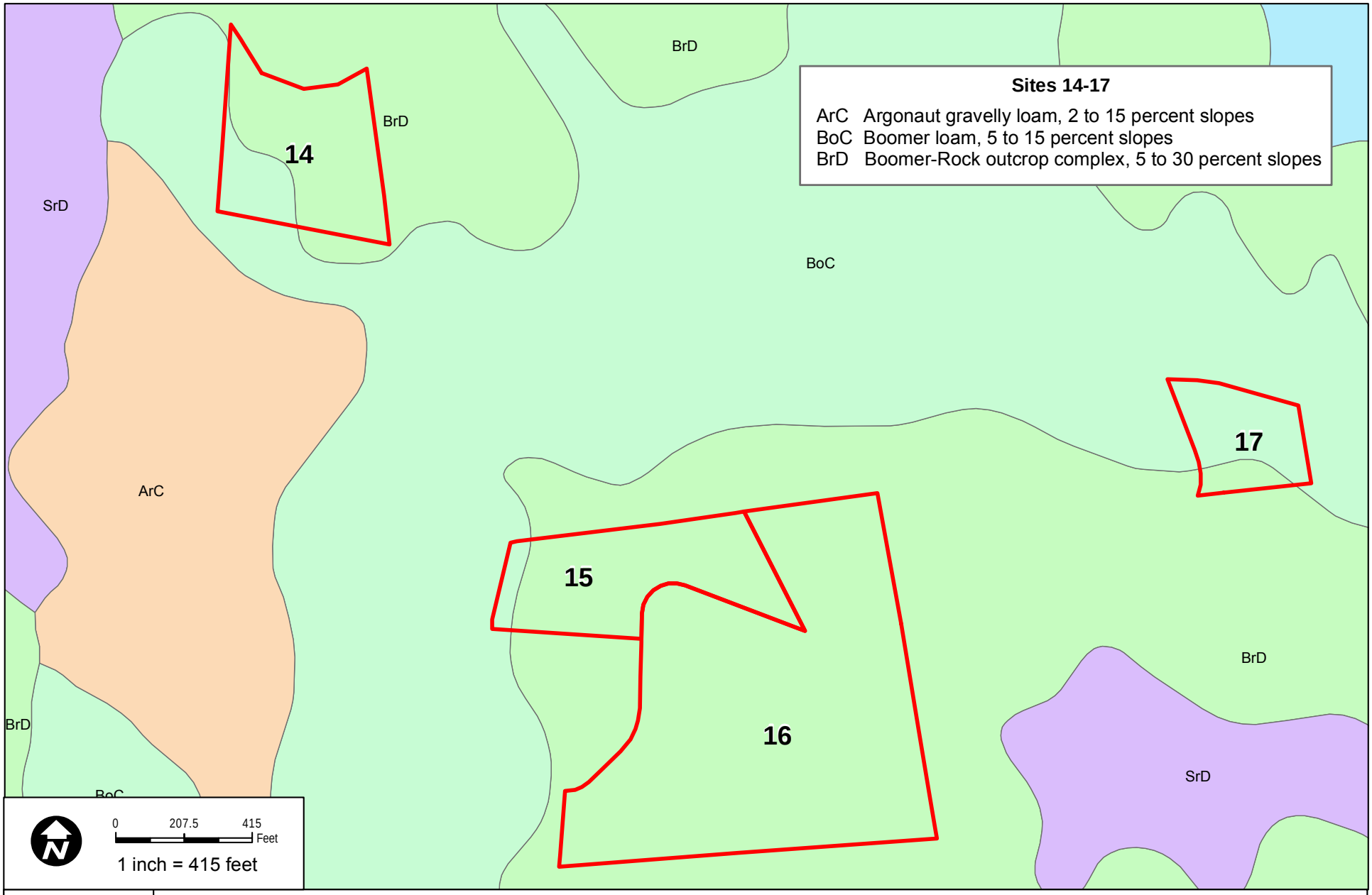
Site 12

Soils Map

SOURCE: NRCS SSURGO Database



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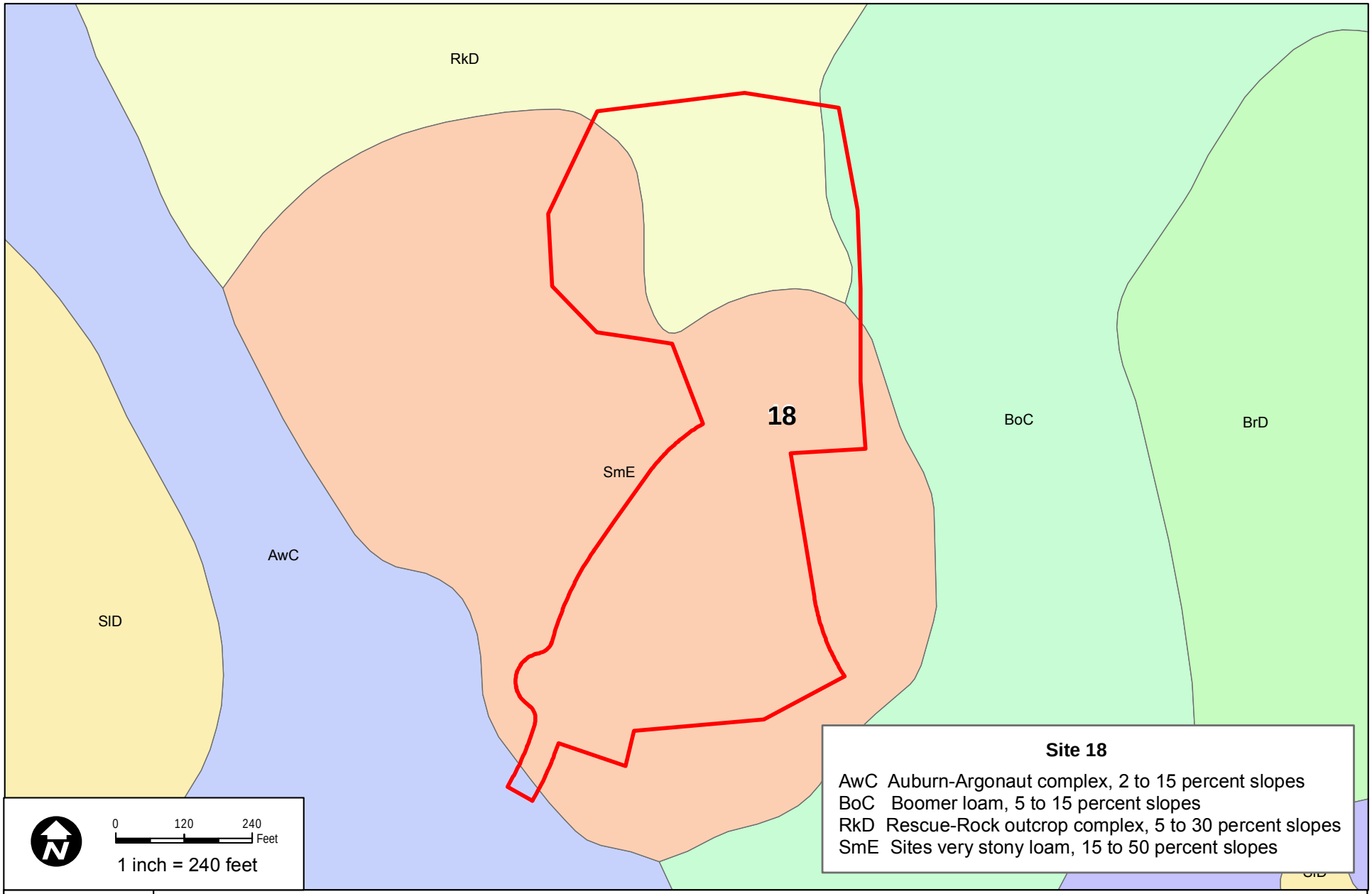
Sites 14-17

Soils Map

SOURCE: NRCS SSURGO Database



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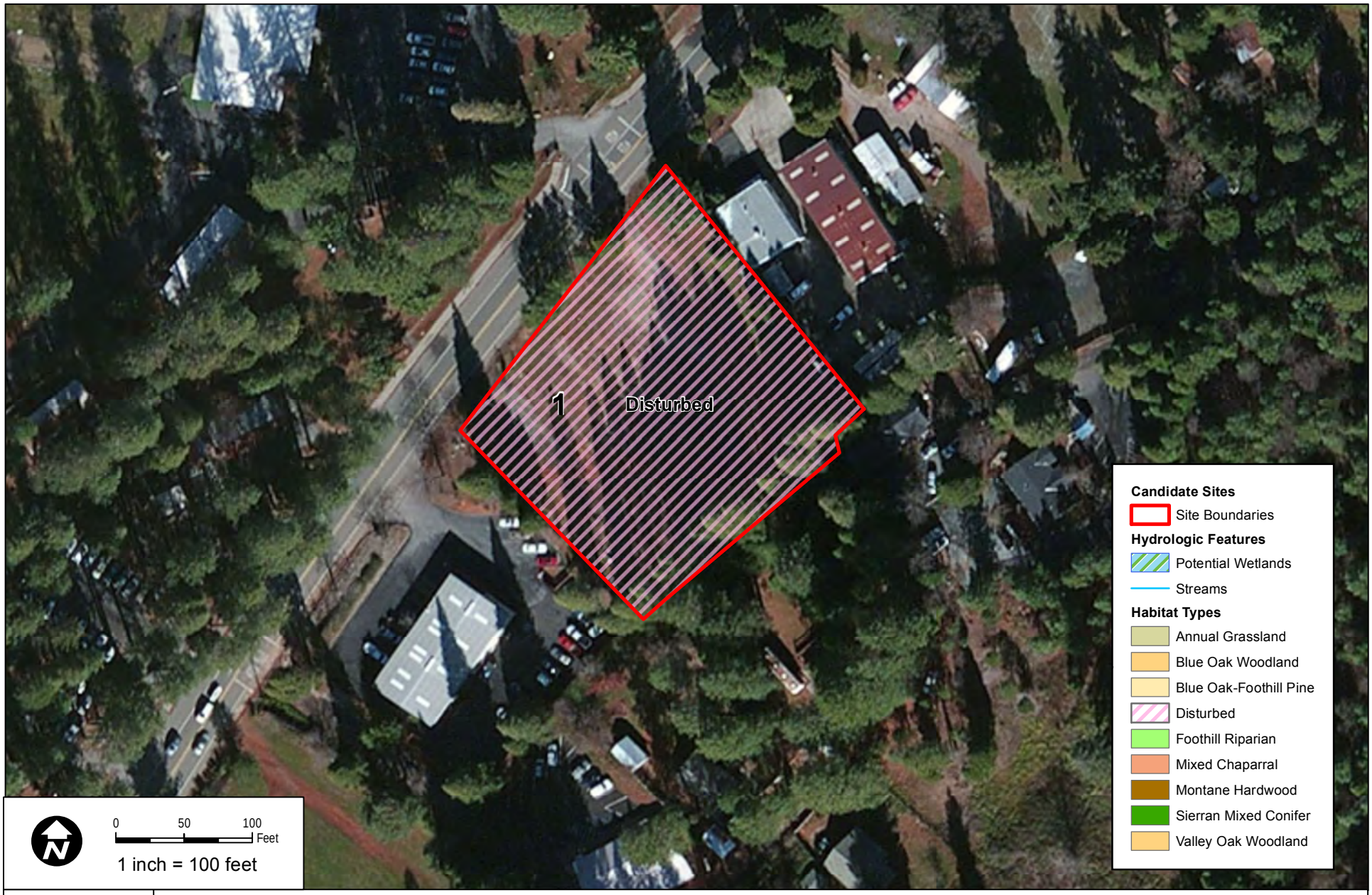
SOURCE: NRCS SSURGO Database

Site 18

Soils Map

Appendix D.
Habitat Maps



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Site 1

Habitat Map

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013

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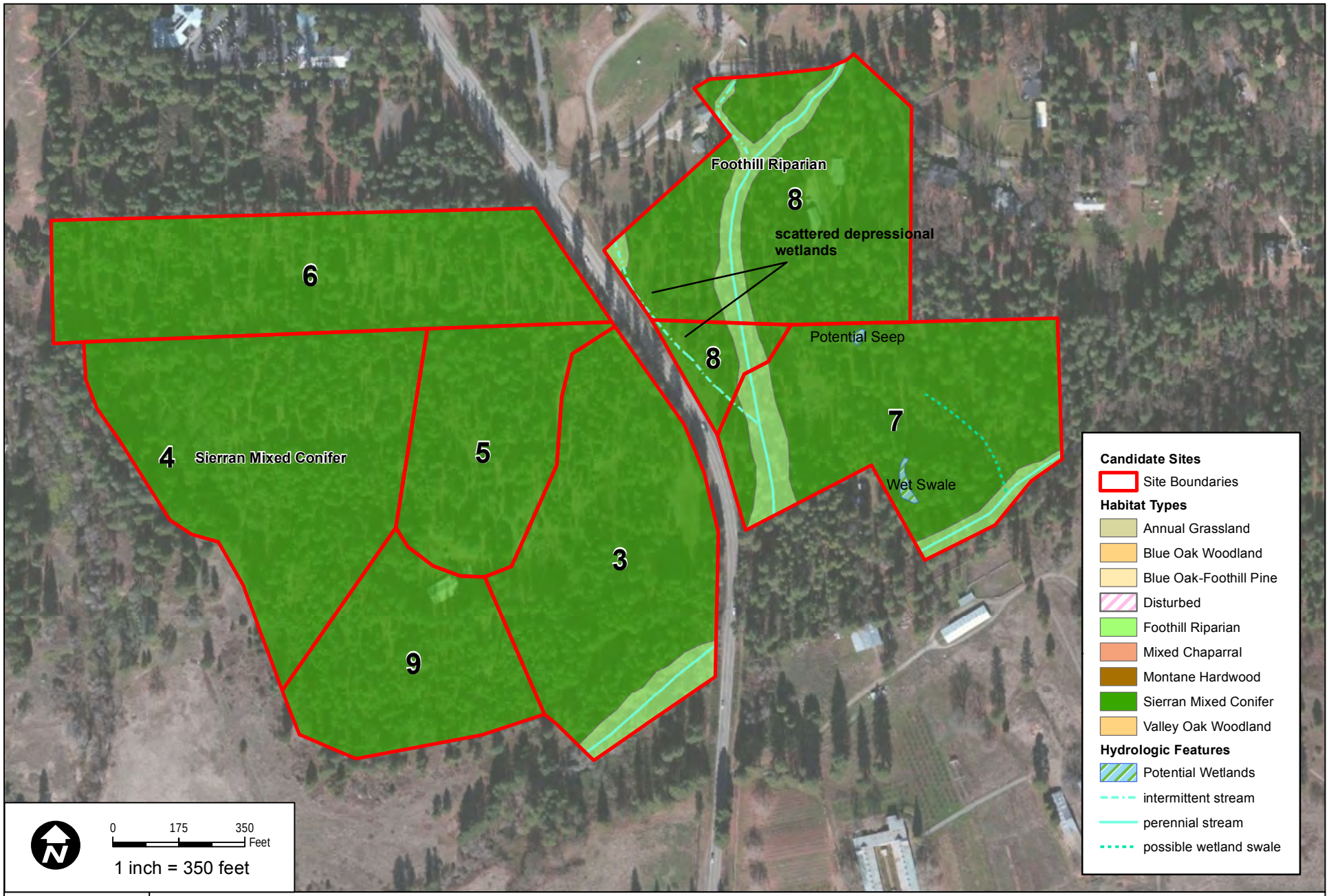
Site 2

Habitat Map

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013



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Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013

Sites 3 - 9

Habitat Map

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Nevada County, CA

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013

Sites 10, 11, 13

Habitat Map

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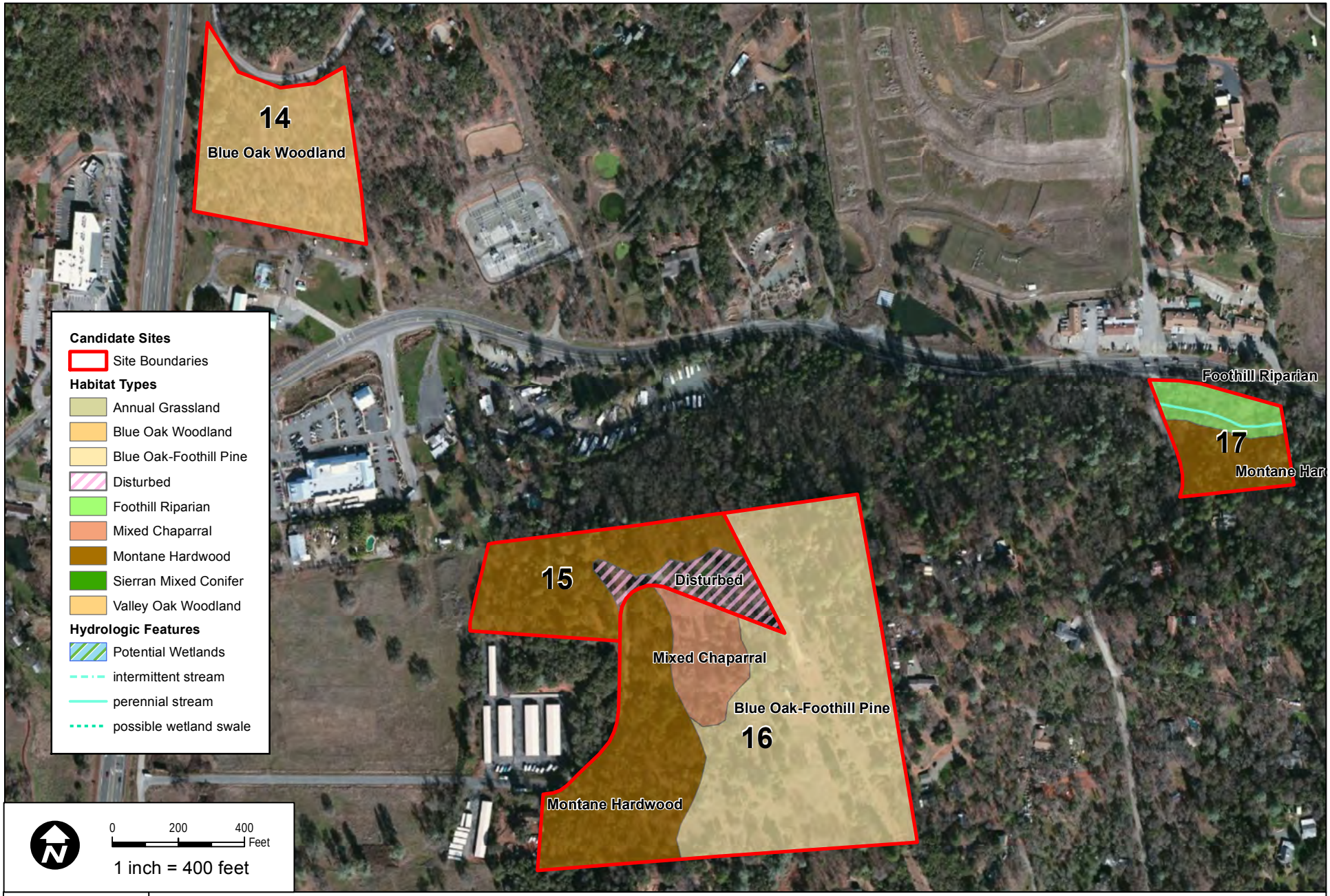
Nevada County, CA

Site 12

Habitat Map

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013



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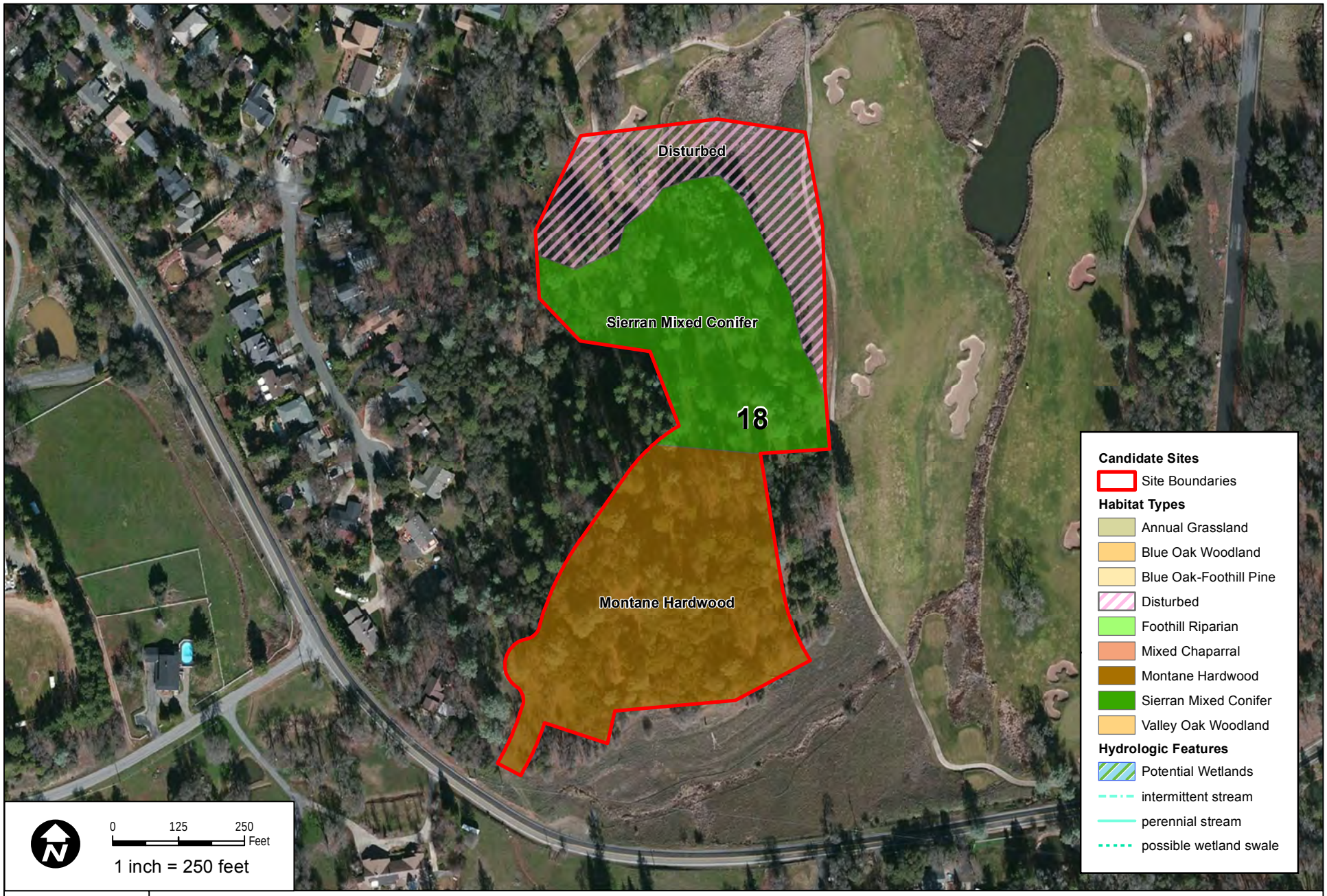
Nevada County, CA

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013

Sites 14 - 17

Habitat Map



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Nevada County, CA

Site 18

Habitat Map

Note: Habitats mapped according to CWHR classification scheme.
Field Surveys: May 5, May 9, and November 27, 2013