Berriman Ranch
Delineation of Waters of the United States and State of California

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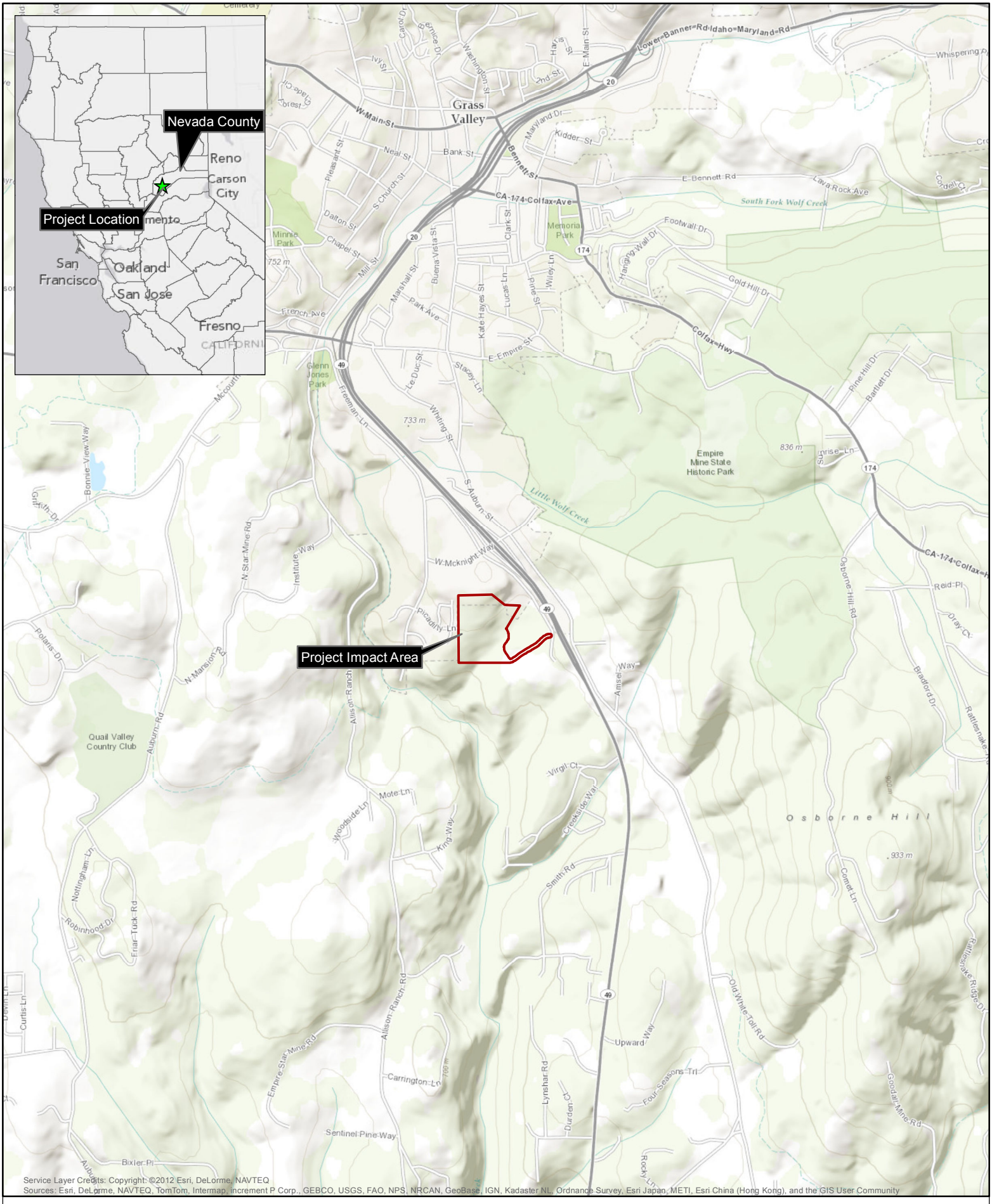
1.0 INTRODUCTION

Greg Matuzak, a Wetlands Consultant, conducted a delineation of potential waters of the United States and State of California, as well as assessed California Department of Fish and Wildlife (CDFW) jurisdiction, within the Berriman Ranch residential development and fire road project area located within the City of Grass Valley in Nevada County, California (Figure 1). The site is located within APN 22-140-03 and 22-160-03 and within Section 2, Township 15 North, Range 8 East within the USGS Grass Valley Quadrangle. The proposed project includes the development of residential units and the upgrade of an existing road to meet City of Grass Valley and local fire code standards. The proposed project includes the development of residential units connecting just east of Picadilly Lane, an existing street within the City of Grass Valley. Additionally, the proposed project plan includes the upgrade and development of an existing road that would connect Picadilly Lane with the newly developed residential units, and then with Taylorville Road.

The project is located in the City of Grass Valley, immediately south of Nevada City, in Nevada County. The project area is generally bound by two roads: Picadilly Lane to the west and Taylorville Road to the east. An existing residential development along Picadilly Lane just west of the proposed residential unit development borders the project area to the west. The project area encompasses approximately 22 total acres. The project area includes vacant private land and it is surrounded by a mix of residential and retail uses. The area surrounding the proposed project area consists of several existing commercial and residential land uses, and to a lesser degree public and quasi-public land uses.

The site is covered mostly by Ponderosa Pine, Annual Grassland, and Abandoned Orchard habitats. The site also includes small amounts of Foothill Hardwood, Foothill Riparian, and Freshwater Emergent Wetland habitats. Significant portions of the old orchards are associated with facultative mesic meadow plants and characterize the delineated wetlands associated with the project site drainages and drainage patterns. Site topography slopes gradually to the west towards Wolf Creek, where onsite drainages connect to. The site is approximately 2,200 feet above mean sea level; elevations increase in east, north, and south directions as the terrain drains to the west (Figure 2). The study area supports Annual Grassland, Orchard, Orchard/Wet Meadow/Seasonal Wetland, Montane Hardwood Woodland, Foothill Riparian habitat, and Fresh Emergent Wetland habitat types. The Foothill Riparian habitat and much of the associated wetlands within the site occur along the main tributary systems to Wolf Creek that cross the property from the east to the west. There is one main unnamed tributary to Wolf Creek that crosses the existing access and fire road, which contains a large culvert to allow water passage under the road.

The purpose of the delineation of waters of the United States on the study area was to determine the location and extent of areas that meet the Corps' criteria as waters of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act (1972) to assist the SCO with development plans of the site. In addition, this delineation assessed the extent of RWQCB jurisdiction under the Clean Water Act and Porter-Cologne Water Quality Act, as well as CDFW jurisdiction, which are limited to rivers, lakes, and streams under the California Fish and Wildlife Code Section 1600 et. seq. This preliminary jurisdictional determination used methods accepted by the Corps as detailed in the Wetlands Delineation Manual (Environmental Laboratory, 1987) and more recently in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Regions (April 2008). Additionally, existing reporting for the site was reviewed, including a Biological Inventory and Habitat Management Plan (EcoSynthesis, 2006),



0 0.5 Miles

1 inch = 2,000 feet

Figure 1
Project Vicinity

Berriman Ranch

Figure 2
Project Location

Berriman Ranch

Special-status Plant Survey Report (EcoSynthesis, 2008), and the Soil Survey for Nevada County, California (www.websoilsurvey.nrcs.ussda.gov) to better characterize the nature and extent of potential jurisdictional areas on the subject site. Any proposed development in areas identified as jurisdictional "waters" is subject to the permit requirements of the Corps, under Section 404 of the Clean Water Act, and would also require a Section 401 water quality certification or waiver thereof. A Streambed Alteration Agreement from the CDFW would also be required for impacts within the jurisdiction covering such an Agreement with CDFW.

2.0 REGULATORY OVERVIEW AND DEFINITIONS

The Corps, under provisions of Section 404 of the Clean Water Act and Corps' implementing regulations, has jurisdiction over the "waters of the United States." "Waters" include all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, seasonal drainage channels, etc.), all impoundments of waters otherwise defined as "waters of the U.S.", tributaries of waters otherwise defined as "waters of the U.S.", territorial seas, and wetlands adjacent to "waters of the U.S.".

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds excavated on dry land used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water filled depressions (51 Fed. Reg. 41, 217 1986). In addition, a Supreme Court ruling (SWANCC vs. Corps, January 9, 2001) determined that the Corps exceeded its statutory authority by asserting Clean Water Act jurisdiction over "an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds." Based solely on the use of such waters by migratory birds, the Supreme Court's holding was strictly limited to waters that are "non-navigable, isolated, and intrastate."

The Supreme Court further addressed the extent of the Corps' jurisdiction in Rapanos v. U.S. (June 19, 2006). There, a sharply divided Court issued multiple opinions, none of which garnered the support of a majority of Justices. This created substantial uncertainty as to which jurisdictional test should be used going forward. The Ninth Circuit Court of Appeal, which encompasses California, answered this in Northern California River Watch v. City of Healdsburg (August 11, 2006). There, the Court held that Justice Kennedy's opinion in Rapanos provides the controlling rule of law. Under that rule, wetlands or other waters which are not navigable in fact are subject to the Corps jurisdiction if they have a "significant nexus" to a navigable-in-fact waterway. As Justice Kennedy explained, whether a "significant nexus" exists in any given situation will have to be decided on a case-by-case basis, depending on site-specific circumstances. Corps Headquarters in Washington, D.C. is working on substantive guidance to its District Offices as to how to apply these rulings. Pending issuance of that guidance, this report describes aquatic features on the property which meet the physical characteristics of wetlands or other waters. This represents the maximum amount of area on the property that may constitute "waters of the United States" which are subject to Corps jurisdiction. This information will be submitted to the Corps with a request that they verify this delineation. At that time, the Corps will determine whether all, a portion, or none of these aquatic features are subject to their jurisdiction in light of these court decisions. In any event, these rulings do not alter the extent of State jurisdiction over "waters of the State" (which are subject to RWQCB jurisdiction, or "rivers, lakes or streams" subject to CDFW jurisdiction.

CDFW has regulatory authority over any work within rivers, lakes and streams of the State of

California (California Fish and Wildlife Code Sections 1601-1603) on public, private and agricultural lands. Features that are regulated by CDFW include all rivers, streams, or lakes including man-made watercourses with or without wetlands, if they contain a definable bed and bank and have fish or wildlife habitat.

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USFWS has published the *National List of Plant Species That Occur In Wetlands* (1988, revised draft 1997, Corps update of wetland ratings 2014), which separates vascular plants into the following basic categories based on plant species frequency of occurrence in wetlands:

- Obligate wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.

- Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.

- Facultative (FAC). Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).

- Facultative Upland (FACU). Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).

- Obligate Upland (UPL). May occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.

The Corps considers OBL, FACW, and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the updated 2014 list is assumed to be an upland species, almost never occurring in wetlands.

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. In Northern California, sufficient duration is defined as a minimum of two weeks during the growing season. Field indicators of wetland soils include observations of ponding, inundation, or saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), or gleying, which indicates reducing conditions by a blue-grey color. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of

wetland hydrology is frequently supported by indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Ordinary High Water Mark (OHWM) is that line on the shore or banks of a water course established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.

3.0 METHODS

The delineation of potential Section 404 "waters of the United States" and wetlands (as a subcategory of waters), RWQCB "waters of the State", and CDFW jurisdictional areas on the property was conducted on June 24th, June 29th, and July 10th, 2014 using the routine methodology as detailed in the Corps's 1987 *Wetlands Delineation Manual*. Reconnaissance-level site visits were conducted earlier in June 2014 that aided the characterization of the extent of potential jurisdictional areas. The entire project area was surveyed on foot by a wetlands ecologist and GPS/GIS specialist (Greg Matuzak and Kate Gross) for the presence of waters of the U.S. and State of California, including wetlands. The survey area included a 60 foot corridor centered on the existing access road that cuts through the project area. The existing access road is approximately 20 to 26 feet wide and an additional 17 to 20 feet was surveyed on each side of the access road for a total of a 60 foot corridor. In addition, several additional areas, including the existing unnamed tributary to Wolf Creek that crosses the project area, were included as part of the survey. The area surveyed is outlined in Figure 2.

Within the project area, normal circumstances exist because the site has been disturbed by historic farming practices and road maintenance operations, public access, and ongoing site management for many years and is now considered normal for the site. Dumping of soils, landscape materials and other miscellaneous items has also occurred for many years, and the current circumstances are now considered normal for the site. Areas not subject to this regular type of disturbance are dominated by native habitat and therefore, are also the normal circumstance. The presence of sandy and sandy loam soil mapping units on the property classifies the site as a potential problem area, and careful attention was paid while evaluating onsite soils.

The onsite unnamed tributary to Wolf Creek and adjacent topographic low areas dominated by native vegetation were the focus of the wetland delineation investigation given that the areas outside of this area were clearly upland, marked by the presence of non-native and native annual grassland species. The site visits in June and July 2014 followed no seasonal rain events and therefore, direct observation of hydrology in some areas of the project site was not possible. The potential waters of the U.S. were mapped based on the observable signs of wetland hydrology (i.e.: presence of drainage patterns and an observable ordinary high water mark within the onsite unnamed tributary to Wolf Creek). Areas containing a predominance of wetland and riparian vegetation within and adjacent to the unnamed tributary to Wolf Creek were mapped as wetland-waters of the U.S. because all three wetland parameters were met. In all of the areas surveyed, the extent of Corps and RWQCB jurisdiction were identical given that any area not showing hydric soils also did not meet the test for hydrophytic vegetation. Potential "waters" were delineated on an aerial photograph (see Figure 3 and Figure 4). Data observation points were collected in areas of the site that characterized potential "waters" which primarily consisted of areas that contained evidence of wetland hydrology (i.e. within or adjacent to the

unnamed tributary to Wolf Creek and in topographic low areas). The OHWM associated with the unnamed tributary to Wolf Creek was identified and areas containing sediment deposition, as well as the extent of hydrophytic vegetation, were used to identify the potential extent of Corps and RWQCB jurisdiction.

The unnamed tributary to Wolf Creek within the project area was determined to fall under CDFW jurisdiction based on the presence of a distinct bed and bank and its hydrologic connection to other natural drainage features in the region. The associated Foothill Riparian habitat connecting the unnamed tributary to Wolf Creek was considered a Foothill Riparian Wetland given the presence of hydric soils (from soil test pits), hydrophytic vegetation, and the connection to the tributary.

Data observation points were taken in the drainage feature and in areas dominated by hydrophytic plant species, as well as adjacent upland areas to characterize the extent of potential Federal and State jurisdiction. Soil pits were excavated to a depth of approximately 12 to 16 inches during the delineation. Given the dry nature of the site at the time of the survey, soils in general were very dry, dusty on the surface, and difficult to reach below 12 to 16 inches. Soils were not investigated in all areas of the site given most of the western section of the project area contained upland plant species and no indicators of wetland hydrology. Hydric soils were presumed absent in these locations as the areas were devoid of wetland vegetation and contained no positive indicators of wetland hydrology. Information recorded at each data point location included plant species composition (to determine the presence/absence of hydrophytic vegetation), presence/absence of indicators of wetland hydrology, and in areas containing potential wetland habitat, indicators of hydric soils.

Our final determination of potential waters of the U.S. and state of California within the subject property was based on the dominance of wetland vegetation, the presence of hydric soils, and the presence of an observable OHWM within the unnamed tributary to Wolf Creek.

4.0 RESULTS

4.1 Summary

A total of eight (8) data observation points were used to delineate potential waters of the U.S. and State of California on the property. The majority of the property is upland habitat composed of Ponderosa Pine, Annual Grassland, and abandoned orchard habitats. However, much of the abandoned orchards are located within the drainage patterns associated with the unnamed tributary to Wolf Creek. Classification of the onsite habitat types corresponds to the descriptions of natural terrestrial communities identified within the Nevada County Natural Resources Report (NCNRR; Nevada County, 2002). Appendix A includes a list of plant species observed during the surveys and Appendix B illustrates the USDA soil mapping units that occur on the property. Appendix C includes the wetland determination data forms and Appendix D includes a photo log of the site.

The majority of areas identified as potential waters of the U.S. within the project area are wetland waters as they contained a predominance of hydrophytic plant species, an observable drainage pattern or secondary indicator of wetland hydrology, and had hydric soil indicators. Wetlands were generally associated with the unnamed tributary to Wolf Creek and associated riparian habitat along both sides of the access and fire road. A small patch of seasonal wetland was identified and mapped observed onsite adjacent to the unnamed tributary to Wolf Creek in a wet meadow/seasonal wetland area. The unnamed tributary to Wolf Creek is considered a

stream with a clear OHWM and positive indicators of wetland hydrology given the drainage was dry during the surveys. In total, the delineation of waters of the U. S. identified approximately 1.72 acres of potential Foothill Riparian Wetland, 0.03 acres of Seasonal Wetland, and approximately 0.06 acres of Seasonal Streams. The mapped features are included in Figure 3 and Figure 4. As previously stated, our investigation determined that the entire reach of the unnamed tributary to Wolf Creek and associated riparian habitat within the project area is a CDFW jurisdictional area.

Potential waters of the U.S. consist of the unnamed tributary to Wolf Creek, which is seasonal stream since it contains a clear bed and bank and OHWM but was dry during the surveys. The unnamed tributary to Wolf Creek and associated riparian habitat and seasonal wetland onsite are hydrologically connected to Wolf Creek, the Bear River, the Feather River, the Sacramento River, the San Francisco Delta, and ultimately the Pacific Ocean. One are in the northern section of the project area contained marginal hydrophytic vegetation, non-hydric soils, and is hydrologically isolated from the unnamed tributary to Wolf Creek and was determined to not fall within the Corps' jurisdiction. The unnamed tributary to Wolf Creek and associated riparian and seasonal wetland areas (identified in Figure 3 and Figure 4 Wetland Delineation Maps) were also determined to fall under RWQCB jurisdiction based on the dominance of hydrophytic vegetation.

4.2 Site Drainage

The site drainage runs from the east towards the west, with most of the site drainage crossing the project area within the unnamed tributary to Wolf Creek. The unnamed drainage crosses the existing site access and fire road through a large culvert. Associated riparian habitats in the eastern area of the project area contain hydric soils and hydrophytic vegetation; therefore, the unnamed tributary to Wolf Creek and associated riparian habitats have been identified as waters of the U.S. and waters of the State of California. The only feature within the project area that contains an OHWM and defined bed and bank is the unnamed tributary to Wolf Creek, which has been identified as a Seasonal Stream in the project area given the stream was dry during the surveys.

4.3 Vegetation

The project area is composed primarily of Ponderosa Pine, Annual Grassland, and abandoned orchard habitats. However, the abandoned orchard habitats are associated generally with the riparian habitats adjacent to the unnamed tributary to Wolf Creek and are considered Foothill Riparian Wetlands. The Ponderosa Pine habitats also include incense cedar (*Calocedrus decurrens*) and California black oak (*Quercus kelloggii*). The Annual Grassland habitats contain bromes (*Bromus diandrus and B. hordeaceus*), wild oats (*Avena* sp.), orchard grass (*Dactylis glomerata*), tall fescue (*Festuca arundinacea*), among other native and non-native grasses. The abandoned orchard areas, which are primarily associated with Foothill Riparian Wetlands, include white alders (*Alnus rhombifolia*) and willows (*Salix laevigata* and *S. lasiolepis*) in addition to Himalayan blackberry (*Rubus armeniacus*), Baltic rush (*Juncus balticus*), and iris-leaved rush (*Juncus xiphioides*).

Areas identified as seasonal wetlands and wetlands associated with the unnamed tributary to Wolf Creek contain a diverse palette of native herbaceous wetland species, such as clustered field sedge (*Carex praegracilis*), umbrella sedge (*Cyperus eragrostis*), Baltic rush (*Juncus balticus*), and iris-leaved rush (*Juncus xiphioides*). In addition, an obligate wetland species,

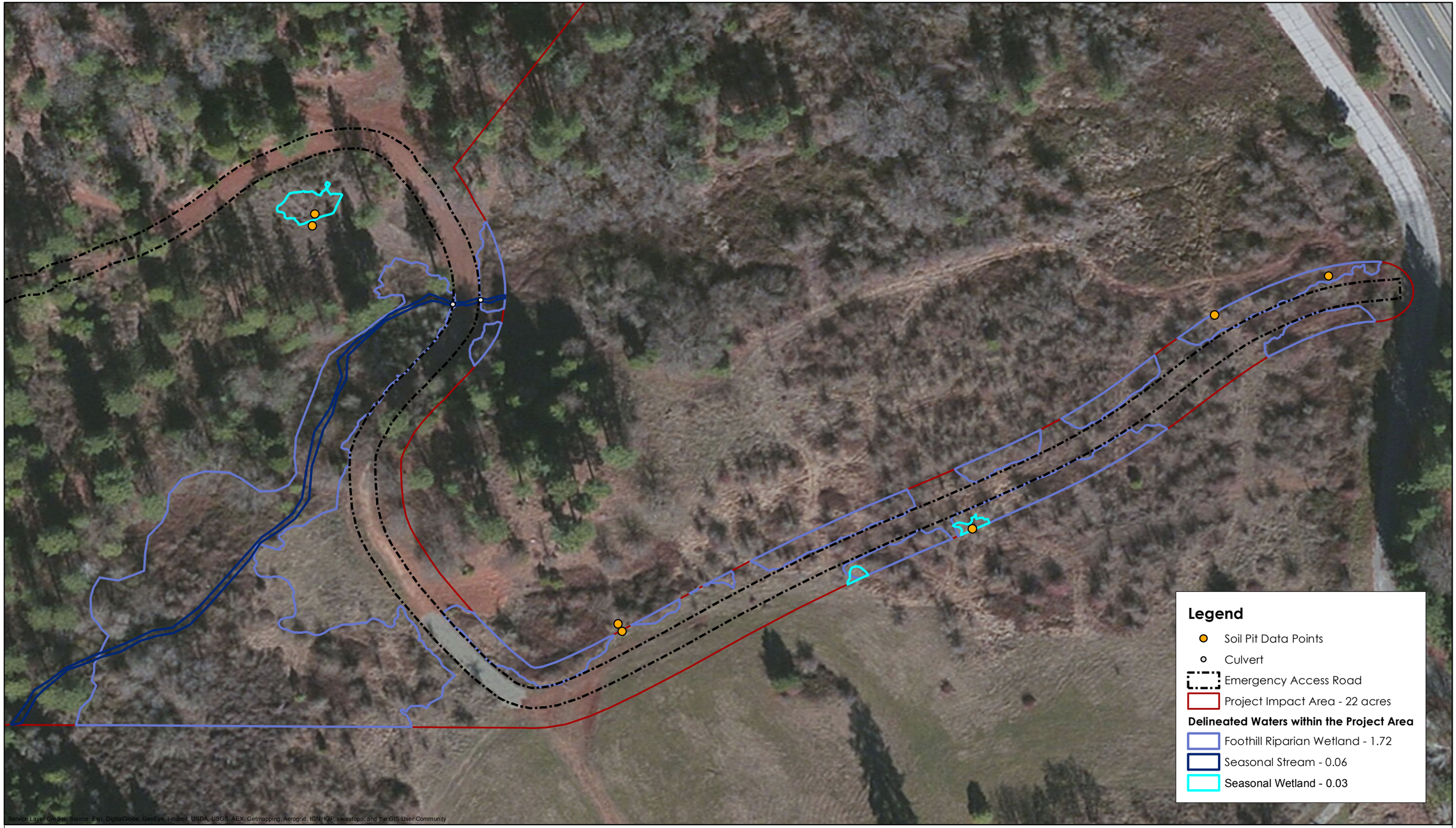
N

0 260 Feet

1 inch = 133 feet

Figure 3
Delineated Water of the United States

Berriman Ranch



N

0 180 Feet

1 inch = 88 feet

Figure 4
Delineated Water of the United States

Berriman Ranch

cattail (*Typha* sp.) is also present in the topographic low areas adjacent to the unnamed tributary to Wolf Creek.

4.4 Soils

The USDA identifies three soil mapping units within the project survey area and include: (1) Musick sandy loam, 15-50% slopes; 2) Musick sandy loam, 5-15% slopes; and 3) Alluvia land, clayey (See Appendix B for Soils Map). The Alluvial land, clayey soil mapping unit is associated with the unnamed tributary to Wolf Creek and associated Foothill Riparian habitat and wetlands. The other two soil mapping units, which include the Musick sandy loam, 15-50% slopes and Musick sandy loam, 5-15% slopes occur within the upland portions of the study area that generally contain native and non-native grasslands and ponderosa pines. The following provides a brief overview of these soil mapping units:

Musick sandy loam, 15-50% slopes (MrE) is a well drained soil underlain by weathered granodiorite. Permeability is moderately slow in the subsoil. Runoff from this soil is medium to rapid on this soil. This soil is associated with areas used mostly for timber production. This soil is found in the western and northern areas of the project area adjacent to Picadilly Lane where stands of ponderosa occur within the site.

Musick sandy loam, 5-15% slopes (MrC) is a well drained soil underlain by weathered granodiorite. Permeability is moderately slow in the subsoil. Runoff from this soil is medium and the hazard of erosion is moderate. This soil is associated with areas used mostly for timber production. Some areas are used for limited grazing and irrigated pasture. This soil is found in the eastern area of the project area adjacent to Taylorville Road.

Alluvial land, clayey (Ao) is a miscellaneous land type consisting of narrow areas of alluvial material deposited along small stream channels and drainage ways. This is a moderately well drained to poorly drained material formed in fine textured alluvium derived dominantly from metabasic and granite rock. Permeability is moderately slow to very slow in this land type and it is used for winter and spring pasture and for range. This soil mapping unit is associated with the unnamed tributary to Wolf Creek and associated riparian and wetland habitat.

4.5 Hydrology

The project site has been identified as being located within the Grass Valley watershed as defined by the NCNRR. The main hydrological feature associated with the project area includes an unnamed tributary to Wolf Creek, located just west of the project area. Given the project area generally slopes from east to west, a majority of the project area drains into the unnamed tributary to Wolf Creek and eventually into Wolf Creek itself. Each data observation point was examined for positive field indicators of wetland hydrology. Indicators of wetland hydrology on the site were determined if there was an observation of a drainage pattern, water marks, cracking of the soil at the surface, and/or sediment deposits within and adjacent to the natural drainage features on site and associated riparian habitat. The preliminary Corps and RWQCB jurisdictional determination was based primarily on the presence of an observable ordinary high water mark within the unnamed tributary to Wolf Creek, but also included topographic low areas adjacent to this drainage feature that contained a predominance of wetland vegetation.

4.6 Delineation of Waters of the U.S. and State of California

This investigation within the project study area identified approximately 1.81 acres of potential wetland waters of the U.S., including 1.72 acres of Foothill Riparian Wetland, 0.03 acres of Seasonal Wetland, and 0.06 acres of Seasonal Stream. These are also considered wetland-waters of the State of California and the site does not contain any additional waters of the State of California. CDFW jurisdictional area was identified within and along the unnamed tributary to Wolf Creek. The location, extent and determining factors are detailed below.

The majority of the wetlands delineated within the project site were associated with the unnamed tributary to Wolf Creek and adjacent riparian habitats. The unnamed tributary to Wolf Creek contains a defined bed and bank and OHWM; therefore, it was identified as a Seasonal Stream and is considered a waters of the U.S. and State of California. These wetland areas are associated with the southern and eastern areas of the project area and are mostly associated with the Alluvial land, clayey (Ao) mapped soil unit, which is associated with floodplains and small streams, and where not associated with the Ao mapped soil unit, they are associated directly within and adjacent to the unnamed tributary to Wolf Creek. The unnamed tributary to Wolf Creek and associated riparian habitat and seasonal wetland onsite are hydrologically connected to Wolf Creek, the Bear River, the Feather River, the Sacramento River, the San Francisco Delta, and ultimately the Pacific Ocean and therefore, meet the definition of a waters of the U.S. and State of California.

No wetlands were identified within the access and fire road intended to be upgraded with gravel in order to meet the City of Grass Valley and local fire codes. The wetlands identified in some areas lie adjacent to the existing roads and beyond; however, if the upgrades to the existing road are contained within the existing roadway and not within any of the mapped wetland areas detailed in Figure 3 and Figure 4 then no waters of the U.S. and State of California, including wetlands should be impacted by the proposed housing development or upgrade to the existing road. The proposed housing development is located in the northwest corner of the project area in an area that does not contain any waters of the U.S. and State of California, including wetlands given it is located in an upland area containing mostly Ponderosa Pine habitat.

Areas containing a predominance of hydrophytic vegetation and hydric soils adjacent to the unnamed tributary to Wolf Creek were identified as wetland waters as all three parameters that define a Corps jurisdictional wetland were met. The entire portion of the unnamed tributary to Wolf Creek that lies within the project area falls under Corps jurisdiction pursuant to Section 404 of the CWA. In addition to the above described Corps jurisdictional areas, there are no additional features that would fall under the RWQCB jurisdiction pursuant to the Clean Water Act and Porter-Cologne Water Quality Control Act.

5.0 CONCLUSION

The existing access road is 20 to 26 feet wide where it crosses the project area. In order to upgrade the access road to local City of Grass Valley and fire code standards, the access road must include a gravel base of 18 feet wide with a foot of shoulder on each side of the road for a total width of 20 feet. Therefore, waters of the U.S. and waters of the State of California delineated adjacent to the existing access road within the project area are located outside of the existing road area to be upgraded and the other areas to be developed within the 22 acre project area. Therefore, the upgrades to the existing access road and other areas within the project area lie outside the mapped features potentially regulated by the Corps pursuant to Section 404 of the CWA and regulated by the RWQCB pursuant to Section 401 of the CWA.

Through the survey of waters of the U.S. and waters of the State of California, it was determined that approximately 1.72 acres in the project area are designated as Foothill Riparian Wetland associated with the unnamed tributary to Wolf Creek. In addition, adjacent to the unnamed tributary to Wolf Creek, approximately 0.03 acres of Seasonal Wetland was identified in the project area and approximately 0.06 acres of Seasonal Stream (unnamed tributary to Wolf Creek) was identified in the project study area and contains a defined bed and bank and OHWM. A total of 1.81 acres of waters of the U.S. and waters of the State of California were identified within the 22 acre project area that would potentially fall under the Corps jurisdiction pursuant to Section 404 of the CWA.

The RWQCB pursuant to Section 401 of the Clean Water Act also has jurisdiction over these areas. As detailed in the CWA, any proposed construction that would place fill within areas identified as Corps jurisdictional waters would require a Department of the Army Section 404 permit and Section 401 Water Quality Certification, or waiver thereof, prior to construction. This investigation determined that the unnamed tributary to Wolf Creek and associated riparian habitat would likely fall under CDFW jurisdiction as this area contains a bed and bank with associated wildlife habitat. Any proposed alteration of this area on the subject property may require a Streambed Alteration Agreement from the CDFW pursuant to Section 1600 *et. seq.* of the California Fish and Wildlife Code prior to construction.

Appendix A

Plant List

Appendix A. Species observed within the project area during the wetland delineation

Scientific Name	Common Name
CRYPTOGAMS	**FERNS AND SPIKE-MOSSES**
Blechnaceae	
Woodwardia fimbriata	chain fern
Dennstaedtiaceae	**Bracken Family**
Pteridium aquilinum	bracken fern
Equisetaceae	**Horsetail Family**
Equisetum arvense	common horsetail
GYMNOSPERMS	**CONIFERS**
Cupressaceae	**Cypress Family**
Calocedrus decurrens	incense cedar
DICOTYLEDONS	**FLOWERING PLANTS**
Aceraceae	**Maple Family**
Acer macrophyllum	big-leaf maple
Anacardiaceae	**Cashew Family**
Toxicodendron diversilobum	poison oak
Apiaceae (Umbelliferae)	**Carrot Family**
Daucus carota	wild carrot
Torilis arvensis	hedge-parsley
Asteraceae (Compositae)	**Sunflower Family**
Artemisia douglasiana	mugwort
Aster eatonii	Eaton’s aster
Calycadenia spicata	white tarweed
Carduus pycnocephala	Italian thistle
Centaurea solstitialis	yellow star-thistle
Cichorium intybus	chicory
Cirsium occidentale	western thistle

Cirsium vulgare	common thistle
Grindelia hirsutula	gum plant
Leucanthemum sp.	ox-eye daisy
Madia elegans ssp. *vernalis*	common madia
Madia gracilis	slender tarweed
Solidago canadensis	goldenrod
Sonchus sp.	sow thistle
Taraxacum officinale	common dandelion
Betulaceae	**Birch Family**
Alnus rhombifolia	white alder
Brassicaceae (Cruciferae)	**Mustard Family**
Brassica nigra	black mustard
Lepidium nitidum	pepper grass
Rorippa nasturtium-aquaticum	water cress
Caprifoliaceae	**Honeysuckle Family**
Lonicera hispidula	honeysuckle
Cornaceae	**Dogwood Family**
Cornus nuttallii	California dogwood
Ericaceae	**Heath Family**
Arctostaphylos viscida	whiteleaf manzanita
Fabaceae	**Legume Family**
Lathyrus latifolius	sweet pea
Lotus humistratus	lotus
Hypericaceae	**St. John's Wort Family**
Hypericum perforatum	Klamath weed
Juglandaceae	**Walnut Family**
Juglans californica	California black walnut

Lamiaceae	**Mint Family**
Prunella vulgaris var. *lanceolatus*	self-heal
Stachys ajugoides	hedge nettle
Trichostema lanceolatum	vinegar weed
Plantaginaceae	**Plantain Family**
Plantago lanceolata	common plantain
Polemoniaceae	**Phlox Family**
Navarretia sp.	navarretia
Polygonaceae	**Buckwheat Family**
Rumex crispus	curly dock
Rosaceae	Rose Family
Malus spp.	pear and apple Several cultivars
Oemleria cerasiformis	oso berry
Prunus virginiana	choke cherry
Rosa californica	wild rose
Rubus armeniacus	Armenian blackberry
Rubus laciniatus	cut-leaved blackberry
Rubus leucodermis	blackcap raspberry
Salicaceae	**Willow Family**
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
Scrophulariaceae	**Figwort Family**
Mimulus guttatus	seep-spring monkeyflower
Verbascum blattaria	moth mullein
Verbascum thapsus	woolly mullein
Cyperaceae	**Sedge Family**
Carex densa (dudleyi)	sedge
Carex feta	sedge
Carex praegracilis	clustered field sedge
Cyperus eragrostis	umbrella sedge

Iridaceae	**Iris Family**
Iris sp.	iris
Juncaceae	**Rush Family**
Juncus balticus	Baltic rush
Juncus bufonius	toad rush
Juncus effusus	soft rush
Juncus tenuis	rush
Juncus xiphioides	iris-leaved rush
Lemnaceae	**Duckweed Family**
Lemna sp.	duckweed
Liliaceae	**Lily Family**
Chlorogalum pomeridianum	soap plant
Poaceae	**Grass Family**
Avena sp.	wild oats
Briza minor	tiny rattlesnake grass
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft brome
Cynosurus echinata	dog-tail grass
Dactylis glomerata	orchard grass
Elymus glaucus	blue wild-rye
Festuca arundinacea	tall fescue
Holcus lanatus	velvet grass
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley
Lolium perenne perennial	rye grass
Muhlenbergia rigens	deer grass
Phalaris aquatica	Harding grass
Poa pratensis	Kentucky bluegrass
Taeniatherum caput-medusae	medusa-head grass

Appendix B

Soils Map

C:\Users\kgross\Desktop\berriman_ranch\gis\mxd\soils.mxd

N

0 500 Feet

1 inch = 500 feet

NEVADA

Soil Units and National Wetland Inventory

Berriman Ranch Development Project

Appendix C

Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley/Nevada Sampling Date: 7/10/2014

Applicant/Owner: State: CA Sampling Point: Seasonal wetland 1

Investigator(s): Greg Matuzak/Kate Gross Section, Township, Range: Section 2, T15N, R8E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: MrE Musick sandy loam 15-50% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2. Rubus armeniacus	20%	yes	FACU
3. Taeniatherum caput-medusae	30%	yes	UPL
4. Chlorogalum pomeridianum	10%		UPL
5. Daucus carota	10%		FACU
6. Hypericum perforatum	5%		FACU
7. Taraxacum officinale	5%		FACU
8. Aster eatonii	10%		FAC
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

upland vegetation present

SOIL

Sampling Point: Seasonal wetland #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR4/4	100%					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

hydric soils not identified at this point

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

wetland hydrology indicators not identified at this point

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley/Nevada Sampling Date: 7/10/2014

Applicant/Owner: State: CA Sampling Point: seasonal wetland 1

Investigator(s): Greg Matvzak/Kate Gross Section, Township, Range: section 2, T15N, R8E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: MrE Musick sandy loam 15-50% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Seasonal wetland datapoint in central area of project site

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2. Carex feta	30%	yes	FACW
3. Juncus balticus	15%		FACW
4. Juncus xiphioides	20%	yes	OBL
5. Carex praegracillis	20%	yes	FACW
6. Rubus armeniacus	15%		FACU
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	65	x 2 =	130
FAC species	–	x 3 =	–
FACU species	15	x 4 =	60
UPL species		x 5 =	
Column Totals:	100 (A)		210 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: Seasonal wetland #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 3/2	75%	7.5YR 4/4	25%	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soils present - dark chroma mottles present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: wetland hydrology present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley / Nevada Sampling Point: Non wetland #2

Applicant/Owner: State: CA Sampling Date: 7/10/2014

Investigator(s): Greg Matvzak / Kate Gross Section, Township, Range: Section 2, T15N, R8E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: MrE Musick Sandy loam 15-50% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2. Juncus balticus	10%		FACW
3. Rubus armeniacus	55%	Yes	FACU
4. Aster Eatonii	15%		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: non-wetland #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR3/4	100%					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: no hydric soils present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no wetland hydrology indicators present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley/Nevada Sampling Date: 6/29/2014

Applicant/Owner: State: CA Sampling Point: Riparian wetland

Investigator(s): Greg Matzak / Kate Cross Section, Township, Range: Section 2, T15N, R8E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Alluvial land, clayey NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Astoria eatonii	20%	Yes	FAC
2. Juncus balticus	15%	Yes	FACW
3. Rubus armeniacus	25%	Yes	FAC
4. Carex feta	10%		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	—	x 1 =	—
FACW species	25	x 2 =	50
FAC species	20	x 3 =	60
FACU species	25	x 4 =	100
UPL species		x 5 =	
Column Totals:	70 (A)		210 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

hydrophytic vegetation present

SOIL

Sampling Point: Riparian wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 4/2	85%	2.5YR 4/4	15%	C	M	fine loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: low chroma hydric soils present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: wetland hydrology present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley / Nevada Sampling Date: 6/29/2014

Applicant/Owner: State: CA Sampling Point: Riparian wetland

Investigator(s): Greg Matuzak / Kate Gross Section, Township, Range: Section 2, T15N, R8E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Alluvial land, clayey NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Taeniatherum caput-medusae	85%	yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: Riparian wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12"	7.5YR3/3	100%					fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

non-hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no wetland hydrology indicators present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Perriman Ranch City/County: Grass Valley Sampling Date: Point RR Riparian wetland east end

Applicant/Owner: State: CA Sampling Point: 6/24/2014

Investigator(s): Greg Medvzak / Kate Gross Section, Township, Range: section 2, T15N, R8E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: MrC Musick sandy loam 5-15% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2. Juncus balticus	40%	Yes	FACW
3. Aster eatonii	20%	Yes	FAC
4. Rubus armeniacus	20%	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	—	x 1 =	—
FACW species	40	x 2 =	80
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species		x 5 =	
Column Totals:	80 (A)		220 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: Riparian wetland east side

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR4/2	90%	2.5YR4/4	10%	C	M	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

dark chroma = hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

wetland hydrology indicators present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley / Nevada Sampling Date: 6/29/2014

Applicant/Owner: State: CA Sampling Point: Riparian wetland

Investigator(s): Greg Matrzak / Kate Gross Section, Township, Range: Section 2, T15N, R8E coastal

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: MrC Musick Sandy loam 5-15% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2. Rubus armeniacus	85%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Upland vegetation present

SOIL

Sampling Point: Riparian wetland East end

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 3/3	100%						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

non-hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators present

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Berriman Ranch City/County: Grass Valley / Nevada Sampling Date: 6/29/2014

Applicant/Owner: State: CA Sampling Point: Seasonal wetland #2

Investigator(s): Greg Matvienko Section, Township, Range: Section 2, T 15N, R8E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none Slope (%): 2%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Alluvial land, clayey NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Aster eatonii	25%	yes	FAC
2. Juncus balticus	45%	yes	FACW
3. Rubus armeniacus	15%		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytic vegetation present

SOIL

Sampling Point: seasonal wetland #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR4/2	85%	2.5YR4/4	15%	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: dark chroma soils = hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: wetland hydrology indicators present

Appendix D

Photo Log

Photo 1: Seasonal wetland adjacent to the unnamed tributary to Wolf Creek.

Photo 2: Seasonal wetland adjacent to the unnamed tributary to Wolf Creek.

Photo 3: Seasonal wetland in the eastern portion of the project area on the south side of access road.

Photo 4: Freshwater emergent wetland adjacent to unnamed tributary to Wolf Creek.

Photo 5: Freshwater emergent wetland and riparian habitat adjacent to unnamed tributary to Wolf Creek.

Photo 6: Western forested and non-wetland area of project area.

Photo 7: Entrance to western portion of project area from Picadilly Lane.

Photo 8: Western forested and non-wetland area of project area.

Photo 9: Unnamed tributary to Wolf Creek with associated riparian habitat vegetation.

Photo 10: Eastern portion of the project area with abandoned orchards and associated riparian habitat vegetation.