

EXHIBIT B. WETLANDS MANAGEMENT PLAN

NORTH SAN JUAN FIRE SUPPRESSION PROJECT



Prepared for:

NEVADA COUNTY PLANNING DEPARTMENT

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12213 Half Moon Way
Nevada City, CA 95959

AUGUST 1, 2023

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SUMMARY

Project Location and Description

The County of Nevada is proposing to construct water system facilities for fire suppression in the North San Juan (NSJ) community located on San Juan Ridge in western Nevada County. The system will include a 330,000-gallon steel water storage tank, a well with pump and related controls, a well building, approximately 3,850 feet of 12-inch pipeline, 500 feet of 6-inch fire hydrant lateral pipeline, eleven 12-inch butterfly valves, ten 6-inch gate valves, and ten fire hydrants. This project would revolutionize the ability to fight fires in the commercial core of NSJ and the immediately surrounding areas, in a region where there is otherwise little or no break in the wildland/structural interface, potentially allowing fire to spread rapidly through brush, grass, and timber. Additionally, it would open the door to commercial development in the NSJ community that is currently curtailed due to water supply requirements on new development. As part of this effort, Nevada County is preparing CEQA and NEPA environmental documents that require a Biological Inventory report and this Wetlands Management Plan.

Plant Communities

The proposed project follows existing roads in the NSJ community, and most of the new infrastructure would be placed in previously-disturbed, roadside areas. However, remnant plant communities documented within the proposed project areas and road alignments include: black oak woodland; mixed conifer-hardwood forest; ponderosa pine forest; non-native annual grassland, disturbed-ruderal areas, and four potential wetland areas.

Landmark Trees and Groves

Two Landmark Trees exist in the proposed project area. These will both be avoided by the new project design so there will be no adverse impacts to the Landmark Oaks.

Waters of the United States/Wetlands

Four potential Waters of the United States/Wetlands exist in the project area, but impacts can be avoided by following the Best Management Practices described in the Mitigation Measures section below.

INTRODUCTION

Project Location

The proposed project is located in the community of North San Juan (NSJ) on San Juan Ridge in western Nevada County (Figure 1). NSJ is primarily situated in the southern ½ of Section 5 T18N R8E Nevada City USGS 7.5' quadrangle, and it is within the Moonshine Creek Watershed, a tributary of the South Yuba River (Beedy and Brussard 2002).

Project Description

The County of Nevada is proposing to construct water system facilities for fire suppression in the NSJ community. The system will include a 330,000-gallon steel water storage tank, a well with pump and related controls, a well building, approximately 3,850 feet of 12-inch pipeline, 500 feet of 6-inch fire hydrant lateral pipeline, eleven 12-inch butterfly valves, ten 6-inch gate valves, and ten fire hydrants (Figure 2). The pipelines would be buried in 4-5 foot-deep trenches that would be filled and restored to the original grade after construction.

This project would revolutionize the ability to fight fires in the commercial core of NSJ and the immediately surrounding areas, in a region where there is otherwise little or no break in the wildland/structural interface, potentially allowing fire to spread rapidly through brush, grass, and timber. Additionally, it would open the door to commercial development that is currently curtailed due to water supply requirements on new development.

As part of this effort, Nevada County is preparing CEQA and NEPA environmental documents that require a Biological Inventory report and this Wetlands Management Plan. Nevada County zoning ordinances (Section L-II 4.3.17.C) require that a Management Plan be submitted for projects in non-disturbance buffers, including the area within 100 feet of a perennial stream or within 50 feet of an ephemeral stream (Nevada County 2000. Land Use and Development Code, Chapter II: Zoning Regulations. Effective July 27, 2000). Sec. L-II 4.3.3 General Provisions also include that the proposed project is the preferred alternative since it meets all of the project requirements and it will minimize any potential impacts to wetlands and other sensitive natural resources in the project area.

Figure 1. Project Vicinity Map.

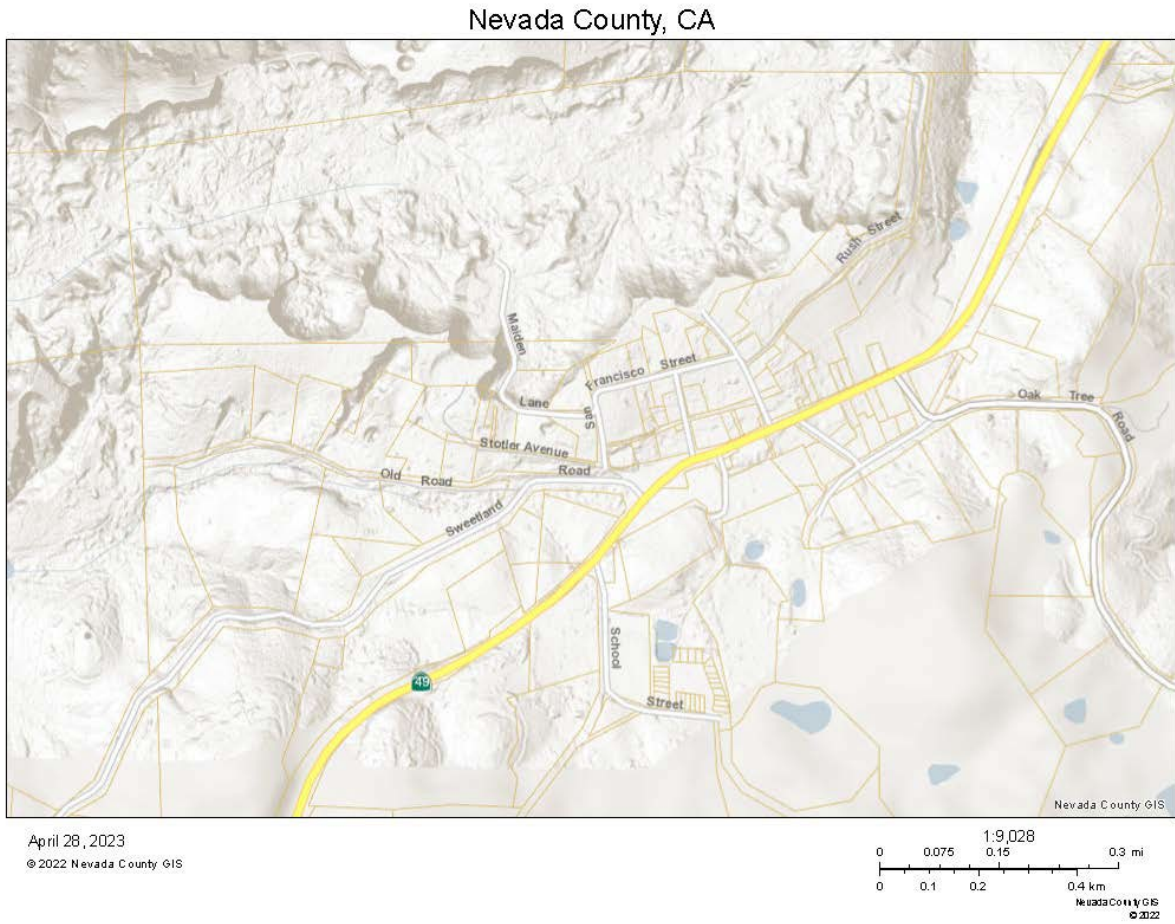
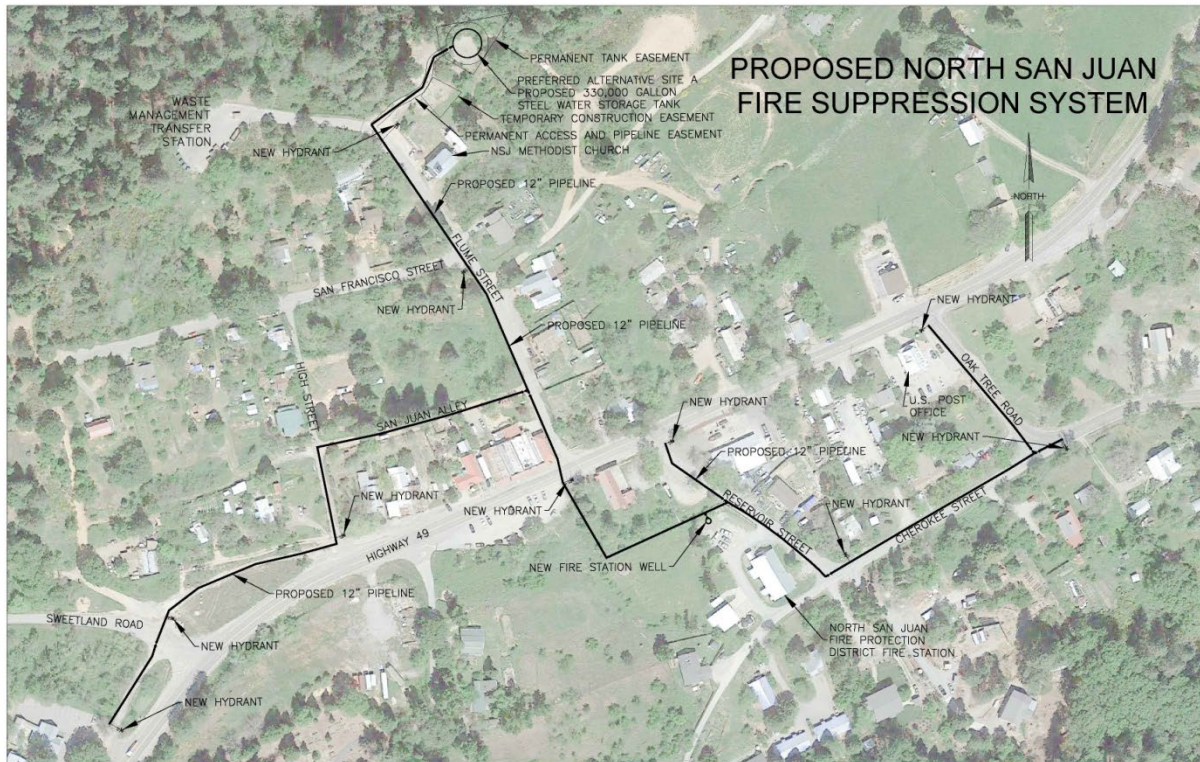


Figure 2. Site Plan for the North San Juan Fire Suppression Project which was revised to show the new well location in a previously-disturbed area in the fire station parking lot.



METHODS

Pre-field Investigations

The purpose of the pre-field investigation was to review existing information and to prepare a list of special-status species with potential to occur in the vicinity of the study area. Sources of information included a records search of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB 2023), U.S. Fish and Wildlife Service (USFWS 2023), and the California Native Plant Society Electronic Inventory (CNPS 2023) for the USGS Nevada City 7.5-minute quadrangle, and surrounding quadrangles. The Nevada County Natural Resources Report (Beedy and Brussard 2002) was also consulted for information on the distribution and extent of habitats, and the relationships between habitats and special-status species in a local and regional context.

Field Surveys

The description of wetland resources is based on a field surveys conducted by wildlife biologist Edward C. (Ted) Beedy, Ph.D. on April 13 and July 18, 2023. Dr. Beedy was accompanied on

the first survey by Ms. Marie Maniscalco, Assistant Planner for the County of Nevada, and Mr. Daniel Nicholson, a botanist and wetland specialist, who also participated in the July 18 field survey. During these surveys they walked and inspected the four wetland sites in the project area.

Definitions

Waters of the United States, Including Wetlands

“Waters of the United States” is an encompassing term for areas that qualify for federal regulation under Section 404 of the Clean Water Act. Waters of the United States include “wetlands” and “other waters of the United States.” For regulatory purposes, wetlands are defined as:

“...areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (CFR 328.3, CFR 230.3).”

“Other waters of the United States” refer to unvegetated waterways and other water bodies with a defined bed and bank, such as drainages, creeks, rivers, and lakes, including ephemeral streams.

Landmark Oak Trees and Groves

The Nevada County Land Use and Development Code (Section L-II 4.3.15C.2 [page 202]) defines “Landmark Trees” as any hardwood species, including oaks (*Quercus* species), 36 inches DBH, or any tree 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. “Landmark Groves” are defined as hardwood tree groves with 33 percent or greater 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.

EXISTING CONDITIONS

Environmental Setting

The proposed NSJ fire suppression project infrastructure would be primarily located on previously-disturbed roadside areas within the NSJ community that are dominated by non-native herbaceous vegetation along with ornamental trees and shrubs near existing homes and buildings. However, there are some native trees near this alignment including black oaks (*Quercus kelloggii*) and ponderosa pines (*Pinus ponderosa*). Two Landmark Oaks were observed growing together across the road from the North San Juan Community Center but these will be avoided with the new project design (Figure 2). Four potential wetland areas were identified in

the project area by Mr. Nicholson and these are shown in Figure 3, but the new well location is now in a previously-disturbed area in the fire station parking lot. Representative views of wetlands in the project area are provided in Figure 4.

Waters of the United States, including Wetlands

An initial visit to the site by Mr. Nicholson indicated four potential wetland areas due to both hydrologic features and vegetation observed to be known facultative wetland species (estimated probability of 67-99% occurrence in wetlands by the US Army Corps of Engineers standards). Our team determined the need to investigate the potential wetland sites further to determine the scope of the wetland features and their probability of being considered wetlands, but not completing a US Army Corps of Engineers wetland survey protocol. So at this time we are only indicating potential wetland areas and not making a formal wetland delineation.

The four potential wetlands in project area which will herein be called: 1. NSJ Fire Meadow; 2. Oak Tree Road Ditch; 3. Highway 49 Swale; and 4. Community Center Ephemeral Drainage.

NSJ Fire Meadow comprises the largest potential wetland in the project. Dominant plant species in the area mapped include *Juncus balticus*, *Carex praegracilis*, *Festuca arundinacea*, and *Poa bulbosa*. These graminoids make up a combination of facultative wetland and facultative species, so the perimeter was made by marking the dominant facultative wetland species including the low point towards the parking lot dominated by *Montia fontana*; another facultative wetland species. The meadow also shows standing water towards the parking lot and iron oxides are present in the soil, an indication of wetland soils. A list of all plant species observed in the NSJ Fire Meadow is provided as Appendix 1.

Oak Tree Road Ditch had 10-12 inches of standing water during the April 13 survey. It is dominated by *Phalaris aquatic*, a facultative species (equally likely to occur in wetlands or non-wetlands), and some *Carex* spp. all of which are of the facultative species group. This area may not qualify as a wetland but avoidance is recommended, see Mitigation Measures below.

Highway 49 Swale is a wet area in a low point between the pipeline and State Highway 49. It is dominated by *Juncus balticus*, *Carex praegracilis*, and *Carex barbarae*. So a combination of facultative wetland species and facultative species (*Carex barbarae*). This is a clearly defined wet area with distinct vegetation.

Community Center Ephemeral Drainage is located along the abandoned road near the Community Center where the current site plan shows as a location of the pipeline. The drainage is adjacent to this road and is a dense riparian habitat with native willows (*Salix* spp.), as well as introduced plants such as Himalayan blackberries (*Rubus armeniacus*) and tree of heaven (*Ailanthus altissima*).

Figure 3. Four Potential Wetland Areas in the North San Juan Fire Suppression Project Area shown in red. Note: the large wetland area near the fire station will not be affected by this project since the new well location will be in a previously-disturbed area in the fire station parking lot. This map was created by Mr. Daniel Nicholson.



Figure 4. Representative views of wetlands at the North San Juan Fire Suppression Project Area taken by Ted Beedy on April 13 and July 18, 2023.



4A. View of the NSJ Fire Meadow. Note: the new well location will be in the adjacent parking lot and will not disturb this wetland feature.



4B. View of the northern edge of the NSJ Fire Meadow. Note: the proposed pipeline will be adjacent to the fence shown in this photo. See Mitigation Measures



4C. View of the Oak Tree Roads Ditch showing ruderal and wetland vegetation.



4D. View of the Highway 49 Swale showing ruderal and wetland vegetation.



4E. Riparian habitat at the Community Center Ephemeral Drainage showing willows, Himalayan blackberries, and tree-of-heaven.



4F. View of the abandoned road near the Community Center where the new pipeline will be installed adjacent to the riparian vegetation.

IMPACTS

This analysis of impacts is based on the project description that is described in the introduction. Potential direct and indirect impacts to biological resources are evaluated in terms of mandatory findings of significance of Section 15065 of the California Environmental Quality Act (CEQA) and Appendix G of the State CEQA Guidelines. The evaluation also considered current local plan policies and guidelines (Nevada County 1995, 2000). In accordance with CEQA Guidelines, impacts to biological resources were considered potentially significant if the project would:

- Have a substantial adverse effect, either directly through habitat modifications, on any species identified as candidate, sensitive, or special-status-species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW, USFWS, or NMFS.
- Have a substantial adverse effect on federally protected wetlands as defined above (including, but not limited to, marshes, vernal pools, coastal wetlands) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species.

Impacts to Landmark Oak Trees

Two Landmark Oak Trees exist near the North San Juan Community Center but the new project design avoids both of these trees.

Impacts to Wetlands and Waters of the US

Four potential Waters of the U.S., including Wetlands, are present in the project area that could be adversely affected by implementation of this project. However, all potential impacts could be avoided by following the Mitigation Measures described below.

Impacts to Water Quality

Accidental introduction of washwater, solvents, oil, chemical wastes, cement, or other pollutants during maintenance and parking of heavy equipment could potentially adversely affect local water quality including in the four wetland areas within the project area.

MITIGATION

The CEQA definition of mitigation includes all of the following:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impact by limiting the degree or magnitude of the action and its implementation;
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
5. Compensating for the impact by replacing or providing substitute resources or environments.

In addition, the mitigation measures contained below were also designed to ensure consistency with local zoning ordinances contained in Nevada County Land Use and Development Code Section L-II 4.3.17.C (Nevada County 1995; 2000), and with other local, state, and federal laws.

The following wetland mitigation measures should be implemented to minimize any potential impacts resulting from impacts of implementing the North San Juan Fire Suppression Project infrastructure including trenching, laying pipes, and installing project features such as the well and fire hydrants.

Implement Best Management Practices

To protect Waters of the U.S., including wetlands, water quality and aquatic life, and to avoid introduction of invasive weeds, the following Best Management Practices (BMPs) should be implemented during and after construction. These measures include, but are not limited to:

- a. Prior to construction adjacent to the wetlands, install weed-free fiber roles (wattles) to prevent erosion and deposition of surface soils into the wetlands. Wattles are available for sale at most of the local hardware stores in Grass Valley and Nevada City. More information on wattles can be found at the following website:
<https://www.acfenvironmental.com/products/perimeter-and-sediment-control/perimeter-control-tubes/wattles/>
- b. Avoid doing any excavation or grading within 3 days of a significant rainfall event greater than 1-inch total daily rainfall.
- c. The contractor shall exercise every reasonable precaution to protect the wetland at the project site from pollution with sediments, fuels, oils, bitumen, calcium chloride, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and washwater

shall be prevented from discharging into the wetland and shall instead be collected and removed from the site.

d. Spread weed-free straw on all disturbed soils near all construction sites to prevent the erosion of surface soils. No invasive, non-native grasses such as orchard grass, canary reed grass, or velvet grass shall be used for erosion control, as these species are known to invade wetlands.

e. Provide Copies of Mitigation Measures to Contractors. To ensure the proper and timely implementation of all mitigation measures contained in this report, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and any other permit requirements to the contractors prior to grading and construction.

Specific BMPs for Wetland Features

NSJ Fire Meadow

1. Install wattles adjacent to the existing fenceline between the meadow and trench.
2. Scatter weed-free straw at a depth of 2-4 inches over the ditch site after soil is replaced in all areas within 50 feet of the wetland.

Oak Tree Road Ditch

1. The trench will be moved to the north side of Oak Tree Road (i.e., the opposite side of the road from the ditch) to minimize potential impacts to the roadside ditch.
2. Install wattles along the roadside ditch.

Highway 49 Swale

1. Install orange construction fencing between ditch and wetland.
2. Scatter weed-free straw at a depth of 2-4 over the ditch site after soil is replaced on all bare soil within 50 feet of the wetland.

Community Center Ephemeral Drainage

1. Install wattles between the ditch and the downslope willow-filled drainage adjacent to the NSJ Community center.
2. Scatter weed-free straw at a depth of 2-4 over the ditch site after soil is replaced for the entire length along Highway 49 from the new hydrant to the Sweetland Road intersection.

REFERENCES

- Beedy, E. C. and P. Brussard. 2002. *Nevada County Natural Resources Report: A Scientific Assessment of Watersheds and Ecosystems*. Prepared for the Nevada County Planning Department. 162 pp. + appendices.
- Brittan, L. 1975. *Soil Survey of Nevada County Area, California*. United States Department of Agriculture, Soil Conservation Service and Forest Service, in cooperation with University of California Agricultural Experiment Station.
- California Native Plant Society (CNPS). 2023. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. Database search for the Nevada City and surrounding USGS quadrangles. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA.
- California Natural Diversity Data Base. 2023. California Natural Diversity Data Base Report for Nevada City and surrounding USGS quadrangles. California Department of Fish and Wildlife, Sacramento, CA.
- Nevada County. 1995. *Nevada County General Plan*. Volume 1: Goals, Objectives, Policies, and Implementation Measures. Nevada County Planning Department. Grass Valley, CA. December 1995.
- Nevada County. 2000. *Land Use and Development Code*. Chapter II: Zoning Regulations [Ordinance No. 2033]. Nevada County Planning Department. Grass Valley, CA. Effective July 27, 2000.
- U.S. Fish and Wildlife Service (USFWS). 2023. *Species List for Nevada County, California*. U.S. Fish and Wildlife Service (USFWS), Sacramento Endangered Species Office. Sacramento, California.

Appendix 1. Plant Species Observed in the NSJ Fire Meadow. Compiled by Daniel Nicholson.

<u>Genus/Species</u>	<u>Common Name</u>
<i>Agrostis stolonifera</i>	bentgrass
<i>Brassica nigra</i>	black mustard
<i>Cardamine hirsuta</i>	bitter cress
<i>Carex barbarae</i>	valley sedge
<i>Carex bolanderi</i>	bolanders sedge
<i>Carex feta</i>	green sheathed sedge
<i>Carex praegracilis</i>	field sedge
<i>Cerastium fontanum ssp. Vulgare</i>	mouse-eared chick weed
<i>Claytonia perfoliata</i>	miners lettuce
<i>Chicorium intybus</i>	chicory
<i>Cirsium vulgare</i>	bull thistle
<i>Daucus carota</i>	Queen Anne's lace
<i>Dactylis glomerata</i>	orchardgrass
<i>Epilobium ciliatum</i>	willow herb
<i>Erodium cicutarium</i>	filaree
<i>Festuca arundinacea</i>	reed fescue
<i>Festuca myuros</i>	rat tail grass
<i>Festuca perennis(Lolium)</i>	annual rye
<i>Geranium dissectum</i>	bird foot geranium
<i>Hypericum perforatum</i>	Saint Johns wort
<i>Hypochaeris radicata</i>	hairy cats ear
<i>Juglans hindsii</i>	Northern CA black walnut
<i>Juncus balticus</i>	wire rush
<i>Juncus confusus</i>	rush
<i>Lamium amplexicaule</i>	hens bit
<i>Montia fontana</i>	water montia
<i>Phalaris aquatica</i>	harding grass
<i>Plantago lanceolata</i>	English plantain
<i>Poa annua</i>	annual bluegrass
<i>Poa bulbosa</i>	bulbous blue grass
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Populus fremontii</i>	Fremont cottonwood
<i>Rosa canina</i>	English dog rose
<i>Rubus armeniacus</i>	Armenian blackberry
<i>Rumex acetocella</i>	sheep sorrel
<i>Rumex crispus</i>	curly dock
<i>Salix lasiolepis</i>	arroyo willow
<i>Sanguisorba minor</i>	garden burnett
<i>Sonchus asper</i>	prickly sow thistle

<i>Stellaria media</i>	chickweed
<i>Taraxacum officinale</i>	dandelion
<i>Trifolium dubium</i>	shamrock
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	white clover
<i>Trifolium subterraneum</i>	sub clover
<i>Veronica persica</i>	Persian speedwell